ZONING FRAMEWORK STUDY for the FORD PLANT SITE

October 18, 2013

PREPARED FOR:

City of Saint Paul

Metropolitan Council

Financing for this project was provided by the Metropolitan Council Metropolitan Livable Communities Fund.

PREPARED BY:
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FORD SITE EXECUTIVE SUMMARY

The Ford Site Zoning Framework Study follows previous redevelopment planning studies for the site and considers whether or not the City's current zoning districts can effectively provide for:

1) the range and mix of uses and scale of development contemplated in the five redevelopment scenarios;
2) economic, social, and environmental sustainability that relates to the surrounding neighborhood; and
3) flexibility to respond to market changes that are likely to occur over the years it will take to fully redevelop the site.

The report includes an analysis and evaluation of the City's current zoning tools; a brief summary of zoning approaches used on other large, urban development and redevelopment sites around the county; and recommended options for a Ford Site zoning framework. Unlike previous studies, which focused on exploring and identifying goals and ideas for the site's future, this study aims at analyzing and identifying how available zoning tools may be used to achieve the collective redevelopment vision.

Review and Analysis

The consultant team reviewed the City's zoning code, subdivision ordinance, stormwater regulations, licensing requirements and other regulations, in relation to the previous planning studies. Based on identified goals for the site and likely redevelopment scenarios, Saint Paul's current zoning districts that would be most applicable to the Ford Site are the Traditional Neighborhood Districts (T Districts) and the IT Traditional Industrial District.

The T Districts offer opportunities and challenges in terms of their use for the Ford Site. The opportunities are based on their familiarity and widespread use across a range of sites in Saint Paul, while the challenges can be attributed to the large size and unique characteristics of the Ford Site. Of the T Districts, T3 and T4, appear to be most applicable, with IT for light industrial and R&D areas, and perhaps T2 as a transition zone along some edges. Preparation of a Master Plan to accompany zoning for a site as large as Ford (+120 acres) will be an important step towards realizing the complex elements of site redevelopment, such as infrastructure systems and phasing.

Zoning case studies analyzed for the Ford Site include seven projects that address parameters of urban form, land use mix, administrative processes and performance metrics similar to those expressed in the "Phase I Planning: Five Redevelopment Scenarios" report and the "Roadmap to Sustainability" report. The case studies include a range of projects and zoning approaches, from redevelopment of post-industrial waterfronts and urban industrial districts to new approaches in sustainable development.

Of the seven case studies examined, six utilized alternative types of zoning, typically form or design-based regulations rather than use-based zoning. More details including lessons learned are described in the body of this report and in the full case studies appendix.

Dual Zoning Approaches

The Traditional Neighborhood 3 and/or 4 and Industrial Transition district (IT) zoning districts with a Master Plan are the most applicable current city zoning districts. However, analysis of them in relation to the goals and concepts illustrated of the "Phase I Planning: Five Redevelopment Scenarios" and the "Roadmap to Sustainability" reports suggest that a series of modifications could be made to improve their applicability to the Ford Site. Modifications range from increasing bike parking requirements to providing density bonuses for affordable housing. A more detailed list of suggested modifications is outlined in the body of this report.

As an alternative to using the City's existing zoning tools (with modifications), a transect-based zoning approach has also been developed. Transect districts (or zones) are administratively similar to zoning districts used in conventional zoning, but in addition to regulating use, density, building heights and setbacks, they address private and public frontages, public spaces, block types, and building design. The Ford Site transect identified in this study builds upon detailed analyses of site area context, patterns of use and form depicted in the five scenarios, and the standard rural to urban transect template as originally developed by the Congress for the New Urbanism. Five specific transect zones or districts were calibrated (adjusted for local site conditions) for use within the Ford Site:

- D-1 Natural
- D-3 Mixed Residential Village
- D-4 Mixed-use Village
- D-5 General Urban
- D-6 Workplace

The five proposed transect districts provide a range and mixture of uses and built form that increase in density, intensity and complexity from the natural park-like areas closest to the Mississippi River to a tightly interconnected urban grid of mid-rise, multi-family residences, shops and workplaces.

Based upon the research and analysis undertaken within this study, two applicable zoning approaches for implementing the vision and goals of the "Phase I Planning: Five Redevelopment Scenarios" report and the "Roadmap to Sustainability" report emerge:

1) use the City's current tools with modifications; or

2) prepare an new, alternative set of Ford Site-specific zoning tools.

These two approaches offer a choice between modifying several of the City's existing zoning districts and using them to regulate site development and developing a new set of contextual tools, configured specifically for the redevelopment of the site. Either approach will require additional resources (time, money, and planning expertise) to ensure that the zoning applied to the Ford Site integrates into the City's current regulatory system while serving as one of several critical redevelopment implementation tools.

Both of the zoning framework approaches address fundamental components of sustainability (environmental, social and economic) such as reducing carbon emissions and reducing auto-dependence by requiring more compact, walkable, mixed-use and transit supportive development. There are other aspects of sustainability, such as building energy, materials and solid waste, that are typically outside the purview of zoning regulations and more effectively addressed by building codes and other federal, state and municipal regulations.

The two zoning approaches present an array of advantages:

City Zoning Advantages:

- Familiar to city staff, neighborhood stakeholders and local developers.
- Administration of code is already well established and generally understood.
- Revisions to existing zoning districts, overlays, and Master Plans can be drafted to apply specifically to the Ford Site or to other locations within Saint Paul.
- Master plans can provide for a finer gram of urbanism within the structure of existing zoning districts.
- The design-oriented nature of the Traditional Neighborhood Districts, as modified to better serve the Ford Site, could serve as a model for use on other large redevelopment sites in the City or other communities in the Metropolitan region.

City Zoning Disadvantages:

- City code may not be as understandable or user friendly to national developers who are more familiar with transect-based, design oriented models of zoning.
- Leaving design decisions to the master planning process may make some people nervous, since master planning is a less understood than zoning and has uncertain outcomes.
- Revisions to existing zoning districts may not be very applicable to other locations within the City - thus requiring a new district or districts specific to Ford.

Transect-based Zoning Advantages:

- Establishes specific, place-based regulations in response to Ford Site planning studies and neighborhood context.
- Provides for a finer grain of urbanism; diversity and mix of block, building, street and public space within the zoning districts.
- Transect-based zoning is well-regarded nationally by developers of more complicated, mixed-use projects.
- Transect-based zoning can be readily adapted (calibrated) and applied to other large redevelopment sites within the City and region.

Transect-based Zoning Disadvantages:

- Creating a new code format versus tweaking existing code will require more resources (time and money).
- Learning curve for City staff and neighborhood/ community stakeholders.
- Potential administrative complexity—depending on how new provisions are integrated into existing code.

Role of the Master Plan

The use of a Master Plan (through its public preparation process and multiple components) provides increased levels of study, detail and predictability to the development planning, approvals and build-out process. Previous site planning explorations conducted and documented in the Phase I Planning - Five Redevelopment Scenarios report illustrate a range of redevelopment possibilities. However, once a buyer/ developer for the site has been identified, more in-depth analyses, planning and design (including a rezoning) are likely to commence.

The level of complexity and specificity addressed in a future Master Plan may depend upon which zoning framework path is followed.

ACKNOWLEDGEMENTS

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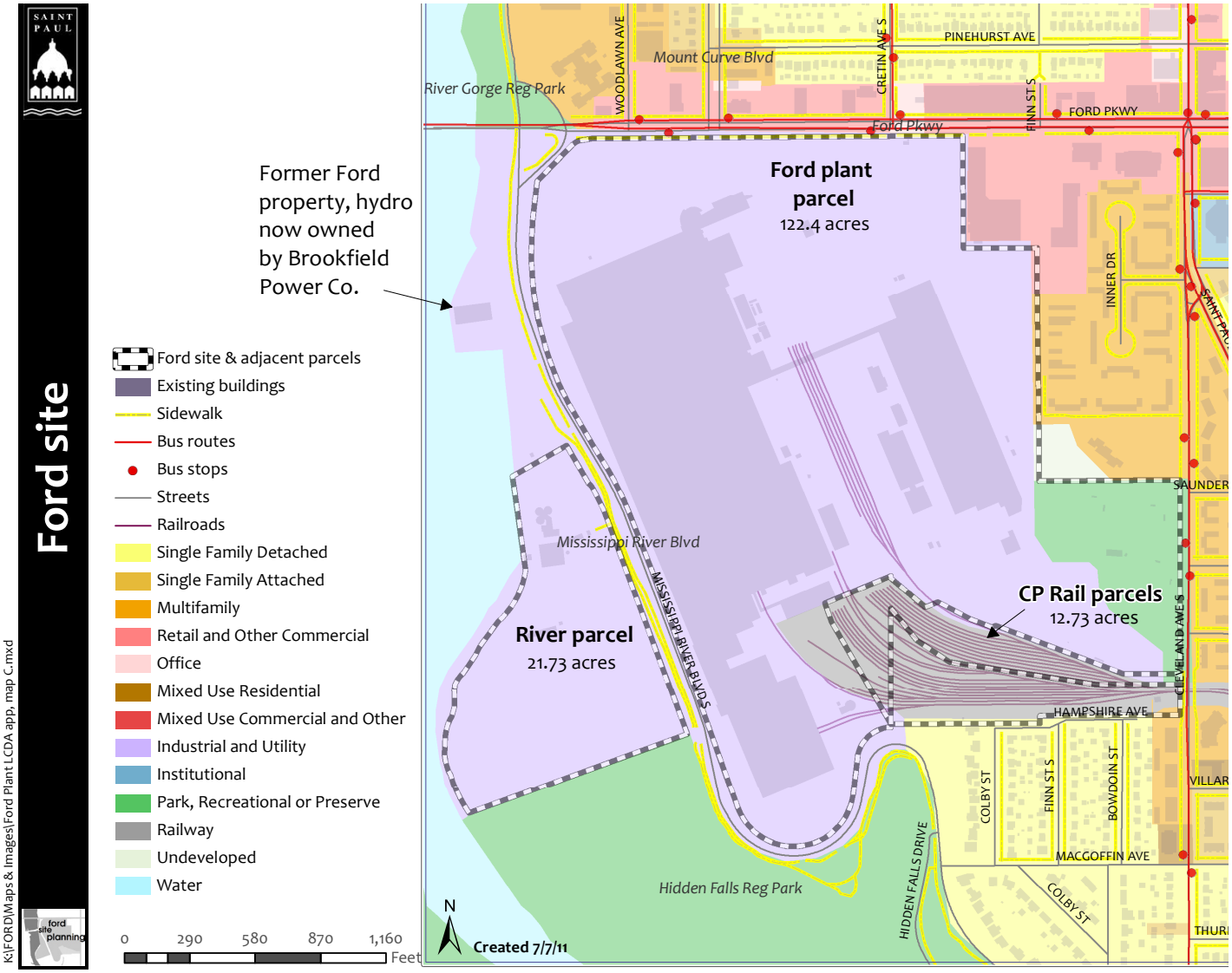
Zoning Framework Final Report

1. INTRODUCTION

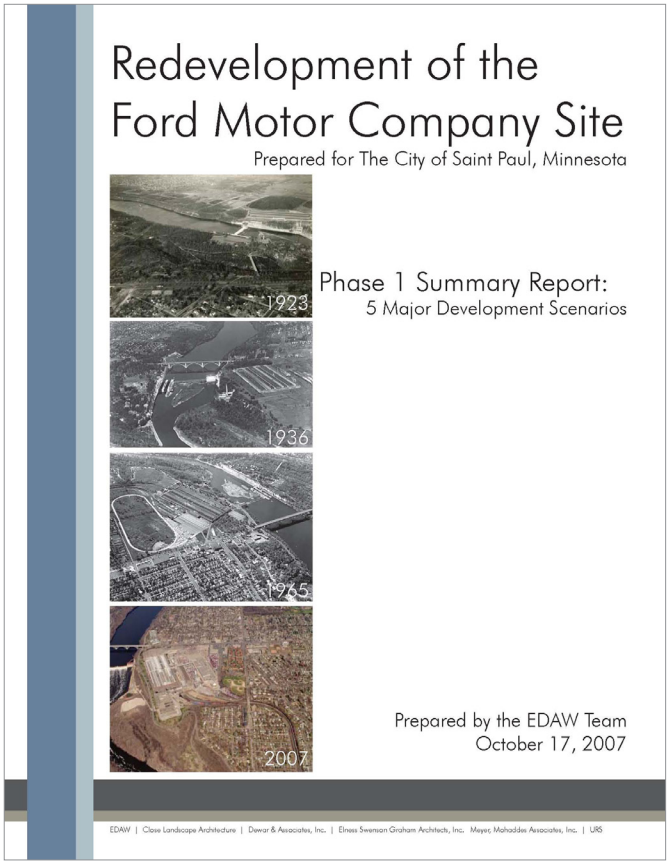
In December 2011, Ford Motor Company closed its Twin Cities Assembly Plant, which had operated in Saint Paul for over 80 years. The property is located on the east bank of the Mississippi River, surrounded by a vibrant residential community and business district, that grew up around it. While closure of the plant is a significant loss for the City and the region, the site provides an unprecedented redevelopment opportunity in the center of the Twin Cities region, in one of the most beautiful, stable, and economically strong neighborhoods of Saint Paul. The site is 157 acres, composed of 3 parcels: 2 parcels owned by Ford—21.73 acres along the river, and 122.4 acres for the plant facilities—and a 12.73 acre rail yard owned by Canadian Pacific Rail.



The Ford Site is surrounded by a variety of existing uses from the Mississippi River to parks, retail shops, and residences

Extensive planning and studies have been conducted in preparation for the site's redevelopment, including specific studies focusing on park and open space design, sustainable stormwater management, green manufacturing reuse, sustainable community development, and conceptual redevelopment planning. Ford Site related planning studies are available for review at http://www.stpaul.gov/fordsite. Of these, the two that most directly identify future redevelopment vision, goals, and parameters for the site are:

- Phase I Planning—Five Redevelopment Scenarios
- Roadmap to Sustainability for the Saint Paul Ford Site



Cover from the Phase 1 Summary Report

The Phase I Planning—Five Redevelopment Scenarios report identifies this vision for the site:

"The redeveloped Ford Site will balance economic, social, and environmental sustainability in a way that conserves and improves the qualities and characteristics of the unique Highland Park neighborhood and Mississippi River Valley Corridor in which it sits, while advancing the City's economic wealth and community goals, resulting in a forward-thinking 21st Century development."

The Ford Site Zoning Framework Study picks up where previous studies left off and considers whether or not the City's current zoning districts can effectively provide for:

1) the range and mix of uses and scale of development contemplated in the five redevelopment scenarios;
2) economic, social, and environmental sustainability that relates to the surrounding neighborhood; and
3) flexibility to respond to market changes that are likely to occur over the years it will take to fully redevelop the site.

Work described in this report includes an analysis and evaluation of the City's current zoning tools; a brief summary of zoning approaches used on other large, urban development and redevelopment sites around the county; and recommended options for a Ford Site zoning framework. Unlike previous studies, which focused on exploring and identifying goals and ideas for the site's future, this study aims at analyzing and identifying how available zoning tools may be used to achieve the collective redevelopment vision.

2.1 Review of City Zoning Districts and Tools

The consultant team reviewed the City's zoning code, subdivision ordinance, stormwater regulations, licensing requirements and other regulations, and made the following findings.

The zoning code includes five zoning district categories, from most to least restrictive:

- Residential Districts – One-Family – RL through R4
- Residential Districts – Two-Family, Townhouse and Multi-Family – RM1 through RM3
- Traditional Neighborhood Districts – Mixed-Use Districts – T1 through T4
- Business Districts – Ranging from Office-Service to B1, BC (converted residence), through B5
- Industrial Districts – Ranging from IR (Light Industrial Restricted) through I3

The code also provides for use of a Planned Development District on sites larger than 1.5 acres. The Planned Development District is a tool that can customize development standards for a site, but is rarely used since master planning with underlying districts can achieve the same outcome with less administrative complexity.

Overlay districts exist in some areas of the City to modify underlying zoning districts. In the Ford Site area, River Corridor Overlay Districts are "designed to provide comprehensive floodplain and river bluff management for the City" in accordance with state requirements for floodplain management and the Mississippi River Critical Area. Most of the Ford Site is covered by the RC3 District, which allows a maximum building height of 40 feet. Areas below the river bluff are zoned RC1/FW Floodway and RC2/FF Flood Fringe. Design-oriented overlay districts have also been developed for particular planning areas, including the Shepard-Davern commercial and residential areas.

Based on identified goals for the site and likely redevelopment scenarios, the zoning districts that would be most applicable to the Ford Site are the Traditional Neighborhood Districts and the IT Traditional Industrial District.

The Traditional Neighborhood (T) Districts have been widely used to support transit-oriented development and new urban villages. According to the statement of intent, "TN traditional neighborhood districts are intended to foster the development and growth of compact, pedestrian-oriented urban villages. All four districts are intended to encourage a compatible mix of commercial and residential uses within buildings, sites and blocks; new development in proximity to major transit streets and corridors; and additional choices in housing."

The Transitional Industrial (IT) district is designed to provide for commercial, office and light industrial uses, as well as mixed commercial-residential uses, compatible with nearby residential and traditional neighborhood districts, parks, and parkways.

The relevant features of the T Districts are the following:

- **Minimum and maximum residential densities and floor-area ratios (FARs).** These range from FARs of 0.3 - 1.0 in the T1 District to a minimum FAR of 0.5 in the T4 District, with the option of using a percentage of structured parking toward the minimum.
- **Some site-specific setback and height requirements,** primarily along segments of University Avenue, based on detailed station area plans.
- **Design standards for each district.** These are defined in broad objectives, with some flexibility permitted. For example, "buildings anchor the corner," "definition of residential entries" and "building façade articulation." Some of the standards, such as those for building materials and minimum transparency, are more specific.
- **Mixed residential uses.** These are required in T3 Master Plans that designate a "mixed residential area." A minimum of 50% of all dwelling units in a mixed residential area must consist of multi-family units, units in mixed-use buildings, and/or attached single-family units such as townhouses and live-work units.
- **Parking standards are generally more flexible than in residential or commercial zoning districts outside downtown.** In the T1 and T2 districts, minimum off-street parking for residential uses is reduced by 25% for properties within one-quarter mile of a high-frequency transit street. In the T3 and T4 districts, the 25% reduction applies to all residential uses.

As will be discussed in Section 3, the T Districts offer opportunities and challenges in terms of their use for the Ford Site. The opportunities are based on their familiarity and widespread use across a range of sites in Saint Paul, while the challenges can be attributed to the large size and unique characteristics of the Ford Site.

T1 provides for a full range of one-family through multi-family residential dwellings, mixed commercial-residential, civic, institutional, and office uses, and a more

limited range of retail sales and service uses that primarily serve neighborhood needs. It can serve as a transition between commercial or industrial districts and residential districts or other less intensive land uses.

T2 provides for a full range of one-family through multi-family residential dwellings, mixed commercial-residential, civic, institutional and office uses, and most retail, service, and other commercial uses. It is widely used along transit corridors and shopping precincts, including the Central Corridor along University Avenue, and along Ford Parkway and Cleveland Avenue in Highland Village.

T2 also provides for limited production and processing uses, including some flex tech uses, identified on the redevelopment scenarios. If environmental testing identifies areas where ground pollution would make residential redevelopment difficult, such uses could be particularly appropriate.

T1 and T2 provide for building heights up to 35 feet plus, outside of the River Corridor Overlay District, additional height equal to step-backs from side and rear setback lines. However, because of the exceptions to T district height limits in the river corridor overlay district, which limit T1 and T2 to 35 feet with no step-back provision, (less than the 40 foot height limit that would otherwise apply in the RC3 River Corridor Overlay District) T1 and T2 are less appropriate for the Ford Site as a whole than T3 and T4.

T3 and T4 generally permit the same uses as the T2 district, except that T4 does not permit one- and two-family dwellings. They differ from T2 in two key ways: 1) they allow (and also require) greater height and density, and 2) they provide for the option of T3M and T4M (M = Master Plan) for T3 and T4 districts of 15 acres or more in area. While Master Plans in T3 and T4 are an option at the discretion of the City or the developer, it's anticipated that for a site as large as Ford (+120 acres), preparation of a Master Plan would be an important step towards realizing redevelopment.

The IT district offers a good option for areas of the site that may be appropriate for industrial uses. IT standards are consistent with the goals of industrial use for the Ford Site. The primary difference between T2-3 and IT is the availability of light industrial and R&D uses in the latter district.

2.2 Case Studies

Zoning case studies analyzed for the Ford Site include seven projects that address parameters of urban form, land use mix, administrative processes and performance metrics similar to those expressed in the Five Redevelopment Scenarios Report and the Roadmap to Sustainability. The case studies include a range of projects and zoning approaches, from redevelopment of post-industrial waterfronts and urban industrial districts to new approaches in sustainable development.

Selected Case Studies:

- Port of Dubuque, Iowa
- False Creek, Vancouver, Canada
- Greenpoint, Brooklyn, New York
- Urban Renewal District, East Billings, Montana
- Habersham, South Carolina
- New Town, Saratoga Springs, Utah
- SmartCode version 9.2

Detailed project descriptions and analyses have been compiled for each of the case studies. Applicable lessons learned are described in the following bulleted lists:

Port of Dubuque, Iowa: This redevelopment of former industrial properties situated around an historic harbor, Mississippi River and downtown focuses high intensity civic and entertainment uses directly along the waterfront, with other commercial, office, and residential uses on non-waterfront properties.

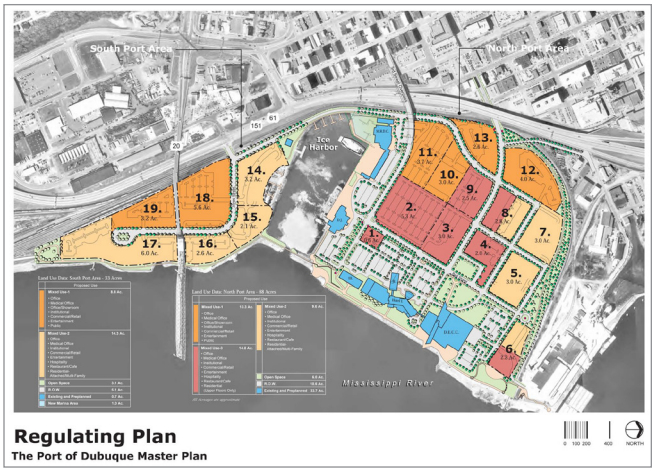


Figure 2.1 Regulation Plan

- Based on the City's existing Euclidean zoning, a Planned Development tied to a detailed Master Plan and with design standards, was the most effective means for achieving the community's vision for a new mixed-use riverfront district.

- There are pros and cons with vesting discretionary decision-making authority in the City Manager: decisions can be made quickly, which saves time and money, but design plans can be reinterpreted or ignored in favor of other factors (economic, political, expediency, etc.) which may not be in the overall project's long-term interest.
- Detailed architectural standards are not as important as consistent urban design (building placement, streets, and blocks) and streetscape standards for creating a high quality public realm.
- Multiple development cycles are often needed to establish the adequate critical mass necessary to achieve economic vitality, a broad mix of housing options, and a strong sense of place.

False Creek, Vancouver, Canada: A dense urban mixed-use redevelopment of a primarily industrial waterfront area comprising multiple lots and blocks, a grid of streets, rail access, and a multiplicity of property owners. The False Creek redevelopment occurred over a period of more than 15 years, a period that included the use of a portion of the site as the

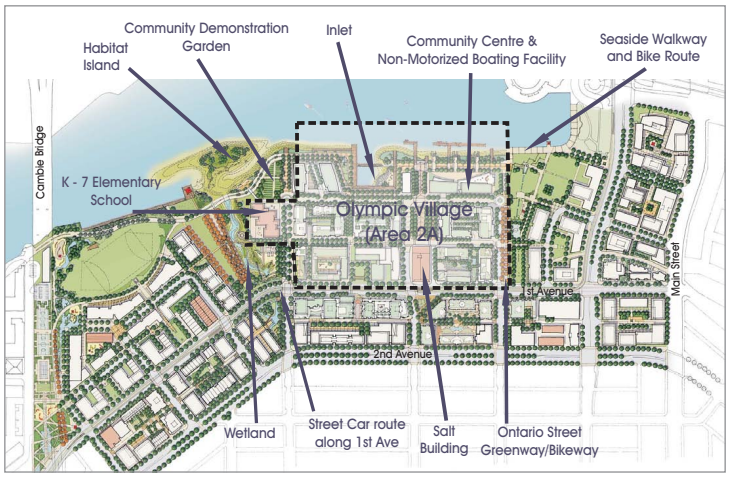


Figure 2.2 Site plan of False Creek highlighting the Olympic Village area

Olympic Village for the 2010 Winter Olympic Games.

- Adequate policy development, project planning, and design take a significant length of time (over a decade) to bring urban mixed-use, brownfield, and sustainable redevelopment on-line.
- Sustainability was defined broadly to include social and economic as well as physical and environmental outcomes.
- Extending and reconnecting the existing street and block structure helped to establish a recognizable, predictable development pattern acceptable to project area stakeholders.
- The City's unique (Canadian) land development procedures and processes utilize a series of Policy Documents (similar in content to Ford Site's previous planning studies) that work together in guiding the phasing, form, function, and detailed nature of the project areas' redevelopment. The zoning portion of the regulatory framework focused on urban form (lot and block layout, density disposition, public realm, and building height) and used a series of principle and guideline documents to guide architectural expression.
- Project planning, design, and regulations leverage the areas' important urban waterfront location by accommodating significant development intensity and density (FAR's 1+, +50 du/acre).

Greenpoint Brooklyn, New York: This effort involved multiple zoning changes to facilitate new housing affordable to

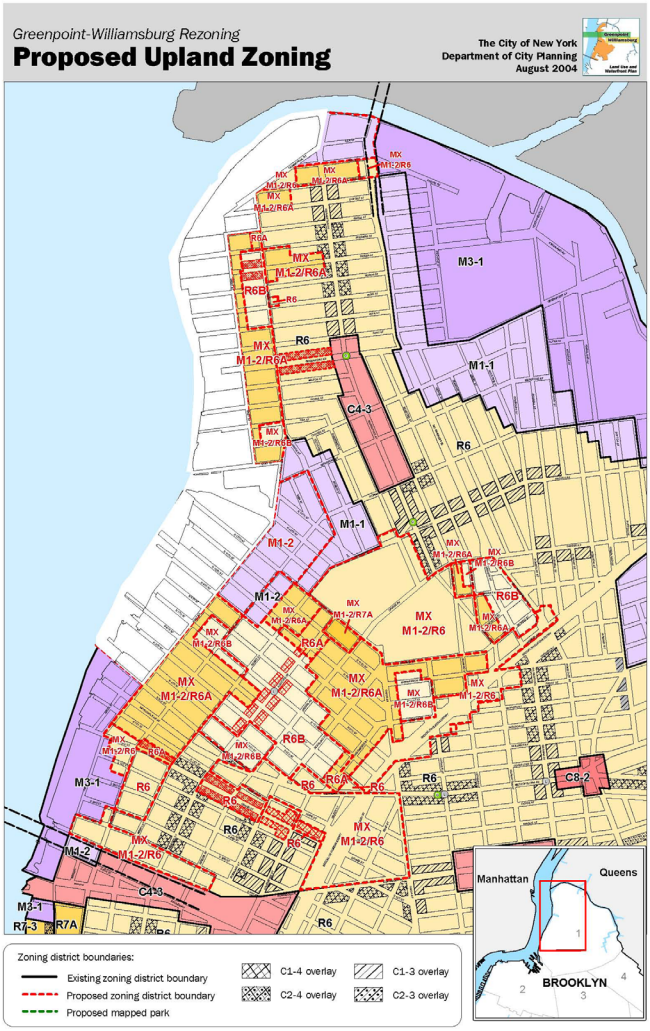


Figure 2.3 Proposed zoning for Greenpoint

a range of incomes, open spaces, and compatible light industry and commercial uses along two miles of Brooklyn's East River waterfront and the adjoining upland neighborhoods.

- Official rezoning was used to bring more order and predictability to the district's transformation.
- Market demand had already begun to transform this largely industrial area, adding residential and commercial uses. Conversion of former industrial buildings, legally and illegally, into residential lofts depleted industrial spaces.
- The influx of non-manufacturing uses has caused property values to rise, prompting owners of manufacturing buildings to replace manufacturers with other uses that can generate higher rental revenues.
- The City of New York sought to lessen the impact of this "gentrification" by including several measures, both regulatory (inclusionary zoning density bonuses) and financial (land, tax credits, tax exemptions), to ensure that some affordable housing would continue to be available in this area. However, space devoted to industrial uses and industrial jobs have been lost.
- The use of already-existing zoning districts, with some minor amendments, continued the tradition of a "patchwork" of zones in a substantially built-up area. This approach reflected the desire to work with and "preserve" the context of existing street grid and block pattern, mix of uses within blocks, and the neighborhood character, with height and bulk limits lower than the old zoning and consistent with the low-rise street wall of the neighborhood.

East Billings Montana Urban Renewal District: Planning for gradual redevelopment of this large and underutilized industrial/commercial district has been underway since 1997, including economic development strategies, land use and urban design plans and zoning initiatives.

- A series of plans (similar to the Ford Site's previous planning studies) establish a strong basis for redevelopment.
- The existing street, block and lot structure creates a predictable development pattern; however, incremental development of multiple small sites will lengthen the time frame for implementation.
- The new project-specific code for redeveloping 500+ acres into several mixed-use districts was needed, as the City's current land development regulations were inadequate for achieving the community's vision for a new set of sustainable live-work-play neighborhoods.
- The new code is a complicated hybrid of traditional and form-based zoning principles. The code introduces a variety of smart growth design concepts, sophisticated urban design terminology, and project-specific administrative procedures. It will likely require all participants in the redevelopment process to learn new ideas, language and procedures.
- The hybridized nature of the code (form-based combined with specific use-based regulations) could reduce flexibility. For example, highly specific requirements for types of acceptable businesses could result in requests for variances, code amendments, and other complications as implementation proceeds over time.
- Sustainable development and design provisions use a point accrual system. While the minimum metrics are fairly modest, the point system allows for wide flexibility across a variety of project types and sizes, which is likely to result in a greater degree of use.
- Applications of large-scale, green infrastructure system improvements would be difficult to implement (and are not proposed) due to the majority of project area properties being privately held.

Habersham, South Carolina: The new town of Habersham, originally planned in 1997 through a multi-day community charrette process, offers a model of sustainable neighborhood design employing Light Imprint New Urbanism principles. The project:

- Demonstrates a project that is contextual and responsive to the area's cultural design traditions.
- Utilizes a 21st century Light Imprint stormwater management program for integrating sustainability and

Figure 2.4 Aerial perspective of East Billings Urban Renewal District

Figure 2.5 Regulating Plan for Habersham

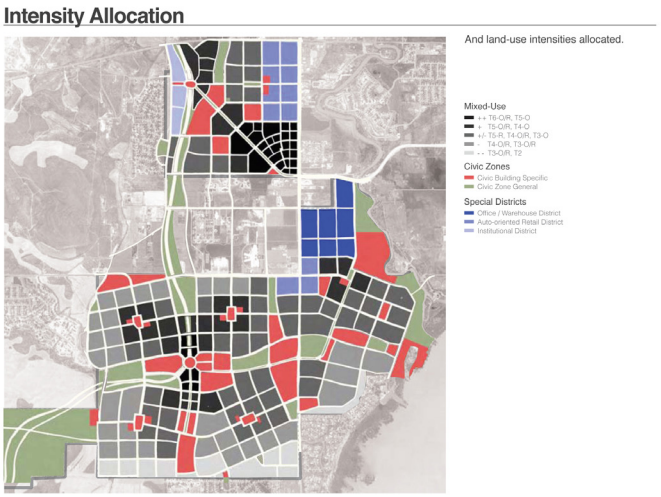
community design that is more sustainable, more attractive, and more economical than conventional subdivision design.

- Applies the transect zoning framework and new urbanism design regulations for urban-to-rural T-zones, architectural building types, landscaping with green infrastructure, and complete streetscape design standards.
- Utilizes a Master Developer team, with a town architect review board, and a builders' guild as the gatekeepers for quality design and construction.
- An example of fine-grained incremental urbanism, Habersham is an important model for the future where large development loans are becoming scarce as the market continues to shift toward walkable mixed-use environments.

Some important lessons demonstrated here are:

- Subdivide the town center into small increments to allow for a variety of building types, sizes, and ownership structures.
- Block structure is important: It is block structure that creates an environment that allows multiple incomes, land uses and building sizes to coexist and build value for your town center.
- Form-based regulations offer greater flexibility as they can be more market-responsive to changing demand for different uses while simultaneously establishing specific block structures and street orientation (frontages) for better walkability.

New Town, Saratoga Springs, Utah: The Master Plan for this new community utilizes the prototypical "Zion block" of 660 feet by 660 feet, on 10 acres, as a flexible framework for



Applied to the actual site, the proposed structure plan serves as a physical framework (addressing among other aspects, circulation, open space and civic facilities/amenities) and provides a chassis for the allocation of the various anticipated development intensities.

Figure 2.8 Intensity allocation plan for New Town, Saratoga Springs, Utah

a complete rural to urban transect of block and street types, referred to here as the "block and chassis" methodology.

