ZONING FRAMEWORK STUDY for the FORD PLANT SITE

October 18, 2013

PREPARED FOR:

City of Saint Paul

Metropolitan Council

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PREPARED BY:
SEH, CORNEJO CONSULTING, DPZ & COMPANY

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

City of Saint Paul Project Staff

Merritt Clapp-Smith, Project Manager

Allen Torstenson

Patricia James

Lucy Thompson

Jake Reilly

Wendy Lane

Nicole Wittig-Geske

Consultant Team Project Staff

SEH
10901 Red Circle Drive, Ste 300
Minnetonka, Minnesota 55343-9302
952.912.2604

Bob Kost, SEH Project Manager

Laura Risseeuw, SEH

Dan Cornejo, Cornejo Consulting

Suzanne Rhees, Cornejo Consulting

Tom Low, DPZ & Company

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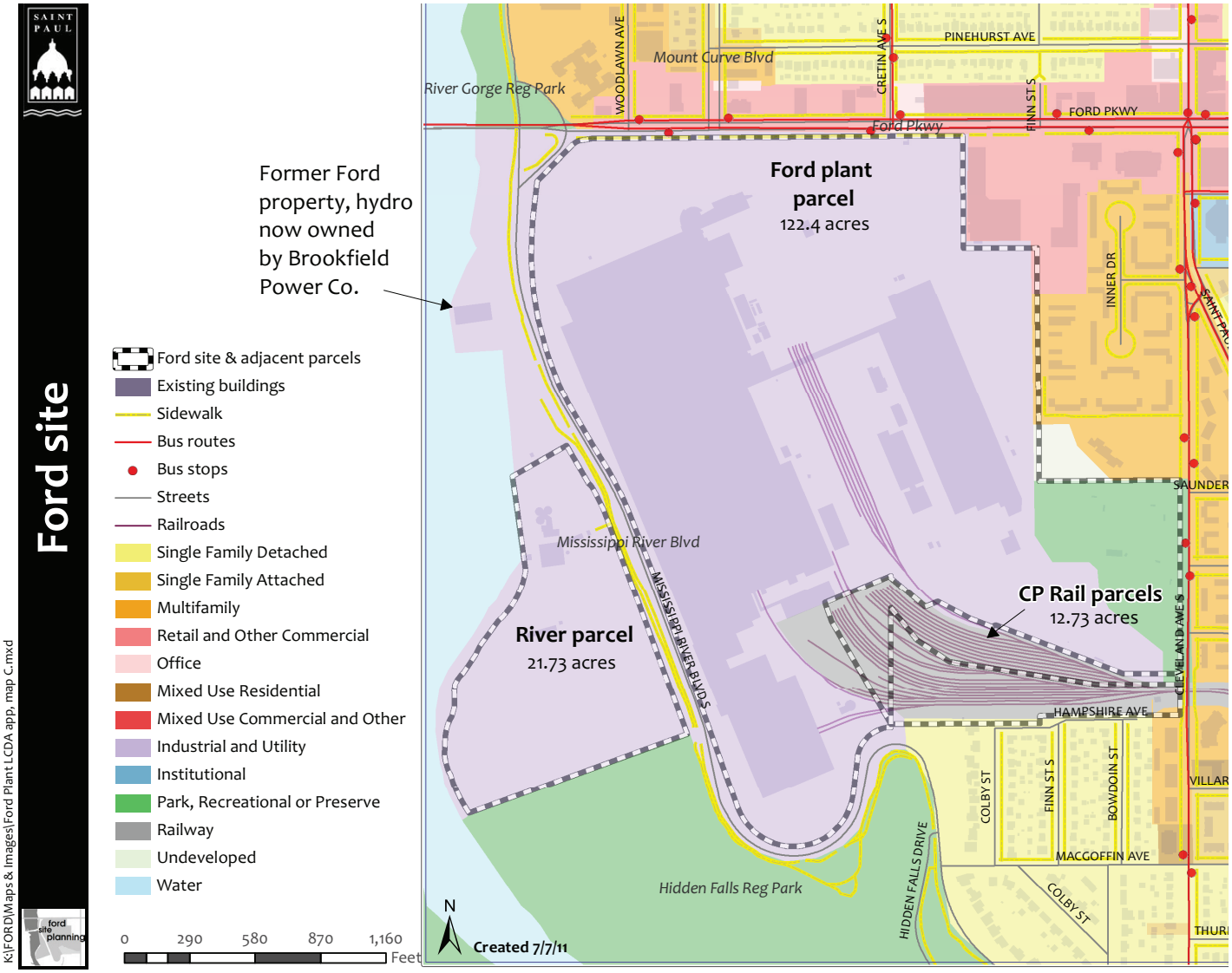
Zoning Framework Final Report

