

Somerville *by* DESIGN

OFFICE OF STRATEGIC PLANNING &
COMMUNITY DEVELOPMENT
Joseph A. Curtatone, Mayor



THE RA/RB REPORT

An Analysis and Discussion of Current Residential Zoning Regulation



ONE CALL to CITY HALL

3 1 1

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FOREWORD

This technical report represents the first step in a larger process of zoning reform. The adoption of the SomerVision Comprehensive Plan has strengthened ongoing efforts to constantly improve our government and policy. During the three-year SomerVision public process, hundreds of residents and business owners worked together to articulate a shared vision for our future and helped to develop a series of maps, goals, policies, and actions related to land use and development. A recurring theme throughout that process has been the need to modernize the Somerville Zoning Ordinance (SZO) to ensure transparency, predictability, and high-quality customer service.

The Residence A and Residence B (RA and RB) zoning districts cover almost 60% of Somerville's land area and regulate over 80% of all of the lots in the City. The intent for these two districts is to protect and preserve our well-designed, walkable neighborhoods of one-, two- and three-family homes. Yet, the SZO no longer provides residents with predictable results. Information technology has evolved; real estate markets have evolved; public transportation has evolved; but our ordinance has become outdated.

Past updates to the SZO have always focused on protecting the iconic character of Somerville's neighborhoods, fostering the City's vibrant town squares, and balancing the powerful market pressures for infill development with the concerns of existing residents. Each amendment was made to address the concerns of the time using the best regulatory tools that were available to planners and administrators. But, the trade-off with this approach was that the regulatory toolkit became increasingly complex for local property owners, architects, lawyers, and administrators to understand.

The current ordinance presents us with four challenges:

1. The language and structure of the zoning ordinance has become too hard to navigate, vague in meaning, and contradictory in intended outcome.
2. As this report will show, the RA/RB district regulations do not provide a predictable outcome and are, in many instances, failing to preserve the unique character of Somerville's residential neighborhoods.
3. Zoning controls for land areas near existing and future transit stations are generally ill-equipped to promote smart-growth or maximize the economic development opportunity provided by public transit.
4. These issues are inter-dependent; the second and third challenges cannot be addressed until the first is resolved.

To rectify these conditions; build upon the intent of previous efforts; implement the goals, policies, and actions of SomerVision and protect our neighborhoods, the City must develop a reformatted and updated version of the SZO that focuses on physical form of lots and structures and improves readability, organization, and graphic design. A Form-Based code strategy brings a national best-practice to Somerville that has a proven record of making zoning more accessible to property owners, developers, business owners and City officials. As part of this effort, this report recommends addressing Somerville's RA and RB districts with the following strategies:

1. Combine the current RA and RB districts into one 'Neighborhood Residential' district;
2. Use tools such as 'Neighborhood Conservation Overlays' to protect the characteristics of particular areas of the City that need additional protection;
3. Feature 'building types' as the fundamental regulatory framework for the code, so that infill development and modifications in residential neighborhoods are regulated with more precision;
4. Develop a pattern book that details the traditional block, building type, and architectural patterns of the City to inform context sensitive design and serve as the basis for discretionary permitting;
5. Engage the community to understand the balance between the need for housing affordability and the appropriate intensity of new neighborhood infill.

In coming months, the City will form a Zoning Advisory Group, comprised of stakeholders who will work with City Staff to inform and refine the zoning recommendations of SomerVision. At the same time, OSPCD will be convening a planning effort this fall to create urban design-based neighborhood plans for the areas immediately adjacent to our future transit stations. Together, these efforts will allow the City to pursue an advanced SZO that retains the intent and strategic values of earlier efforts, while incorporating new tools and implementing the goals of the SomerVision plan.