- The structure plan and "block and chassis" planning methodology recognize the importance of defining a street and block pattern in establishing a predictable development framework that will, in turn, shape building frontages and public space.
- The plan's street, block, and frontage parameters are easily translated into zoning regulations and are adaptable to a range of development scenarios.
- The emphasis on urban form as opposed to use is likely to provide for market flexibility over time.
- The form-based nature of the project's zoning regulations requires participants in the development delivery system (municipal staff, officials, designers, developers, financiers, etc.) to become familiar with a new system of regulations.
- Detailed aspects of sustainability would need to be identified and addressed within various provisions of the project's zoning code wherever applicable.

SmartCode vs. 9.2: The SmartCode, in use since 2003, is an open-source, model form-based unified land development ordinance designed to create walkable neighborhoods across the full spectrum of human settlement, from the most rural to the most urban, incorporating a transect of character and

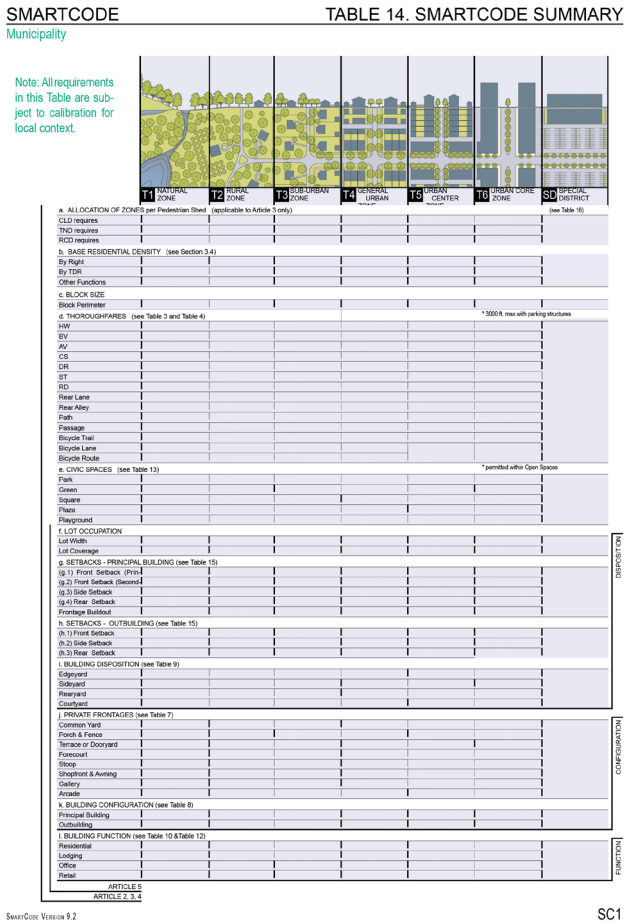


Figure 2.7 Excerpt of SmartCode Summary Table

intensity within each.

- SmartCode version 9.2 provides a flexible, customizable foundation for establishing a comprehensive zoning

framework that is adjustable to local conditions.

- The SmartCode's modules for integrating aspects of sustainability are well aligned with the Ford Site Roadmap to Sustainability in terms of site design as well as coinciding with the various LEED rating systems.
- The mix and intensity of uses, coded in the SmartCode's Transect Zones, align with the wide range of uses and levels of density/intensity illustrated in the five Ford Site development scenarios.
- The SmartCode has acquired a positive brand image within the national development community, which could attract the type of developers who are used to dealing with the more complex, mixed-use development envisioned for the Ford Site.
- Administering a separate, project-specific zoning code would require training and new thinking on the part of staff and others involved in the site's redevelopment.

2.3 Analysis of Redevelopment Scenarios

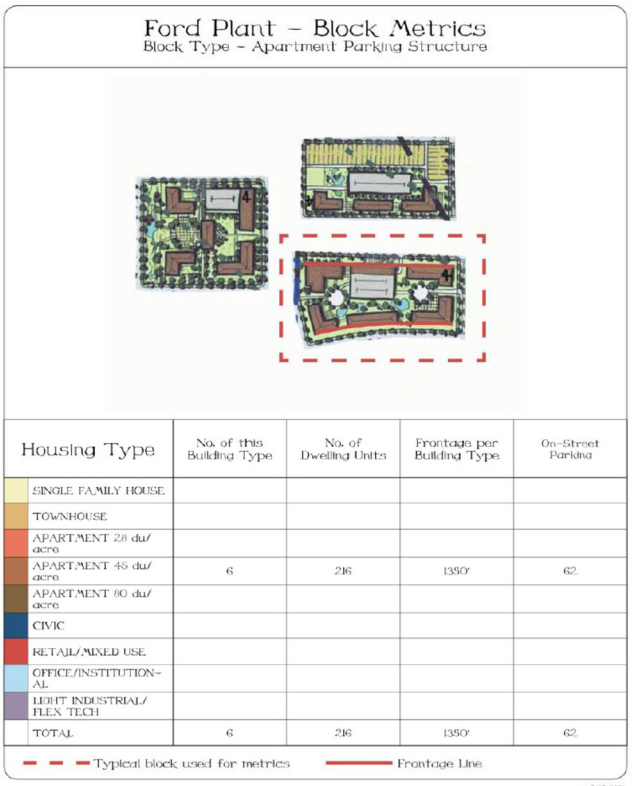
The characteristics of each of the five scenarios in the 2007 report were analyzed to understand the range in physical form to be addressed by zoning. The analysis was carried out through a multi-step process of cataloguing, grouping, and comparing the essential components of urban form. Components included building types, block types, street types, number of intersections, and open space/park types as illustrated in each of the five scenarios.

The analysis began with an examination of proposed buildings and correlating land use categories with building types and footprints, linear frontage per building type, and the estimated number of dwellings or non-residential square footage depicted.

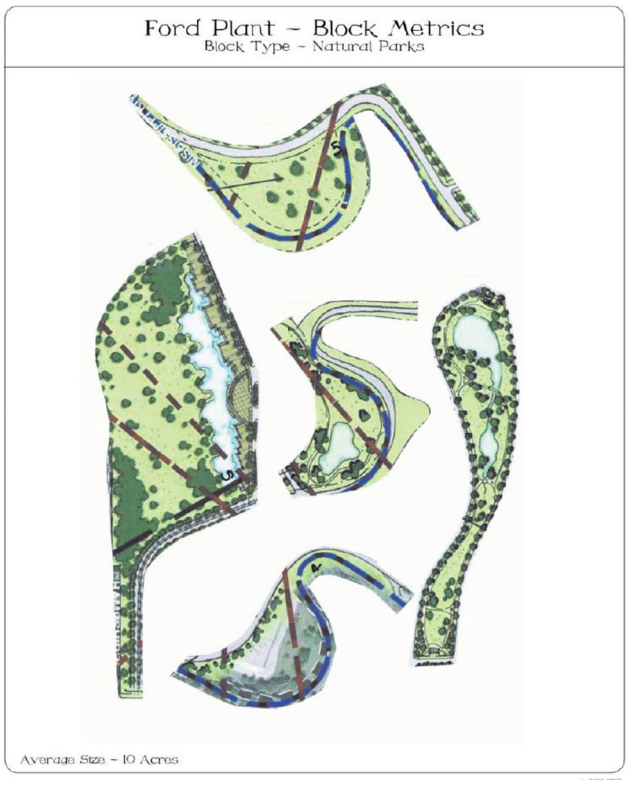
Specific block metrics were analyzed, including block length and the amount of on-street parking. Block types in each of the five scenarios were identified and aggregated to understand how many blocks of each type (and corresponding length of frontage) were provided. In the aggregate, 21 different block types were identified, with the most diverse range of block types depicted in Scenarios three and five.

Analysis of open space/park types included size, function (role in the overall scenario), and specific facilities such as ball fields, pavilions, play equipment, etc.

Street types were assigned based on adjacent uses, building typologies, and width of right-of-way. Additionally, the number of intersections for each scenario was calculated to gain an understanding of walkability and internal and external/perimeter connectivity. A total of seven different street and alleyway types were identified, ranging from local streets to parkways.



Figures 2.8 Excerpts from transect calibration for block and open space types

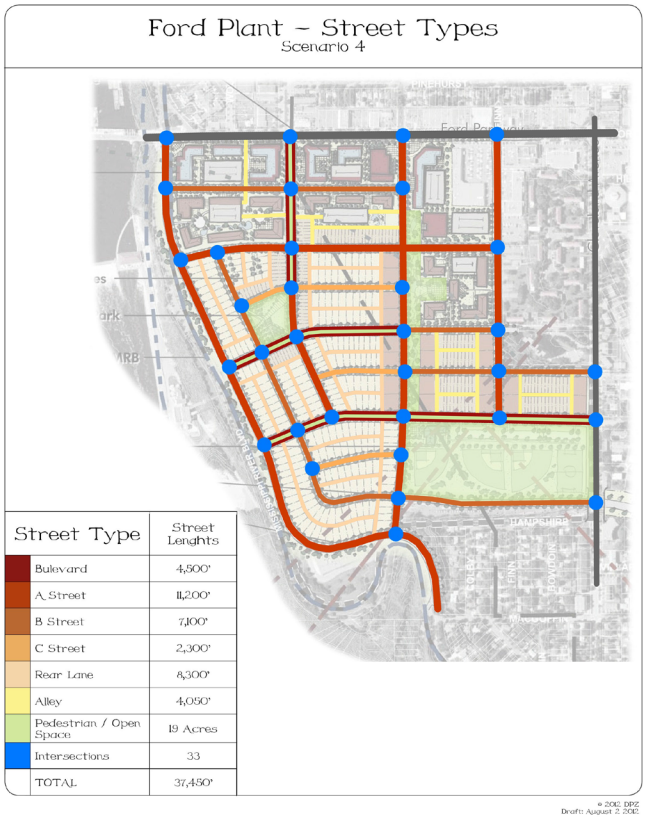


Figures 2.9 Excerpts from transect calibration for block and open space types

Once these components were documented for the five scenarios, options for a zoning framework that would best advance the redevelopment vision, goals and range of urban form envisioned in the scenarios were explored using the following approaches:

1) Using a basic block and street type methodology based upon the 10 land use categories proposed in the five scenarios;
2) Using a transect-based template such as the SmartCode; and
3) Using a finer-grained, more complex and diverse form of urbanism as described in the "z" planning tool developed by DPZ and Company.

Details of these approaches are described in the "Master Plan Five Scenarios Transect Calibration" in Appendix 3. These explorations ultimately led to the development of a Ford Site Transect for use as the basis of an alternative set of zoning tools.



Figures 2.10 Excerpts from transect calibration for street types

3.1 Dual Path Approach

Based upon the research and analysis previously described, the two most applicable zoning approaches for implementing the vision and goals of the Phase 1 Summary Report and "Roadmap to Sustainability" are:

1) use the City's current tools with modifications; or

2) prepare an new, alternative set of Ford Site-specific zoning tools.

These two approaches offer a choice between modifying several of the City's existing zoning districts and using them to regulate site development and developing a new set of contextual tools, configured specifically for the redevelopment of the site. Either approach will require additional resources (time, money, etc.) to ensure that the zoning applied to the Ford Site integrates into the City's current regulatory system while serving as one of several critical redevelopment implementation tools.

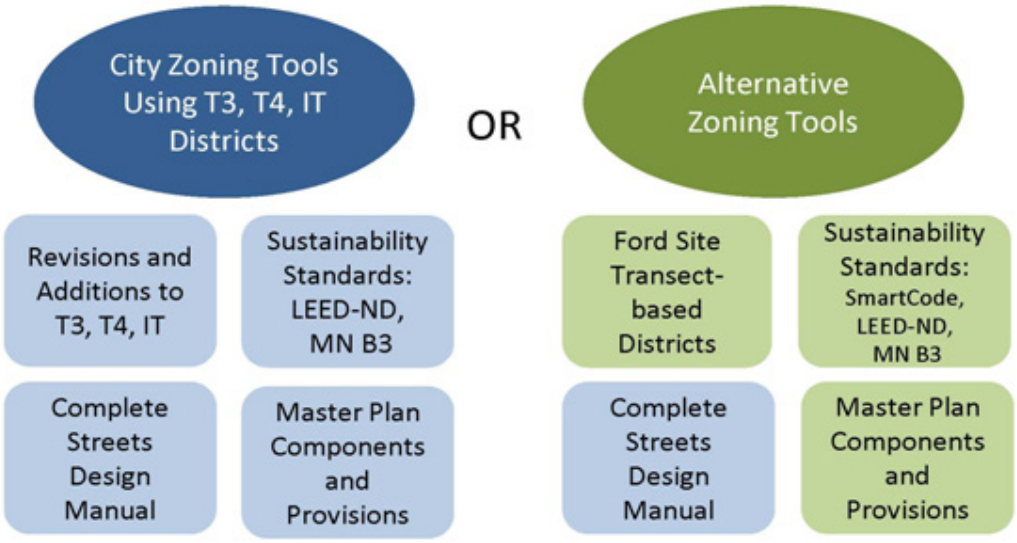


Figure 3.1 Dual Path Approach

Both zoning approaches would provide components and parameters to define community form and function ranging from use to sustainability:

Table 3.1 Essential Zoning Framework Components

Zoning Components	Parameters Addressed
1. Uses	Range and Mix of Uses (residential, commercial, office, manufacturing, civic, etc.)
2. Transportation	Street Types, Sidewalks, Trails, Transit Stops, Intersections, Connectivity, Parking (vehicle and bicycle)
3. Blocks	Block Types (mix of uses), Size (length, width minimum and maximum width/length), Shape (regular or irregular)
4. Built Form	Building Types (house, apartment, mixed-use etc.), Height and Placement (density/FAR, number of stories, set-backs/build-to)
5. Frontages	Private & Public Frontage Types (common yard, porch and stoop, arcade, etc.)
6. Open Space	Public and Semi-public Types (recreation park, community garden, plaza, etc.)
7. Sustainable Design	Building Energy, Transportation & Public Realm Network, Materials, Water & Wastewater, Solid Waste, Stormwater & Groundwater, Soil, Vegetation & Habitat, Recreation & Public Space, Night Sky Radiation, Urban Heat Island

3.2 City Zoning Tools with Modifications

As the review and analysis of Saint Paul's current zoning regulations in Section 2 indicates, the most appropriate existing zoning districts for redevelopment of the Ford Site are Traditional Neighborhood 3 and/or 4 with a Master Plan (T3M, T4M) and the proposed Industrial Transition district (IT).

Table 3.2.1 City Zoning Districts-Summary

T3M District	T4M District	IT District
For larger sites focused on: • single and two-family dwellings as well as mid-density and mixed-use • pedestrian and transit-supportive • housing variety • interconnected multi-modal streets and paths • open space system and amenities with environmental features	For larger sites focused on: • higher-density and intensity residential and mixed-use • taller buildings than T3 • pedestrian and transit-supportive • interconnected multi-modal streets and paths • open space system and amenities with environmental features • proximity to fixed rail transit	Intended to: • provide sites for commercial, office and light industrial uses • allow multi-family residential uses in a mixed-use building • address compatibility with nearby neighborhoods, housing, and parks

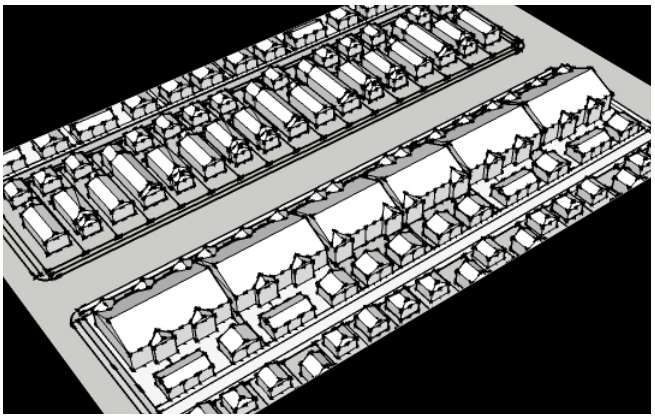
As described in Table 3.2.1, these three zoning districts are appropriate for regulating large-scale (+15 acres) development of a more complex nature than that of a lot or block. In addition to the existing zoning districts, design standards specifically pertaining to blocks, lots, plating, streets and alleyways are provided in the Subdivision Regulations (Chapter 69).

Table 3.2.2 describes the various design parameters of the City's T3M, T4M and IT districts.

Table 3.2.2 Zoning Framework Components of City Zoning Districts

Components	T3M	T4M	IT
1. Uses	Low to Mid-density Residential, Commercial, Entertainment, Lodging, Office, Ltd. Production and Processing, Civic, Education, Parking	Mid to High-density Residential, Commercial, Office, Ltd. Production and Processing, Civic, Education, Parking	Light Manufacturing, Railroad Terminal Freight, R & D, Micro/Regional Brewery, Mid to High-density Residential (with limitations), Commercial, Office, Civic, Public Services and Utilities, Higher Education
2. Transportation	Arterials, Collectors and Local streets, On-street parking, Sidewalks, Residential and Commercial Alleyways	Arterials, Collectors and Local streets, On-street parking, Sidewalks, Residential and Commercial Alleyways	Arterials, Collectors and Local streets, On-street parking, Sidewalks, Commercial/ Industrial Alleyways
3. Blocks	400 - 660 ft. maximum length, Mixed Residential, Mixed-use, Edge, Transition or Open Space types	400 - 660 ft. maximum length, Mixed Residential, Mixed-use, Open Space, Edge or Transition Area types	Industrial block length determined by Planning Commission
4. Built Form	Building placement, height and massing (dwellings per acre, set-backs/build-to) Building types not specifically regulated	Building placement, height and massing (FAR, set-backs/build-to) Building types not specifically regulated	Building placement, height and massing (FAR, set-backs) Building types not specifically regulated
5. Frontages	Not addressed	Not addressed	Not addressed
6. Open Space	Permitted, may require 20% min. of gross acreage, central square or plaza, neighborhood parks, greenways, trail corridors, or extensions of existing parks	Permitted, may require 20% min. of gross acreage, central square or plaza, neighborhood parks, greenways, trail corridors, or extensions of existing parks	Permitted, not required
7. Design Standards	23 elements addressed	22 elements addressed	7 elements addressed

Analysis of existing zoning in relation to the goals and concepts illustrated in the Phase 1 Summary Report and "Roadmap to Sustainability" suggests a series of initial modifications to improve their applicability to the Ford Site. For example, the form of development and mix of uses can vary considerably in the T3M and T4M zones (subject to more specific requirements in the Master Plan). Although this provides for increased flexibility and creativity in the site planning and design process, it also allows for less complex and diverse patterns of development, as illustrated in figures 3.2.1 and 3.2.2. The development pattern depicted in figure 3.2.1 illustrates the current provision requiring that at least two housing types be used if more than 50 dwelling units are proposed and that two abutting block faces shall have more than one building type. This provision is aimed at requiring greater diversity of dwelling types within the development and along the street frontage. However, as the diagram illustrates, these provisions fall short of achieving their intention as the ordinance doesn't prescribe any particular percentage or distribution of the two dwelling types as they are sited upon the block. The unintended consequence that can result is a monotonous pattern of development. Figure 3.2.2 illustrates a similar, but somewhat modified, set of provisions (using the same lot and setback provisions) where a minimum of four dwelling types per block is required, along with a maximum street frontage of 50% for any one dwelling type. As illustrated, densities for both examples range similarly between 11.5 (figure 3.2.1) and 12 (figure 3.2.2) dwelling units per acre.



Figures 3.2.1 Two dwelling types per block along either side of the street

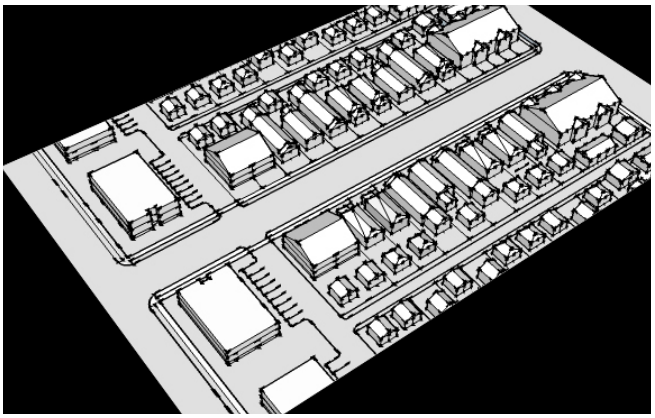


Figure 3.2.2. Increased diversity and percentage of dwelling types per block

A summary of some recommended modifications for Ford Site Zoning to the T3 and T4 zoning district, or for inclusion in new districts or Master Plan.

- Require greater block-level diversity of building types to increase housing choice and economic and design diversity. Consider establishing a minimum density at the block level to ensure that a variety of housing types are included.
- Consider smaller front yard setbacks for one- and two-family dwellings (currently set at 15 - 25 feet) with adequate space for snow storage.
- Consider reducing rear yard setbacks for residential uses from 15 feet to 10 feet if the rear yard abuts an alley.
- Increase bike parking requirements and require a minimum number of bike parking spaces for all uses to support healthy, active living and reduce auto-dependency and carbon emissions.
- Provide options for ground floor uses in parking garages sited along arterial and collector streets to accommodate for slow or shifting markets. For instance, allow a minimum of 50% commercial space per block face or use liner buildings instead of requiring ground floor commercial space.
- Include minimum parking requirements for car-share, electric cars and bike share for all uses to support car-free living and reduce auto-dependency and carbon emissions.
- Consider allowing accessory dwelling units/carriage houses on all or part of the Ford Site. These units offer many options for intergenerational living and life-cycle housing within a medium-density environment.
- Consider standards that allow or encourage shared open space, such as courtyard blocks and shared yard space for gardens.
- For non-residential uses, consider establishing a minimum floor-area ratio of 1.0, based on recommendations by the City's "Green Team." (Current minimum in the T3 and T4 districts is 0.5).
- Consider developing more detailed standards for residential development through the Master Plan process, such as a "pattern book."
- Consider fee-in-lieu of on site parking to fund share parking structures and allow greater distance than current code to shared facilities.
- Consider density bonuses for affordable housing.

Industrial Transition (IT) District:

- Specify minimum and maximum block sizes (currently set by the Planning Commission) and set these based upon T3M, T4M parameters to support walkability.
- Provide a range of requirements for inclusion of open space/park facilities unless adequate proximity (within ¼ mile minimum) and accessibility are provided.
- Prohibit front yard parking within the Ford Site (current text allows two rows of front yard parking per zoning administrator's discretion during site plan review).
- Decouple building height and setbacks adjacent to T3M and T4M district uses except for single- and two-family residential.
- For non-residential uses, consider establishing a minimum floor-area ratio of 1.0, based on recommendations by the City's "Green Team." (There is currently no minimum FAR requirement in any of the industrial districts).

The IT district should not be used for non-industrial areas to circumvent the more specific design standards of the T districts. Additional zoning ordinance modifications may be desirable depending on the details of a future project Master Plan in order to better guide and regulate the plan's implementation.

Project planning, design, and implementation guidance will also be provided by a number of other regulatory programs and tools including the Capitol Region Watershed District Standards; the Mississippi River Critical Area Overlay for land use, building height and setbacks; the Minneapolis/ Saint Paul International Airport Zoning Overlay for land use and building height restrictions; and the Saint Paul Complete Streets Design Manual. In development at this writing, the manual is anticipated to provide detailed, integrated design guidance on multi-modal transportation elements from street cross sectional layouts and lane width parameters to the integration of cycling facilities and transit stops.

3.3 Transect-based Tools

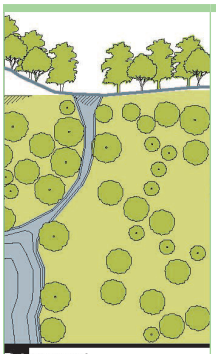
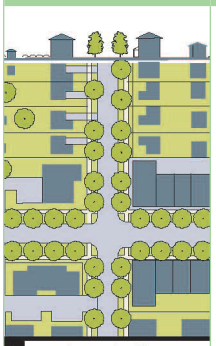
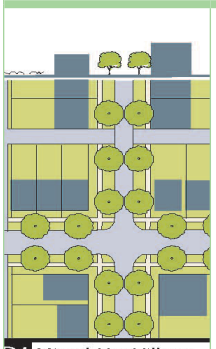
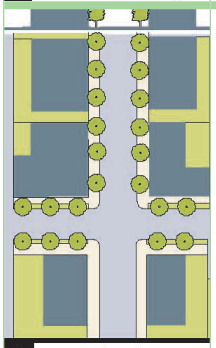
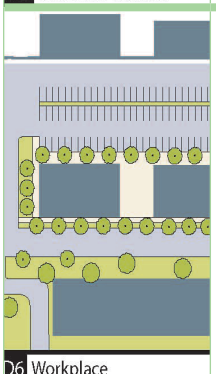
As an alternative to using the City's existing zoning tools (with modifications); a transect-based zoning approach has also been developed. Transect districts (or zones) are administratively similar to zoning districts used in conventional zoning. In addition to regulating use, density, building height and setback requirements, additional elements of the intended habitat are addressed, including private and public frontage, public space, block, private lot, and building design. The Ford Site transect builds upon detailed analyses of site area context, patterns of use and form depicted in the five Scenarios, and the standard rural to urban transect template as originally developed by the Congress for the New Urbanism. Five specific transect zones or districts were calibrated (adjusted for local site conditions) for use within the Ford Site:

- D-1 Natural
- D-3 Mixed Residential Village
- D-4 Mixed-use Village
- D-5 General Urban
- D-6 Workplace

The five proposed transect districts provide a range and mixture of uses and built form typologies that progressively increase in density, intensity and complexity from the natural park-like areas closest to the Mississippi River to the tightly interconnected urban grid of mid-rise, multi-family residences, shops and workplaces. District D-2, which correlates to the standard Rural Transect Zone 2, is omitted as it is not applicable to the Ford Site or its neighborhood context.

More detailed transect district descriptions and associated parameters are summarized in Table 3.3.1.

Table 3.31 Fort Site Transect District Description Summary

	**D-1 NATURAL** D-1 Natural district consists of lands approximating or reverting to a natural condition, including lands unsuitable for settlement due to topography, hydrology and/or vegetation such as the areas within the RC2 Mississippi River Critical Overlay.	**General Character: Natural landscape with some recreational use.** **Building Placement:** Not applicable **Frontage Types:** Not applicable **Typical Building Height:** Not applicable **Type of Civic Space:** Parks, Greenways
	**D-3 RESIDENTIAL VILLAGE** D-3 Residential Village district consists of low to medium density mixed-use areas. Home occupations, carriage houses and outbuildings are permitted. Planting is semi-formal to naturalistic and setbacks are moderately deep. Blocks range from regular to irregular in shape to adjust for topography. Streets with sidewalks, tree lawns and parking define medium sized blocks.	**General Character: Mix of houses, duplexes and townhomes, lawns and landscaped yards; occasional corner store, tree-lined streets with occasional pedestrians and cyclists.** **Building Placement:** Moderate to deep front and rear setbacks **Frontage Types:** Common Yard, Porch and Fence **Building Heights:** 1-1/2 to 2-Story with some 3-Story **Street Types:** Collector, Local 2-way Streets, Residential Lane, Residential Alleyway **Type of Civic Space:** Natural Park, Greenway, Recreation Park, Playground, Community Garden
	**D-4 Mixed-use VILLAGE** D-4 Mixed-use Village district consists of a mix of moderate density residential and mixed-use urban fabric. Setbacks are shallow and landscaping is semi-formal to formal. Blocks range from regular to irregular in shape to adjust for topography. Streets with sidewalks, tree lawns and parking define medium to small-sized blocks.	**General Character:** Mix of townhouses and stacked flats, with commercial nodes; shallow landscaped yards, tree-lined streets with moderate pedestrian and cycling activity **Building Placement:** Shallow to medium front and rear yard setbacks **Frontage Types:** Common Yard, Porch & Fence, Dooryard, Courtyard, Shopfront **Building Heights:** 2 to 3-Story with a few taller mixed-use buildings **Street Types:** Collector, Divided Boulevard, Local 2-way, Local 1-way, and Residential Alleyway **Type of Civic Space:** Recreation Park, Civic Park, Pocket Park, Playground, Community Garden
	**D-5 GENERAL URBAN** D-5 General Urban district consists of higher density residential, civic, and mixed-use buildings that accommodate retail, service, offices, and residential. It has a tight network of streets, with parking, wide sidewalks, steady street tree planting, buildings set close to the sidewalks.	**General Character:** Stacked flats and townhouses mixed with offices, shops, and Civic buildings; predominantly attached buildings; trees within the public right-of-way; substantial pedestrian, cycling and transit activity **Building Placement:** Shallow to no setbacks; buildings oriented to street defining a street wall **Frontage Types:** Forecourt, Stoop, Shopfront, Gallery and Arcade **Building Heights:** 3 to 5-Story with some variation and taller buildings **Street Types:** Collector, Divided Boulevard, Local 2-way, Local 1-way, Residential Alleyway and Commercial Alleyway **Type of Civic Space:** Pocket Park, Playground, Community Green, Plaza
	**D-6 WORK PLACE** D-6 The Workplace district consists of a mix of light industrial, office, employment-based mixed-use and live-work multifamily residential blocks. Blocks are moderate to large in size and regular in shape. Building setbacks range from shallow to minimal. Services, under-building parking, surface parking and parking garages are accessed by a mix of limited curb cut-driveways and alleyways. The interconnected street network includes sidewalks with tree lawns landscaped boulevards and on-street parking.	**General Character:** A variety of non-residential and mixed-use block and building types with professional offices, research and development laboratories, manufacturing, assembly, parking garages with liner buildings; tree-lined streets and moderate pedestrian, cycling and transit activity **Building Placement:** Shallow Setbacks or none; buildings oriented toward the street, defining a street wall **Frontage Types:** Stoops, Dooryards, Forecourts, Shopfronts, Galleries and Arcades **Building Heights:** 1-5 Story with a few taller buildings **Street Types:** Collector, Divided Boulevard (Parkway), Local 2-way, Local 1-way, Commercial or Industrial Alleyway **Type of Civic Space:** Pocket Park, Community Green, Plaza

As in the City zoning tools approach, the new Saint Paul Complete Streets Design Manual is expected to provide guidance on the design and implementation of multi-modal transportation for the site.

3.4 Implementing Sustainable Design through Zoning and Other Methods

Minnesota Statutes defines "Sustainable Development" as "development that maintains or enhances economic opportunity and community well-being while protecting and restoring the natural environment upon which people and economies depend. Sustainable development meets the needs of the present without compromising the ability of future generations to meet their own needs." (Minn. Stat. § 4A.07 subd. 1(b) (2004).

The City of Saint Paul has adopted several city-wide "Sustainable Saint Paul" policies (Figure 3.4.1). The "Sustainable Building Policy for New Municipal and HRA-Owned Buildings in the City of Saint Paul" applies to any planning, design, construction, and commissioning of municipal or HRA-owned facilities. This document provides an array of rating systems and minimum levels of compliance. The "Saint Paul Sustainable Building Policy for Private Development" applies to any new construction project that receives more than $200,000 in City and/or HRA funding. The Saint Paul PED/HRA Sustainability Initiative (first adopted on January 30, 2007, and last amended on October 5, 2010) requires that private developments funded in whole or in part by the City of Saint Paul PED/HRA participate in Xcel Energy's Energy Design Assistance program.

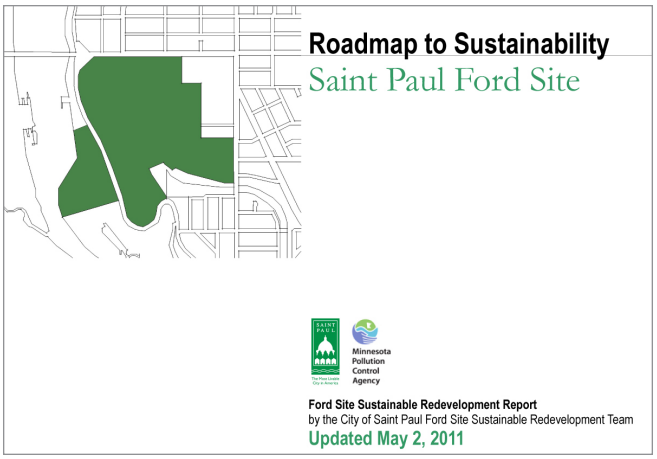


Figure 3.4.1 Cover from the Roadmap to Sustainability Report

The Roadmap to Sustainability provides policy direction, specific sustainability standards and implementation strategies for a redeveloped Ford Site that demonstrates "that residents, employers, workers and visitors can enjoy all the amenities and comforts of modern living while using much less energy, producing clean energy on site, reducing waste, reducing and treating storm-water runoff, restoring a natural ecosystem and providing an infrastructure system that reduces vehicle trips and encourages walking, biking and transit." Two of the plan's four implementation strategies pertain to the use of urban design-based zoning tools coupled with green building and development programs including the Minnesota B3 Guidelines and LEED for Neighborhood Development. Both of the zoning framework approaches (City tools, transect-based tools) address fundamental components of sustainability (environmental, social and economic) such as reducing carbon emissions and reducing auto-dependence by requiring more compact, walkable, mixed-use and transit supportive development. There are other aspects of sustainability, such as building energy, materials and solid waste, that are typically outside the purview of zoning regulations and more effectively addressed by building codes and other federal, state and municipal regulations.