1. INTRODUCTION

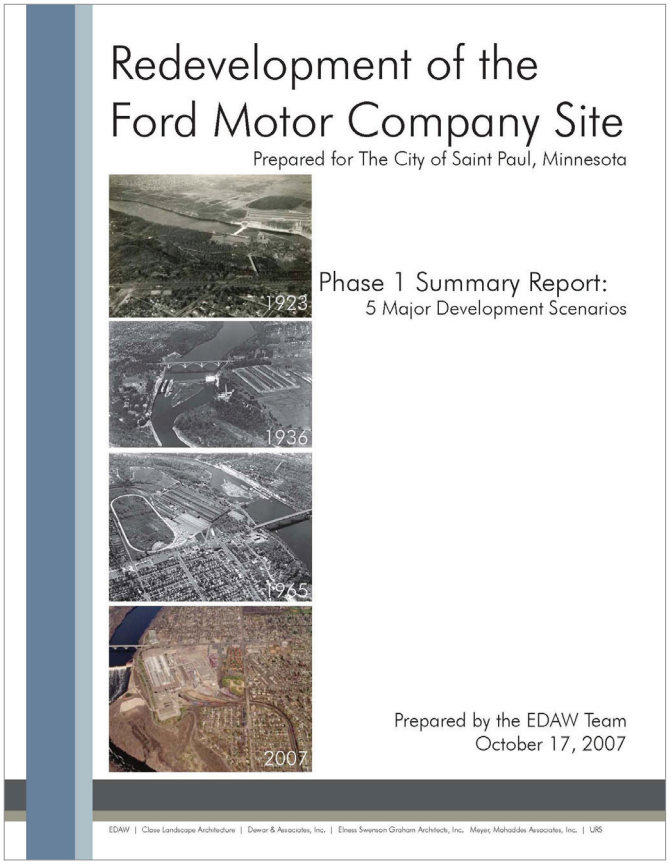
In December 2011, Ford Motor Company closed its Twin Cities Assembly Plant, which had operated in Saint Paul for over 80 years. The property is located on the east bank of the Mississippi River, surrounded by a vibrant residential community and business district, that grew up around it. While closure 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.