George J. Proakis

Director of Planning - Somerville, MA

SECTION 1

AN OVERVIEW



INTRODUCTION

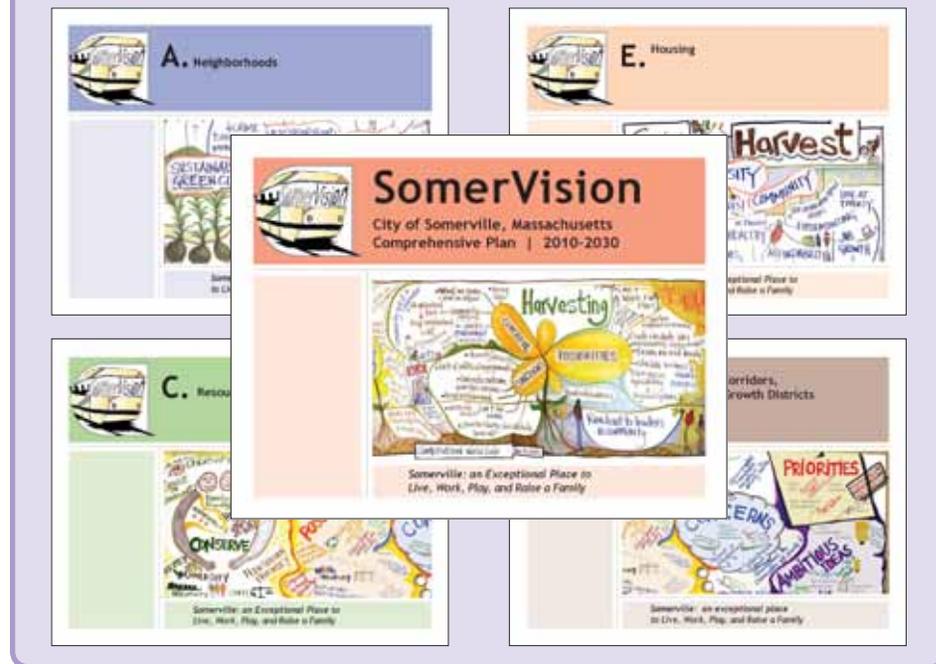
This technical report is part of an ongoing community dialogue aimed at ensuring Somerville's neighborhoods have an effective, fair, efficient, responsive, predictable, and user-friendly system of land use regulation that makes Somerville an even more exceptional place to live, work, play, and raise a family. The City of Somerville is renowned for its one, two, and three-family homes, its walkable network of streets and squares, and a diverse and engaged population. Somerville's neighborhoods provide easy access to daily needs, close proximity to employment centers in Cambridge and Boston, and various options for local and regional transportation modes. This combination of strengths creates a powerful demand for housing and services within the city.

The appeal of Somerville as a vibrant urban community can present challenges related to increased housing demand and pressures for substantial redevelopment. In recent decades, Somerville residents and policy-makers have worked to conserve and enhance the City's high quality urban neighborhoods while inviting an appropriate level of investment in home renovations and rehabilitations. However, this has slowly become an increasing challenge as a noticeable contradiction has developed between the expectations of the community and the outcomes produced by administration of the regulations in the Somerville Zoning Ordinance (SZO).

In 2009, the City launched its first ever comprehensive planning process. A Steering Committee of sixty Somerville residents, business owners, advocates, and elected officials came together to develop a long-range, strategic plan for growth and development in Somerville. The three-year public process that would result in the SomerVision Comprehensive Plan featured more than fifty public meetings that brought together hundreds of volunteers to discuss Somerville's approach to issues concerning housing, neighborhoods, the environment, transportation, economic development and much more. One of the shared messages that emerged from the public during the public outreach of the SomerVision process is that residents cherish the historically close-knit, walkable character of their neighborhoods, a character that is substantially different from the more sub-urban development patterns that characterize other eastern Massachusetts communities.

Following official approval of the SomerVision Comprehensive Plan in April of 2012, The Mayor's Office of Strategic Planning and Community Development (OSPCD) undertook this study to help residents, property owners, and City officials understand whether or not the regulations and standards of the RA and RB zoning districts adhere to the goals, policies, and actions developed for Somerville's neighborhoods. Throughout this report, the regulations governing

THE SOMERVISION COMPREHENSIVE PLAN



properties in the RA and RB zoning districts and the implications of these regulations are analyzed to see if they support the SomerVision Comprehensive Plan or if the beloved residential character of the city would be threatened or even lost entirely through enforcement of the ordinance.