Tables 3.4.1a; 1b Sustainability Goals and Tools Matrix identify 21 sustainability components related to the District Sustainability Standards for the Ford Site as detailed in the Roadmap Report. As a menu of options, these matrices provide the City and developers a variety of ways to achieve a highly sustainable redevelopment, either through zoning and related requirements or through non-regulatory programs such as the Minnesota B3 Standards and LEED for Neighborhood Development. It is likely that some combination of these methods will prove most effective in balancing community goals with those of the private market place. The matrices also provide guidance for choosing zoning features and/or other methods for organizing redevelopment of the Ford Site into appropriate uses and intensity of activity.

As indicated in the Roadmap to Sustainability, the District Sustainability Standards lay out an aggressive sustainable redevelopment agenda for the Ford Site and mechanisms to move the agenda forward in cooperation with policy makers, developers and the community. Each of the major elements is described with specific goals, standards (minimum performance thresholds), strategies, and background information resources. Given the fast pace of research and refinement in this arena, it will be critical for the participants (Ford, City, developer, etc.) to stay abreast of the latest research findings and methodologies to ensure the most appropriate program, metrics and tools are applied to the project.

Many of the keys to implementing a sustainable redevelopment program and site design for public and private investment are articulated in the "Next Steps" recommendations of the Roadmap to Sustainability (page 52):

1. Engage Ford and community stakeholders in a review of these standards.
2. Link standards to incentives.
3. Consider drafting additional categories of District Sustainability Standards.
4. Engage an integrated design team to develop a preliminary long-range site regulating plan for new public rights-of-way and infrastructure improvement.

Step 4, above, should begin when more complete information on site environmental conditions becomes available through the Environmental Assessment analysis following building removal (expected in 2014), and a developer team is identified. Then Ford, City of Saint Paul staff and the selected developer, can begin the creation of a "Master Plan," using integrated design to identify building form, density, open space/public realm, circulation, new public rights of way and infrastructure.

Every effort should be made to incorporate all of the sustainability tools listed in the matrix, either through additions into the new zoning for the Ford Site, or through the other methods listed. As stated in the explanatory text for that recommendation, "This would allow for gradual, incremental redevelopment of the Site in a sensitive but coordinated manner by creating a rational framework for careful extension of the urban fabric onto the site."

Appendix 4 Part 1 Ford Sustainable Redevelopment Team Goals and Implementation

#	Topic	Goal	Sustainability Standards for Implementation in Ford Site Zoning
1	Operating Energy and Global Warming	Reduce bldg and infrastructure energy use and GHG emissions; increase use of renewables; encourage on-site energy self-sufficiency; reduce urban heat island effect	B3, LEED-ND, or Architecture 2030 standards for energy efficiency and energy generation. Block pattern in master plan designed for solar orientation needs. Require use of some renewables and on-site generation.
2	Potable Water	Reduce potable water consumption in bldgs and on site	Predicted use of potable water in the buildings must be at least 30% below EPA Policy Act of 1992. Predicted landscaping water use must be at least 50% less than traditionally irrigated site using typical water consumption for underground system. Some graywater use for irrigation.
3	Waste Water	Reduce wastewater going to off-site treatment	Retain minimum 50% average annual wastewater generated by buildings AND reuse wastewater to replace use of potable water
4	Solid Waste	Reduce solid waste (during construction and operation)	Actual solid waste of construction materials, excluding demolition waste, must be at least 75% recycled or otherwise diverted from landfills.
5	Life Cycle Impacts of Materials	Reduce embodied energy use, GHG emissions	Use MN B3 standards
6	Indoor and Outdoor Environmental Air Quality	Improve and protect indoor and outdoor air quality	Use St. Paul Green Bldg policy and B3 standards
9	Vegetation and Habitat	Reduce removal of existing vegetation, increase vegetation and biodiversity, and provide wildlife habitat	Comply with City code and B3 standards, plus... Greater than fifty percent (50%) aerial tree coverage of on-site impervious surfaces except roofs. Greater than thirty percent (30%) of buildings include vegetated roofs. Greater than seventy five percent (75%) native species in landscaping. Plant no more than 10 percent of any species, no more than 20 percent of any genus, and no more than 30 percent of any family.

#	Topic	Goal	Sustainability Standards for Implementation in Ford Site Zoning
10	Soil	Reduce healthy soil loss, minimize disturbance; conceal, clean or remove contaminated soil	Meet MPCA soil cleanup criteria with land use restrictions. Meet State of Minnesota B3 Guidelines for soil management.
11	Stormwater and Groundwater	Reduce stormwater runoff from site; maximize groundwater recharge; meet applicable groundwater quality standards	Use St. Paul's Green Bldg standards for storm water management.
12	Transportation Energy	Reduce transportation related energy use and GHG	Minimum residential density (du/acre) greater than 20 du/acre (Density to be calculated using LEED-ND computational method outlined NPD Credit 2.). Minimum Non-Residential floor area ratio (FAR) greater than 1.50 (Non-Res. FAR to be calculated using LEED-ND computational method outlined NPD Credit 2.). Provide designated bike lanes on streets at least every ½ mile. 50% of all residential and non- residential building entries within ¼ mile of vehicle sharing site or transit services.
13	Active and Passive Recreation and Human Health Opportunity	Provide outdoor and indoor passive and active recreation areas, trails and public gathering spaces; universal accessibility	No zoning implementation
14	Food	Increase local food availability for persons on site	No zoning implementation
15	Night Sky Radiation	Reduce light emitted from site at night	"Full cut-off" or "Fully shielded" lighting, not to exceed average of 40,000 lumens/acre. Light levels at the property line should not exceed 0.1 footcandles (fc) adjacent to business properties and 0.05 fc at residential property boundaries.
17	Urban Heat Island	Reduce heat absorption by building and landscape	Solar Reflectivity Index for flat roofs = min. of 78. Solar Reflectivity Index for sloped roofs = min. of 29. Solar Reflectivity Index for pavement = min. of 29.

3.5 Dual Approach Advantages, Disadvantages and Differences

The two zoning approaches outlined in this report present an array of advantages and disadvantages:

City Zoning Advantages:

- Familiar to city staff, neighborhood stakeholders and local developers.
- Administration of code is already well established and generally understood.
- Revisions to existing zoning districts, overlays, and Master Plans can be drafted to apply specifically to the Ford Site or to other locations within Saint Paul.
- Master plans can provide for a finer gram of urbanism within the structure of existing zoning districts.
- The design-oriented nature of the Traditional Neighborhood Districts, as modified to better serve the Ford Site, could serve as a model for use on other large redevelopment sites in the City or other communities in the Metropolitan region.

City Zoning Disadvantages:

- City code may not be as understandable or user friendly to national developers who are more familiar with transect-based, design oriented models of zoning.
- Leaving design decisions to the master planning process may make some people nervous, since master planning is a less understood than zoning and has uncertain outcomes.
- Revisions to existing zoning districts may not actually be very applicable to other locations within the City—thus requiring a new district or districts specific to Ford.

Transect-based Zoning Advantages:

- Establishes specific, place-based regulations in response to Ford Site planning studies and neighborhood context.
- Provides for a finer grain of urbanism; diversity and mix of block, building, street and public space typologies within the zoning districts.
- These standards are presented visually with diagrams and charts, making them easier for people to understand and interpret.
- Transect-based zoning is well-regarded nationally by developers of more complicated, mixed-use projects.
- Transect-based zoning can be readily adapted (calibrated) and applied to other large redevelopment sites within the City and region.

Transect-based Zoning Disadvantages:

- Creating a new code format versus tweaking existing code will require more resources (time and money).
- Learning curve for City staff and neighborhood/ community stakeholders.
- Potential administrative complexity—depending on how new provisions are integrated into existing code.

Table 3.5.1 describes some of the fundamental differences between the two zoning approaches.

Table 3.5.1 Differences Between Zoning Approaches

City Zoning Tools	Transect-based Zoning Tools
Relies on Master Plan to address finer details pertaining to urban form such as percentage mix of building types, complexity of block types and street designs tied to land use intensity versus functional class.	Integrates highly detailed aspects of urban form into zoning code. Master Plan can be less specific.
Created to facilitate walkable, transit supportive and contextual block and small site scale infill redevelopment in locations sharing similar characteristics throughout the City.	Created specifically to address vision and goals for redeveloping the Ford Site.
Would need to amend existing zoning or create a Ford Site-specific overlay district.	Developed using a place-based analytical process, responsive to the Ford Site's context.
Uses text and tables to communicate all aspects of zoning and subdivision regulations.	Uses a combination of diagrams, tables, illustrations and text in a unified manner to address all aspects of land development in a single document.
Places information in numerous sections within the City's code, making it more confusing to navigate.	All requirements are described within the transect district zone.

3.6 Beyond Zoning: The Role of a Master Plan

As sites increase in size, so do their potential for impacting adjacent neighbors and surrounding neighborhoods. The use of a Master Plan (through its public preparation process and multiple components) provides increased levels of study, detail and predictability to the development planning, approvals and build-out process. Previous site planning explorations conducted and documented in the Phase I Planning—Five Redevelopment Scenarios report illustrate a range of redevelopment possibilities. However, once a buyer/developer for the site has been identified, more in-depth analyses, planning and design (including a rezoning) are likely to commence.

A number of parties are anticipated to participate in a future master planning and rezoning process, including the City of Saint Paul, the Minnesota Pollution Control Agency, the Highland District Council and the Ford Site Planning Task Force. The City's longstanding commitment to interactive public engagement ensures that aspects of environmental, social and economic sustainability are addressed at every step of the process. The City has also established (as a part of Traditional Neighborhood zoning district provisions) a comprehensive set of components to be addressed during the preparation of large-scale master plans, including:

1. Narrative description of plan
2. Location plan
3. Site inventory and analysis
4. Illustrated site plan showing layout of streets, blocks, range uses, etc.
5. Block-level analysis designating block types (mixed-use, edge, etc.)
6. Open space plan
7. Thoroughfare plan (streets, walks, alleys, parking, transit stops, etc.)
8. Preliminary landscape plan
9. Preliminary stormwater plan
10. Preliminary utilities plan
11. Phasing plan

The level of complexity and specificity addressed in a future Master Plan may depend upon which zoning framework path is followed. For example, the transect-based framework proposes to cover the application of various public and private frontage typologies (streets, boulevards, common yards, arcades, etc.) in the transect districts, while frontage types are not addressed in the City's zoning ordinance. A master planning process relying on city zoning tools for implementation may wish to address public and private frontages in a more substantive manner as a component of the plan. The City's T3M and T4M zoning tools include a set of 23 specific design standards pertaining to building and site design such as buildings anchoring the corner, façade articulation, and screening of equipment and service areas. If the transect-based zoning framework path is followed, then these and other design-related requirements could be addressed within a built-form or architectural standards code section, or included within a Master Plan as part of a project-specific set of design standards.

Ultimately, coordinating the preparation of a Ford Site Master Plan together with an integrated set of flexible zoning and sustainability tools can ensure the successful realization of the project vision.

GLOSSARY OF TERMS

Built form: The outward shape, structure, and appearance of buildings.

Frontage: The area between a building façade and the street, inclusive of its built and planted components (sidewalk, tree lawn, parking bay, drive lane).

New urbanism: a design movement promoting walkable, mixed-use neighborhood development, sustainable communities and healthier living conditions.

For over twenty years, the movement's practitioners have used the principles in Congress for New Urbanism's Charter to promote the hallmarks of New Urbanism, including:

- Livable streets arranged in compact, walkable blocks.
- A range of housing choices to serve people of diverse ages and income levels.
- Schools, stores and other nearby destinations reachable by walking, bicycling or transit service.
- An affirming, human-scaled public realm where appropriately designed buildings define and enliven streets and other public spaces.

Public realm: Exterior places, linkages, and built form elements that are physically and/or visually accessible regardless of ownership. These elements can include, but are not limited to, streets, pedestrian ways, bikeways, bridges, plazas, nodes, squares, transportation hubs, gateways, parks, waterfronts, natural features, view corridors, landmarks, and building interfaces.

Transect: A cut or path through part of the environment showing a range of different habitats. Biologists and ecologists use transects to study the many symbiotic elements that contribute to habitats where certain plants and animals thrive.

Human beings also thrive in different habitats. Some people prefer urban centers, while others thrive in the rural or sub-urban zones. Before the prevalance of the automobile, American development patterns were highly walkable, and transects within towns and city neighborhoods revealed areas that were less urban and more urban in character. This urbanism could be analyzed as natural transects are analyzed.

To systemize the analysis and coding of traditional patterns, a prototypical American rural-to-urban transect has been developed dividign the environment into six Transect Zones, for application on zoning maps.

Transect districts (or zones): Administratively similar to zoning districts used in conventional zoning, but in addition to regulating use, density, building heights and setbacks, they address private and public frontages, public spaces, block types, and building design.

Typologies: The system of classifying specific components or elements addressed in design-based zoning codes such as building types, street types, frontage types, etc.

Appendix 1 – Analysis of City Code

THE FORD SITE ZONING FRAMEWORK

ZONING ANALYSIS

City of St Paul Zoning Code

INTRODUCTION

The purpose of this analysis is to examine the structure of Saint Paul's existing zoning code and related ordinances, to explore which of the City's existing zoning districts might be applicable to all or portions of the Ford site, and to assess the potential effectiveness of these districts in achieving the project's vision and goals.

BACKGROUND

The Saint Paul Zoning Code is a conventionally written (i.e., text-based) but urban design-oriented code. Zoning districts are grouped into categories from least to most intensive:

1. Residential Districts – One-Family – RL through R4.
2. Residential Districts – Two-Family, Townhouse and Multi-Family – RM1 through RM3.
3. Traditional Neighborhood Districts – Mixed-Use Districts – T1 through T4. The four districts provide for a wide range of uses and levels of density/intensity, including a full range of residential, civic, institutional, office, and commercial uses, as well as limited production and processing uses, with standards for urban form and design. Design standards address street/alley and block layout, minimum/maximum density and height, building placement and street orientation, parking placement (side or rear), building articulation and materials, public/private realm trees and landscaping, lighting, and sidewalks.
4. Business Districts – ranging from Office-Service through B1, BC (converted residence), through B5
5. Industrial Districts – ranging from IR through I3, the industrial districts provide for a full range of civic, institutional, office, commercial, and industrial uses, as well as for mixed commercial-residential uses. Draft amendments are being studied to update these districts, restrict mixed residential uses to upper floors in I1-I2 districts, and add design standards specifically tailored to the industrial districts. Transitional Industry District (IT) proposed to replace IR (Light Industrial Restricted.
6. A Planned Development District is designed to replace existing zoning for larger sites (at least 1.5 acres) that are suitable for a unified and self-contained design approach.

OVERLAY DISTRICTS

Four River Corridor Overlay Districts are "designed to provide comprehensive floodplain and river bluff management for the city" in accordance with state requirements for the Mississippi River Critical Area and floodplain. The districts are the RC1 River Corridor Floodway District, RC2 River Corridor Flood Fringe District, RC3 River Corridor Urban Open Space District and RC4 River Corridor Urban Diversified District. A significant portion of the Ford site is covered by the RC3 District, which allows a maximum building height of 40 feet. Areas below the river bluff are zoned RC1 and RC2.

Design-oriented overlay districts are developed for particular planning areas. They pre-date the Traditional Neighborhood Districts. These include:

- Shepard Davern Commercial and Residential Redevelopment Overlay Districts: the Commercial Redevelopment Overlay is designed to promote hotel and higher-density multi-family housing development with design standards similar to the Traditional Neighborhood Districts. The residential overlay employs similar standards for multi-family housing.
- White Bear Avenue Overlay District: to facilitate implementation of recommendations in the White Bear Avenue small area plan, design standards similar to the Traditional Neighborhood Districts are employed.
- Hillcrest Village Overlay: incorporates White Bear Avenue overlay standards.
- East Grand Avenue Overlay: to "provide design standards and building height, size, and footprint limits, and to reduce the shortage of parking in the east Grand Avenue area." Applies T2 design standards, limits building footprint to 25,000 SF, limits building size to 75,000 SF and building height to three (3) stories and 30-40 feet, depending on uses. Standard minimum parking exception for changes in use does not apply.

Other overlay districts have been developed for specific areas and specialized conditions. They do not apply to the Ford site. The Airport Overlay districts, which do affect the Ford site, are managed through the Metropolitan Airports Commission.

ZONING DEVELOPMENT SCENARIO MATRIX

Comments pertain to the applicability of current city zoning categories to each of the five conceptual development scenarios.

Major Development Scenarios	Saint Paul Zoning Districts (Applicability: High, Limited or None)					
	T1	***T2***	***T3***	***T4***	***IT***	***Other (Districts)***
	Limited	Limited	Limited	Limited	High	
1. AUAR Baseline - Primary Reuse for Industry 	Doesn't include retail. Potential use in residential apartment/ condo area along Cleveland if other uses acceptable (alt. RM1)	Modest retail; civic and educational uses along Ford Parkway	Somewhat applicable, limited neighborhood development	Somewhat applicable; proposed building heights unlikely to reach T4 levels	Would fit majority of the site	Single Family Lots - R1; Low-density apt./condo: RM1/ RM2
	None	Limited	Limited	Limited	Limited	
2. Mixed Use - Light Industrial / Flex Tech 	Lacks sufficient intensity and mix of uses	Retail / mixed use along Ford Parkway; some transitional residential if other uses acceptable	Good option for residential and mixed-use sub districts	0.5 min. FAR and 75' max. height exceed intensity proposed in scenario	Would fit light industrial sector of the site	Townhouse, apt./ condo: RT2, RM1, RM2
	None	Limited	High	Limited	None	
3. Mixed Use - Office/ Institutional 	Lacks sufficient intensity and mix of uses	Retail / mixed use along Ford Parkway; some transitional residential if other uses acceptable	Option for entire site	0.5 min. FAR and 75' max. height exceed intensity proposed in scenario	Not applicable - no light industrial	Townhouse, apt./ condo: RT2, RM1, RM2
	None	Limited	High	Limited	None	
4. Mixed Use - Urban Village 	Lacks sufficient intensity and mix of uses	Retail / office along Ford Parkway; some transitional residential if other uses acceptable	Option for entire site	0.5 min. FAR and 75' max. height exceed intensity proposed in scenario	Not applicable - no light industrial	Single family lots - R1; Single-family: R1; Townhouse, apt./ condo: RT2, RM1, RM2
	None	Limited	High	High	None	
5. Mixed Use - High Density Urban Transit Village 	Lacks sufficient intensity and mix of uses	Retail / office along Ford Parkway	Could be applicable, with conditions for taller buildings	Applicable for entire site, with height restrictions in RC Overlay	Not applicable - no light industrial	Single family lots - R1; apt./condo: RM1, RM2

POTENTIALLY APPLICABLE DISTRICTS FOR FORD PLANT SITE

The five scenarios envisioned for the Ford site encompass a broad range of uses, which could be captured only by a broad range of zoning districts. The following are some options that use or adapt the City's existing districts:

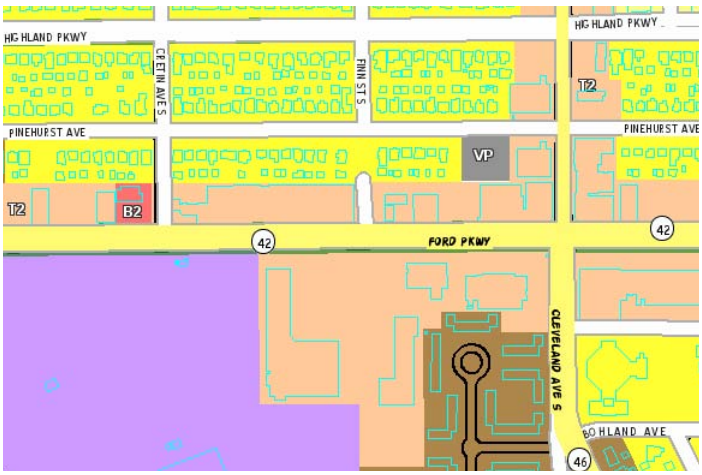
TRADITIONAL NEIGHBORHOOD DISTRICTS (T DISTRICTS)

Among the potentially applicable districts in the City's zoning code are the Traditional Neighborhood Districts, which have been widely used to support transit-oriented development and new urban villages. According to the statement of intent, "TN traditional neighborhood districts are intended to foster the development and growth of compact, pedestrian-oriented urban villages. All four (4) districts are intended to encourage a compatible mix of commercial and residential uses within buildings, sites and blocks; new development in proximity to major transit streets and corridors; and additional choices in housing."

- "T1 traditional neighborhood district is intended to provide for compact, pedestrian-oriented mixed-use areas of limited size, with a variety of residential, office and service uses that primarily serve neighborhood needs." It has been used in several small-scale neighborhood districts such as Como Avenue/Luther Seminary and along West 7th Street. It overlaps with the OS district in some respects.
- "The T2 traditional neighborhood district is designed for use in existing or potential pedestrian and transit nodes. Its intent is to foster and support compact, pedestrian-oriented commercial and residential development that, in turn, can support and increase transit usage." T2 has been used quite widely along high-frequency transit corridors and shopping precincts, including Highland Village.
- "The T3 traditional neighborhood district provides for higher-density pedestrian- and transit-oriented mixed-use development." It is designed for areas that are large enough to support all or part of a neighborhood: mixed uses, a variety of housing types, an interconnected street network, and an open space system. It has been used in a few areas including, several large master planned districts in conjunction with those master plans, such as West Side Flats and the Upper Landing. Master plans in T3 are now optional (a 2011 change). T3 has also had substantial use along University Avenue in the Central Corridor.
- The recently adopted T4 district "provides for high-density, transit-supportive, pedestrian-friendly mixed-use development. It is particularly intended for use near transit stops along fixed rail transit (including commuter rail, light rail and trolley) corridors, where a greater reliance on transit makes high-density mixed-use development possible and desirable." (City of Saint Paul Zoning Code Traditional Neighborhod Districts, meetings 66-312 through 66-315). It has seen substantial use in station areas along the Central Corridor.

RELEVANT COMPONENTS OF THE T DISTRICTS

- *Minimum and maximum residential densities and floor-area ratios (FARs).* These range from FARs of 0.3 - 1.0 in the T1 District to a minimum FAR of 0.5 in the T4 District, with the option of using a percentage of structured parking toward the minimum.
- *Some site-specific setback and height requirements,* primarily along segments of University Avenue, indicating that these are based on detailed station area plans.
- *Design standards for each district.* These are defined in terms of broad objectives, with some flexibility permitted. For example, "buildings anchor the corner," "definition of residential entries," "building façade articulation." Some of the standards, such as those for building materials and minimum transparency, are more specific.
- *Residential parking standards are somewhat more flexible than in other zoning districts outside downtown.* In the T1 and T2 districts, minimum off-street parking for residential uses is reduced by 25% for properties within one-quarter mile of a high-frequency transit street. In the T3 and T4 districts, the 25% reduction applies to all residential uses.



Most of the commercial areas in Highland Park have been zoned T2.

ASSESSMENT OF T DISTRICT ZONING

Based on discussion with City staff, the T districts appear to have worked well over a broad range of conditions (especially along high-frequency transit streets) since they were adopted in 2004, and have been well-received by community members. In 2011, T district design standards were revised and updated based on experience.

Possible amendments to districts along the Central Corridor are being studied to include allowances for accessory units and requirements or incentives for affordable housing. These provisions could also be applicable to the Ford site. The option for reductions in off street parking in proximity to transit provides for greater design flexibility and more efficient use of land, as well as supporting car-free living and its associated socio-economic and environmental benefits.

T2-T4 districts allow limited production and processing, with a conditional use permit required for uses of over 15,000 square feet of floor area, making these districts potentially suitable for a range of workplace uses. The master plan option for T3-4 districts is relevant for the Ford site, since it is likely that any development would require a master plan. The City's experience with previous master plans has been mixed. Some master plans, such as the West Side Flats plan, have not drawn the desired response from the development community while others, such as the Victoria Park plan, have struggled with changing market conditions. Depending on how it is written, a T3 – T4 master plan may be very detailed and directiive or maybe more flexible to adapt to changing market conditions.

Possible adjustments to the T district regulations could include:

- Use of supplementary diagrams such as axonometric views of site development parameters to provide more clarity and guidance. In our experience, a combination of illustrations and text provides multiple methods of understanding for different users of the code.
- Inclusion of provisions and metrics for achieving sustainability, such as solar access and orientation, lighting, and building efficiency. (There are already some requirements for solar orientation in the subdivision regulations.)

OVERLAY DISTRICT OPTIONS

The existing design-oriented overlay districts have been employed as a way to implement small area plans. Most of these districts predated the creation of the Traditional Neighborhood districts in the early 2000s. The T districts were designed in part to capture many of the desired urban design features of these districts and avoid the need for multiple similar overlays.

An overlay district could encompass many of the desired landscape, open space, stormwater management and other sustainability features that will be important for the Ford site, while leaving the parameters for land use and site design to the underlying district such as T3, IT, etc.

The level of detail included in an overlay needs to be balanced against the complexity of the underlying district(s). A high level of detail in both the overlay and the "base" could make it more difficult to create and implement a development plan, compared to a single new district.

REVISED INDUSTRIAL DISTRICTS

The proposed revisions to the industrial districts include the following changes:

- More restrictive separation distances and improved screening for outdoor processing.
- Updated standards for outdoor uses such as hazardous waste transfer, recycling facility and other heavy industrial uses.
- Amendments to renamed "IT" district: "The IT transitional industrial district is intended to provide sites for commercial, office and light industrial uses that are compatible with nearby residential and traditional neighborhood districts, parks, and parkways."
- Merger of I2 and I3 districts to create a single "Industrial General" district.
- Modifies some of the T district design standards to apply to the "I" districts to varying degrees, including parking placement, building façade articulation, street tree placement, transparency and building materials.

Based upon public review of these proposals, it appears that the design standards may not be applied to the I2 and/or I3 districts, and that these districts may remain separate. However, it appears that the IT and possibly I1 districts are potentially applicable to portions of the Ford site.

PLANNED DEVELOPMENT DISTRICT

The PD District is currently used for only five sites within the City. The district requirements (Section 66.880) are mainly procedural, with no design standards beyond the required findings by the Planning Commission and City Council – that the proposed development must not be in conflict with the Comprehensive Plan; is designed to provide a desirable and unified environment, will not burden parks and schools, etc. Such requirements are typical of many similar "PUD" districts in the metropolitan area and elsewhere.

Staff's experience has been that these districts are difficult to administer because the development requirements are unique to each site, making them awkward to reference and difficult to change as the developments evolve. The option of ultimately rezoning existing sites to PD standard city districts has been discussed. If the desire is to provide some site specific requirements to the Ford redevelopment, an overlay district with underlying zoning may be simpler to apply than a PD district.

OTHER CITY REGULATIONS

Zoning districts are not the only determinants of development for the Ford site. Many other regulations in the City Code may apply.

Subdivision regulations are a part of the Zoning Code (Chapter 69). Subdivision requirements generally apply to lot divisions less than 20 acres in size. Most subdivisions require a plat, largely an administrative procedure. However, the City Council, in its review of a proposed subdivision, is charged with considering "the requirements of the city and the best use of the land being subdivided. Particular attention shall be given to the width and location of streets, sidewalks, suitable sanitary utilities, surface drainage, lot sizes and arrangements, as well as requirements such as parks and playgrounds, schools and recreation sites and other public uses."

Subdivision requirements include design standards for blocks, lots and streets. The right-of-way and roadway width for arterial and collector streets are prescribed, while requirements for local streets are determined by the Director of Public Works. Block standards are fairly permissive: block lengths in residential areas may not exceed 1,000 feet, where the typical St. Paul block is 660 feet in length. Standards for parkland dedication, tree preservation, and protection of other natural features are also included.

Stormwater management standards are included in the City's subdivision requirements, but are also governed by the stricter and more detailed Capitol Region Watershed District standards, and sometimes by more site-specific studies. As discussed in the "Sustainable Stormwater Feasibility Report for the Ford Plant Site," stormwater management will require a high level of collaboration among city, watershed district, and state regulators based on more detailed site investigations, and may or may not be governed by zoning.

Licensing requirements specify minimum separations between on-sale liquor establishments such as restaurants and brewpubs. Liquor establishments must be more than 300 feet from churches and schools. New liquor licenses may be granted in commercial development districts, as established by the City. Six such districts have been established to date, including the downtown district. A restaurant license is required in conjunction with all new Liquor - On Sale Licenses except in the Downtown Development District.

Sign controls are contained in Chapter 64 of the Zoning Code, which includes standards by zoning district and for over fifteen special sign districts. Many of the special sign districts were established to prohibit advertising (off-premises) signs, which are now prohibited citywide. A few districts also include design requirements intended to improve the appearance of a commercial corridor (for example, White Bear Avenue) or reference a separate sign plan that includes dimensional, design, and other regulations and standards.

Off-Street parking requirements, including those for bicycles, are contained in Chapter 63. In addition to the T District parking requirements in Chapter 66, this section provides for a 100% reduction – essentially removing the minimum off-street parking requirement – for traditional neighborhood districts when over 50% of both the building and the parcel are within one-quarter mile of University Avenue. Requirements may also be reduced for shared parking, bicycle parking, and shared vehicle parking. Bicycle parking is required for residential units and in conjunction with vehicular parking. Developments exceeding minimum parking by certain percentages are subject to a conditional use requirement and additional landscaping requirements.

POTENTIAL ADDITIONS TO CITY REGULATIONS

City regulations do not cover many of the aspects of sustainable development discussed in the "Roadmap to Sustainability." Elements such as building energy consumption, water conservation, urban agriculture (City currently studying), street and public space design, and night sky radiation are not currently found in the city code. Some of these elements, such as the design of streets, parks and public spaces, are generally led by City departments and guided by various planning documents. Building energy consumption and efficiency are addressed by Saint Paul's Green Building Policy and by state building guidelines (B3). A number of these elements are worth considering as possible additions to the city code, and will be explored further as part of the Zoning Framework process.

Appendix 2 – Case Studies

THE FORD SITE ZONING FRAMEWORK

Case Studies

INTRODUCTION

Zoning case studies analyzed for the Ford Plant site include projects that address parameters of urban form, land use mix, administrative processes and performance metrics similar to those expressed in the "Redevelopment of the Ford Motor Company Site – Phase I Summary Report: 5 Major Development Scenarios" and "Roadmap to Sustainability – Saint Paul Ford Site" documents. Case studies include a range of projects and zoning approaches from redevelopment of post-industrial waterfronts and urban industrial districts to new approaches in sustainable development.

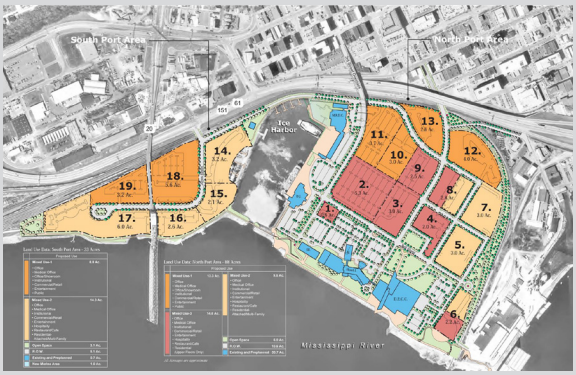
Selected Case Studies:

1. Port of Dubuque: Dubuque Iowa
2. False Creek: Vancouver, Canada
3. Greenpoint Brooklyn: Brooklyn, New York
4. East Billings Urban Renewal District: Billings, Montana
5. Habersham: Habersham, South Carolina
6. New Town: Salt Lake City
7. Metropolitan Area, Utah
8. Smart Code vr. 9.2

Detailed project descriptions have been compiled for each of the eight case studies. The eight case studies are summarized in the following bullet lists. Complete case studies are presented afterwards.

1. PORT OF DUBUQUE: DUBUQUE, IOWA

- Based on the city's existing Euclidean zoning, a Planned Development tied to a detailed master plan and with design standards was the most effective means for achieving the community's vision for a new mixed use riverfront district.
- There are pros and cons with vesting discretionary decision making authority in the City Manager: decisions can be made quickly which saves time and money but design plans can be reinterpreted or ignored in favor of other (economic, political, expediency, etc.) factors.
- Detailed, architectural standards are not as important as consistent urban design (building placement, streets and blocks) and public realm standards.
- Multiple development cycles are often needed to establish the adequate critical mass necessary to achieve socioeconomic vitality or a discernible sense of place.