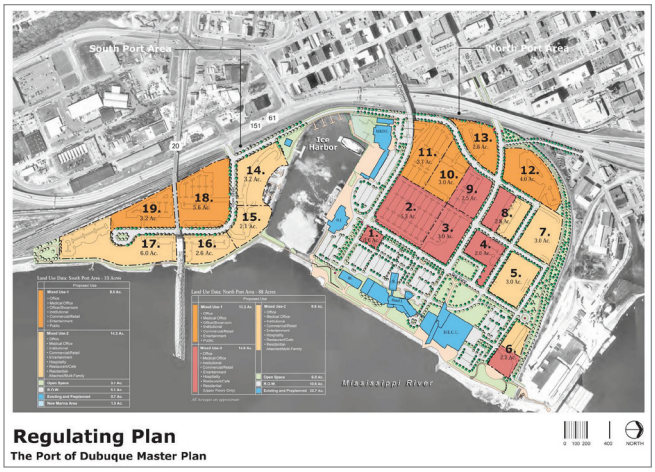


Figure 2.1 Regulation Plan

- 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

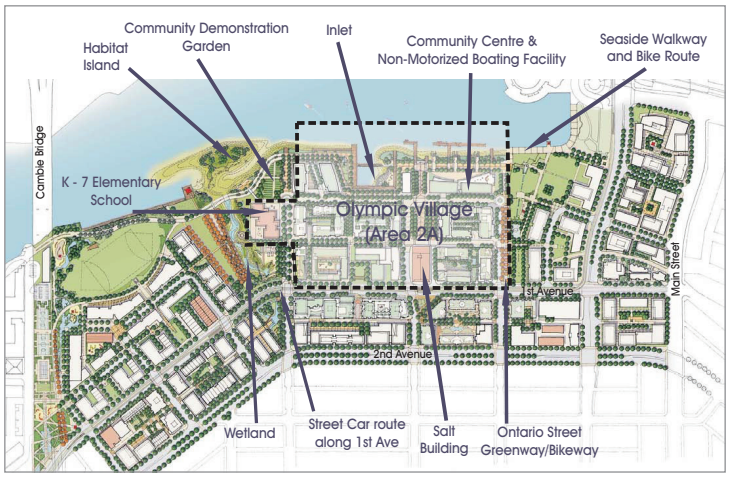


Figure 2.2 Site plan of False Creek highlighting the Olympic Village area

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

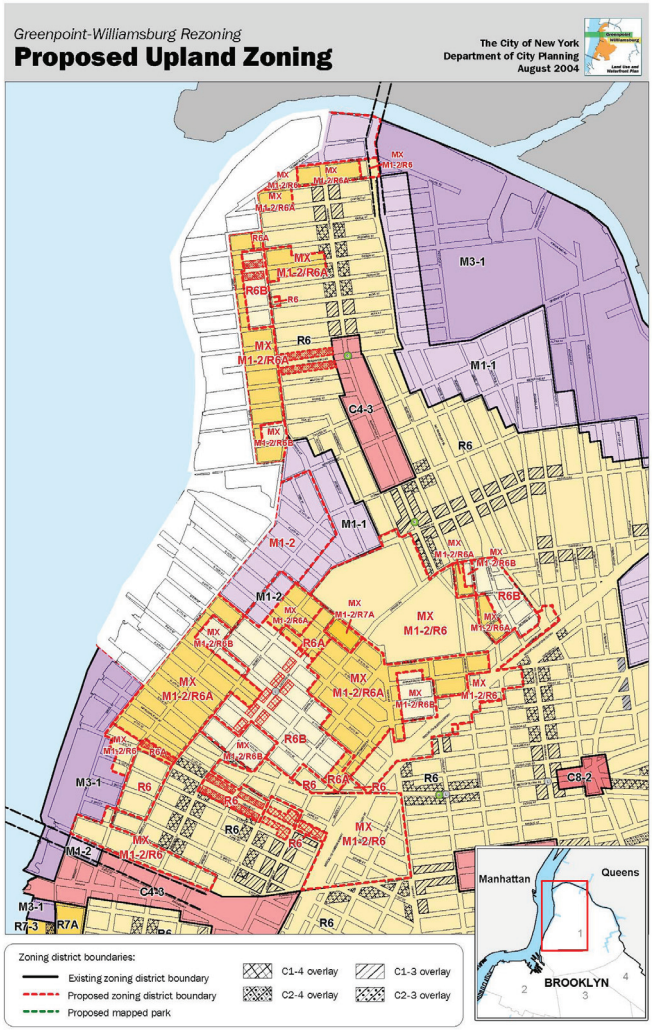


Figure 2.3 Proposed zoning for Greenpoint

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

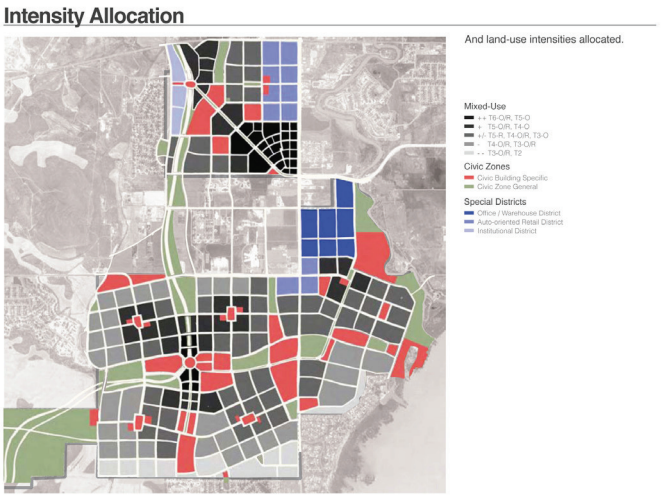
community design that is more sustainable, more attractive, and more economical than conventional subdivision design.