ESTABLISHMENT OF RA AND RB

The first zoning ordinance in Somerville, "The Building Zone Ordinance of the City of Somerville," was adopted on December 20, 1925 following the implementation of zoning regulations by many surrounding municipalities, including Boston, Cambridge, and Medford. While the ordinance itself says little about its purpose, the 1924 Annual Report of the Somerville Planning Board established the reasoning behind the introduction of zoning, which had been increasing in popularity across the United States: "A properly drawn zoning ordinance will regulate in the public interest the use, height, and location of all buildings, and will generally be beneficial to all property owners in the city, for their general comfort and protection."

By the time that zoning was enacted locally, the vast majority of the city

EXCERPTS FROM THE SOMERVISION COMPREHENSIVE PLAN

A.IV. *Preserve and enhance the [existing] character of Somerville's neighborhoods...respect [existing] neighborhood form and patterns.*

- A. The City should protect and preserve the character of neighborhoods composed of single-family, two-family and three-family homes.
 - 1. Ensure that changes in neighborhoods continue to preserve trees, front yards, usable porches, contextual materials, and green space.
 - 3. Enforce regulations against parking in front yards and storing of unregistered vehicles.
- B. The City should ensure that neighborhood properties can adapt and change to meet the needs of residents, while respecting the character of the neighborhood.
 - 1. For small home improvement projects such as windows, dormers and small additions that currently require special permits, establish a more efficient design review system that will reduce review time but continue to ensure that neighbors are protected from impacts of these improvements.
 - 2. Establish design standards for new windows, dormers and small additions that use illustrations and clear language to explain project impacts and project review processes.
 - 4. Establish clear design standards for circumstances where more intensive housing development would meet community needs while reflecting neighborhood context.

A.V. *Facilitate transit-oriented, neighborhood infill development when it enhances the lively, human-scaled and walkable character of Somerville blocks and neighborhoods.*

- A. Zoning regulations in Somerville should provide clear and consistent direction including design standards and guidelines for contextual infill development.
 - 1. Prepare a comprehensive update of the Somerville Zoning Ordinance including form-based codes to specify the neighborhood character, scale, shape, setback, street presence, landscaping, and parking that is contextual for individual neighborhoods, while encouraging infill development to utilize innovative green technologies, including green roofs and pervious pavements.
 - 2. Ensure that residential zoning requirements reflect neighborhood context as well as the development capacity for individual lots, thereby minimizing the need to reduce the size of development proposals on a case-by-case basis.
 - 3. Review parking regulations to ensure that they do not require infill projects to provide an excessive number of parking spaces and paved areas at the expense of on-site landscaping.
 - 5. Require infill development to provide contextual setbacks, landscaping, and parking.
 - 6. Require infill development to provide adequate sidewalks, trees, landscaping, lighting, and safety features.
 - 7. Require infill development visible from and interacting with public ways to use high-quality and engaging design, including elements such as bays, porches, street-front landscaping and inviting front doors.
- B. The City should adopt policies and regulations for infill development that support continued diversity in its population, income and housing stock.
 - 1. Develop station area plans to focus infill development around neighborhood Green Line stations.
 - 2. Review policies that allow the addition of units in new structures by-right, and develop strategies to address impacts on neighborhood character and the diversity of housing stock.
 - 3. Ensure that residential infill development meets or exceeds affordable housing requirements under the Inclusionary Zoning Ordinance.
 - 4. Strengthen incentives for residential infill development to provide a mix of unit sizes and types, including multiple-bedroom units with adequate size for families.

E.I. *Preserve and expand an integrated, balanced mix of safe, affordable, and environmentally sound rental and home-ownership units for households of all sizes and types from diverse social and economic groups.*

- A. The City should adopt programs and regulations to increase affordable housing, in part through additional affordable housing creation.
 - 2. Identify ways the current Zoning Ordinance can be amended to promote more affordable housing construction in proximity to transit stations, along transportation corridors, and in areas of the City that are prioritized for growth.
 - 3. Incentivize the development of units of all sizes to encourage residents to stay in the community by considering: a) reducing parking requirements; b) removing the existing connection between the number of parking spaces and the number of bedrooms; and c) clearly delineating where multi-unit housing should be located.