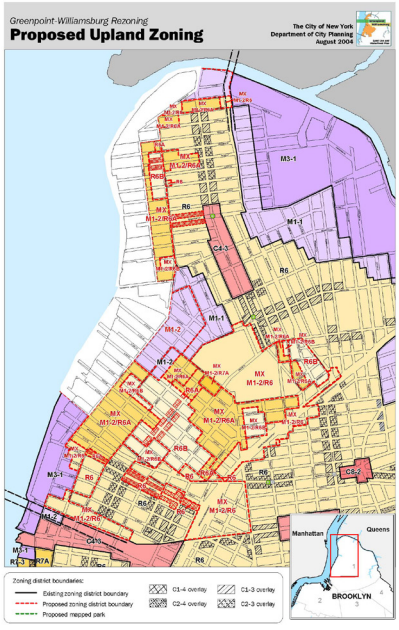


2. FALSE CREEK: VANCOUVER, CANADA

• Adequate policy development, project planning and design take a significant length of time (ten years) to bring urban mixed use, brownfield, sustainable redevelopment on line.
• Sustainability was defined broadly to include social and economic as well as physical and environmental outcomes.
• Extending and reconnecting the existing street and block structure helped to establish a recognizable, predictable development pattern acceptable to project area stakeholders.
• The city's unique (Canadian) land development procedures and processes utilize a series of Policy Documents (similar in content to Ford Site's previous planning studies) that work together in guiding the phasing, form, function and detailed nature of the project areas' redevelopment. The zoning portion of the regulatory framework focused on urban form (lot and block layout, density disposition, public realm, and building height) and used a series of principle and guideline documents to guide architectural expression.
• Project planning, design and regulations leverage the area's important urban waterfront location by accommodating significant development intensity and density (FAR's 1+, +50 du/acre).

3. GREENPOINT BROOKLYN: BROOKLYN, NEW YORK

• Market demand had already begun to transform this largely industrial area into a more residential district with local commercial retail and service establishments on the main corridors. Conversion of former industrial buildings, legally and illegally, into residential lofts depleted industrial spaces. Spaces of production became units of consumption.
• Official rezoning employed to bring more order and predictability to the district's transformation. The influx of non-manufacturing uses has caused property values to rise, prompting owners of manufacturing buildings to replace manufacturers with other uses that can generate higher rental revenues.
• The City of New York sought to lessen the impact of this "gentrification" by including several measures, both regulatory (inclusionary zoning density bonuses) and financial (land, tax credits, tax exemptions), to ensure that some affordable housing would continue to be available in this area. However, space devoted to industrial uses and industrial jobs have been lost.
• The use of already-existing zoning districts, with some minor amendments, continued the tradition of a "patchwork" of zones in a substantially built-up area. This approach reflected the desire to work with and "preserve" the context of existing street grid and block pattern, mix of uses within blocks, and the neighborhood character, with height and bulk limits lower than the old zoning and consistent with the low-rise street wall of the neighborhood.



4. EAST BILLINGS URBAN RENEWAL DISTRICT: BILLINGS, MONTANA

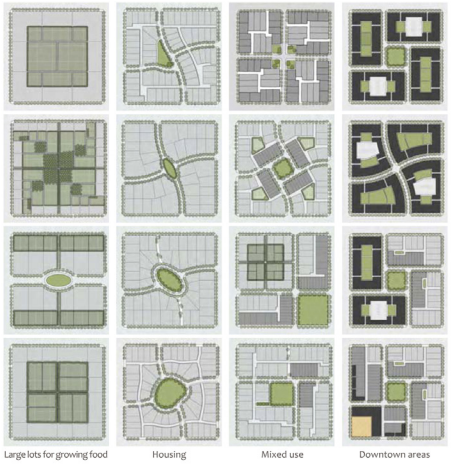
• A series of plans (similar to the Ford Site's previous planning studies) establish a strong basis for redevelopment.
• The existing street, block and lot structure creates a predictable development pattern; however, incremental development of multiple small sites will lengthen the time frame for implementation.
• The new project-specific code for redeveloping 500+ acres into several mixed-use districts was needed, as the City's current land development regulations were inadequate for achieving the community's vision for a new set of sustainable live-work-play neighborhoods.
• The new code is a complicated hybrid of traditional and form-based zoning principles. The code introduces a variety of smart growth design concepts, sophisticated urban design terminology and project-specific administrative procedures. It will likely require all participants in the redevelopment process to learn new ideas, language and procedures.
• The hybridized nature of the code (form-based combined with specific use-based regulations) could reduce flexibility. For example, highly specific requirements for types of acceptable businesses could result in requests for variances, code amendments and other complications as implementation proceeds over time.
• Sustainable development and design provisions use a point accrual system. While the minimum metrics are fairly modest, the point system allows for wide flexibility across a variety of project types and sizes, which is likely to result in a greater degree of use.
• Applications of large-scale, green infrastructure system improvements would be difficult to implement (and are not proposed) due to the majority of project area properties being privately held.

5. HABERSHAM: HABERSHAM, SOUTH CAROLINA

• Demonstrates a project that is contextual and responsive to area's cultural design traditions.
• Utilizes 21st century Light Imprint stormwater management program for integrating sustainability and community design that is more sustainable, more attractive, and more economical than conventional subdivision design.
• Applies the transect zoning framework and new urbanism design regulations for urban-to-rural T-zones, architectural building types, landscaping with green infrastructure, and complete streetscape design standards.
• Utilizes a Master Developer team, with a town architect review board, and a builders guild as the gatekeepers for quality design and construction.
• An example of fine-grained incremental urbanism, Habersham is an important model for the future where large development loans are becoming scarce as the market continues to shift toward walkable mixed-use environments. Some important lessons demonstrated here are:
-Subdivide the town center into small increments to allow for a variety of building types, sizes, and ownership structures.
-Block structure is important: It is block structure that creates an environment that allows multiple incomes, land uses, and building sizes to coexist and build value for your town center.
-Form-based regulations offer greater flexibility as they can be more market-responsive to changing demand for different uses while simultaneously establishing specific block structures and street orientation (frontages) for better walkability.

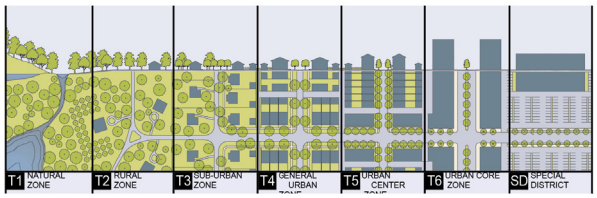
6. NEW TOWN: SALT LAKE CITY METROPOLITAN AREA, UTAH

• The structure plan and "block and chassis" planning methodology recognizes the importance of defining a street and block pattern in establishing a predictable development framework that will, in turn, shape building frontages and public space.
• The structure plan's street, block and frontage typology parameters are easily translated into place-based zoning regulations and are adaptable to a range of development scenarios.
• The emphasis on urban form as opposed to use is likely to provide for greater market-responsive flexibility over time.
• The form-based nature of the project's zoning regulations requires participants in the development delivery system (municipal staff, officials, designers, developers, financiers, etc.) to become familiar with a new system of regulations.
• Detailed aspects of sustainability would need to be identified and addressed within various provisions of the project's zoning code wherever applicable.



7. SMART CODE VR. 9.2

• SmartCode version 9.2 provides a flexible, customizable foundation for establishing a comprehensive zoning framework that is adjustable to local conditions.
• The SmartCode's modules for integrating aspects of sustainability are well aligned with the Ford Site Roadmap to Sustainability, in site design as well as coinciding with the various LEED rating systems.
• The mix and intensity of uses coded in the SmartCode's Transect Zones align with the wide range of uses and levels of density/intensity illustrated in the five Ford Site development scenarios.
• The SmartCode has acquired a positive brand image within the national development community, which could attract the type of developers who are used to dealing with the more complex, mixed use development envisioned for the Ford site.
• Administering a separate, project-specific zoning code would require training and new thinking on the part of staff and others involved in the site's redevelopment.



THE FORD SITE ZONING FRAMEWORK
C A S E S T U D I E S

Port of Dubuque

Prepared by Bob Kost, AICP, ASLA, LEED-AP

PROJECT DETAILS

Project Name: America's River at the Port of Dubuque
Location: Dubuque, IA
Project Website: www.americasriver.com
Project Type: brownfield / waterfront redevelopment
Planner/Designers: URS/BRW and Durrant Architects
Developer: City of Dubuque as master redeveloper, separate parcels developed by Dubuque Historical Society, City of Dubuque and various private developers
Site Size: 113 acres

GENERAL PROJECT DESCRIPTION

When the City was founded in the mid 1800s the project area consisted of low lying flood plain and marshlands. Early users filled in the marshlands and the area benefited from close proximity to the downtown and direct access to the Mississippi River and interstate rail lines. Primary uses included the Dubuque Boat and Boiler Works, a regional riverboat shipbuilding and repair facility; button manufacturing, tanning, smelting, brewing and bottling, and barge fleeting. Over the years, these uses were supplemented or replaced with expanded rail yards and barge fleeting, fuel storage, warehousing and riverboat casino gambling.

While the river and rail provided beneficial access to regional and national markets, the rail lines and adjacent US Highway 61/151 limited access and connectivity to the downtown. The site was also subject to routine flooding which was addressed in the 1970s by the US Army Corps of Engineers (USACE), Iowa Department of Natural Resources (DNR) and FEMA with an extensive system of earthen levies and concrete flood walls. Following the completion of flood control, the site to the north of the Ice Harbor underwent urban renewal, including removal and environmental cleanup of most heavy industrial facilities and the construction of a harborside Iowa Welcome Center. This facility also served as the landside operations center for the Diamond Jo riverboat casino.

Several riverfront master planning efforts were undertaken in the 1980s and 90s, resulting in the acknowledgement and appreciation of the riverfront's importance as a community asset for future river-oriented recreational and entertainment development. Two of these efforts, The America's River Project and the Port of Dubuque Master Plan led the way for district-wide rezoning and proactive redevelopment.

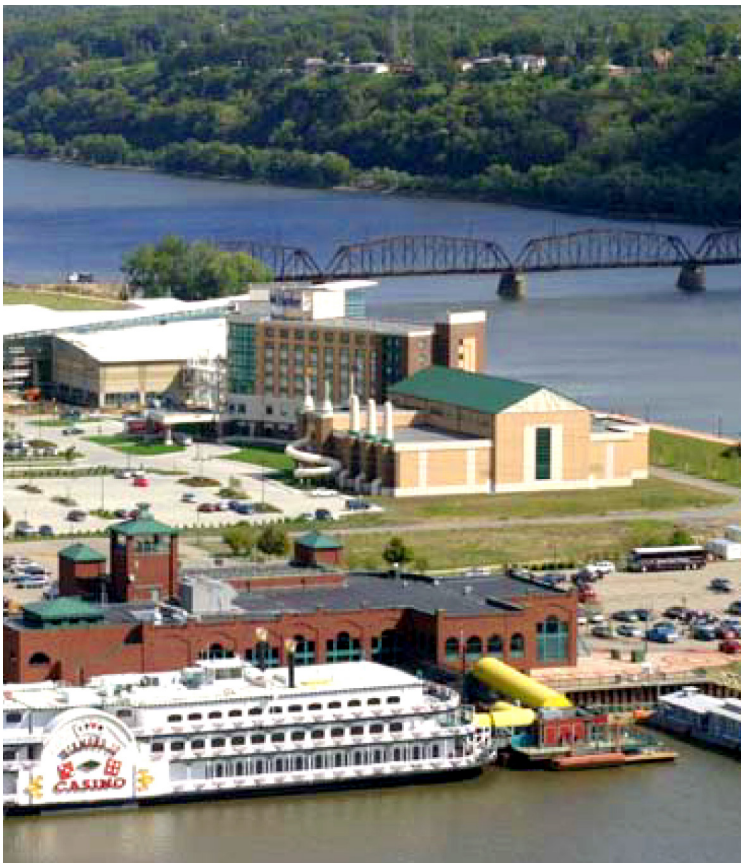
Burying the old concrete flood walls as part of the Mississippi Riverwalk allowed new facilities such as the Grand River Event and Conference Center to fully embrace the riverfront

Land Uses: N/A
Zoning Designation: Planned Unit Development (PUD) - with Planned Commercial designation
Redevelopment Land Uses: Mix of office, office-showroom, commercial shops and services, entertainment-gaming, civic, maritime and medium to high density residential. Thirty-one specific permitted uses are identified in the project-specific PUD ordinance.
Permitted Conditional Uses: Group day-care facilities and drive-up automated teller machines (with appropriate screening).
Prohibited Uses: These range from free standing gas stations, pawn shops and auto dealerships to adult uses, funeral homes and all drive-through facilities. Eighteen specific prohibited uses are identified in the project-specific PUD ordinance.
Code Type: Planned Unit Development with Planned Commercial designation (PCD) and associated Master Plan and Design Standards
Illustrations: yes
Charts and Tables: no

GENERAL PROJECT DESCRIPTION (CONT)

Redevelopment of former industrial properties situated around an historic harbor, Mississippi River and downtown. Planning for the area focuses high intensity civic and entertainment uses directly along the waterfront (subject of The America's River planning efforts) with other commercial, office and residential uses on non-waterfront properties (subject of the Port of Dubuque Master Plan and Design Standards project). Organized into two districts, North Port and South Port, the master plan acknowledges that redevelopment will occur in a series of phases over a 15 to 20-year time span. Following the properties' rezoning, the first phase was primarily led by the development of civic uses, including the Mississippi Riverwalk, a landscaped riverfront promenade (which buries the former floodwall) and trail facility and the National Mississippi River Museum and Aquarium. Additional private and public investment in the project area has continued to focus on the landward areas of the North Port area. Projects to date include:

- National Mississippi River Museum and Aquarium
- Grand Harbor Resort and Waterpark
- Renovated Star Brewery with restaurant, shops, offices
- Grand River Event and Conference Center
- Riverfront amphitheater
- Riverfront plaza
- Mississippi Riverwalk with public boat docks
- Professional offices for McGraw Hill Co.
- Durrant Architects Corporate Headquarters (LEED Platinum)
- New, land-based Diamond Jo Casino
- Public parking garage
- Pavement and streetscape enhancements for 3rd, 5th and Bell streets

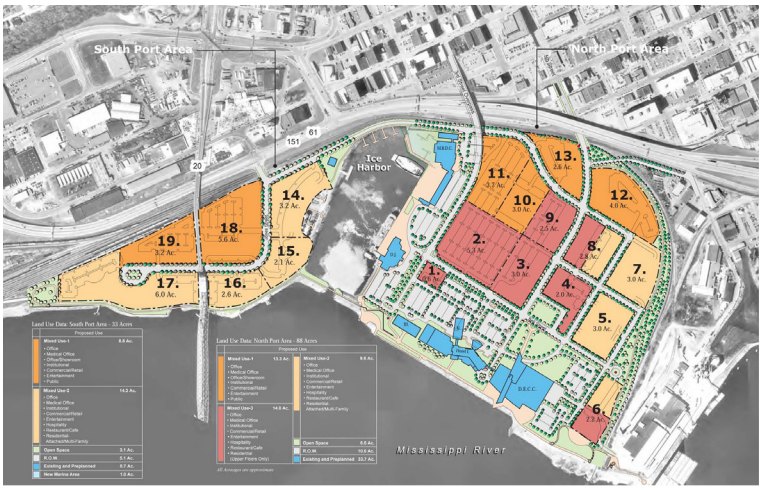


DESCRIPTION & ANALYSIS OF ZONING

Dubuque's zoning system designates Planned Unit Developments (PUD) on a project-specific basis, with uses (permitted, conditional and prohibited) identified in detail and parameters governing setbacks, bulk, density and intensity either specified in the ordinance or in supporting documents such as a detailed project master plan. For this project, the PUD incorporates the project master plan and design standards by reference. The project master plan includes a narrative describing the project goals and design intent and a series of specific plans, including a regulating plan, built-form plan, phasing plan, thoroughfare plan and street cross-sections. The master plan also includes detailed design standards organized in three sections: Design Standards, Built Form and Public Realm. These include prescriptive text, illustrations/ diagrams and photos.

Project Area

Built Form Plan



Port of Dubuque Regulating Plan

DESCRIPTION & ANALYSIS OF ZONING (CONT)

In effect, the master plan and illustrated design standards serve as a type of form-based code as they address the planning and design of public and private facilities in an integrated manner. The standards offer a range of dimensional minimums and maximums in the areas of building set back, height and configuration. While the standards don't use the current terminology of sustainable design, their emphasis on mixed use, bicycle parking, transit, walkability, native landscaping and local building materials is well aligned with the City's current sustainability goals and policies. Specific components of the design standards include:

Design Standards
- Applicability
- Design Review
- Design Approval
- Implementation
- Ground Floor Uses

Built Form
- Minimum first floor elevation
- Building context and style
- Building setback/ build to line
- Building height
- Ground level expression
- Roof lines
- Screening of rooftop equipment
- Building width
- Facade transparency
- Entries
- Balconies and terraces
- Building materials
- Architectural detailing
- Parking structures
- Accessory buildings
- Franchise architecture
- Maintenance

Public Realm
- Sidewalks and walkways
- Sidewalk landscaping
- Sidewalks on parkways
- Sidewalks on local streets
- Accessibility and curb ramps
- Sidewalk lighting
- Streetscape furnishings
- Bike parking
- Parking lot lighting
- Parking lot landscaping
- Surface parking
- Off street parking requirements
- Refuse
- Fences and screen walls
- Outdoor storage
- Outdoor audio
- Newspaper boxes
- Vending machines
- Signs

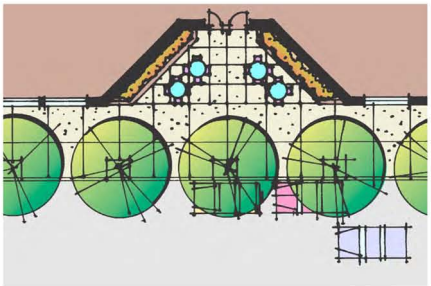
Example from Design Standards

Building Setback/ Build-to Line

New buildings shall meet the defined public sidewalk line except for small setback areas (10-15 feet in depth) to create entry courtyards, patios, or outdoor seating, dining and gathering areas.

New residential buildings shall be set back from the public sidewalk line or right-of-way a minimum of 10 feet and a maximum of 20 feet to provide semi-private transition space between the public street and the front entry. This transition space shall be landscaped.

See Sidewalk Landscaping.



Setback along sidewalk line to provide entry court and outdoor seating area.

Building Height

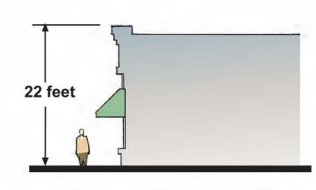
Building heights shall vary based on their proximity to the water front, with taller buildings located adjacent to the river and the harbor to capitalize on views and maximize land values.

Waterfront

- New buildings adjacent to the Ice Harbor or Mississippi River shall be a minimum of 3 stories (36 feet) and a maximum of 10 stories (112 feet) in height.

Non-waterfront

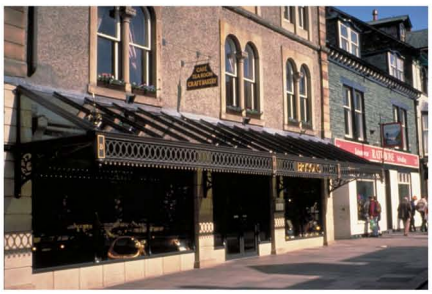
- In general, non-waterfront buildings shall be a minimum of 2 stories (22 feet) up to a maximum of 10 stories (112 feet) in height.
- New freestanding restaurants and office-showroom buildings may be of one-story construction and shall be no less than 22 feet in height to the top of the front and side cornice lines.
- Any new building located across Bell Street from the Education and Conference Center shall not obscure the view of the dome of the historic County Courthouse as viewed from inside the central corridor of the Education and Conference Center.



Single story building with 2 story cornice height.

Ground Level Expression

In commercial, office and mixed use buildings, the ground floor shall be distinguished from the floors above by the use of one or more of the following elements: horizontal banding, an intermediate cornice line, a change in building materials, an awning or an arcade.



Examples of effective differentiation between ground floor and upper levels.

PROJECT DEVELOPMENT

Redevelopment of the Port of Dubuque has been concentrated on the North Port area with a focus on regional attractions for recreation, entertainment and education, including annual outdoor festivals. When reviewing the results of the PUD regulations one needs to be mindful that the design and implementation of new facilities adjacent to the river (National Mississippi River Museum and Aquarium, Grand Harbor Resort and Waterpark, Star Brewery and Grand River Event and Conference Center) was underway prior to the finalization of the Port of Dubuque Master Plan and Design Standards and overall rezoning. As these facilities were developed through public-private partnerships they were subject to extensive city and public architectural design review. Consequently, they were deemed exempt from the Built Form section of the design standards. While these facilities are attractively designed, they serve large numbers of visitors, have large footprints and require large amounts of parking. Although well-landscaped (per the design standards), the combination of large format facilities and surface parking results in an auto-dominated environment for the much of the area between Bell Street and the river.

The public realm within the North Port has been greatly enhanced through the reconstruction and streetscaping of 3rd, Bell and 5th Streets and the extensive Mississippi Riverwalk. New, custom-designed entry monuments and coordinated wayfinding have also been installed, helping to enhance and reinforce the Port's identity. It is now possible to walk or cycle between the downtown, the Port and the Mississippi River for the first time in the City's history.

A new off-street parking garage was recently constructed to serve non-waterfront uses along the west side of Bell Street and 5th Street. This has allowed new facilities such as the Diamond Jo Casino to sit along the sidewalk and provide a more walkable frontage. A new mixed use commercial-residential project planned for the south side of 5th Street will also meet the sidewalk line, further establishing the walkable urban character designated in the master plan and design standards. Unfortunately this project was approved coincident with the 2008 economic downturn and has not progressed beyond the design and approvals phase.

Rendering of a view looking north at Bell and 5th Streets and an aerial view of the project area looking southeast - Port of Dubuque Master Plan.

ASSESSMENT

With all of the South Port and half of the North Port still undeveloped, it's difficult to assess the outcome of all of the tools adopted for guiding the project's implementation. Several of the new facilities, such as the Diamond Jo Casino have followed the master plan and design standards with good results. However, it's also apparent that the master plan and design standards aren't being consistently followed or applied in every circumstance. For example, the design for McGraw Hill's corporate offices doesn't include commercial use on the ground floor, is set back considerably further than the sidewalk line on all sides, places surface parking along a portion of the 5th Street frontage and uses the proposed central green space along Bell Street as its front yard. This may be due to compromises by the City acting as master developer with final design approval conferred by the City Manager, in order to advance some development in a down market.

The inclusion of built form standards pertaining to materials, fenestration and detailing is a response to locally witnessed undesirable trends in commercial and residential construction. These include the misinterpretation and combining of unrelated styles expressed through generic, inexpensive-appearing materials such as EFIS and vinyl siding. While these standards can raise the level of quality construction, they do not guarantee great architecture. Built form standards pertaining to setbacks, height, width, transparency and location of entries are aimed at establishing a walkable pedestrian realm. These offer more reliable outcomes than those standards that focus on building design, and are more typically addressed in a zoning code.

Future mixed use development planned along 5th Street

This adaptive reuse of a former manufacturing facility into Durrant Group Architects Corporate Headquarters achieved a LEED Platinum certification from the US Green Building Council.

Port of Dubuque Aerial View Before Redevelopment

THE FORD SITE ZONING FRAMEWORK
C A S E S T U D I E S

SE False Creek

Prepared by Dan Cornejo

PROJECT DETAILS

Project Name: Southeast False Creek
Location: Vancouver, British Columbia, Canada
Project Website: www.vancouver.ca/sefc
Project Type: Dense urban mixed-use redevelopment of a primarily industrial area comprising multiple lots and blocks, a grid of streets, rail access, and a multiplicity of property owners. Located in the central core of the city, with waterfront access.
Planner/Designer: City of Vancouver
Developer: Millennium Development, in partnership with the City of Vancouver, for the Olympic Village. Subsequent redevelopment undertaken by a variety of private developers.
Site Size: 110 acres (80 public, 30 private)

Land Uses: Residential, Retail and Service, Office, Manufacturing (transportation, storage, utility, communication, and wholesale), Cultural, Recreational, Institutional, and Parks
Zoning Designation: Official Development Plan By-Law No. 9073 (2005)
Redevelopment Land Uses: N/A
Permitted Conditional Uses: N/A
Prohibited Uses: N/A
Code Type: Form-based / Euclidean/ Hybrid
Illustrations: Yes
Charts and Tables: No

GENERAL PROJECT DESCRIPTION

At the time of adoption of the South East False Creek (SEFC) Official Development Plan in 2005, the area was occupied by a variety of industrial uses including warehousing, manufacturing, auto repair shops, and wholesalers. A number of sites were vacant or underutilized. SEFC had been an industrial area since the late 1800s, with including sawmills, foundries, shipbuilding, metalworking, salt distribution, warehousing, and the city's public works yard.

The change in City policy and development regulation to guide SEFC from industrial use to highly-urban mixed use has evolved, and continues to evolve, following time frame:
1. release from industrial land base (1990-1991)
2. Policy Statement: Toward a Sustainable Neighborhood and a Major Park in SE False Creek (1999)
3. Official Development Plan (2005)
4. Rezoning for Individual Sub-areas (ongoing)
5. Development and Design Directives (ongoing)
6. Post-Development Initiatives - recommendations on initiatives to guide the operation and maintenance of this neighborhood in a sustainable manner
7. demonstration projects

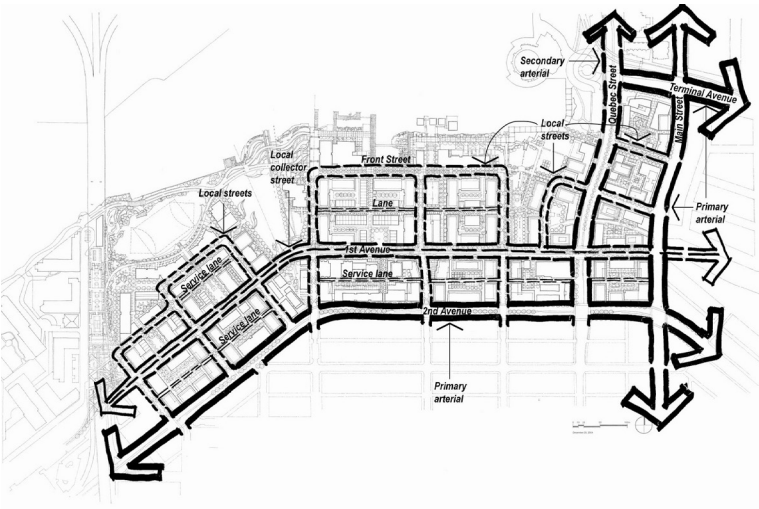
GENERAL PROJECT DESCRIPTION (CONT)

The Southeast False Creek Official Development Plan (SEFCODP) is divided into seven sub-areas. Sub-area 2A was the first phase of City-owned land to be developed, as the Olympic Village for the 2010 Winter Games, with 15-20 permanent buildings and many temporary structures, comprising approx. 1.2 million square feet of development.

The buildings in the Olympic Village were turned over to Vancouver Olympic Committee on November 1, 2009. During the 2010 Winter Games, the 17-acre Village housed 2,800 athletes and officials. The buildings were returned to the City on April 7, 2010. The majority of the buildings used during the 2010 Winter Games have become residential housing, with a focus on housing for families. As part of a mixed-use community, the housing component included about 1,100 units (250 units are affordable housing, and another 100 units are modest market housing).

Amenities for long-term neighborhood development were provided up-front via Olympic facilities including a 45,000 square foot modern, green community centre, named Creekside Community Recreation Centre; a non-motorized boating centre; and daycare and restaurant space converted from offices used by the Olympic and Paralympic Village mayor, management staff and Host First Nations.

Map of Land Ownership

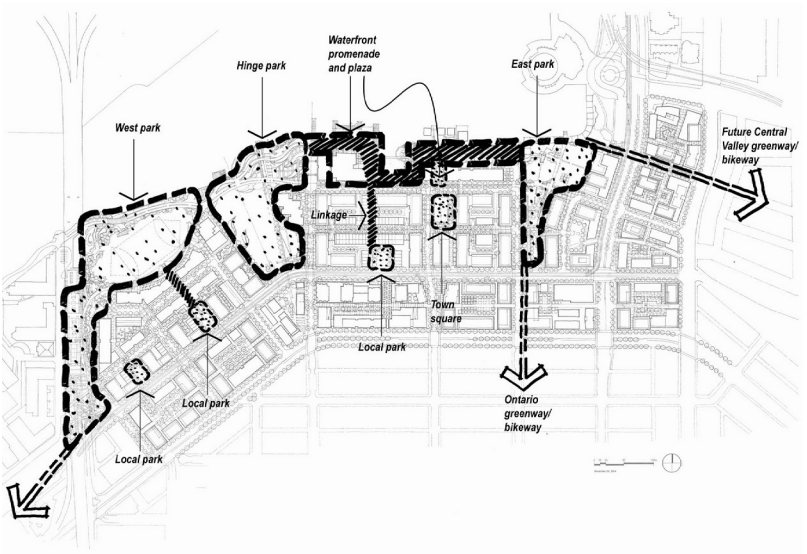


Street Hierarchy

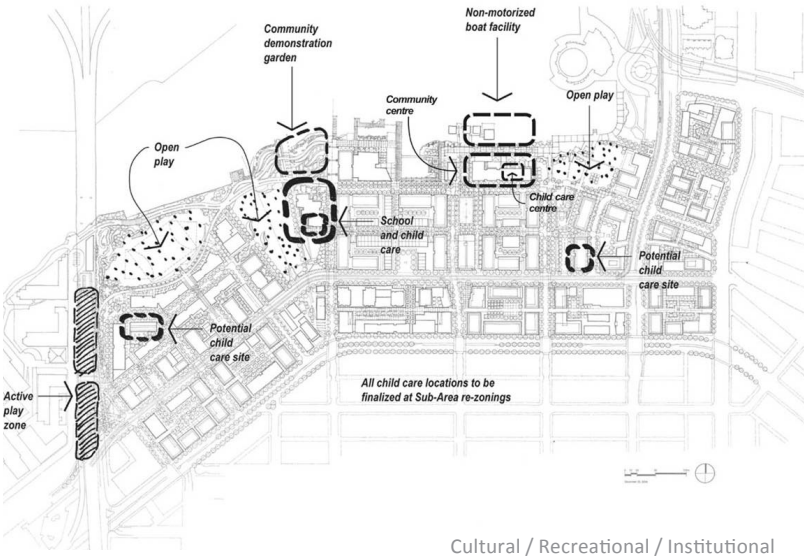
DESCRIPTION & ANALYSIS OF ZONING

A Southeast Fake Creek Official Development Plan (ODP) is the comprehensive plan and basis for development in areas of Vancouver. It acts as an overlay zoning district, identifying general land use parameters, configuration of development parcels, parks, rights-of-way, public amenities, overall densities, massing, and critical strategies for sustainable design. The Southeast Fake Creek ODP embraces the vision defined in a policy statement adopted by the City Council and establishes a foundation for urban design and sustainability principles.

The Official Development Plan for SEFC focuses on development of a complete community that serves as a learning experience for the application of environmental, social, and economic sustainability principles and strategies on a broader scale. The ODP seeks to create a mixed-use neighborhood focused on a diversity of residential occupants, accommodating family housing as a priority, where people live, work, play and learn, and where social equity, livability, ecological health and economic prosperity are of paramount value. The complete neighborhood will ensure that goods and services are within walking distance and that housing and jobs are linked by transit.



Planned Park Areas



Cultural / Recreational / Institutional

DESCRIPTION & ANALYSIS OF ZONING (CONT)

The SEFC ODP identifies form and massing to ensure consistency with the vision of the surrounding neighborhood and to reflect intensive public process around the final built form. It also provides a framework for the creation of policies, zoning and other by-laws (ordinances), housing programs, public facilities agreements, subdivision plans, servicing agreements, design guidelines, forms of development, development conditions, restrictive covenants, shoreline treatment and configuration, and any other instruments, consistent with the ODP, necessary to regulate development. The sequence of the adoption of the ODP and other official documents is as follows:

• The Southeast False Creek Official Development Plan By-Law and two accompanying City Council Reports (Financial Strategy and Sustainability Targets and Indicators) were approved by the Vancouver City Council at public hearing on March 1, 2005, enacted on July 19, 2005, and amended on March 7, 2006.

• The SEFC Public Realm Plan was approved by City Council on July 20, 2006.

• The Southeast False Creek Green Building Strategy was adopted by City Council on July 8, 2004 and amended on July 22, 2008.

In addition, there are several key policy documents that have been prepared by either City staff and/or consultants that have not been adopted by the City Council but nevertheless are referenced by developers in their preparation of specific site plans, by City staff in their review of those site plans, and by the Development Permit Board in their approvals.

• July 2002 - the Phase 1 Energy Options Study completed

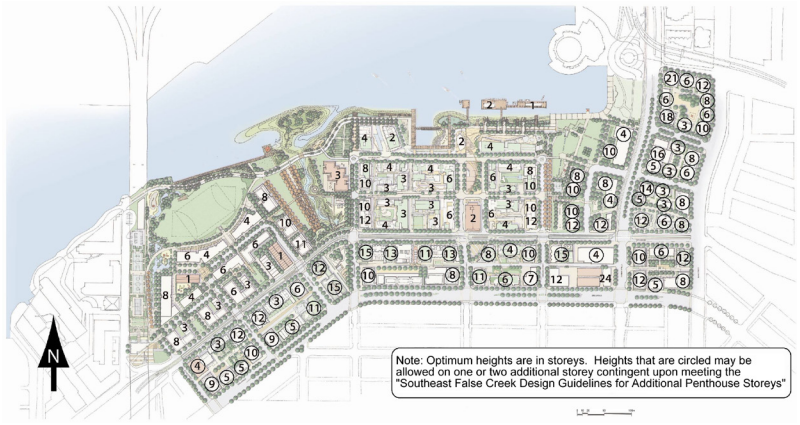
• September 2002 - the Water and Waste Management Plan completed

• November 2002 - the Urban Agriculture Strategy completed

• November 2002 - the Transportation Study completed

• March 2007 - the Southeast False Creek Art Master Plan completed

• The ongoing Southeast False Creek Design Considerations – Draft Considerations for Private Lands, is an evolving report to be "updated" through the collaborative efforts of City staff, landowners, and developers in a "learn as we go" process.