- 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

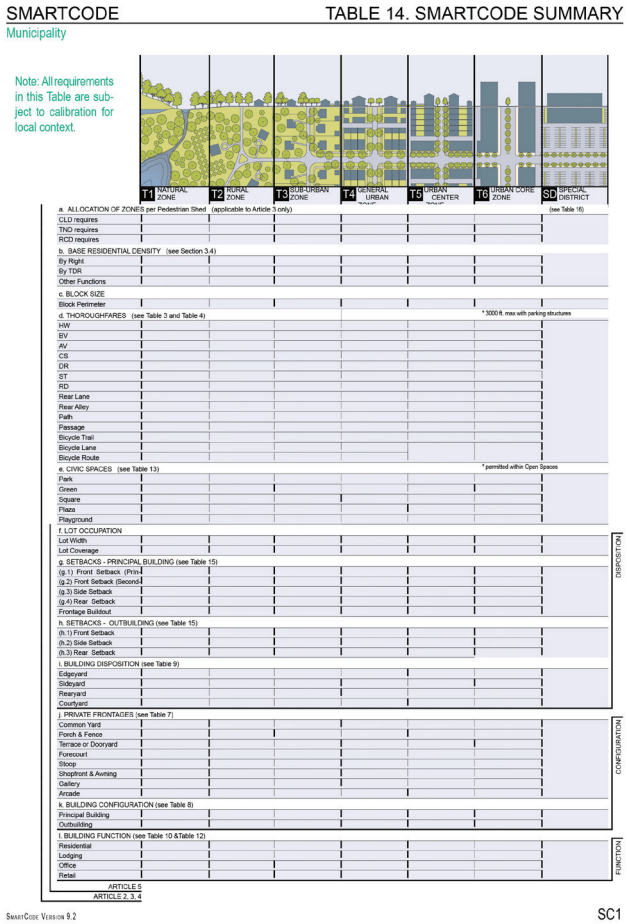


Figure 2.7 Excerpt of SmartCode Summary Table

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

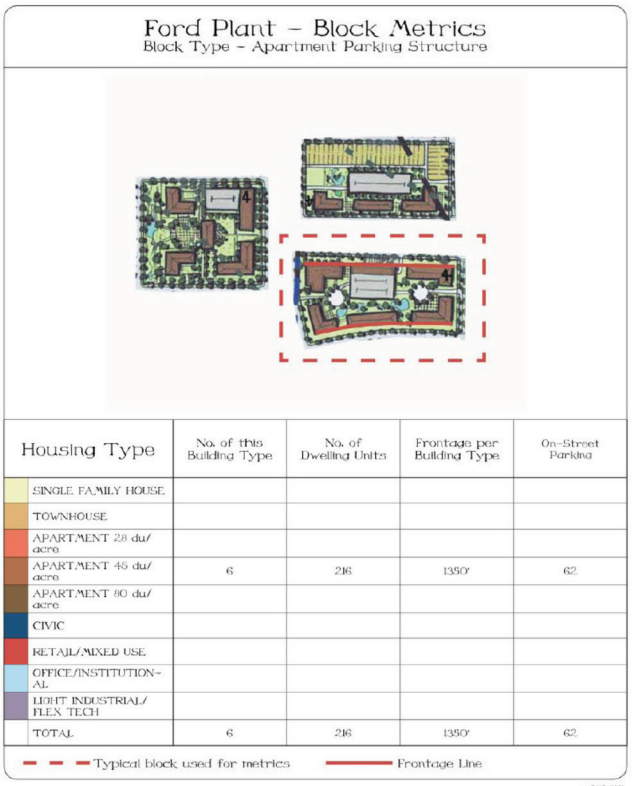
The characteristics of each of the five scenarios in the 2007 report were analyzed to understand the range in physical form to be addressed by zoning. The analysis was carried out through a multi-step process of cataloguing, grouping, and comparing the essential components of urban form. Components included 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.