E.II. *Promote mixed-use, mixed-income transit-oriented development to provide new housing and employment options.*

- A. The City should facilitate the development of additional housing in close proximity to transit stations.
 - 1. Revise the zoning ordinance to allow for higher density housing developments proximate to transit stations and along arterial streets served by transit.
 - 2. Reduce parking requirements for housing units close to transit stations.

had already been developed. Most of the construction activity in the RA and RB districts occurred from 1866 to 1900 and, to a lesser extent, through 1920. The first iteration of the zoning ordinance (1925) primarily focused on the segregation of land uses into distinct zoning districts, but also included basic dimensional standards for building height and front, side, and rear setbacks. Residential A (RA) was limited to detached houses with one or two units or semi-detached double houses with up to two units on each side (duplexes and four-plexes) up to two and a half stories and Residential B (RB) was limited to detached houses of up to three units or semi-detached double houses with up to three units on each side (six units in total) and a height up to three stories. The ordinance also included provisions addressing side setbacks for narrow lots and contextual front setbacks that are still in use today. In general, land area mapped as RA and RB has changed little since the first iteration of the SZO was adopted.

As years passed, the regulations governing the RA and RB districts were revised as follows:

1960 As guided by “Zoning for Tomorrow” a report written by the Somerville Planning Board on proposed amendments to the Building Zone Ordinance, the first major revision of the SZO in 35 years featured the addition of:

1. Floor Area Ratios (FAR) to control the ultimate bulk of buildings and to a limited degree population density;
2. a use category to permit the conversion of existing dwellings to house additional families;
3. lot area per dwelling unit requirements to limit the conversion of existing dwellings to house additional families;
4. an increase of minimum side and rear setbacks and a provision to decrease rear setbacks for shallow lots; and
5. the first provisions for providing off-street parking facilities.

1977 A comprehensive Zoning Up-Date amended the ordinance to include:

1. a three unit maximum density limit applied to the conversion of existing dwellings;
2. lot coverage maximums; and
3. landscaped area minimums.

1988 Updates proposed by the Planning Board with support from outside consultants added:

1. minimum lot size requirements;
2. minimum lot frontage requirements; and

ZONING IN THE UNITED STATES

New York City adopted the first major zoning ordinance in the country (1916) in the form of a “zoning plan” that divided the city into zones for residential, commercial, and industrial uses. At the same time, this ordinance invented what has come to be known as a ‘building envelope’. The building envelope is, for all practical purposes, an imaginary box on each lot behind all required setbacks and under any height restrictions, within which buildings can be constructed. The division of New York into use zones and the building envelope applied to each lot worked together for many years to prevent the crowding of built structures; the creation of public health, safety, or fire hazards; and to prevent land use combinations that caused nuisances for one another.

Edward Bassett, the head of the commission that wrote New York City’s comprehensive zoning ordinance, was later appointed by Herbert Hoover to the Advisory Committee on City Planning and Zoning that would author the The Standard State Zoning Enabling Act, published as a model ordinance by the U.S. Department of Commerce in 1924. SZE, as it came to be known, would serve as the foundation for planning and zoning in the U.S. and for many of the original rules laid out for the legality of zoning regulations under the “police power” of municipalities that remains in place today. The original intent behind SZE was to provide a legal mechanism for municipalities to control the land use impacts of each property on surrounding properties under a system of clear guidelines and limited discretion, where personal property rights were balanced against the general, safety, and welfare of the town or city as a whole.

Zoning would quickly proliferate around the country, including to Somerville, but as time went on it also became more complicated than the original framework developed by New York. Early regulators created a process for granting ‘variances’ to the rules for parcels of land where specific site conditions would make applying the rules in a rigid manner a significant hardship. But, the expansion of regulations to cover new topics would also create unintended consequences. As regulations were added to address topics such as massing, density, parking, flood control, lot coverage, open space, noise, smoke, emissions, glare, radiation, affordable housing, and curb cuts the ordinance itself would bring more and more properties into nonconforming status with the regulations. If regulators were not careful, the system would become cumbersome to administer and time consuming for property owners needing to break the rules to establish what was previously understood as typical building design.

- the application of lot area per dwelling unit requirements for all new construction.

1990

A comprehensive planning and legal review of the zoning ordinance by a Zoning Review Task Force lead to the approval of an extensive rewrite of the SZO that included the addition of:

- height limits in feet;
- limits for only one principal structure per lot by right;
- a special permit to allow more than one principal structure per lot;
- a maximum number of dwelling units per lot; and
- a special permit to waive the maximum number of dwelling units per lot if a minimum percentage of affordable units were provided on-site and other dimensional standards were met.