Optimum building heights in the newly zoned areas

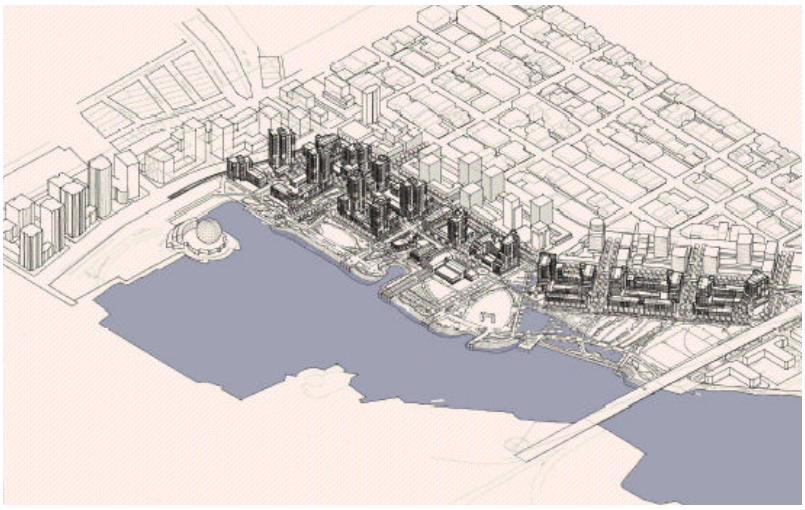
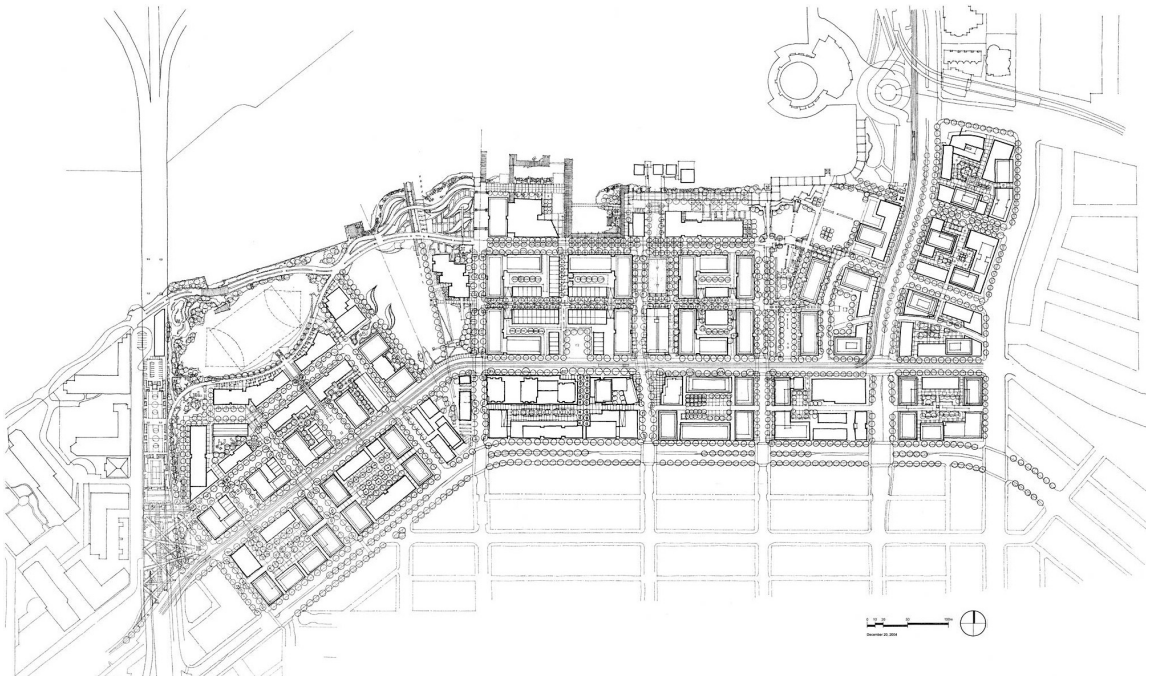


Illustration of building heights looking south-east along the waterfront

DEVELOPMENT APPROVAL PROCESS

All properties within the boundaries of the ODP retained their underlying industrial zoning. The process of redeveloping specific parcels is initiated by various CD-1 (essentially Planned Unit Developments) rezoning applications. Since the SEFC ODP was adopted, there have been twelve (12) rezonings of publicly-owned lands and six (6) rezonings of private-owned lands.

A key component in this regulatory system for development review and approval is the entity that reviews and approves each development permit application. The City Planning Commission approves the overlay zone, i.e. the Official Development Plan. Once the overlay ODP is adopted, the Development Permit Board (DPB) makes the decisions on individual developments through the rezoning of individual parcels for redevelopment. In making those decisions the Development Permit Board is bound by the provisions of the Zoning Code. However, the DPB also has a degree of discretionary authority as delegated by the City Council. Subsequent to the approval by the Development Permit Board, City staff "secures" the implementation through building permits and development agreements between the City and the developer. The Development Permit Board is an administrative tribunal composed of Director of Development Services who is the Chair, Director of Planning, General Manager of Engineering Services, and the Deputy City Manager.



Illustrative Master Plan from the Official Development Plan

ASSESSMENT

The regulatory approach for the Southeast False Creek development is essentially an overlay district, i.e. the Official Development Plan (ODP). The underlying individual zoning districts are retained. The ODP in this case has a strong vision and policy basis, with urban design and sustainability principles governing development, social sustainability strategies (including targets for affordable and modest-market housing, health care, and quality affordable child care), identification of permitted land uses, and development regulations and patterns. Illustrative Plans are included that provide guidance for park development, building heights, pedestrian routes, street hierarchy, etc. The site plan extended and connected to the nearby block and grid patterns. Sub-Area delineations and descriptions are also included. The ODP is buttressed by a variety of supporting studies and reports that articulate in more detail the steps recommended to achieve adherence with the provisions of the ODP.

The review and approval process for individual parcels is initiated by a developer who applies to obtain a CD-1 approval, which is essentially a planned unit development. While the ODP is approved by the city Planning Commission and adopted by the City Council, each CD-1 rezoning application is reviewed and approved at a public meeting by the Development Permit Board comprised of senior City staff. This type of two-step approval process might not be permitted under U.S. land use law. Further study is required. However, this system has achieved high quality redevelopment, with a good balance of predictability and flexibility for City elected and appointed officials, developers, and the larger community.

By 2020, the city envisions that Southeast False Creek will be home to 12,000 to 16,000 people (dwelling unit density of 75 units per acre) and will have 6.0 million square feet of development, including:

- more than 5,000 residential units
- mid-size grocery store and community serving retail/services
- full-size community centre
- non-motorized boating facility
- Adjacent pedestrian, cyclist, and transit services (LRT, streetcar, bus)
- three to five licensed childcare facilities
- two out-of-school care facilities
- an elementary school
- interfaith spiritual centre
- restoration of five heritage buildings
- 26 acres of park land, including habitat, playgrounds and opportunities for urban agriculture.

Master Plan

THE FORD SITE ZONING FRAMEWORK
C A S E S T U D I E S

Greenpoint Brooklyn

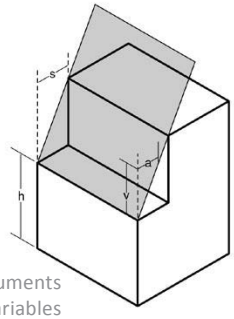
Prepared by Dan Cornejo

PROJECT DETAILS

Project Name: : Greenpoint-Williamsburg Rezoning
Location: Brooklyn, New York City, NY
Project Website: http://a030-cpc.nyc.gov/html/cpc/index.aspx?searchfor=greenpoint
Project Type: Not one project; multiple properties, multiple property owners
Planner/Designer: City of New York Department of City Planning
Developer: various
Site Size: 183 city blocks (bounded roughly by the Williamsburg Bridge to the south, the Brooklyn-Queens Expressway (BQE) and McGuinness Boulevard to the east, Newtown Creek to the north, and the East River to the west).

GENERAL PROJECT DESCRIPTION

Greenpoint and Williamsburg developed more than 100 years ago, as neighborhoods dominated by large-scale waterfront industry, including ship builders, china and porcelain factories, glass makers, oil refineries, sugar refineries, iron foundries, and other industry. A multi-ethnic residential community developed on nearby streets, and in portions of the area homes and factories intermingled, setting a pattern of mixed use that shapes the neighborhood to this day. Since the mid-20th century, industry has declined sharply, and these neighborhoods adapted to changing economic conditions. Heavy manufacturing uses gave way to light manufacturing, wholesaling, distribution, and construction. By the early- to mid-1990s, many artists had found the industrial lofts of Williamsburg to be accommodating and affordable places in which to live and work. This pattern was followed in Greenpoint. While housing demand has been growing with the population, most of the housing supply is in existing residential buildings or conversions from non-residential use. Existing zoning in Greenpoint-Williamsburg reflected historical, rather than current, (residential) land uses.



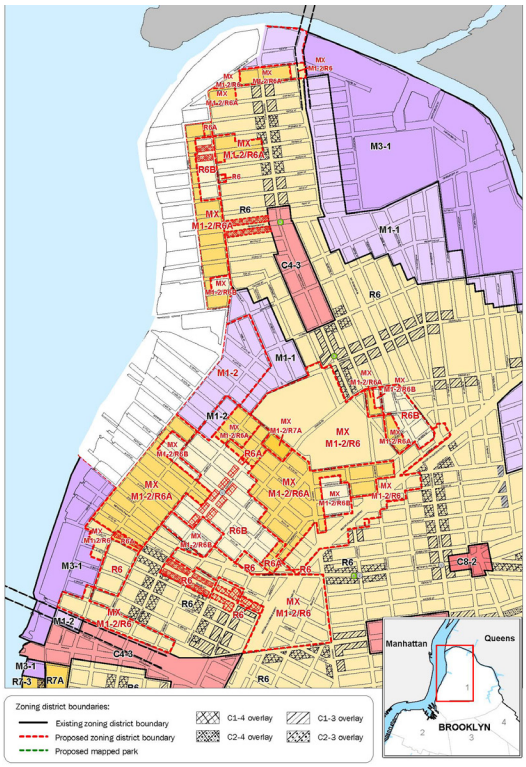
This illustration is provided in planning study documents and is not part of the Zoning Resolution. It shows variables considered in the calculation of a sky exposure plane such as horizontal setback and vertical rise

Land Uses: Light industrial, residential, and local retail
Zoning Designations: Residential Overlay Districts (R6B, R6A, R6, R7A); Commercial Overlay Districts (C1-4, C2-4); Special Mixed Use (MX-8) District; Manufacturing Districts (M1-2); Text Amendment for Inclusionary Housing zoning bonus, certain specified urban design requirements for height and bulk, and a Waterfront Access Plan (WAP) identifying specific locations for required waterfront pedestrian access, visual corridors, and design parameters tailored to the geography of the WAP area. (Adopted May 11, 2005 into the NYC Zoning Resolution.)
Redevelopment Land Uses: N/A
Permitted Conditional Uses: N/A
Prohibited Uses: N/A
Code Type: Hybrid
Illustrations: Yes, but very few. Accompanying toolkit is highly illustrated
Charts and Tables: No

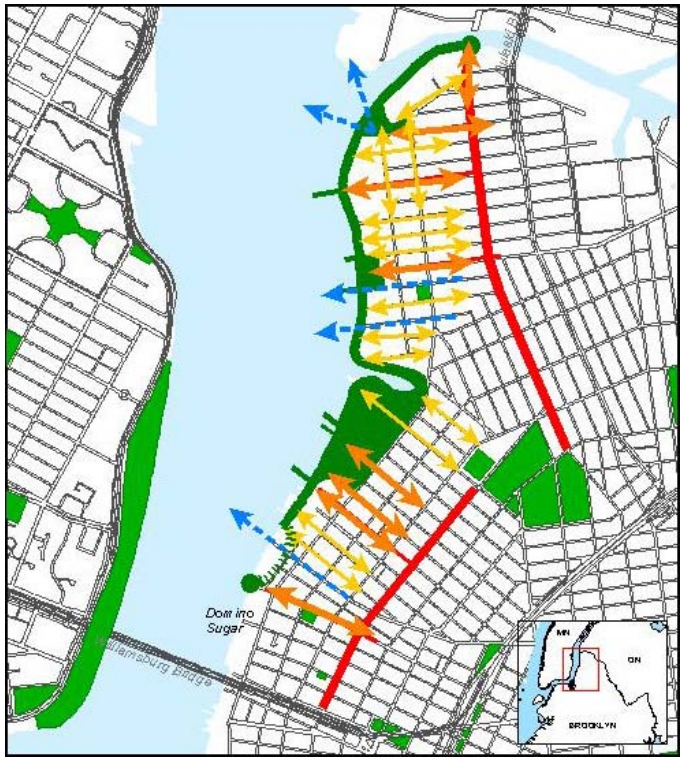
GENERAL PROJECT DESCRIPTION (CONT)

The NYC Department of City Planning proposed the zoning changes to facilitate new housing affordable to a range of incomes, open spaces, and compatible light industry and commercial uses, along two miles of Brooklyn's East River waterfront and the adjoining upland neighborhoods.

The existing zoning, for the most part, did not permit new residential buildings. In two vibrant communities, as well as areas that have been mostly vacant and derelict for years, the rezoning was intended to create opportunities for thousands of new housing units, including affordable housing. The new zoning controls would set height limits to ensure that new buildings would fit in with their surroundings. In recognition of the mixed-use character that has long defined these neighborhoods, there were certain areas zoned to a Special Mixed Use District (MX-8) to permit light industrial and residential use to coexist, while retaining manufacturing zoning in areas with critical concentrations of industry. This rezoning creates the opportunity for 10,800 new housing units, and through a combination of zoning incentives, housing programs, and city-owned land, 3,500 of those units will be affordable. The rezoning also encourages the growth of the industrial sector through a series of policy incentives and financial commitments. Zoning actions were also intended to facilitate a continuous public waterfront walkway, new open spaces, and a 27.8-acre park along the East River, creating new recreational opportunities and forging long-sought links between the water's edge and the established Greenpoint and Williamsburg communities.



Proposed Upland Zoning Plan



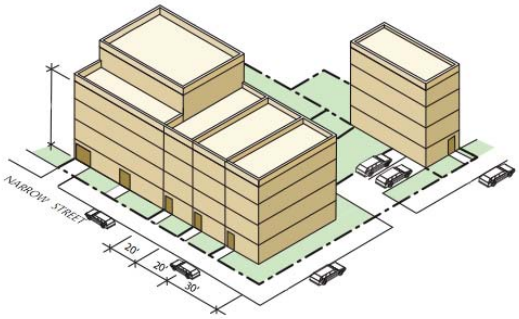
Waterfront Access Plan

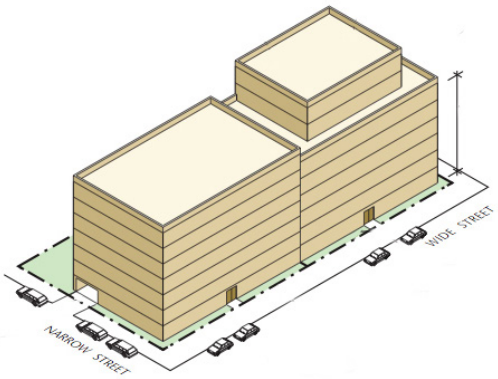
These rezoning measures did not create new districts, but rezoned many formerly industrial properties using existing residential districts with commercial overlays on main roadways. There were zoning text changes, in the form of a Waterfront Access Plan (WAP), to establish special bulk, height, and setback rules for waterfront areas to ensure a sensitive transition between waterfront and upland blocks, encourage varied building heights, control tower dimensions, provide a pedestrian-friendly streetscape, and activate waterfront public access areas. The modified zoning added an Inclusionary Housing zoning bonus. There was also a city map change to designate the waterfront parkland.

To augment the rezoning of the Greenpoint-Williamsburg area, the NYC Zoning Resolution website provides a Zoning Toolkit which includes the three main district categories (Residence, Commercial, Manufacturing), and complementary rules addressing specific types of development, design and quality of public spaces. Some initiatives allow the modification of underlying regulations when developing large sites, such as Large-Scale Development, while others fine-tune those same regulations to address lower-density areas or the particular challenges and opportunities at the water's edge.

Initiatives such as the Inclusionary Housing Program, Privately Owned Public Spaces (POPS) and FRESH Food Stores offer a zoning incentive in exchange for affordable housing, more public plazas or access to fresh foods at targeted locations around the City. The "Zoning Toolkit" has a disclaimer that states that it "provides only general zoning information and is not meant to serve as a substitution for the actual regulations which are to be found in the Zoning Resolution."

Examples of residential zoning housing types





These illustrations are included in the "Zoning Toolkit" which is part of a Zoning Reference portion of the New York Zoning website. This "Zoning Toolkit" is not part of the actual Zoning Resolution.

ASSESSMENT

The new regulatory framework for the Greenpoint Williamsburg area is essentially a very traditional Euclidian approach in a built-up area. The City of New York wants to respond to the emerging pressure in these areas for conversion of formerly-industrial buildings to residential. The zoning changes make it possible to create new housing in new buildings, along with compatible industrial and commercial. The area will likely continue to be a very mixed-use area with the new developments giving the market different choices for space and price-points. The inclusionary housing provisions will ensure that at least some of the new housing will be affordable, while the new park and waterfront walkways will provide needed open space for the increased residential densities.

This rezoning initiative was coupled with financial commitments on the part of the City to enable land use and socio-economic objectives to be met through the combined efforts and resources of the public and private sectors.

Illustrative massing plan

Looking north along West Street at the intersection of Commercial Street. The proposed enlargement of Newtown Barge Park would open to the public the water's edge and spectacular views.

Looking south along West Street from the intersection of Freeman Street. The proposed 65-foot height limits along the west side of Commercial Street, West Street, and Kent Avenue requires waterfront development to meet the neighborhood at a low scale.

THE FORD SITE ZONING FRAMEWORK
C A S E S T U D I E S

East Billings

Prepared by Suzanne Rhees, AICP

PROJECT DETAILS

Project Name: East Billings Urban Revitalization District
Location: Billings, MT
Project Websites: http://www.eburd.com/Pages/FormBasedCode.aspx
http://www.eburd.com/Pages/default.aspx
Project Type: brownfield urban redevelopment of multiple sites
Planner/Designer: Farr Associates
Developer: TBD
Site Size: approx. 500 acres

Land Uses: Primarily industrial (existing)
Zoning Designation: Five new districts are:
- Rail Spur Village District (RSV)
- Rail Spur Village Main Streets District (RSVMS)
- Central Works District (CW)
- North 13th Street Main Street District (13th)
- Industrial Sanctuary District (IS)

Redevelopment Land Uses: N/A
Permitted Conditional Uses: N/A
Prohibited Uses: N/A
Code Type: Hybrid, Form-based
Illustrations: yes
Charts and Tables: yes

GENERAL PROJECT DESCRIPTION

The East Billings Urban Renewal District (EBURD) is the oldest part of the City of Billings, comprised primarily of about 400 acres of industrial land. The District is adjacent to the downtown Central Business Area, hemmed in on the other three sides by 8th and 6th Avenues, rail lines, and the county fairgrounds. "For years, EBURD's industrial lands have been an economic engine for the City of Billings, providing jobs and services, manufacturing durable and unique products, and shipping goods and recycled steel to coastal cities in the United States and abroad" (EBURD Master Plan). The 1997 Downtown Billings Framework recommended revitalization of the district due to its aging infrastructure, low job density, and influence on the health of the adjacent downtown. In 2007, property owners in the District formed the Billings Industrial Revitalization District (BIRD, Inc.). With the support of property owners, Big Sky Economic Development Authority (BSED) and the City of Billings established the East Billings Urban Renewal District (EBURD) and created a Tax Increment Finance District, with the goal of retaining vital businesses and industrial land uses and attracting reinvestment through revitalization.

The EBURD Master Plan was developed in 2009 by a team led by EDAW/AECOM. The plan establishes a development framework organized around eight distinct districts, ranging from a mixed-use urban village with residential and educational components to the "Central Works," "Rail Recycling Hub" and "Exposition Gateway" districts, based on the retention of existing uses and infrastructure. Currently, BSED is working with the City-County Planning Office and property owners to implement the steps recommended in the plan. One step is development of a "flexible hybrid form-based code" to replace existing zoning. The code is currently in final draft form.

DESCRIPTION & ANALYSIS OF ZONING

A narrative description and analysis of code follows the districts:
• Rail Spur Village District (RSV): "a walkable neighborhood focused on residential uses with associated green spaces and commercial businesses with the appropriate form."
• Rail Spur Village Main Streets District (RSVMS): Along the two primary streets in the RSV, extending from downtown, "continuous, walkable, shopping & dining corridors with upper floor residential and office uses."
• Central Works District (CW): "intended to allow a flexible mix of uses, including commercial and light industrial uses."
• North 13th Street Main Street District (13th): "intended to provide a walkable, shopping & dining corridor with upper floor office and residential adjacent to the Central Works and Industrial Sanctuary districts, while allowing appropriate craftsman industrial and commercial businesses." (N. 13th divides the CW and IS districts.)
• Industrial Sanctuary District (IS): "intended to allow a wide mix of industrial businesses within the area with limited form requirements."

Land Uses: Uses are defined using general categories (i.e., "general service"), each of which includes a detailed list of uses. Uses may be permitted, permitted on upper floors only, permitted with development standards, or may require special review. (Relatively few uses require special review; there are no "conditional uses" as commonly defined.)

Frontage Types: Defines 8 frontage types: yard, general stoop, storefront, limited bay, commerce, open frontage, civic frontage, and commercial outdoor site. The "frontage type" defines the buildings and their sites – all parameters of the building and its placement on the lot are specified, including setbacks, build-to lines, building height, height of stories, placement of balconies, parking and service area locations, etc. Frontage types also include defined entrance types and roof types. The defined entrance types are 1) storefront; 2) arcade; 3) stoop; and 4) porch. Roof types are 1) parapet; 2) pitched (various subtypes); 3) barrel; and 4) flat. Each frontage type allows one or more entrance and roof types.

Parking Overlay – an existing parking overlay covers most of the EBURD area and exempts it from minimum off-street parking requirements.

Street Types: Four street types are defined and mapped: 1) Neighborhood; 2) Connector; 3) Avenue; and 4) Boulevard. All east-west streets are types 2, 3 and 4. A hierarchy of streets is also defined (Primary, Street 1 and Street 2) to establish front property line and priorities for pedestrian orientation.

Other code elements:
• Landscaping requirements for parking lot buffers, interiors
• Detailed signage requirements

Illustrative master plan of EBURD

SUSTAINABILITY MEASURES

The East Billings Urban Revitalization code outlines specific sustainable development measures to be adapted by all sites within the district of redevelopment. A tallied point system was created to determine the potential sustainable compliance of new development and ensure that such issues were addressed throughout the planning and building process. Each application for development must accrue (5) points minimum in any combination of the listed sustainable development measures.

A large scale standardized green development or eco-industrial park would bring money to and create interest in the area. The sustainable development measures aim to work for the collective benefit of both public and private/ industrial development in East Billings. The point system for the newly zoned areas fosters environmental responsibility through required sustainable development actions that benefit the building project economically and ecologically.

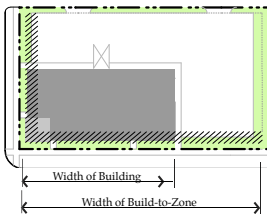


Figure 27-1811(a)-1. Measuring Front Lot Line Coverage.

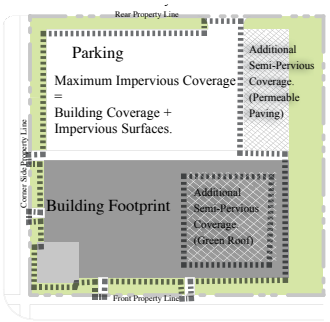


Figure 27-1811(a)-2. Maximum Impervious & Semi-Pervious Coverage.

images of East Billings life

Sustainable Development Measures

1. Certified Green Buildings Measure (3 points)
Certify a new construction building or building undergoing major renovations through a green building rating system

2. Building Energy Efficiency Measure (2 points)
Newly constructed buildings must demonstrate an average 10% improvement over the energy code currently in effect in the City. Major Renovation: Building must demonstrate an average 5% improvement

3. Building Water Efficiency Measure (2 points)
Indoor water use in new buildings and major renovations must be an average 20% less than in baseline buildings.

4. Water-Efficient Landscaping Measure (1 point)
Reduce potable water used for landscape by utilizing all xeriscape plant materials and providing no permanent irrigation system or using only captured rainwater with an irrigation system.

5. Renewable Energy Sources Measure (2 points)
Incorporate renewable energy generation on-site with production capacity of at least 5% of the building's annual electric and thermal energy

6. Green Roof Measure (2 points)
Install a vegetated roof for at least 50% of building roof area.

7. Heat Island Reduction Measure (1 point)
Use any combination of the following strategies for 35% of all on-site, non-roof hardscape areas, including sidewalks, plazas, courtyards, parking lots, parking structures, and driveways.
a. Tree Canopy Cover. Coverage of the surface at shade tree maturity in 15 years.
b. Solar reflective paving & roofing with a SRI of at least 29.

8. Pervious Pavement Measure (2 points)
Install an open grid or pervious pavement system that is at least 40% pervious on 80% of all hardscape surface areas

9. Enhanced Bicycle Amenities Measure (1 point)
Inclusion of two of the following:
a. Lockable enclosed bicycle storage.
b. Employee shower facilities.
c. Increased bicycle parking spaces.

East Billings Form Based Code http://www.eburd.com/Pages/FormBasedCode.aspx

IMPLEMENTATION

Effectiveness of the draft code is hard to judge prior to adoption. There has been some development and redevelopment activity in the EBURD District, based on the master plan and various redevelopment incentives.

New Construction
- General Service Administration's construction of a leased federal office building on the former site of lumberyard
- Rocky Mountain Professional Building/Turley Dental offices
- Billings Food Bank on Fourth Avenue North
- First Interstate Bank's Operations Center on 6th Avenue N
- O'Reilly Auto Parts completed a new building

Remodeling and Renovations
- Red Ox Manufacturing's refurbishment of an older structure at 1123 Second Avenue North to add production space
- Kairos Development $3.5 million remodel of former Pierce Packing Plant along 1st Avenue N
- Billings Marble & Granite remodeled its space

Planning and Fundraising:
- North Park Children's Center – full-service child care, preschool, after school care, Head Start and other children's services – seeking location and funding
- Exposition Gateway District (adjacent to EBURD) – concept plan under development

Recently, two of the interior streets within the EBURD were converted from one-way to two-way traffic, using a complete streets approach. Both 2nd Avenue North and 3rd Avenue North, beginning at North 13th Street and extending west to North 22nd Street, now allow two-way travel.

ASSESSMENT

This zoning code creates an interesting model where sustainable development is a requirement for all projects on site. By putting such sustainability measures into the actual zoning code, the outcome is assured rather than merely a possibility. There are a few weaknesses within the code, however. The alphabet/graphic system of explanation in the code is perhaps overly-complicated and time consuming to use and understand. The zoning requirements for types of acceptable businesses are too specific and could result in complications in planning at a later date. While it's difficult to know the true effectiveness of the code prior to adoption, the zoning code certainly raises interesting questions on the role that zoning can play in advancing sustainable, infill development

Article 27-1800. East Billings Urban Revitalization District Code

Sec. 27-1813(d). Frontage Type Standards: Limited Bay

(1) Building Siting		
a. Street Frontage		
Multiple Principal Buildings	Not Permitted	
Front Lot Line Coverage	95% minimum, parking exception[1]	a
Occupation of Corner	Required	
Front Build-to Zone	0' to 10'	b
Corner Build-to Zone	0' to 10'	c
Right-of-Way Encroachment	Awnings & canopies	
b. Buildable Area		
Side Yard Setback	0'	d
Rear Yard Setback	5'; 0' with Alley	e
Minimum Lot Width Maximum Lot Width	25' None	f
Maximum Impervious Coverage Additional Semi-Pervious Coverage	90% 10%	
c. Parking Location, Loading & Access		
Parking Location	Rear Yard; Limited Side Yard[1]	g
Service & Loading Facility Location	Rear or Side Facade; Limited Front or Corner Side Facade	h
Entry for Parking within Building	Rear & Side Facades; Limited Front or Corner Side Facade[2]	
Vehicular Access	From Alley; or up to one (1) driveway per street frontage	i

Notes:
[1]Lots wider than 140' are permitted 1 double-loaded aisle of parking (maximum width of 65'), located perpendicular to street, which is exempt from front lot line coverage calculation n
[2]One bay is permitted on either the front or corner side facade, maximum width 20', for either loading or parking entry. o

(2) Height		
Minimum Overall Height	1 Story; 2 Stories preferred	j
Maximum Overall Height	6 Stories[3]	k
Ground Story: Minimum Height Maximum Height[4]	15' 24'	l
Upper Stories: Minimum Height Maximum Height	9' 14'	m

Notes:
[3] Above the fourth story, the upper stories of any building facade with street frontage shall have a step back from the lower Stories that is a minimum of 6' and a maximum of 12'
[4]If 18' or more in height, Ground Story shall count as 2 Stories towards maximum building height.

(3) Uses (refer to Sec. 27-1806)		
Ground and Upper Stories	All uses permitted by district	
Parking within Building	Permitted in the Rear of all Floors and fully in any Basement(s)	p
Occupied Space	30' depth space facing Primary Street	q
Accessory Structures	Permitted per Sec. 27-1808(f).	

(4) Street Facade Requirements		
a. Transparency		
Ground Floor: Minimum Transparency	50%, measured between 2' and 8' from sidewalk elevation	r
Upper Floor Minimum Transparency	20%, per floor	s
Blank Wall Limitations	Required	
b. Building Entrance		
Principal Entrance Location	Front, Corner Side, or Corner of Building	t
Entrance Type (refer to Sec. 27-1809)	Storefront	u
Street Facades: Number of Entrances	1 per 75' of Facade	
Parking Lot Facades: Number of Entrances	1 per 100' of Facade	
c. Roof Type		
Roof Type (refer to Sec. 27-1810)	Parapet, Flat, or Pitched	v
Tower	Permitted	
d. Facade Divisions		
Vertical Increments	No greater than 50'	w
Horizontal Expression Line	Required within 3' of top of ground story	x
e. Balconies		
Size	Minimum 3' deep and 5' wide	
Facade Coverage	Maximum 40% of Front & Corner Side Facades, separately	
Access to Balcony	Maximum one (1) Dwelling Unit	
Structure	Independently secured and unconnected to other balconies; or integral to the Facade	

Article 27-1800. East Billings Urban Revitalization District Code

Sec. 27-1813(d). Frontage Type Standards: Limited Bay

Frontage Type	Permitted in these EBURD Districts				
	Rail Spur Village	Rail Spur Village Main Street	Central Works	North 13th Street	Industrial Sanctuary
Limited Bay	●		●	●	●

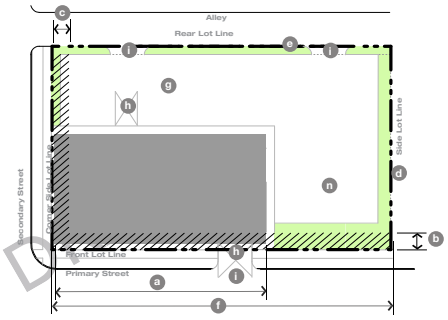


Figure 27-1813(d)-1: Building Siting.

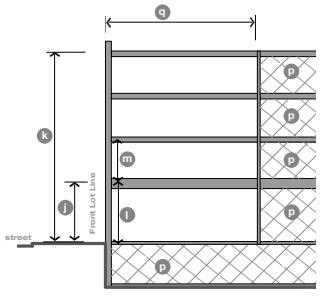


Figure 27-1813(d)-2: Height & Use Requirements.

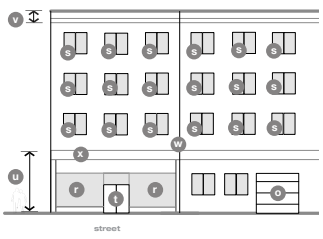


Figure 27-1813(d)-3: Street Facade Requirements.