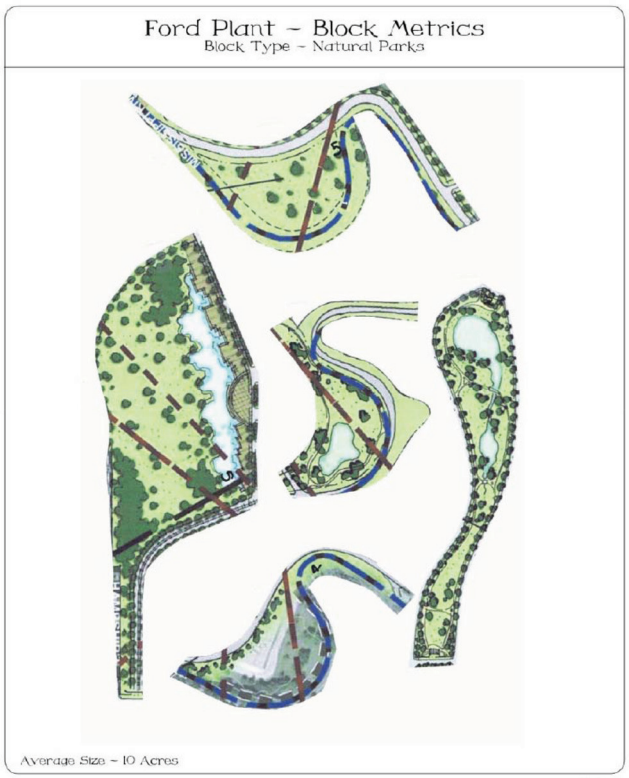
Specific block metrics were analyzed, including block length and the amount of on-street parking. Block types in each of the five scenarios were identified and aggregated to understand how many blocks of each type (and corresponding length of frontage) were provided. In the aggregate, 21 different block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

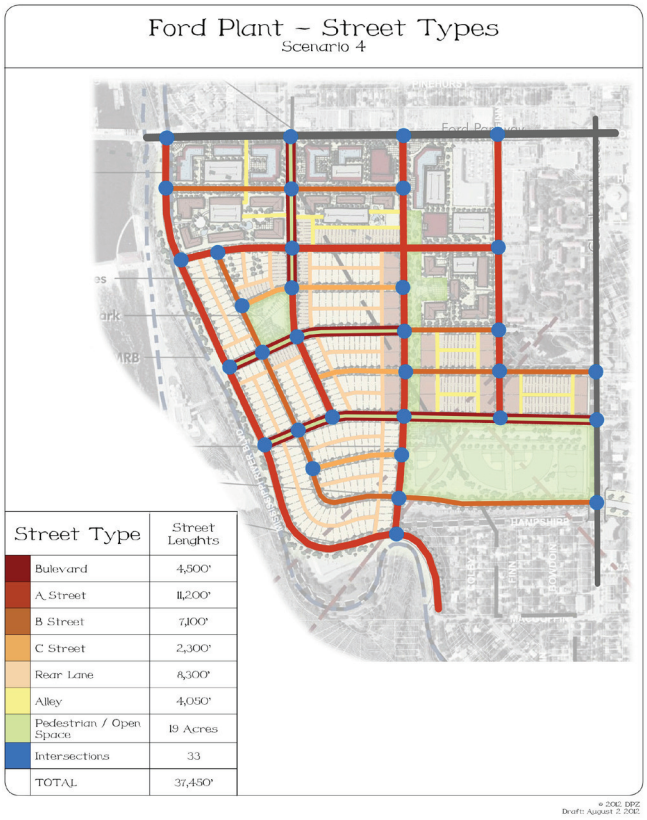


Figures 2.9 Excerpts from transect calibration for block and open space types

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.