This history of amendments to the Somerville Zoning Ordinance is reflective of the evolution of urban planning as a profession, where each generation of planner applied the best tools available at the time to address concerns of the community. The public policy goals remained consistent: to control the land use impacts of each property on surrounding neighbors and the city as a whole. While each change addressed new challenges, as more and more regulatory mechanisms were applied to the ordinance the outcomes of the development review process became less and less predictable.

The interaction of each dimensional standard leads to the practical impossibility of meeting all of the requirements in total. This means that in a mature, built-up city such as Somerville, an increasing percentage of the city becomes “nonconforming” with each amendment to the ordinance (see Map A p.12). While this was done by design, it has both intended and unintended consequences. When the overwhelming majority of lots and structures are designated as “nonconforming”, it becomes difficult to understand, and visualize, what is and/or is not expected of rehabilitation and infill development. This leads to a loss of predictability for property owners, business operators, and/or developers looking to invest in the physical fabric of the city. It also requires neighbors to be on constant alert for out of scale alterations and additions to nonconforming structures instead of providing them with the regulatory protection originally intended as the purpose for zoning control.

Another unfortunate outcome of Somerville’s zoning history is that over time, the ordinance itself has become less and less readable. Competing and sometimes conflicting regulations, standards added to definitions and footnotes, and cross-references to various sections of the code have made the SZO difficult

CONCERNS ON OVERCROWDING *Somerville Journal, May 5, 1988*



for even professional architects and lawyers to navigate, and nearly impossible for Somerville residents to comprehend. At the same time that Somerville has successfully modernized so many core functions of its local government, the zoning code has become less transparent, and less accessible.

NONCONFORMANCE

To understand the functionality of the RA and RB zoning districts today requires an attention to detail concerning the regulation of nonconforming structures. Any lot or structure that is not compliant with respect to the permitted uses and/or to the dimensional standards in the zoning ordinance is considered to be “nonconforming” under state law. Nonconformity ensures that most development activity has a review before a city board but, at best, it functions as a clumsy and inelegant tool.

The following language establishes how nonconforming structures are regulated under Article 4: Nonconforming Uses and Structures of the Somerville Zoning Ordinance:

1988 MODEL LOTS

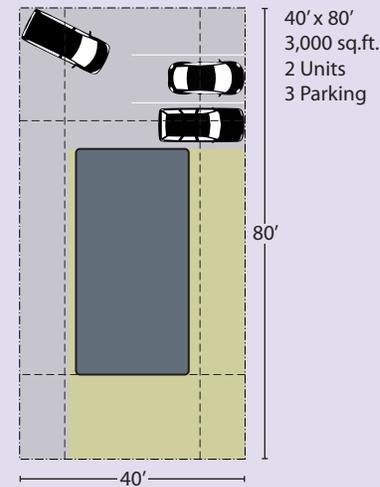
By 1988, incompatibilities between standards in the zoning ordinance had become so apparent to administrators that lot diagrams (right) were created as part of a zoning study to illustrate how difficult it had become for existing lots to adhere to the various standards involved. Lot A is an example of one of the most common patterns of land subdivision in Somerville. Historically, when lots were created narrower than 40', their depth was typically increased from 80' to 100'-120' feet to offset the decreased lot width and allow for more space behind buildings. Lots B, C, and D each demonstrate how additional lot area (either width, depth, or both) can accommodate off-street parking without paving over backyards, a typical result for the existing narrow/shallow lots in the City.

Ultimately, the study determined that lots in Somerville were simply too small to meet the standards. The code was amended to add minimum lot size and minimum frontage standards to the long list of existing dimensional requirements, essentially creating a hypothetical "model lot" for each of the RA and RB districts. These model lots were fundamentally larger than what was typically found in Somerville's existing neighborhoods.