EBURD zoning code example

Habersham

Prepared by Tom Low, AIA, AICP, LEED-AP

PROJECT DETAILS

Project Name: Habersham
Location: Beaufort County, South Carolina
Project Web site: www.habershamsc.com
Project Type: New Town with Light Imprint Infrastructure
Planner/Designer: DPZ Charlotte
Developer: Habersham Land Company
Site Size: 280 acres

Land Uses: Neighborhood Center, Neighborhood General, Neighborhood Edge, Civic
Zoning Designation: N/A
Redevelopment Land Uses: N/A
Permitted Conditional Uses: N/A
Prohibited Uses: N/A
Code Type: TND Ordinance/Form-based, Architectural Review Board
Illustrations: yes
Charts and Tables: no

GENERAL PROJECT DESCRIPTION

The master plan for the new town of Habersham was created in a charrette led by Tom Low of DPZ Charlotte in 1997. Habersham can be used as a case study for Duany Plater-Zyberk and Company's Light Imprint initiative. The initiative provides a framework for the design of sustainable neighborhoods like Habersham based on New Urbanism transect zoning principles. Habersham's infrastructure is based on low impact techniques for providing good environmental design.

The land on which Habersham is constructed has been inhabited for centuries. The Habersham site includes the grounds of Treadlands, a former antebellum plantation built in the early 1800s. The ruins of the house's dilapidated foundation have been preserved in the center of a park. Additionally, one of Habersham's islands was the site of an oyster factory in the late 1930s and the early 1940s.

Located on the island of Port Royal in Beaufort County, Habersham is approximately six miles southwest of the city of Beaufort, South Carolina. Habersham is less than a mile from the intercoastal waterway. Two small islands are connected to the southern tip of the property by causeways. The southern boundary of the site is Habersham Creek; the marshes of the Broad River form the western boundary. In all, Habersham has over thirteen thousand linear feet of marsh frontage.

The two hundred and eighty-three acre site is crossed by a number of small creeks that drain to the Broad River marshes. Seventy-three acres of the site have been preserved for parks, common areas, and natural drainage basins. Mature vegetation along the marsh edge has created a natural windbreak and an inviting habitat for wildlife. The town founders and DPZ Charlotte worked with environmental groups and governmental agencies to meet residents' needs while preserving the inherent beauty of the site. Extensive tree surveys were conducted and wetland preservation and marsh buffers were an important part of the master plan. One feature the town founders wanted to accentuate is an allée of live oaks left from the antebellum plantation that once occupied part of the site.

GENERAL PROJECT DESCRIPTION (CONT)

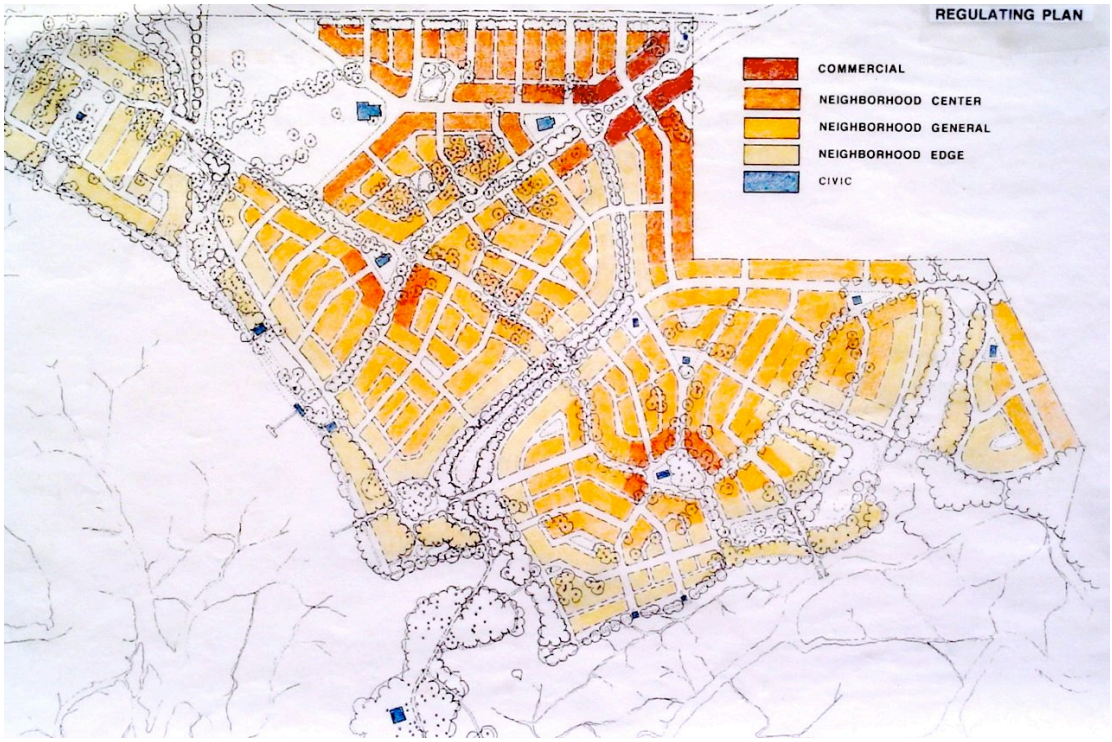
Previously, a conventional master plan was drawn for Habersham. That plan proposed that the entire site become a private, gated community with distinct and separate pods for single-family lots, multifamily housing, and commercial interests. That master plan proposed as many as forty-five cul-de-sacs arranged along a single oval-shaped spine road that looped through the site. Almost the entire shoreline, over ten thousand linear feet, was to be devoted to private lots for housing. The plan would have completely privatized the shoreline with the backs of homes facing the marshes. Those who could not own lots on the shoreline would have had no access to the marshes and no chance to see the glorious sunsets over the Broad River. The shoreline of the largest island would have suffered the same fate.

The DPZ master plan of 1997 is completely different from the conventional plan. Now almost completely implemented, Habersham is the winner of the 2004 Platinum Award in the Best in American Living (BALA) Competition, sponsored by Professional Builder magazine and the National Association of Home Builders.

With a sizable town center, Habersham serves as an urban hub for surrounding neighborhoods. The new town of Habersham provides for approximately six hundred and fifty private residences. The town center is complete with a post office, fire station, restaurants, shops, neighborhood businesses, and live-work units, apartments, condominiums, and townhomes. A small island is dedicated to recreation uses for residents, and there are numerous parks and greens. Different building types are located within the site according to the various gradations of urban transect zoning.

Like all DPZ design communities, the architecture found on the site respects the local vernacular. Low Country architecture employs methods used in traditional designs for ventilation and cooling. These logical methods, forgotten or ignored by conventional builders, are regulated by the architectural codes of Habersham. For instance, cross-ventilation and abundant natural daylight are achieved in the apartment and condominium building types by having only two units per floor. That means each dwelling has windows on three sides. At the same time traditional covered porches facing the southern exposure provide shade in summer and access to breezes. A side benefit is the range of excellent views that these urban homes have.

The broad assortment of building types creates a varied and authentic neighborhood environment. In the town center, live-work units provide living space above street-level commercial space. Mixed-use buildings provide street-level shops with commercial space above and residents on the upper floors. Many of the apartment buildings are three stories tall and six units per building making these very compatible with nearby townhomes and houses. At the edge of the town center, townhouses similar to those found in Savannah, Georgia, have a park in front rather than a lawn. The housing options include large single-family houses on large lots, large single-family houses on medium-sized lots, cottages on small lots, townhouses, apartments, condominiums, and live-work units. With so many choices, anyone of any age could choose to live in Habersham. Additionally, the compatibility of structures ensured by the code maintains high property values.



Habersham Regulating Plan

STORMWATER MANAGEMENT

Since it is located near the Atlantic Ocean, heavy squalls can produce a large amount of rain in Habersham in a short time. The region is also prone to rainfall accumulations from tropical storms and hurricanes. Stormwater management was a serious consideration for the development team. At the same time the development team desired relatively cost-effective methods and readily available local materials. These initiatives are present throughout Habersham, but are adjusted according to context and transect zones, whether in the Town Center where development is most dense, Neighborhood Center where there is mostly high density housing, the neighborhood General with a range of small and large homes, or at the neighborhood edge where development is characteristically less dense with more environmentally sensitive conditions.

Even in the most urban areas, stormwater management is carefully considered. Many of the live-work and townhouse units have formal interior courtyards that utilize paver blocks with gravel and planted joints. The parking lots behind the town center buildings use pervious crushed stone paving.

Most of the street paving in Habersham is asphalt. Since the street widths vary from very narrow to multiple lanes, the traffic load determines the amount of pavement. Using narrow paved streets allows more vegetation to absorb runoff and to filter impurities from the runoff. Some less urban streets have sidewalks on only one side further reducing the amount of paving. Wood planks are used to pave bridges and marsh walkways in Habersham.

Natural creeks crossing the site channel run off to the marshes. This mitigates the need for catch basins and underground piping across the site. Swales, with a combination of vegetation and stone, channel water away from recreation areas and parking lots. Naturally occurring shallow marshes provide an inexpensive means of filtering runoff before it enters the aquifer or the Broad River. Green fingers of land, i.e., narrow strips of vegetation, between structures are another means of filtering runoff. The most expensive filtration method used in Habersham is a constructed wetland.

Light Imprint Tools used for Habersham Paving

-Wood Planks
-Crushed Stone/Shell
-Asphalt
-Concrete
-Pea Gravel

Channeling

-Vegetative/Stone Swale
-Slope Avenue
-Shallow Channel Footpath
-Concrete Pipe
-Gutter

Storage

-Retention Basin with Sloping Bank
-Retention Pond
-Landscaped Tree Wells

Filtration

-Wetland/Swamp
-Filtration Ponds
-Shallow Marsh
-Surface Landscape
-Natural Vegetation
-Constructed Wetland
-Green Finger

low country environment

DESCRIPTION & ANALYSIS OF ZONING

The growth and development of Habersham is implemented and guaranteed by a series of specialized, inter-related documents known as the Habersham Traditional Neighborhood Development (TND) Ordinance. These documents enable the development of compact, integrated use neighborhoods coming together to form a town. Included in the TND Ordinance are the following:

- The Regulating Plan is keyed to the three urban conditions of neighborhood center, neighborhood General, and neighborhood Edge. These three conditions describe the range of building and thoroughfare typologies which are coded by the plan ranging from more urban to more rural. This plan is a graphic document showing the urbanized areas. It is highly detailed, but may be modified to reflect development constraints or opportunities, as well as to incorporate design improvements conceived subsequent to the initial design. Modifications shall be essentially cosmetic and shall not alter the underlying structure of the principles described in the TND ordinance.

- The Urban Regulations provide a graphic code describing the building types with their required location on lots, their massing, and their detailed urban behavior, including parking.

- The Architectural Regulations serve as a written code which restricts the construction materials, the architectural configuration and construction techniques which result in the visible expression of the buildings. The regulations assure that all architecture is consistent with the overall vision for the village. Regulations favor buildings with sound long-range aging and ecological properties. Civic Buildings are exempted from architectural regulations as they are expected to be freely expressive of the artistic and communal aspirations of the citizens.

- The Street Sections describe the spatial definition of the public space by buildings and trees, as well as the layout of the traffic lanes, parking, and sidewalks which are built within the rights-of-ways shown on the regulating plan.

These four Ordinance documents guide the implementation of Habersham. They are administered by the current developers and their successors. (Bob Turner - Master Developer, Habersham Land Company - Current Developer)

New Town, UT

Prepared by Tom Low, AIA, AICP, LEED-AP

PROJECT DETAILS

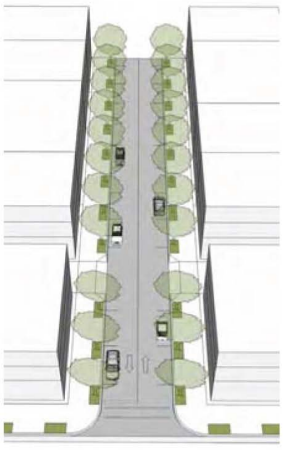
Project Name: New Town (Confidential)
Location: Saratoga Springs, UT
Project Web site: n/a
Project Type: New mixed use community design
Planner/Designer: DPZ
Developer: Confidential (pending approval in October 2012)
Site Size: n/a

Land Uses: Mixed-use, Civic Zones, Special Districts in a range of transect classifications
Zoning Designation: Transect Zones include Rural, Sub-urban, General Urban, Urban, Urban Core
Redevelopment Land Uses: N/A
Permitted Conditional Uses: N/A
Prohibited Uses: N/A
Code Type: Form-based
Illustrations: yes
Charts and Tables: yes

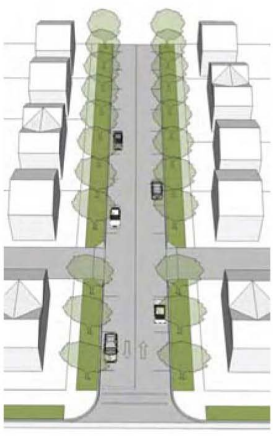
GENERAL PROJECT DESCRIPTION

The planning and design for a new mixed-use community in Saratoga Springs, Utah began with an in depth study of Mormon settlement patterns. These patterns have played a seminal role in defining basic patterns and forms of land development for more than a century. Early settlements by the Mormon people are based on the plat directives but adapted to place and population. These settlements types are called "community units" as they are integrated into our new coding language. Community Units are structured by pedestrian sheds, which illustrate the time it takes to walk to a meaningful destination like a grocery store. Intensity of use and population varies within single community units. The project urban pattern returns to the tradition of the typical Zion block of 660 ft by 660 ft, on ten acres. The size initially provides subsistence agriculture. It is very useful because it can be divided in diverse ways.

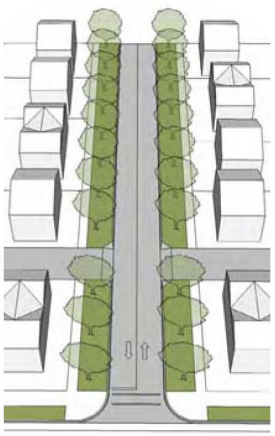
The flexibility of the 660 ft x 660 ft block has the potential to be subdivided in a variety of ways, creating distinct and diverse environments. The distinction between orthogonal and more picturesque division, as well as the types of units in each block, determines the urbanity of each block. Here the flexibility of the block is shown. The blocks with very few if any divisions provide a place for larger lots for growing food. The more picturesque streets create a more sub-urban condition for larger dwellings. Mixed use and downtown areas are more orthogonal. Blocks can be further analyzed based on their characteristics. They fall into five categories which correspond to the Transect.



Urban Character
Shallow Setback
Large Sidewalk
Tree Wells
Parallel Parking



General Character
Large Setback
Narrow Sidewalk
Planting Strip
Parallel Parking

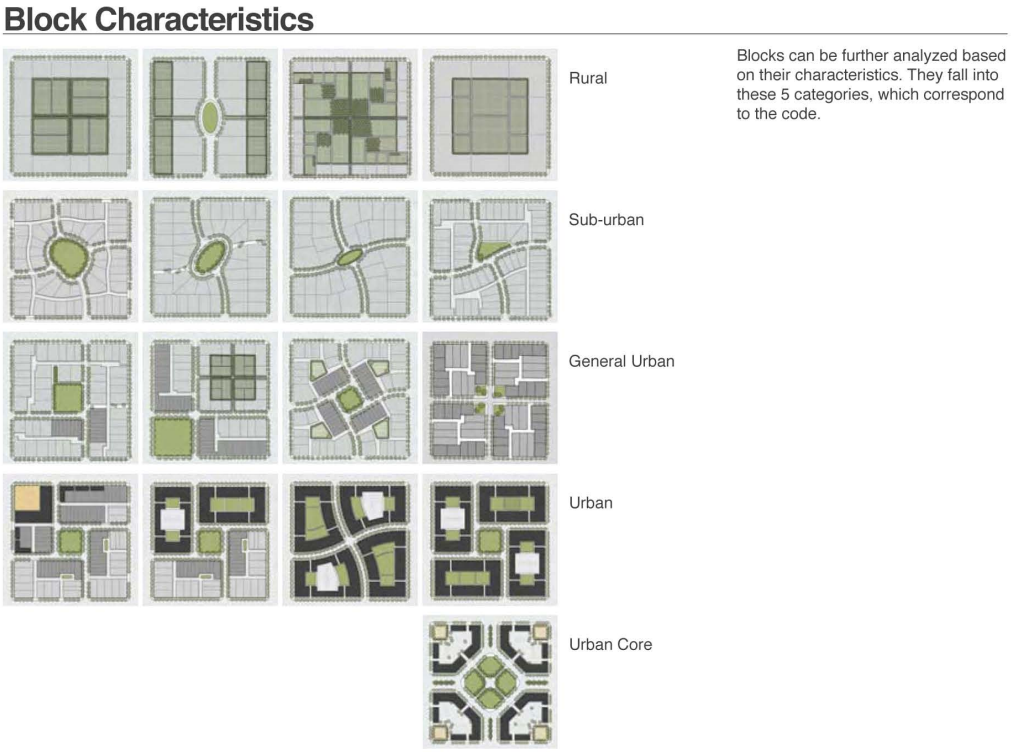


Rural Character
Large Setback
Narrow Sidewalk
Planting Strip
No On-Street Parking

Prototype street examples

GENERAL PROJECT DESCRIPTION (CONT)

This project uses a form-based structure plan to establish street block configurations and street cross sections that in aggregate provide a new set of neighborhood settlement patterns. This methodology of creating a chassis with a kit of parts, establishes the form-and-functional framework for the site, while allowing great flexibility for subsequent stages of planning and design. Precedents of pertinent urban settlement patterns are examined in detail, to identify typical metrics for urbanism that can be codified into a contextual framework for new development. Using metrics from relevant precedents, a conceptual framework or chassis for a theoretical town is developed that allows for the introduction of a variety of block configurations, while maintaining a rational overall urban structure. At the scale of the street block, a variety of sample block types are prepared, each of which may easily be "dropped into" the general structure plan.

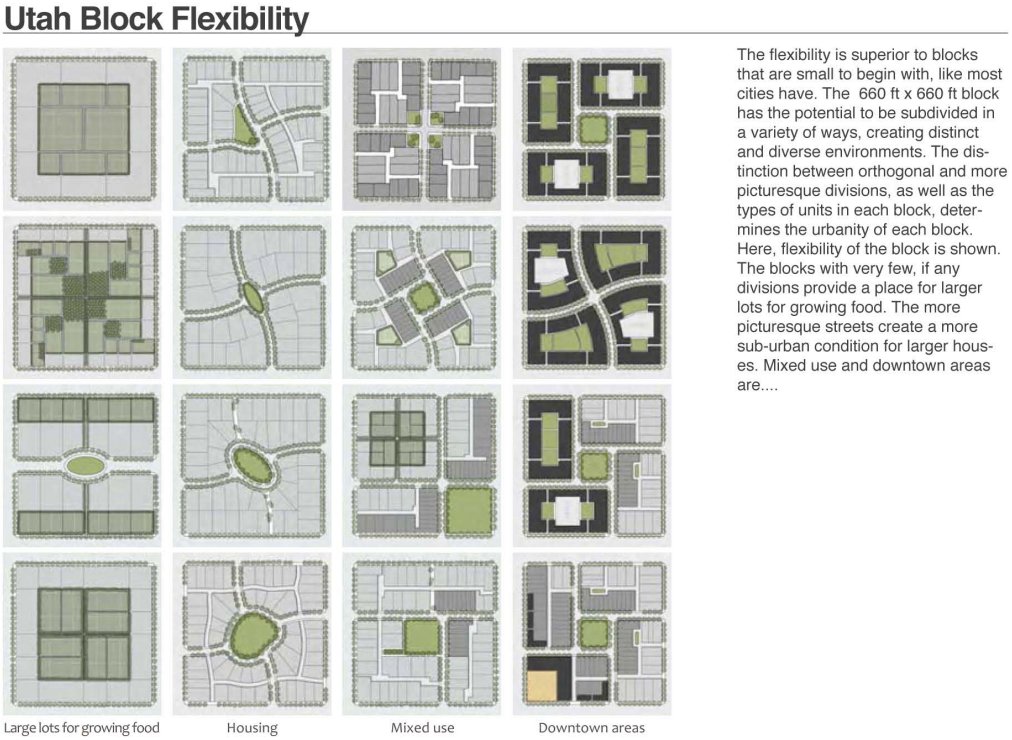


The prototype street blocks may be further analyzed based on their characteristics, in correspondence with the form-based framework.

Planning study graphics

GENERAL PROJECT DESCRIPTION (CONT.)

The prototype street blocks may be further analyzed based on their characteristics, in correspondence with the form based transect framework i.e. Rural, Sub-urban, General Urban, Urban, Urban Core. Metrics are developed for each prototypical block, and include permitted transect zone categories. Metrics per building type include linear frontage, number of dwelling units, number of bedrooms or number of persons. Metrics for the aggregate buildings per block include the number of buildings of each type, number of dwelling units, number of persons per building type, frontage per building type, total block frontage, total on-street parking, and cost per linear frontage of each building type. Applied to an actual site, the proposed structure plan serves as a physical framework (addressing among other aspects, street types/ thoroughfare standards, block types, open space and civic facilities/ amenities) and provides a chassis for the allocation of the various anticipated development intensities.



At the scale of the street block, a variety of sample block types are prepared, each of which may easily be "dropped into" the general structure plan.

DESCRIPTION & ANALYSIS OF ZONING

The structure plan will be translated into a community-wide regulating plan locating the range of proposed transect zones on the overall project site. As delineated in the structure plan, parameters of urban form and land use will be translated into various aspects of the code. These include maximum block sizes, typologies for thoroughfares, open spaces, frontages and buildings, building placement, parking, mix of permitted, conditional and restricted uses, etc. As the project is still in the preliminary planning stages, the degree to which other aspects of community design (such as architectural standards or agrarian urbanism) will be incorporated needs to be determined.

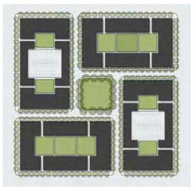
ASSESSMENT

The structure plan or "chassis" planning methodology recognizes the importance of establishing a street and block pattern in the basic development framework. When combined with parameters for building placement, bulk and height (massing) and a mix of basic uses (commercial, residential, office, etc) this system has the potential to provide both flexibility and predictability. The degree to which these two divergent traits are balanced lies in the level of specificity and detail as well as the use of dimensional ranges (minimum-maximum). Sustainability measures, especially those pertaining to high performance building and infrastructure systems, would need to be addressed through add-ons or accompanying standards.

Urban Core Block Metrics

One Typical 660' X 660' Block

URBAN CORE BLOCK METRICS. ONE TYPICAL 660' X 660' BLOCK.



BUILDINGS

building type	permitted in zoning category	rods (22 ft) per building type	no. of dwlgs per building type	no. of bdrms per building type	no. of persons per building type
flex house	T4/T5	3	1	3	5
townhouse	T4/T5/T6	1	1	3	4
apt house	T4/T5/T6	4	6	15	24
mu bldg 1	T5/T6	54	114	228	456
mu bldg 2	T5/T6	54	135	270	540
plaza	CS	23	0	0	0
meeting hall	CB	120	0	0	0

AGGREGATE BUILDINGS PER BLOCK

building type	no. of this building type	no. of dwelling units	persons per building type	frontage per bldg type (rods)	total block frontage (rods)	no. of comm units	on street /off street parking	$/per rod of buildable frontage
flex house	0	0	0	0				
townhouse	0	0	0	0				
apt house	0	0	0	0				
mu bldg 1	2	228	912	108		46		
mu bldg 2	2	270	1080	108		54		
plaza	1	0	0	23				
meeting hall	0.33	0	0	40				
totals		**498**	**1992**	**216**	**239*** **	**100**	140/760	

* Ancillary Apartments not counted as separate units, population included in principal building.
** School Frontage to be paid by school district.
*** Block total includes B street and park frontage.

General Urban Block Metrics

One Typical 660' X 660' Block

BUILDINGS

building type	permitted in zoning category	rods (22 ft) per building type	no. of dwlgs per building type	no. of bdrms per building type	no. of persons per building type
flex house	T4/T5	1.2	1	3	5
townhouse	T4/T5/T6	1	1	3	4
apt house	T4/T5/T6	4	6	15	24
apt buildings	T5/T6				
cottage cluster	T3/T4	2	6	6	9
medium houses	T2/T3/T4	2	1	5*	6
large houses	T2/T3	3	1	6*	7
homestead	T2/T3/T4	6	3	11	14
*ancillary apt	T2/T3/T4	0	1*	1*	1*
park	CS	23	0	0	0
meeting hall	CB	120	0	0	0

AGGREGATE BUILDINGS PER BLOCK

building type	no. of this building type	no. of dwelling units	persons per building type	frontage per bldg type (rods)	total block frontage (rods)	on street parking	$/per rod of buildable frontage
flex house	4	4	20	4.8			
townhouse	12	12	48	12			
apt house	4	24	96	16			
apt building		0	0	0			
cottage cluster	4	24	36	48			
medium houses	32	32	192	64			
large houses	4	4	28	12			
homestead	4	12	56	24			
*ancillary apt	40*	0	0	0			
park	1	0	0	23			
meeting hall	0.33	0	0	40			
totals		**112**	**476**	**181**	**239*** **	**140/212**	

* Ancillary Apartments not counted as separate units, population included in principal building.
** School Frontage to be paid by school district.
*** Block total includes B street and park frontage.

Planning study graphics

Smart Code Version 9.2

Prepared by Bob Kost, AICP, ASLA, LEED-AP

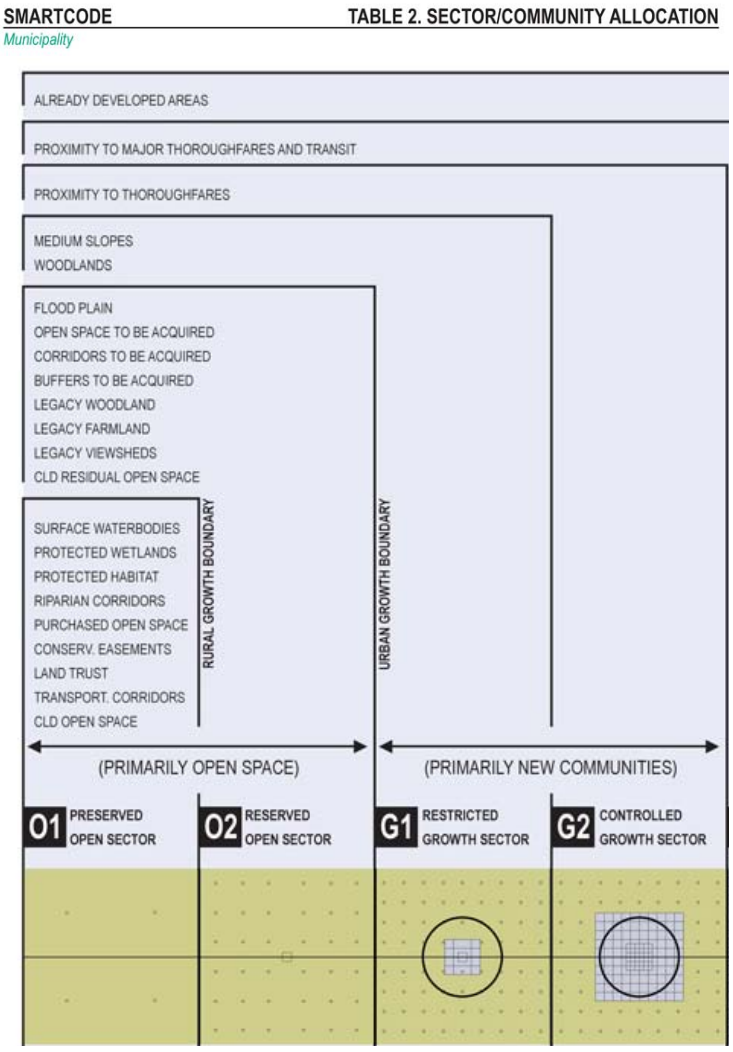
PROJECT DETAILS

Project Name: Smart Code Vr.9.2
Website: www.transect.org/codes.html
Project Type: Variable
Planner/Designer: DPZ & Company
Site Size: Developed for wide variety of circumstances ranging from entire communities to specific corridors and districts

Land Uses: Mixed
Zoning Designation: N/A
Redevelopment Land Uses: N/A
Permitted Conditional Uses: N/A
Prohibited Uses: N/A
Code Type: Form based and Transect based unified land
Illustrations: Yes
Charts and Tables: Yes

GENERAL PROJECT DESCRIPTION

Originally developed by Duany Plater-Zyberk & Company and in use since 2003, the SmartCode is an model form-based ordinance designed to create walkable neighborhoods across the full spectrum of human settlement, from the most rural to the most urban, incorporating a transect of character and intensity within each. It folds zoning, subdivision regulations, urban design, and basic architectural standards into one compact document. Because the SmartCode enables community vision by coding specific outcomes that are desired in particular places, it is meant to be locally calibrated (adjusted for specific conditions) by professionals in planning, urban design, architecture and land use law.

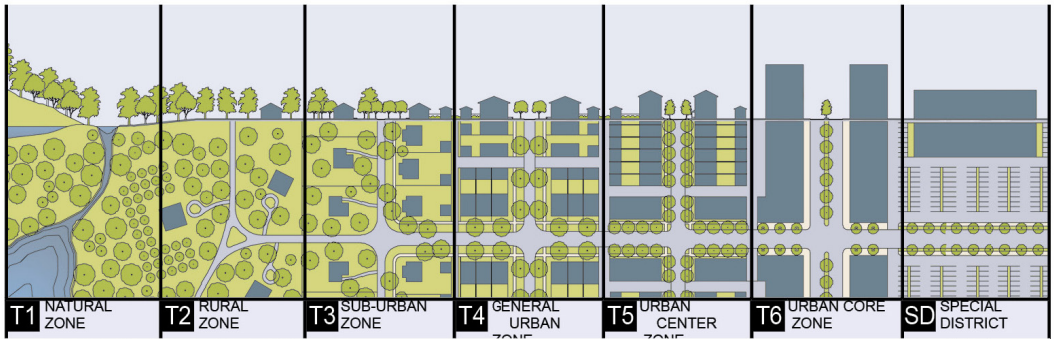


Excerpt of community allocation table

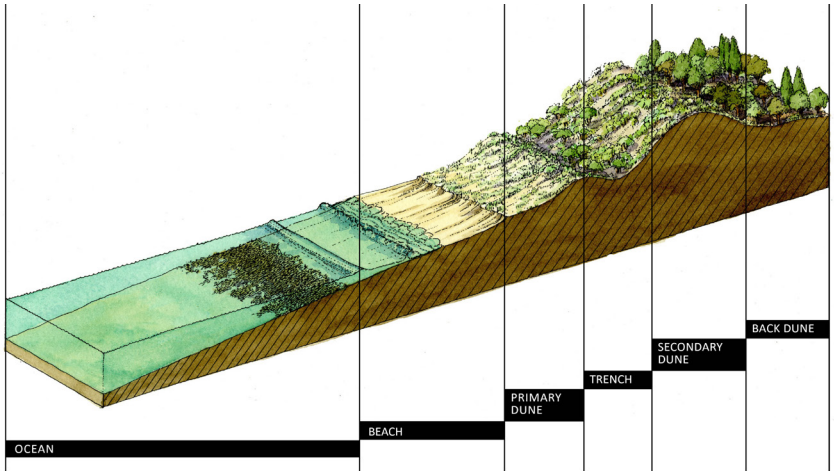
DESCRIPTION & ANALYSIS OF ZONING

The Smart Code is built upon the rural to urban transect. A transect is a cut or path through part of the environment displaying a range of different habitats. Biologists and ecologists use transects to study the many symbiotic elements that contribute to habitats where certain plants and animals thrive.

Human beings also thrive in different habitats. Some people prefer urban centers and would suffer in a rural place, while others thrive in the rural or sub-urban zones. Before the automobile, American development patterns were more walkable, and transects within towns and city neighborhoods revealed areas that were less urban and more urban in character. This urbanism can be analyzed as natural transects are analyzed.



zoning in the natural to urban transect



natural transect

WALKABLE NEIGHBORHOODS

One of the main principles in the SmartCode is that towns and cities should be structured as a series of walkable neighborhoods. Walkable neighborhoods require a mix of land uses (residential, office, and retail), public spaces with a sense of enclosure to create "outdoor rooms", and pedestrian-oriented transportation design that allows residents to meet many of their daily needs on foot or bicycle. Walkability is addressed on several levels within the code including during the calibration process through the application of the ¼ mile pedestrian shed for establishing neighborhood boundaries, locations, distribution and accessibility to various uses and public park and open space systems. The SmartCode aims to replace conventional Euclidean zoning and subdivision regulations, making walkable mixed-use development legal by right.

As a model code based on the transect that sets a range of parameters, the SmartCode must be calibrated (adjusted per local conditions) for each place, to reflect local character and form. Depending on the place, there may be fewer or more T-zones determined by analysis. For example, most small towns do not have a T-6 Urban Core Zone and most fully developed communities do not have a T-2 Rural Zone. Calibration of the code is undertaken through the use of a survey that compares the existing metrics and typologies against what was coded. It allows one to extract the essential aspects of character of an exceptionally good place and apply those aspects to the development of new zoning.