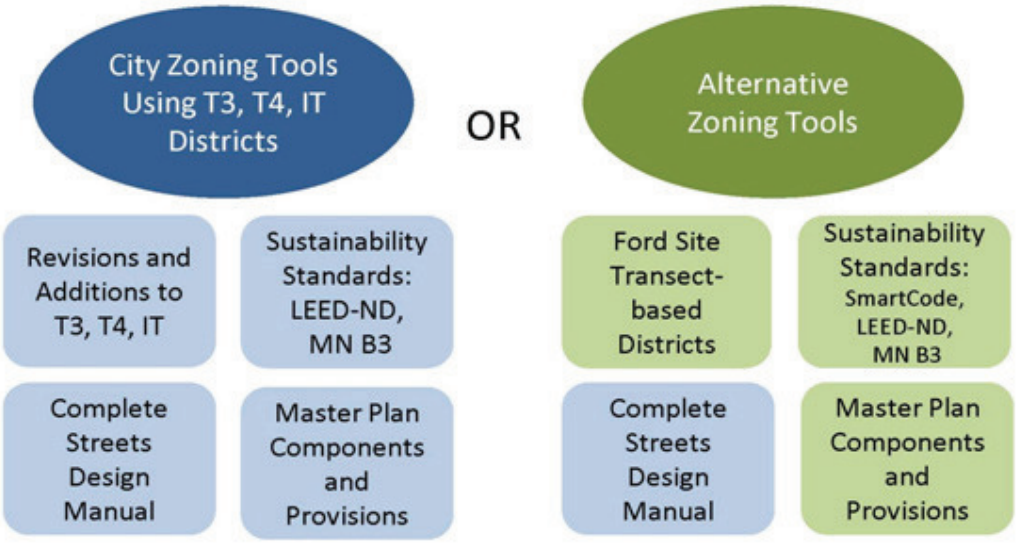


Figure 3.1 Dual Path Approach

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

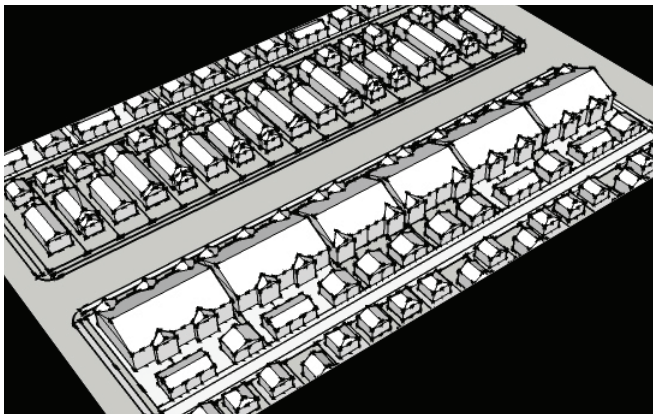
As described in Table 3.2.1, these three zoning districts are appropriate for regulating large-scale (+15 acres) development of a more complex nature than that of a lot or block. In addition to the existing zoning districts, design standards specifically pertaining to blocks, lots, plating, streets and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