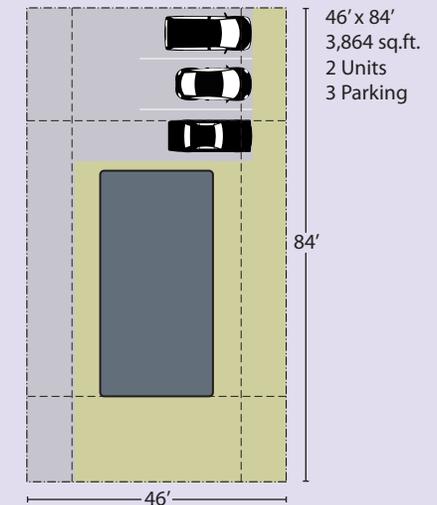
Of course, the larger a lot becomes, the easier it is to meet various requirements like required off-street parking and minimum landscaped area. The complication created however, was that requirements were modeled from a hypothetical condition that rarely exists in Somerville. As a result, the lot pattern imposed by the zoning has little impact except to cause additional nonconformance to the regulations rather than induce change.

Philosophically, these new dimensional standards reflected a view that Somerville should strive to be more suburban in form, with lots that had ample room for parking and private open space. But from a pragmatic standpoint, the vast majority of lots in Somerville were subdivided under development patterns of the late 19th century when cars were rare and the public realm of the city, its town squares and public spaces, was expected to substitute for private yards. This fundamental challenge remains today as Somerville seeks to balance housing needs with neighborhoods impacts of development and redevelopment.

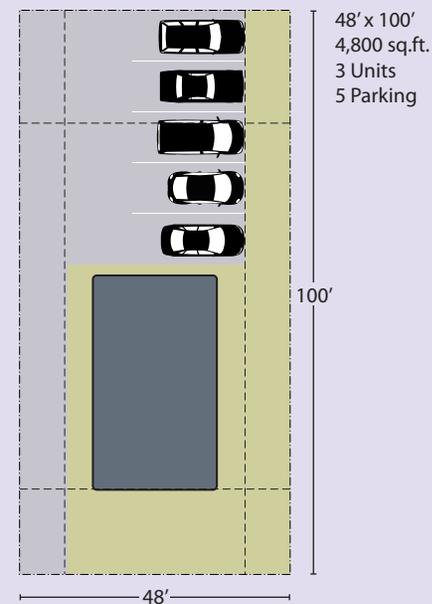
Lot A.



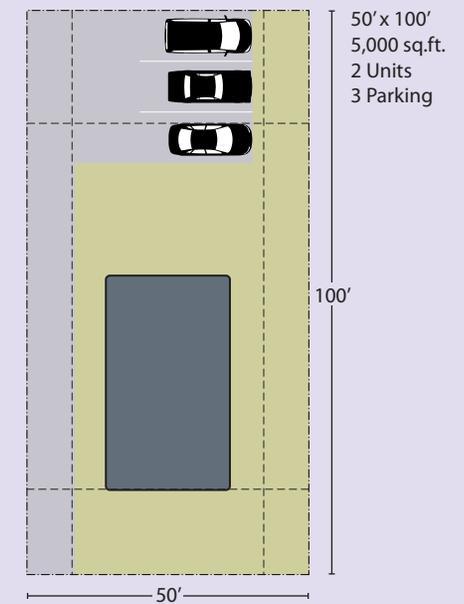
Lot B.



Lot C.



Lot D.



§4.1 It is the stated purpose of this Article that nonconforming uses and structures are to be strictly regulated, and that the provisions of this ordinance will be construed and interpreted in the light most favorable to *limiting the continuation and/or expansion of nonconforming uses and structures*.

Section 4.4 then grants special rights to one- and two-family residential structures as required by Massachusetts state law (M.G.L. c.40A, §6) allowing alterations, reconstructions, extensions, or structural changes as a matter of right under the following circumstances:

§4.4.1(i) [when a structure complying with the dimensional standards] but is located on a lot with insufficient area, [] provid[ing that] any such alteration, reconstruction, extension, or structural change remains in compliance with all current dimensional requirements and does not increase the Gross Floor Area (GFA) of the [structure] by more than twenty-five percent (25%) and,

§4.4.1(i) [when any] alteration, reconstruction, extension or structural change to a nonconforming [] structure [does not affect] the nonconforming aspect of the [] structure, [] will comply with all current dimensional requirements of the zoning ordinance, and [] does not increase the Gross Floor Area of the dwelling by more than twenty-five percent (25%).