ALTERNATIVE FORM OF ZONING

As a type of form-based code, the SmartCode is an alternative zoning system that typically replaces conventional, separated-use zoning at the community, corridor or district level or in some instances, as a parallel alternative code. The six T-zones (Transect Zones) provide the basis for neighborhood structure, requiring walkable streets, a mix of uses and building types, transportation options, and open spaces. The T-zones vary by the ratio and level of intensity of their natural, built, and social components. They may be coordinated to all scales of planning, from the region through the community scale down to the individual lot and building, but the new zoning itself is typically applied at the community (municipal) scale.

The T-zones are intended to be balanced within a neighborhood structure based on pedestrian sheds (walkable zones), so that even T-3 residents may walk to different habitats, such as a main street, civic space, or agrarian land. The following table lays out the relationship of the region and community to the Transect Zones in the model SmartCode.

The table below illustrates the nesting relationship of the scales of planning addressed in the SmartCode. Note that the six Transect Zones are not applied at the regional scale, as they are used for municipal zoning or to achieve balance in private developments. The SmartCode is organized into seven sections:

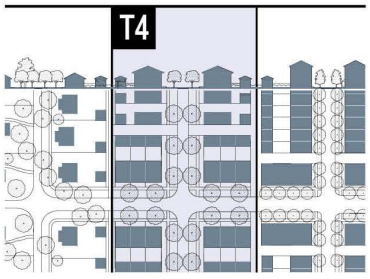
1. General to all plans
2. Regional scale plans
3. New Community scale plans
4. Infill Community scale plans
5. Building scale plans
6. Standards and tables
7. Definitions of terms

Primary standards for guiding the establishment of urban form (Article 6) include the disposition, configuration, and function of buildings, frontages, parking, thoroughfares and civic space. This insures human habitats with distinctive character. New Urbanist practitioners refer to the framework of the rural-to-urban simply as "the Transect." The benefits of using the Transect include:

- a common language for a new zoning system
- the ability to plug into transect-based codes and supplementary tools or modules created by different experts in the design, engineering, and environmental fields
- potential for communities to evolve gracefully and sustainably over generations

SMARTCODE **TABLE 15B. FORM-BASED CODE GRAPHICS - T4**

Municipality

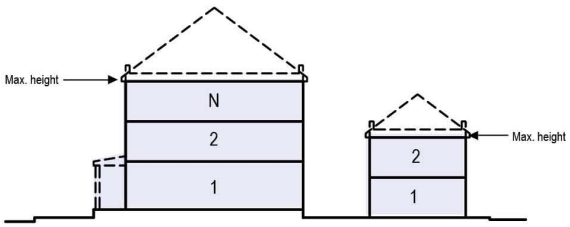


(see Table 1)

I. BUILDING FUNCTION (see Table 10 & Table 12)	
Residential	limited use
Lodging	limited use
Office	limited use
Retail	limited use
k. BUILDING CONFIGURATION (see Table 8)	
Principal Building	3 stories max, 2 min
Outbuilding	2 stories max.
f. LOT OCCUPATION (see Table 14f)	
Lot Width	18 ft min 96 ft max
Lot Coverage	70% max
i. BUILDING DISPOSITION (see Table 9)	
Edgeyard	permitted
Sideyard	permitted

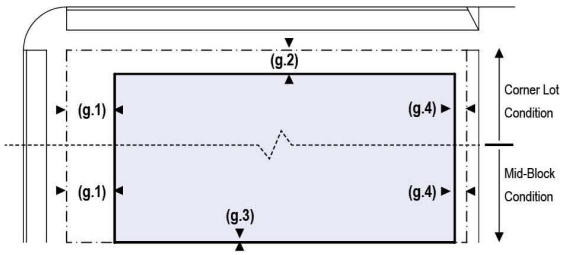
BUILDING CONFIGURATION

1. Building height shall be measured in number of Stories, excluding Attics and raised basements.
2. Stories may not exceed 14 feet in height from finished floor to finished ceiling, except for a first floor Commercial function which must be a minumum of 11 ft with a maximum of 25 ft.
3. Height shall be measured to the eave or roof deck as specified on Table 8.



SETBACKS - PRINCIPAL BLDG

1. The Facades and Elevations of Principal Buildings shall be distanced from the Lot lines as shown.
2. Facades shall be built along the Principal Frontage to the minimum specified width in the table.



Excerpt of typical code page

Examples from the Smart Code

SUSTAINABILITY

In addition to coding for mixed use, local character and walkability, the latest version of the SmartCode addresses numerous aspects of sustainability through the use of additional chapters or "modules". Each module is organized to fit seamlessly within the code's structure and includes performance metrics based on each T-zone. Modules focused on sustainable development include:

- Zero Net Energy Buildings
- Affordable Housing Incentives
- Visitability (universal design)
- Lifelong Communities
- Live-Work Design and Policy
- Retail: Sustainable Commerce
- Sprawl Repair
- Agrarian Urbanism
- Bicycling
- Complete Thoroughfare Assemblies
- Vehicle Miles Traveled
- Landscape and Tree Canopy Cover
- Light Imprint Stormwater Matrix
- Natural Drainage
- Regional Watersheds
- Riparian and Wetland Buffers
- Flood Hazard Mitigation
- Renewable Resources, and
- Public Darkness & Light Levels

APPLICABILITY AND ADMINISTRATION

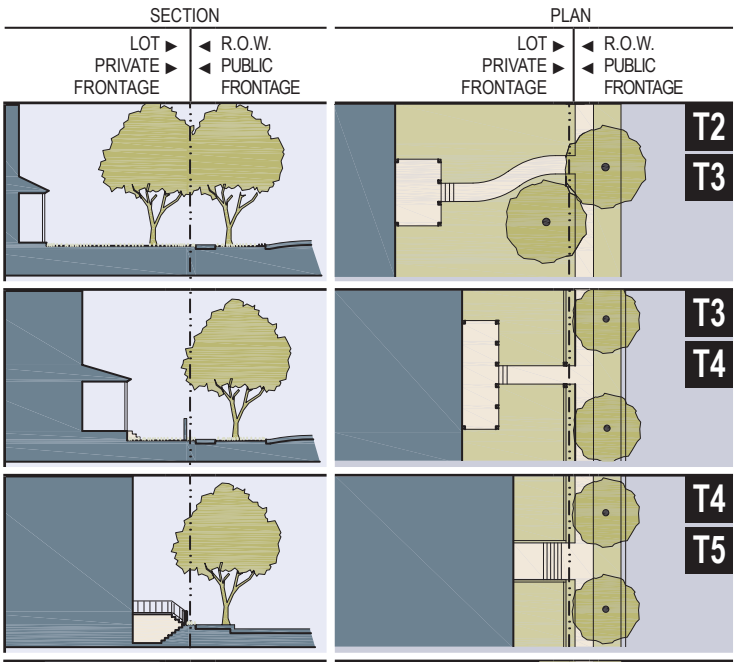
The SmartCode differs from other non-transect form-based codes in that its community-scale and block-scale articles are written explicitly for zoning. Since its inception, the code's platform has been calibrated and adopted by communities ranging in size from the 1,100 person town of Burns Harbor, Indiana to the 400,000 person city of Miami, Florida and is used in over 200 communities in the United States and abroad. It has a brand recognition that attracts high quality, local, national and international developers.

As a graphical, form-based code, administration of the SmartCode requires City staff, planning and zoning commission members and elected official to learn a new set of rules and terminology. Depending on the size (number of professionals) and sophistication (complexity of current land development ordinances) of a community's planning, zoning and building departments, this can be a challenge or an opportunity. One of the benefits of employing the SmartCode is the extensive network of educational and informational support available from a range of non-profit organizations, SmartCode adopter communities and for-profit consultants.

SMARTCODE — **TABLE 7. PRIVATE FRONTAGES**

Municipality

TABLE 7: Private Frontages. The Private Frontage is the area between the building Facades and the Lot lines.



a. Common Yard: a planted Frontage wherein the Facade is set back substantially from the Frontage Line. The front yard created remains unfenced and is visually continuous with adjacent yards, supporting a common landscape. The deep Setback provides a buffer from the higher speed Thoroughfares.	T2 T3
b. Porch & Fence: a planted Frontage wherein the Facade is set back from the Frontage Line with an attached porch permitted to Encroach. A fence at the Frontage Line maintains street spatial definition. Porches shall be no less than 8 feet deep.	T3 T4
c. Terrace or Lightwell: a Frontage wherein the Facade is set back from the Frontage line by an elevated terrace or a sunken Lightwell. This type buffers Residential use from urban Sidewalks and removes the private yard from public Encroachment. Terraces are suitable for conversion to outdoor cafes. Syn: **Dooryard.**	T4 T5

Excerpt of private frontage table

Appendix 3 – Transect Calibration

FORD PLANT
MASTER PLAN 5 SCENARIOS TRANSECT CALIBRATION

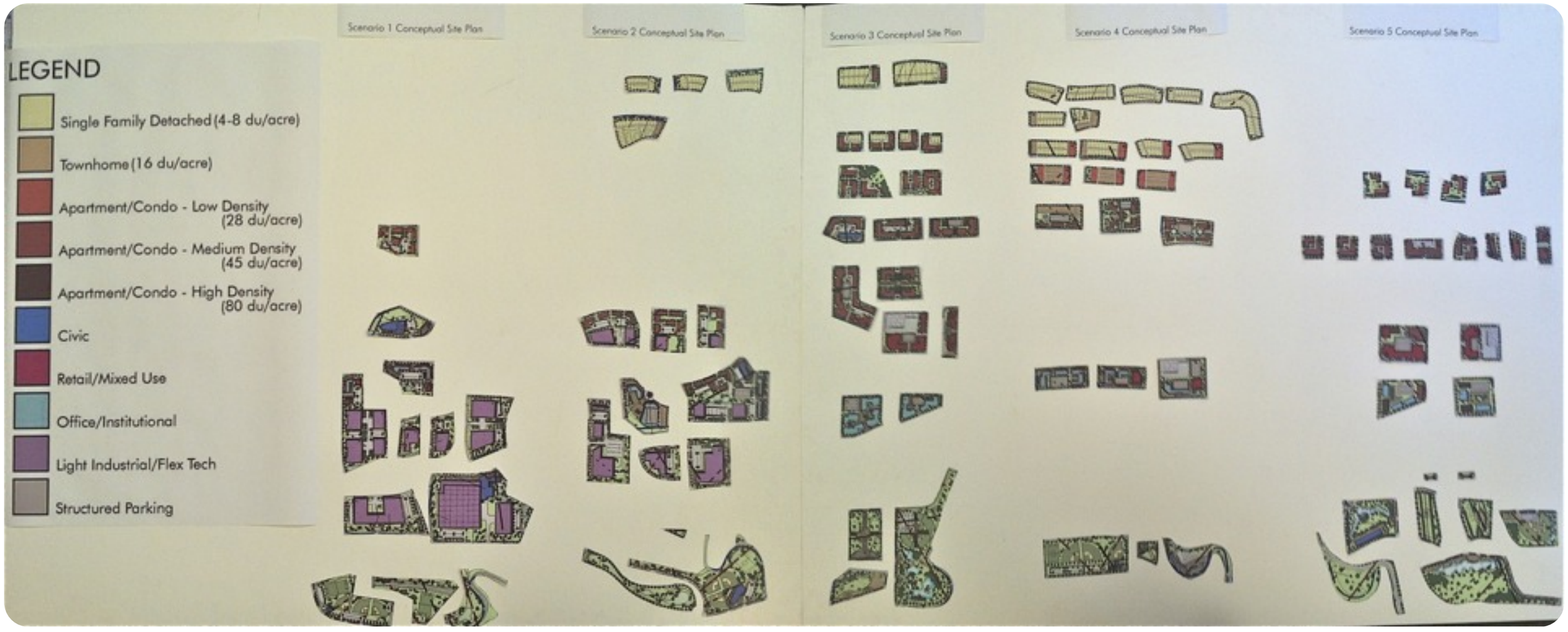
SEH, INC.

Duany Plater-Zyberk & Company

Cornejo Consulting

BLOCK ANALYSIS


LEGEND
Single Family Detached (4-8 du/acre)
Townhome (11-16 du/acre)
Apartment/Condo - Low Density (28 du/acre)
Apartment/Condo - Medium Density (45 du/acre)
Apartment/Condo - High Density (80 du/acre)
Civic
Retail/Mixed Use
Office/Institutional
Light Industrial/Flex Tech
Structured Parking


LEGEND
Single Family Detached (4-8 du/acre)
Townhome (16 du/acre)
Apartment/Condo - Low Density (28 du/acre)
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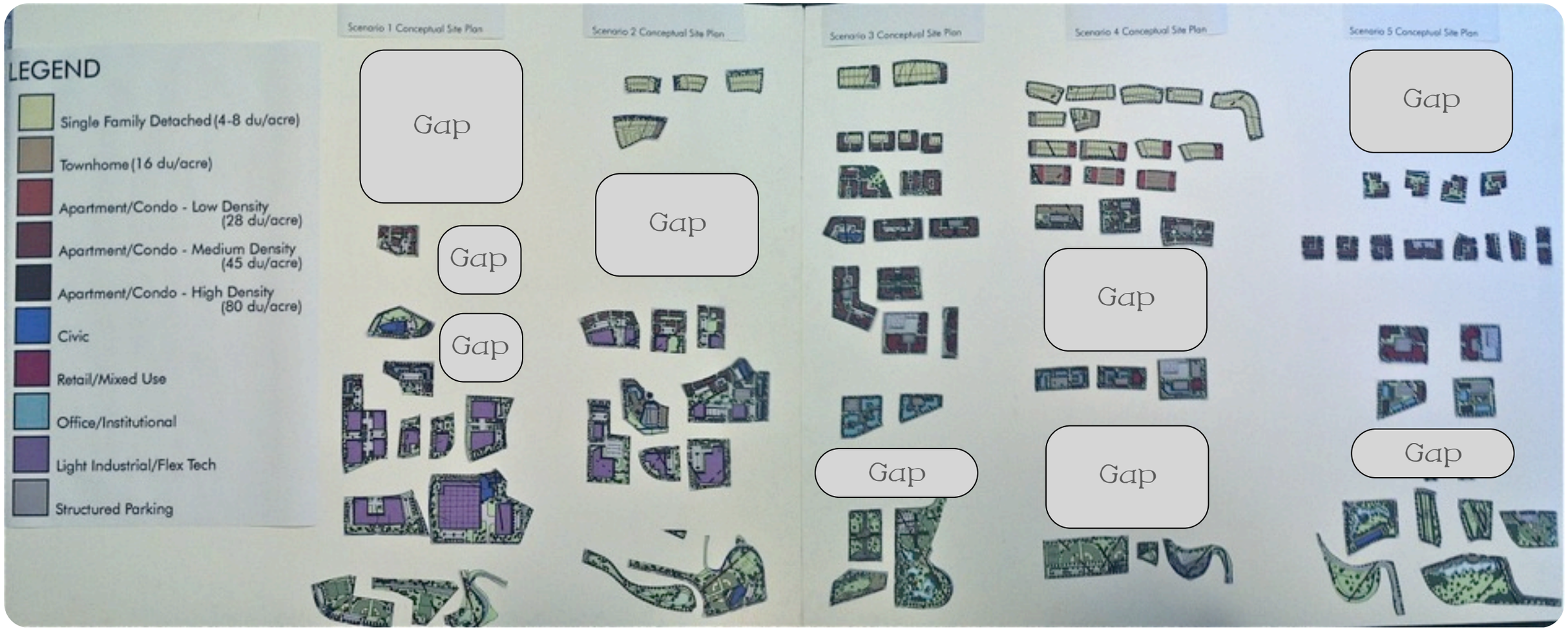
Apartment/Condo - High Density (80 du/acre)
Civic
Retail/Mixed Use
Office/Institutional
Light Industrial/Flex Tech
Structured Parking
Scenario 1 Conceptual Site Plan
Scenario 2 Conceptual Site Plan
Scenario 3 Conceptual Site Plan
Scenario 4 Conceptual Site Plan
Scenario 5 Conceptual Site Plan


LEGEND
Single Family Detached (4-8 du/acre)
Townhome (16 du/acre)
Apartment/Condo - Low Density (28 du/acre)
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Apartment/Condo - High Density (80 du/acre)
Civic
Retail/Mixed Use
Office/Institutional
Light Industrial/Flex Tech
Structured Parking
Scenario 1 Conceptual Site Plan
Gap
Gap
Gap
Scenario 2 Conceptual Site Plan
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Scenario 3 Conceptual Site Plan
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Scenario 4 Conceptual Site Plan
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Scenario 5 Conceptual Site Plan
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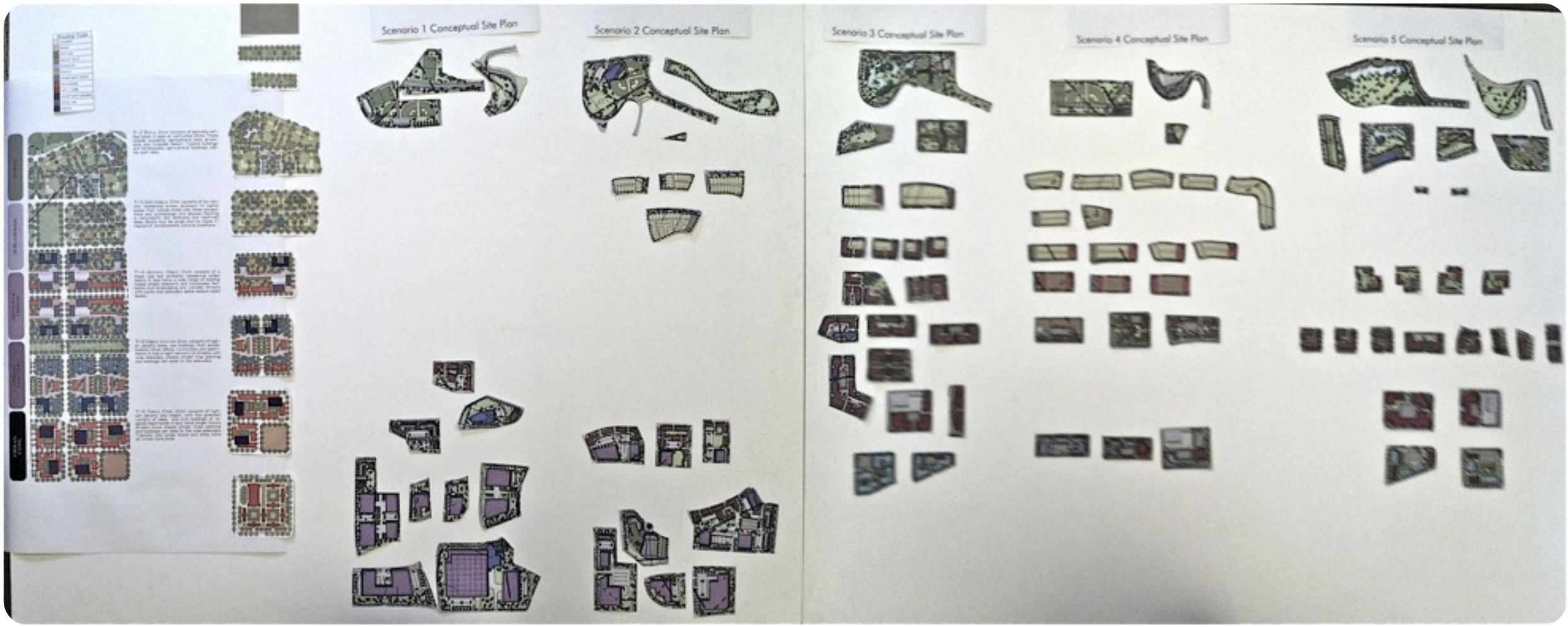
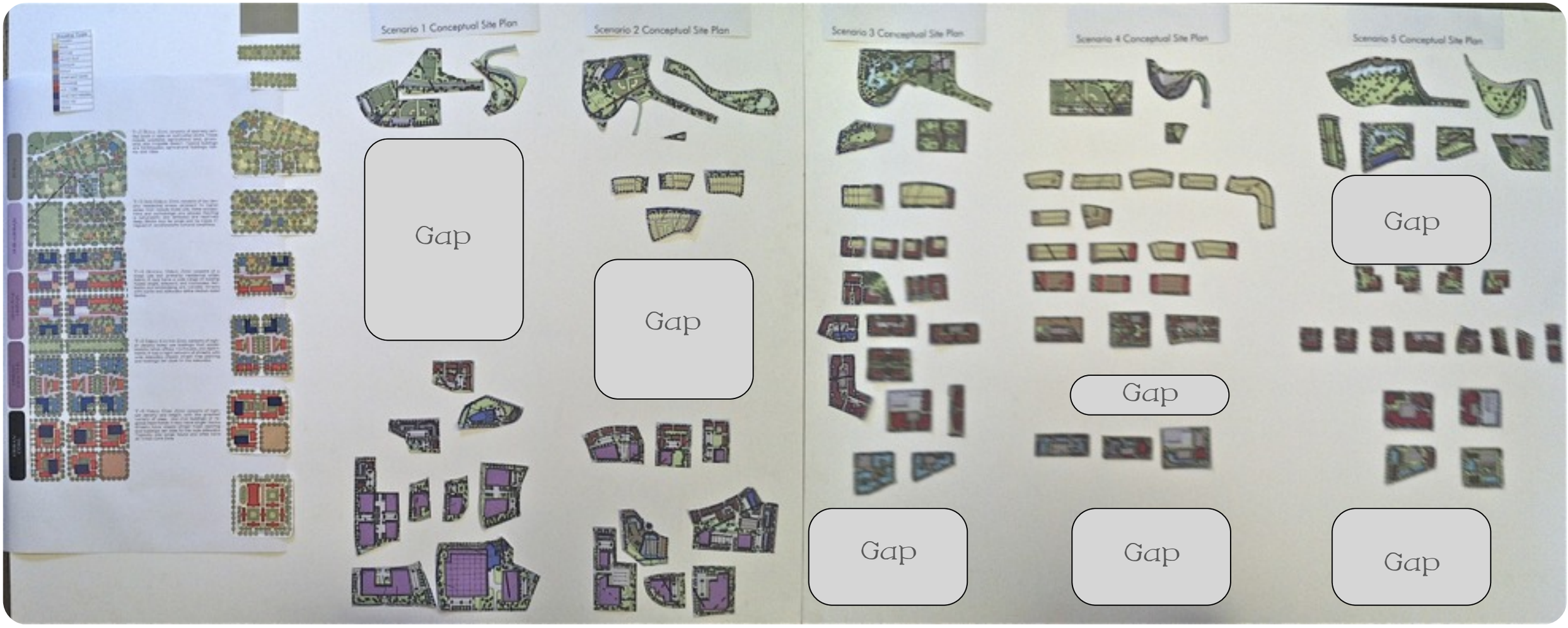

Scenario 1 Conceptual Site Plan
Scenario 2 Conceptual Site Plan
Scenario 3 Conceptual Site Plan
Scenario 4 Conceptual Site Plan
Scenario 5 Conceptual Site Plan


Scenario 1 Conceptual Site Plan
Scenario 2 Conceptual Site Plan
Scenario 3 Conceptual Site Plan
Scenario 4 Conceptual Site Plan
Scenario 5 Conceptual Site Plan
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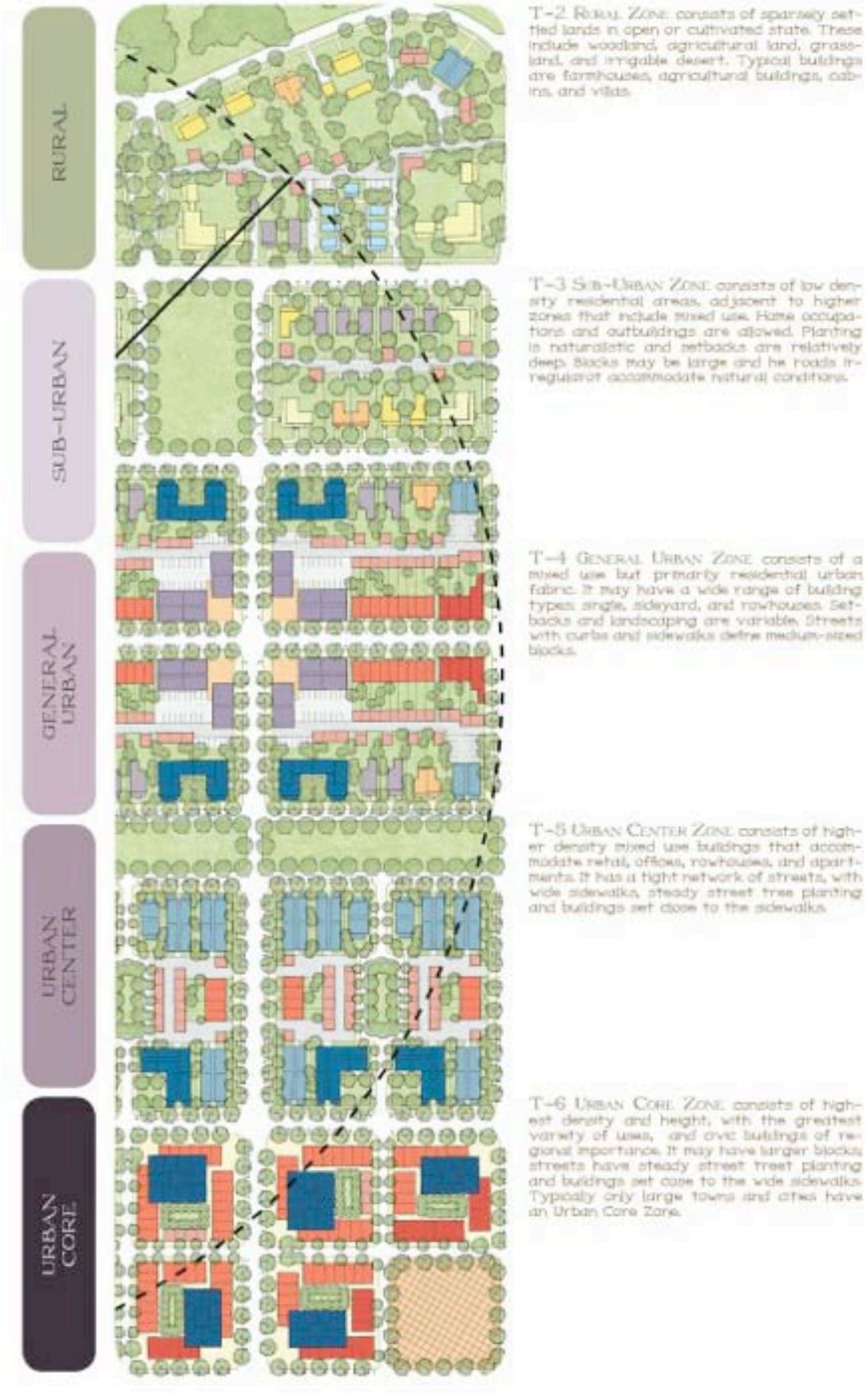


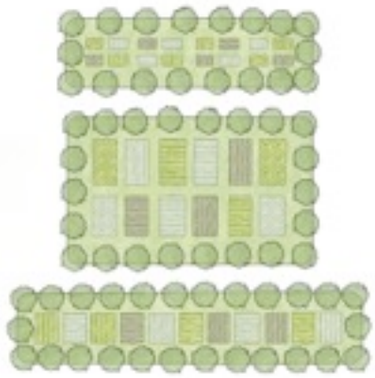
T-2 Rural Zone consists of sparsely settled lands in open or cultivated state. These include woodland, agricultural land, grassland, and irrigable desert. Typical buildings are farmhouses, agricultural buildings, cabins, and villas.

T-3 Sub-Urban Zone consists of low density residential areas, adjacent to higher zones that include mixed use. Home occupations and outbuildings are allowed. Planting is naturalistic and setbacks are relatively deep. Blocks may be large and the roads irregularat accommodate natural conditions.

T-4 General Urban Zone consists of a mixed use but primarily residential urban fabric. It may have a wide range of building types: single, sideyard, and rowhouses. Setbacks and landscaping are variable. Streets with curbs and sidewalks define medium-sized blocks.

T-5 Urban Center Zone consists of higher density mixed use buildings that accommodate retail, offices, rowhouses, and apartments. It has a tight network of streets, with wide sidewalks, steady street tree planting and buildings set close to the sidewalks.

T-6 Urban Core Zone consists of highest density and height, with the greatest variety of uses, and civic buildings of regional importance. It may have larger blocks; streets have steady street treet planting and buildings set close to the wide sidewalks. Typically only large towns and cities have an Urban Core Zone.