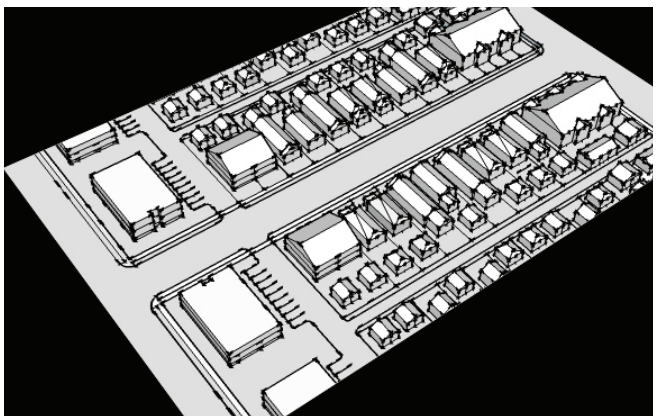


Figure 3.2.2. Increased diversity and percentage of dwelling types per block

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

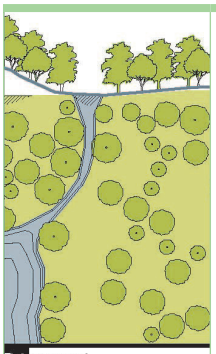
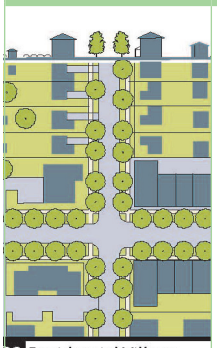
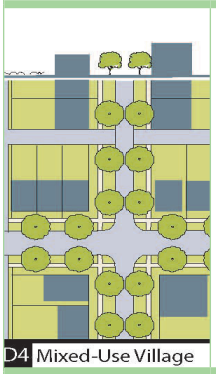
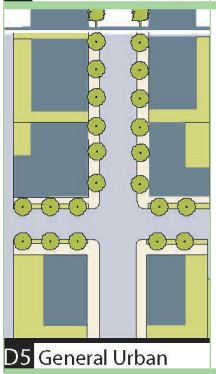
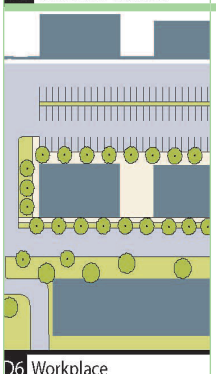
As an alternative to using the City's existing zoning tools (with modifications); a transect-based zoning approach has also been developed. Transect districts (or zones) are administratively similar to zoning districts used in conventional zoning. In addition to regulating use, density, building height 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.

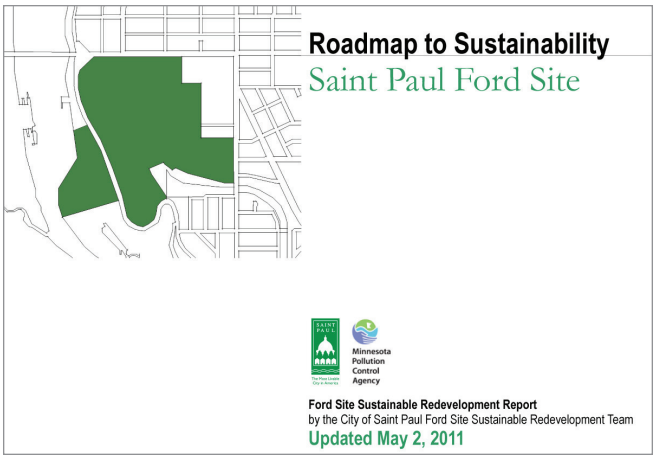


Figure 3.4.1 Cover from the Roadmap to Sustainability Report

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:

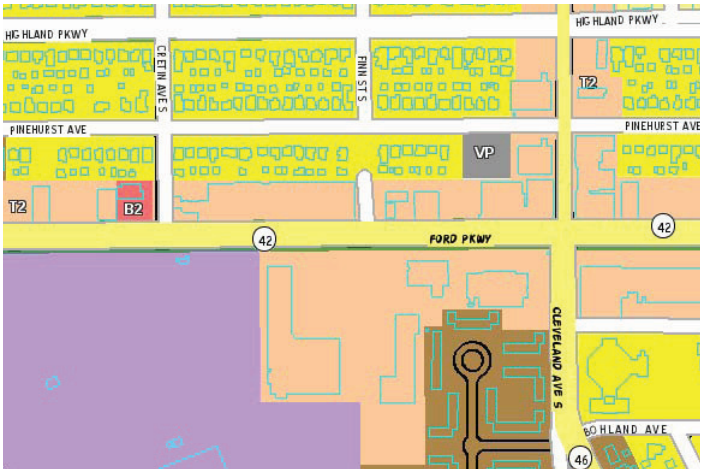
TRADITIONAL NEIGHBORHOOD DISTRICTS (T DISTRICTS)

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.