Section 4.4 goes on to state:

§4.4.1 Lawfully existing one- and two-family dwellings which are used only as residences [and] are nonconforming with respect to dimensional requirements [...]; [and] Lawfully existing nonconforming structures other than one- and two-family dwellings may be enlarged, extended, renovated, or altered only by Special Permit authorized by the SPGA [Special Permit Granting Authority] in accordance with the procedures of Article 5: Special Permits.

§4.4.1 The SPGA, as a condition of granting a special permit under this Section, must find that [any] extension, enlargement, renovation, or alteration [to any lot or structure] is *not substantially more detrimental to the neighborhood than the existing* nonconforming structure.

The procedural and regulatory challenges presented by a high rate of nonconforming properties are discussed in Section 2 and recommendations for alternative ways to regulate the residential areas of the city are provided in Section 3. Finally, the rate of nonconformance by residential properties is statistically analyzed for each use regulation and dimensional standard of the current ordinance in the Appendix.

SECTION 2

CHALLENGES OF RA/RB



REGULATORY TOOLS FOR RESIDENTIAL LOTS

To better understand regulatory control of the RA and RB districts, OSPCD staff verified the conformity of lots to each individual zoning requirement governing the site planning and built form of lots and structures. The Appendix at the end of this document highlights the many ways the current requirements conflict with the existing pattern of development in the city. But Special Permit records reveal how the well-intentioned zoning controls of the SZO can conflict with one another, cause procedural complications, and most importantly produce built results that may be out of character with the existing composition of Somerville's neighborhoods.

One example of two requirements that conflict with one another are dwelling units per lot (DU/Lot) and lot area per dwelling unit (Lot Area/DU). As covered in Section 1, the Lot Area/DU requirement was originally adopted as a tool to control *the conversion of one- and two-unit structures into three-unit structures* due to concerns over increased density. Throughout its first iteration, the Lot Area/DU requirement was explicitly used to govern the process of conversion, however as a result of ordinance amendments made in 1988 and 1990 it would eventually be applied to new development as well (see Section 1). As a result, the tool causes even two-unit structures that are permitted by-right to become nonconforming once applied in this manner. The conflict between these two requirements is best illustrated with the Powderhouse neighborhood (see right sidebar) where many properties are conforming to the DU/Lot requirement of two units or less, but nonconforming to the 2,250 ft² Lot Area/DU threshold.

Furthermore, the Lot Area/DU requirement causes other inherent conflicts as developers seek special permits using the provision allowing additional units with affordable housing. It is difficult to achieve allowed unit densities as they often do not fit on the relatively small lots common throughout Somerville if other development requirements, such as the provision of private open space and appropriate on-site parking, are to be met. While both RA and RB districts are impacted by this situation, the challenge is particularly common for the RB district due to its lower Lot Area/DU requirement. This complicates the review process, as ordinance lacks instruction for decision makers on what requirements should be prioritized over others and when/how it might be appropriate for regulations to be waived through special permits or variances.

Regulations concerning Floor Area Ratio (FAR) also present another challenge concerning how the tool was intended to function versus the unintended ways it gets applied. FAR is meant to control the bulk and massing of buildings in relation to the total land area of the lot it occupies. FAR does so in an indirect manner by controlling the internal net square footage of a structure. Because the

THE POWDERHOUSE NEIGHBORHOOD

DWELLING UNITS PER LOT

Much of the Powderhouse neighborhood remains conforming to the two dwelling unit per lot use standard. The graphic to the right depicts nonconforming lots with more than two units.



LOT AREA PER UNIT

As compared to the level of nonconformity shown above, much more of the Powderhouse neighborhood becomes nonconforming when the lot area per dwelling unit dimensional requirement of 2,250 square feet per unit is considered.



Somerville Zoning Ordinance excludes unfinished basement and attic space from the calculation, FAR gets applied to projects through adjusting the internal floor space of buildings, including portions of a building that are underground, even though bulk and massing remains the same.

Consider a trio of homes on 4,000 square foot lots in the RA district. The FAR in this district is 0.75, allowing a total net floor area in each house of 3,000 square feet. If one house has 2,500 square feet, the owner could add up to 500 square feet in a finished basement by-right. If the second house has 3500 square feet, the owner can apply for a special permit to add as much space as they feel appropriate as this would simply 'expand' the already nonconforming FAR. But, the owner of the third house that has 2,999 square feet would not be able to finish their basement without seeking a variance, as this would require them to go from a 'conforming' FAR to a 'nonconforming' FAR, which is not permitted.