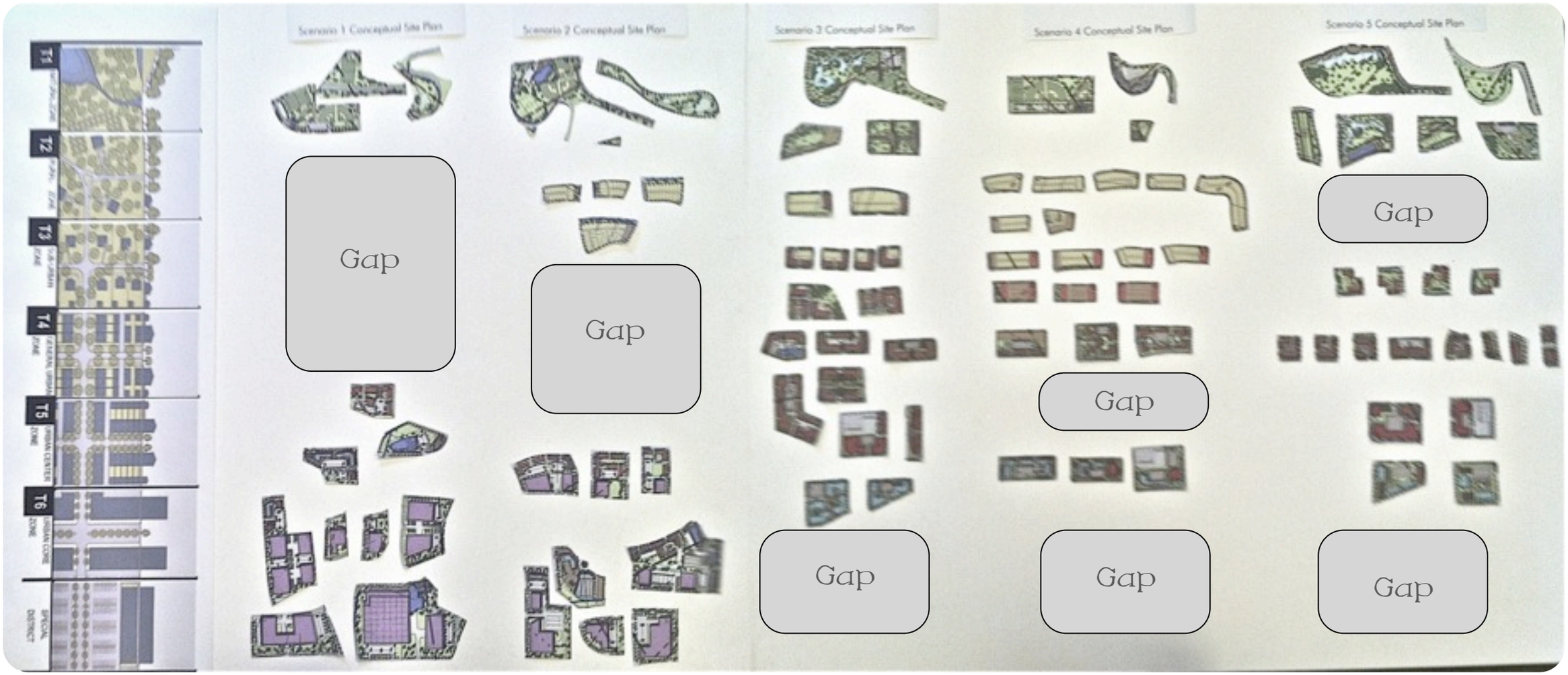


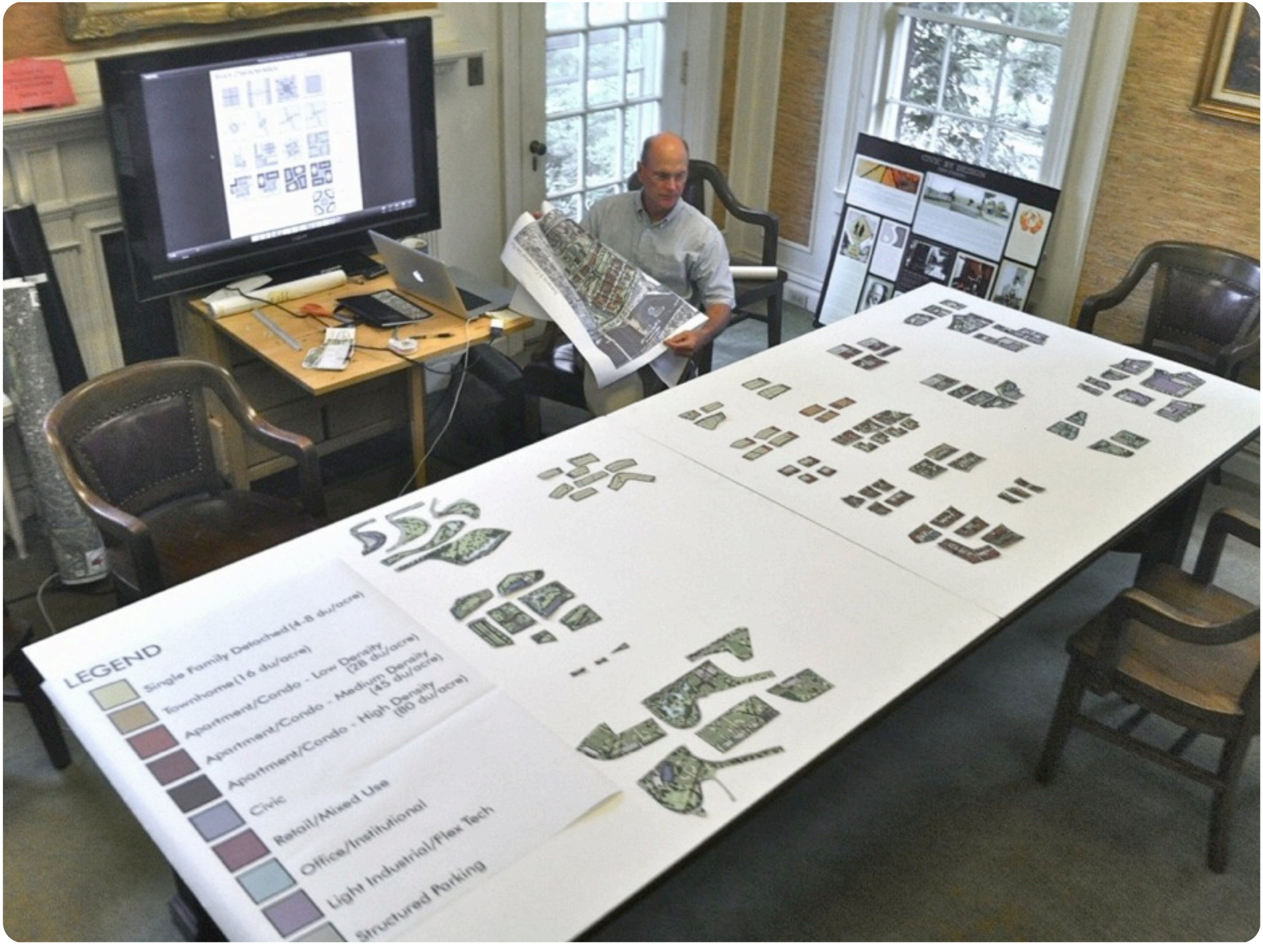
Open Space / Agriculture

Institutional / Artisan

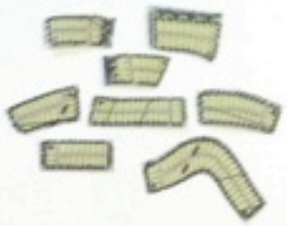
Housing Type
MANSION
HOUSE
COTTAGE
GRANNY FLAT
BUNGALOW
DUPLEX
APARTMENT HOUSE
TOWNHOUSE
LIVE / WORK
APARTMENT BUILDING
MIXED USE
TOWER


T1
T2
T3
T4
T5
T6
Scenario 1 Conceptual Site Plan
Scenario 2 Conceptual Site Plan
Scenario 3 Conceptual Site Plan
Scenario 4 Conceptual Site Plan
Scenario 5 Conceptual Site Plan


T1
T2
T3
T4
T5
T6
Scenario 1 Conceptual Site Plan
Scenario 2 Conceptual Site Plan
Scenario 3 Conceptual Site Plan
Scenario 4 Conceptual Site Plan
Scenario 5 Conceptual Site Plan
Gap
Gap
Gap
Gap
Gap
Gap


LEGEND
Single Family Detached (4-8 du/acre)
Townhome (16 du/acre)
Apartment/Condo - Low Density (28 du/acre)
Apartment/Condo - Medium Density (45 du/acre)
Apartment/Condo - High Density (80 du/acre)
Civic
Retail/Mixed Use
Office/Institutional
Light Industrial/Flex Tech
Structured Parking

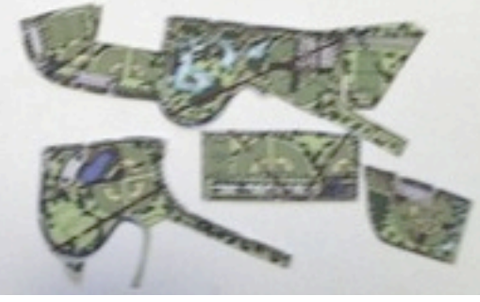
Open Space ~ Park



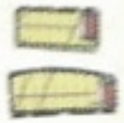
Single Family

Open Space ~ Civic

Open Space ~ Pocket Park



Open Space ~ Recreation



Single Fam / Twhs / Apt

Single Fam / Twhs / Apt

Apt ~ Low

Apt ~ Med

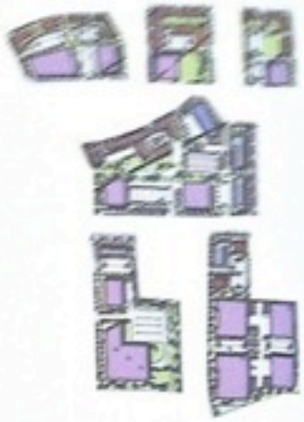
Apt ~High

Retail / Mixed

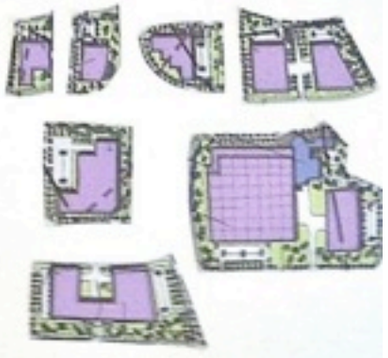
Retail / Office

Office

Office / Apt

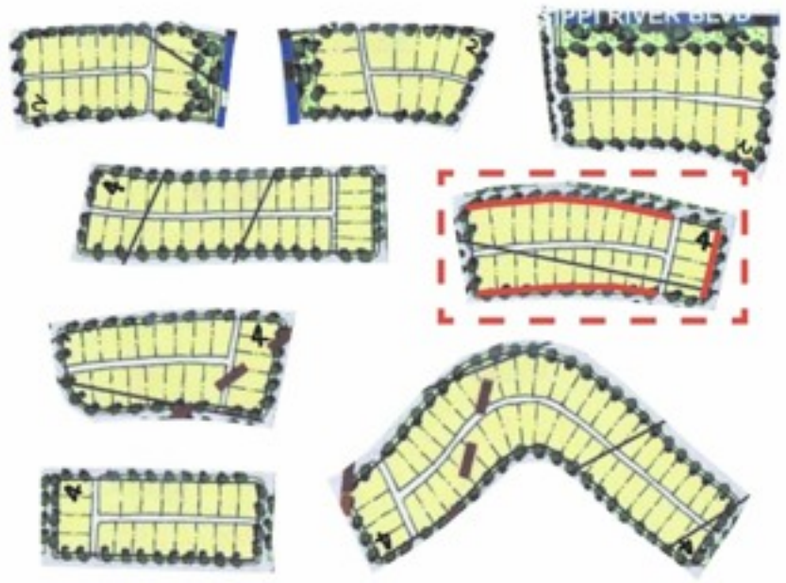


Industrial / Apt



Industrial

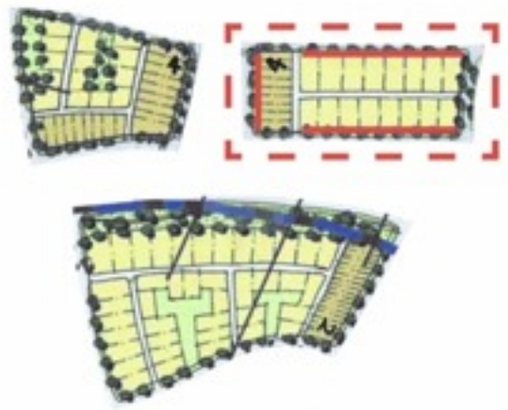
Ford Plant – Block Metrics
Block Type – House



Housing Type	No. of this Building Type	No. of Dwelling Units	Frontage per Building Type	On-Street Parking
SINGLE FAMILY HOUSE	25	25	1175'	
TOWNHOUSE				
APARTMENT 28 du/ acre				
APARTMENT 45 du/ acre				
APARTMENT 80 du/ acre				
CIVIC				
RETAIL/MIXED USE				
OFFICE/INSTITUTION-AL				
LIGHT INDUSTRIAL/ FLEX TECH				
TOTAL	25	25	1175'	

Typical block used for metrics — Frontage Line

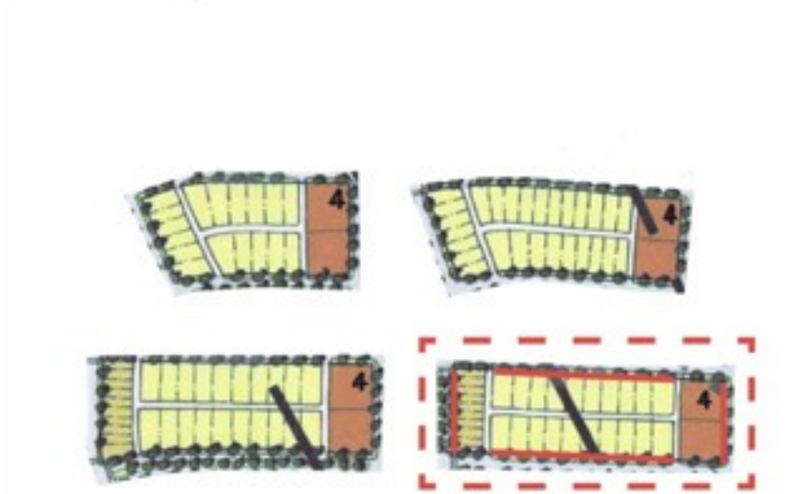
Ford Plant – Block Metrics
Block Type – House / Townhouse



Housing Type	No. of this Building Type	No. of Dwelling Units	Frontage per Building Type	On-Street Parking
SINGLE FAMILY HOUSE	16	16	800'	
TOWNHOUSE	9	9	200'	9
APARTMENT 28 du/ acre				
APARTMENT 45 du/ acre				
APARTMENT 80 du/ acre				
CIVIC				
RETAIL/MIXED USE				
OFFICE/INSTITUTION-AL				
LIGHT INDUSTRIAL/ FLEX TECH				
TOTAL	25	25	1000'	9

Typical block used for metrics — Frontage Line

Ford Plant – Block Metrics
Block Type – House / Townhouse / Apartment



Housing Type	No. of this Building Type	No. of Dwelling Units	Frontage per Building Type	On-Street Parking
SINGLE FAMILY HOUSE	20	20	900'	
TOWNHOUSE	10	10	200	9
APARTMENT 28 du/ acre	1	13	200'	9
APARTMENT 45 du/ acre				
APARTMENT 80 du/ acre				
CIVIC				
RETAIL/MIXED USE				
OFFICE/INSTITUTIONAL				
LIGHT INDUSTRIAL/ FLEX TECH				
TOTAL	31	43	1300'	18

Typical block used for metrics — Frontage Line

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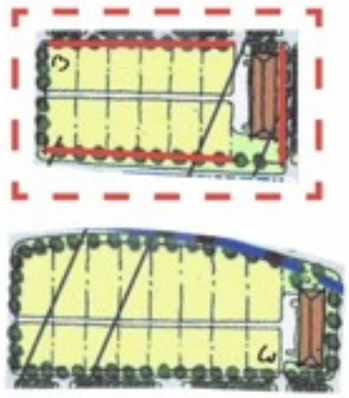
Draft: August 2, 2012

Ford Plant – Block Metrics
Block Type – House / Apartment



Housing Type	No. of this Building Type	No. of Dwelling Units	Frontage per Building Type	On-Street Parking
SINGLE FAMILY HOUSE	12	12	925'	
TOWNHOUSE				
APARTMENT 28 du/ acre	1	18	275'	13
APARTMENT 45 du/ acre				
APARTMENT 80 du/ acre				
CIVIC				
RETAIL/MIXED USE				
OFFICE/INSTITUTIONAL				
LIGHT INDUSTRIAL/ FLEX TECH				
TOTAL	13	30	1200'	13

Typical block used for metrics — Frontage Line

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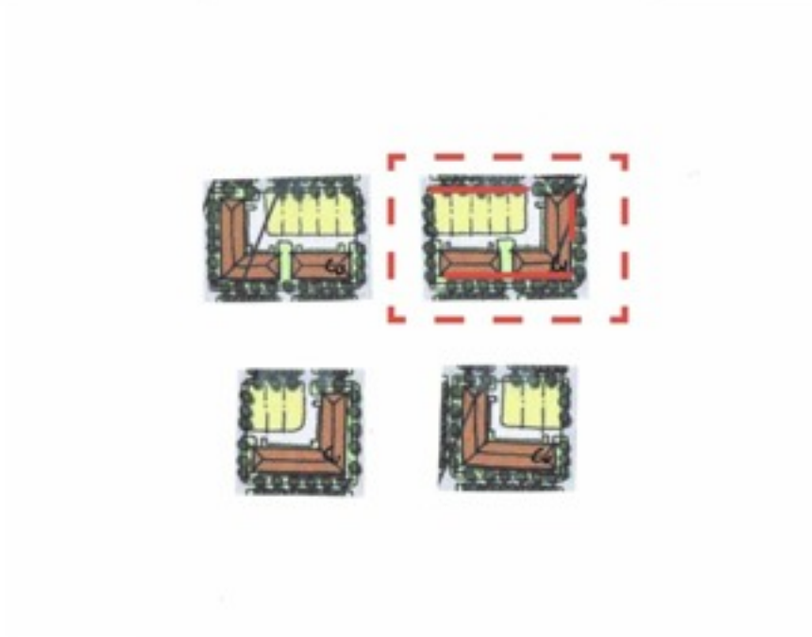
Ford Plant – Block Metrics
Block Type – Townhouse / Apartment



Housing Type	No. of this Building Type	No. of Dwelling Units	Frontage per Building Type	On-Street Parking
SINGLE FAMILY HOUSE	5	5	250'	
TOWNHOUSE				
APARTMENT 28 du/ acre	2	33	550'	25
APARTMENT 45 du/ acre				
APARTMENT 80 du/ acre				
CIVIC				
RETAIL/MIXED USE				
OFFICE/INSTITUTIONAL				
LIGHT INDUSTRIAL/ FLEX TECH				
TOTAL	7	38	800'	25

Typical block used for metrics — Frontage Line

Ford Plant – Block Metrics
Block Type – Townhouse / Apartment

Housing Type	No. of this Building Type	No. of Dwelling Units	Frontage per Building Type	On-Street Parking
SINGLE FAMILY HOUSE				
TOWNHOUSE	28	28	650'	30
APARTMENT 28 du/ acre	4	26	500'	23
APARTMENT 45 du/ acre				
APARTMENT 80 du/ acre				
CIVIC				
RETAIL/MIXED USE				
OFFICE/INSTITUTIONAL				
LIGHT INDUSTRIAL/ FLEX TECH				
TOTAL	32	54	1150'	53

Typical block used for metrics — Frontage Line

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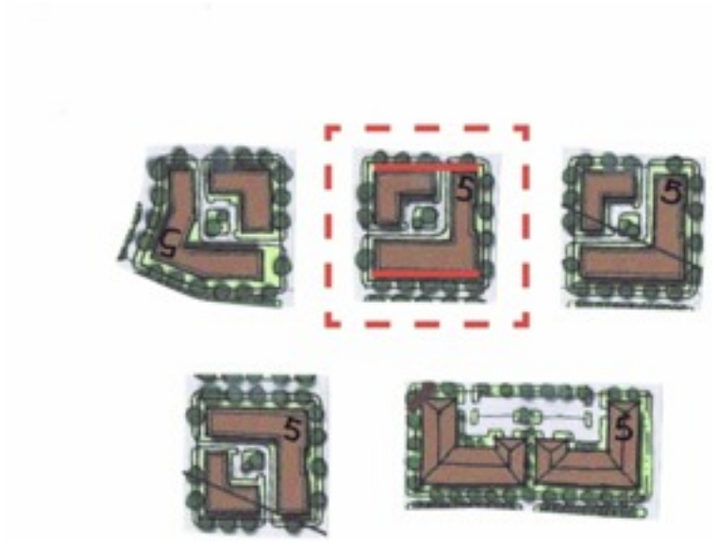
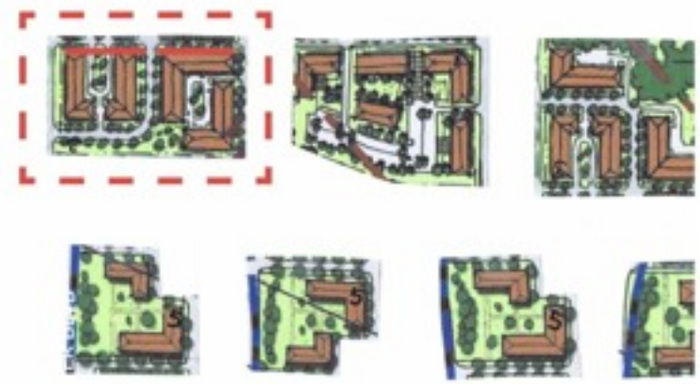
Ford Plant – Block Metrics
Block Type – Apartment Over Parking



Housing Type	No. of this Building Type	No. of Dwelling Units	Frontage per Building Type	On-Street Parking
SINGLE FAMILY HOUSE				
TOWNHOUSE				
APARTMENT 28 du/ acre				
APARTMENT 45 du/ acre	2	92	500'	23
APARTMENT 80 du/ acre				
CIVIC				
RETAIL/MIXED USE				
OFFICE/INSTITUTIONAL				
LIGHT INDUSTRIAL/ FLEX TECH				
TOTAL	2	92	500'	23

Typical block used for metrics — Frontage Line

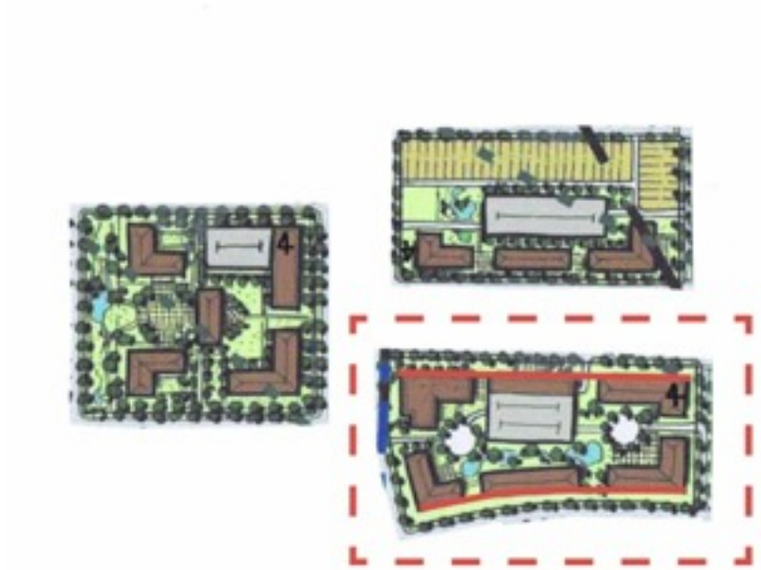
Ford Plant – Block Metrics
Block Type – Apartment Low Density



Housing Type	No. of this Building Type	No. of Dwelling Units	Frontage per Building Type	On-Street Parking
SINGLE FAMILY HOUSE				
TOWNHOUSE				
APARTMENT 28 du/ acre	4	115	700'	32
APARTMENT 45 du/ acre				
APARTMENT 80 du/ acre				
CIVIC				
RETAIL/MIXED USE				
OFFICE/INSTITUTIONAL				
LIGHT INDUSTRIAL/ FLEX TECH				
TOTAL	7	38	800'	25

Typical block used for metrics — Frontage Line

Ford Plant – Block Metrics
Block Type – Apartment Parking Structure



Housing Type	No. of this Building Type	No. of Dwelling Units	Frontage per Building Type	On-Street Parking
SINGLE FAMILY HOUSE				
TOWNHOUSE				
APARTMENT 28 du/ acre				
APARTMENT 45 du/ acre	6	216	1350'	62
APARTMENT 80 du/ acre				
CIVIC				
RETAIL/MIXED USE				
OFFICE/INSTITUTIONAL				
LIGHT INDUSTRIAL/ FLEX TECH				
TOTAL	6	216	1350'	62

– – – Typical block used for metrics ——— Frontage Line

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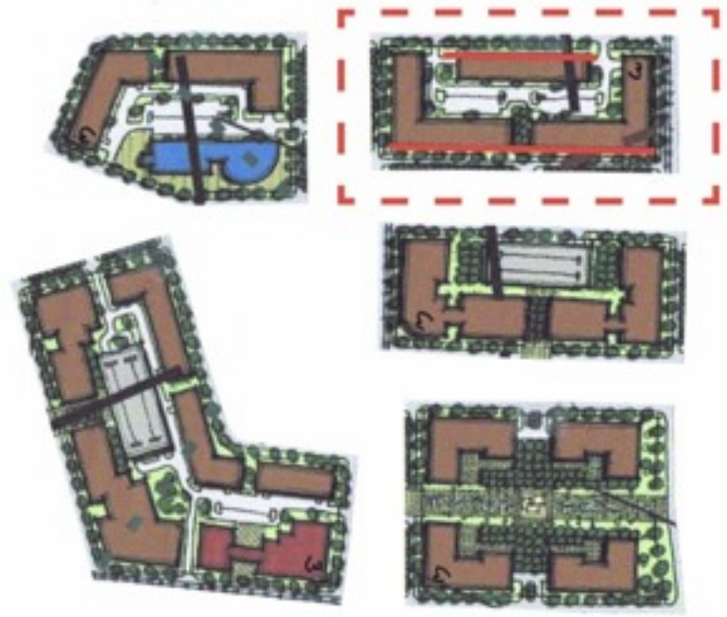
Ford Plant – Block Metrics
Block Type – Apartment Medium Density



Housing Type	No. of this Building Type	No. of Dwelling Units	Frontage per Building Type	On-Street Parking
SINGLE FAMILY HOUSE				
TOWNHOUSE				
APARTMENT 28 du/ acre				
APARTMENT 45 du/ acre	3	168	1000'	46
APARTMENT 80 du/ acre				
CIVIC				
RETAIL/MIXED USE				
OFFICE/INSTITUTIONAL				
LIGHT INDUSTRIAL/ FLEX TECH				
TOTAL	3	168	1000'	46

– – – Typical block used for metrics ——— Frontage Line

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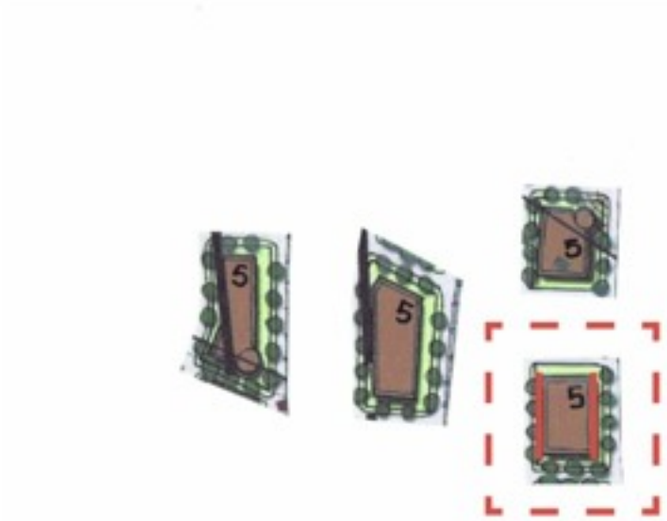
Ford Plant – Block Metrics

Block Type – Apartment Tower

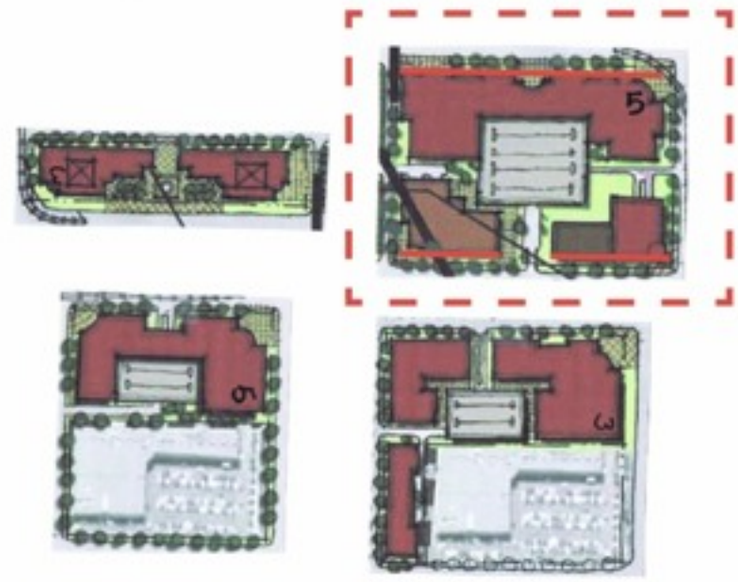


Housing Type	No. of this Building Type	No. of Dwelling Units	Frontage per Building Type	On-Street Parking
SINGLE FAMILY HOUSE				
TOWNHOUSE				
APARTMENT 28 du/acre				
APARTMENT 45 du/acre	1	39	400'	18
APARTMENT 80 du/acre				
CIVIC				
RETAIL/MIXED USE				
OFFICE/INSTITUTIONAL				
LIGHT INDUSTRIAL/FLEX TECH				
TOTAL	1	39	400'	18

Typical block used for metrics — Frontage Line

Ford Plant – Block Metrics

Block Type – Retail / Mixed Use

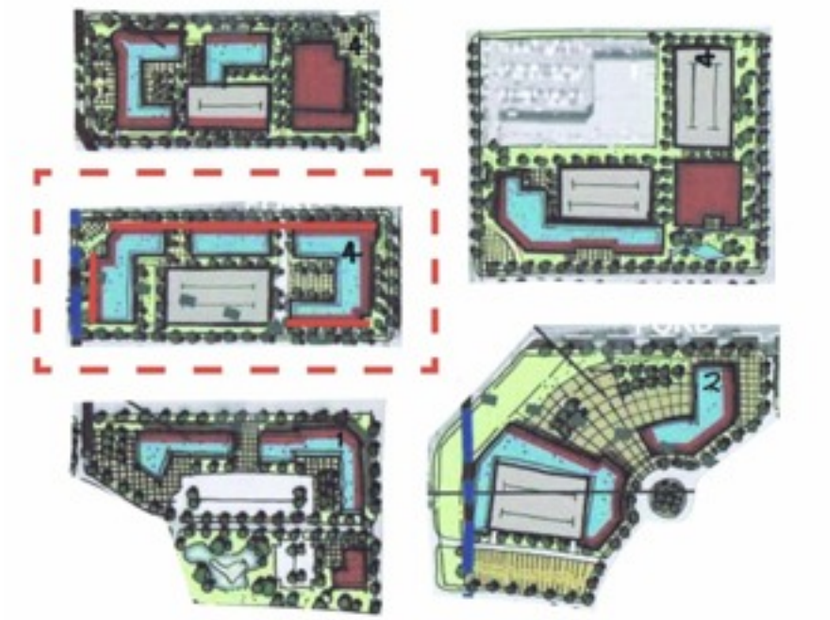


Housing Type	No. of this Building Type	No. of Dwelling Units	Frontage per Building Type	On-Street Parking
SINGLE FAMILY HOUSE				
TOWNHOUSE				
APARTMENT 28 du/acre				
APARTMENT 45 du/acre	1	45	250'	11
APARTMENT 80 du/acre	1	28	150'	7
CIVIC				
RETAIL/MIXED USE	2	127,000 sf/fl	775'	36
OFFICE/INSTITUTIONAL				
LIGHT INDUSTRIAL/FLEX TECH				
TOTAL	4	73 + 127,000 sf/fl	1175'	54

Typical block used for metrics — Frontage Line

Ford Plant – Block Metrics

Block Type – Retail / Office

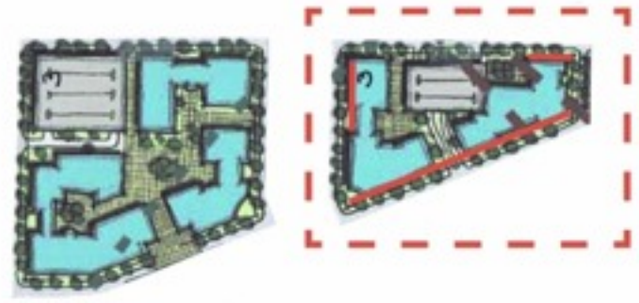


Housing Type	No. of this Building Type	No. of Dwelling Units	Frontage per Building Type	On-Street Parking
SINGLE FAMILY HOUSE				
TOWNHOUSE				
APARTMENT 28 du/ acre				
APARTMENT 45 du/ acre				
APARTMENT 80 du/ acre				
CIVIC				
RETAIL/MIXED USE	3	80,000 sf	950'	43
OFFICE/INSTITUTIONAL	3	80,000 sf/fl	950'	
LIGHT INDUSTRIAL/ FLEX TECH				
TOTAL	3	80,000 sf/fl	950'	43

Typical block used for metrics — Frontage Line

Ford Plant – Block Metrics

Block Type – Office / Institutional



Housing Type	No. of this Building Type	No. of Dwelling Units	Frontage per Building Type	On-Street Parking
SINGLE FAMILY HOUSE				
TOWNHOUSE				
APARTMENT 28 du/ acre				
APARTMENT 45 du/ acre				
APARTMENT 80 du/ acre				
CIVIC				
RETAIL/MIXED USE				
OFFICE/INSTITUTIONAL	2	56,000 sf/fl	900'	41
LIGHT INDUSTRIAL/ FLEX TECH				
TOTAL	2	56,000 sf/fl	900'	41

Typical block used for metrics — Frontage Line

Ford Plant – Block Metrics

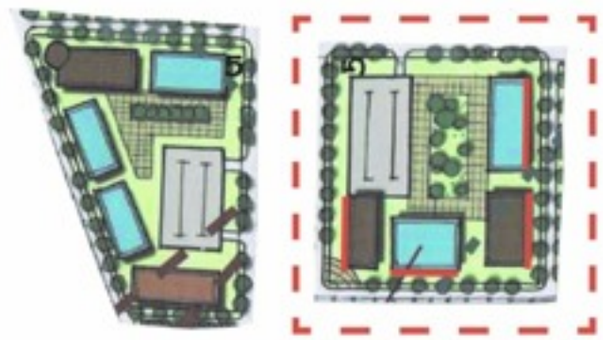
Block Type – Light Industrial / Office / Retail / Apartment

Housing Type	No. of this Building Type	No. of Dwelling Units	Frontage per Building Type	On-Street Parking
SINGLE FAMILY HOUSE				
TOWNHOUSE				
APARTMENT 28 du/ acre	2	26	400'	18
APARTMENT 45 du/ acre	2	42	300'	14
APARTMENT 80 du/ acre				
CIVIC				
RETAIL/MIXED USE				
OFFICE/INSTITUTION-AL				
LIGHT INDUSTRIAL/ FLEX TECH	2	90,000 sf/fl	550'	25
TOTAL	6	68 + 90,000 sf/fl	1250'	57

— — — Typical block used for metrics ——— Frontage Line

Ford Plant – Block Metrics

Block Type – Office / Apartment



Housing Type	No. of this Building Type	No. of Dwelling Units	Frontage per Building Type	On-Street Parking
SINGLE FAMILY HOUSE				
TOWNHOUSE				
APARTMENT 28 du/ acre				
APARTMENT 45 du/ acre				
APARTMENT 80 du/ acre	2	92	350'	16
CIVIC				
RETAIL/MIXED USE				
OFFICE/INSTITUTION-AL	2	40,000 sf/fl	400'	18
LIGHT INDUSTRIAL/ FLEX TECH				
TOTAL	4	92 + 40,000 sf/fl	750'	34

— — — Typical block used for metrics ——— Frontage Line

Ford Plant – Block Metrics
Block Type – Light Industrial

Housing Type	No. of this Building Type	No. of Dwelling Units	Frontage per Building Type	On-Street Parking
SINGLE FAMILY HOUSE				
TOWNHOUSE				
APARTMENT 28 du/ acre				
APARTMENT 45 du/ acre				
APARTMENT 80 du/ acre				
CIVIC				
RETAIL/MIXED USE				
OFFICE/INSTITUTIONAL				
LIGHT INDUSTRIAL/ FLEX TECH	1	165,000 sf/fl	450'	20
TOTAL	1	165,000 sf/fl	450'	20

– – – Typical block used for metrics ——— Frontage Line

Ford Plant – Block Metrics
Block Type – Pocket Parks / Greens

Average Size – 4/10 Acre

Ford Plant – Block Metrics
Block Type – Civic Parks

Average Size – 6 Acres

Ford Plant – Block Metrics
Block Type – Natural Parks

Average Size ~ 10 Acres

Ford Plant – Block Metrics
Block Type – Recreation Parks

Average Size ~ 12 Acres

IMAGES


ROSSY AND RICHARD SHALLER FAMILY
SHOLOM EAST CAMPUS
sholom
MADISON


CLEARANCE 13'-6"


Mississippi Market


LUNDS
BRUEGGER'S


GOODRICH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