These examples in the SZO demonstrate how the existing ordinance may not be faithfully serving the homeowners and architects who design and invest in the City's housing stock. As such, it is worth analyzing whether the types of regulations in the ordinance are the appropriate tools for regulating the physical and functional characteristics of development.

The question of residential density has always been of particular concern in Somerville due to the small lot, multi-family development pattern common across the city. However, the DU/Lot and Lot Area/DU tools used to regulate density are *objective* statistical metrics attempting to control the *subjective* perception of the density by residents. This perpetuates an interesting dilemma when deciding on the more philosophical question of how residents wish for their neighborhoods to develop: when people become concerned over density, they are typically reacting to inappropriate building form, poor quality construction, loss of vegetation, increased congestion on local streets, lack of available parking, or the social and economic characteristics of households rather than the *actual number* of units per acre. This is reflected in the way that many projects with contextual density levels remain noncontroversial while other projects of less density generate vehement opposition. Thus, *the perception of density* is influenced greatly by other design factors that should be regulated rather than the typical statistical measurements of density used in zoning ordinances.

Floor Area Ratio was originally invented to control larger buildings, including *skyscrapers*, by setting limits on the ultimate bulk while allowing a building's massing to fluctuate, promoting design freedom. As a result, FAR is a poor predictor of physical form and should not be used as a strategy to conserve and enhance existing neighborhood character. Additionally, when FAR is applied to lots that have side setbacks it creates a considerable financial advantage for the aggregation of lots because the ratio increases the entitled bulk and massing of

a building when lot size is increased. The resulting buildable area, the 'building envelope' (see p.3), expands to permit buildings of greater bulk and massing on a single large lot than what would be permitted on two smaller lots.

Abstract density numbers and FAR requirements do little to prescribe or guarantee any sort of ideal development pattern or building design. Projects with the same density numbers often produce radically different residential environments (see 'Visualizing Density' p.10). In residential environments like those found in Somerville, density concerns are more effectively addressed by regulating the specific 'building types' permitted within a district because the allocation of units in a building is more reliably dealt with as a factor of individual building typology (see Building Types p.21-22).

These issues are a sampling of the ways in which dimensional requirements in the existing SZO conflict with one another, cause procedural complications, and produce uncharacteristic built results. Under the current framework, the existing menu of regulation *has a negative effect* on the fine grained pattern of existing lots, the modest scale of houses, and the diversity of property ownership in Somerville.

If conservation of the existing character, form, and development pattern of Somerville's neighborhoods is a fundamental goal, regulations must be tailored to allow existing homes to function within the pattern of small lots that is so common. Residents are looking to city officials for regulation that preserves and enhances the residential areas of the city, as opposed to promoting the demolition of existing houses and uncharacteristic transformation of neighborhoods. When a property does need to be replaced, the public is looking for infill construction that will respect the surrounding context. If the opposite were true, citizens would be knocking on City Hall's door to radically change the character of the city - instead they valiantly defend it.

VISUALIZING DENSITY A study by the Lincoln Institute of Land Policy

SOMERVILLE, MA
(23.5 DU/AC)

Multi-unit,
detached
houses



CHARLOTTE, NC
(21.0 DU/AC)

Multi-unit,
garden
apartment
buildings



TAMPA, FL
(29.9 DU/AC)

Clustered
multi-unit,
garden
apartment
buildings



WASHINGTON, D.C.
(21.8 DU/AC)

Attached,
walk-up,
multi-unit
apartment
buildings



CLEVELAND, OH
(20.5 DU/AC)

Multi-unit,
double-loaded,
elevator
apartment
building



BALTIMORE, MD
(23.7 DU/AC)

Single- and
multi-unit,
row houses



NONCONFORMANCE

The next issue of concern is the high rate of nonconformity by existing properties to the dimensional requirements of the RA and RB districts. The nonconforming status of properties can be seen as an advantage because it requires the discretionary review of almost all construction activity, but this once popular strategy creates significant complications as well. Zoning legislation and case law is decidedly geared toward the elimination of nonconforming structures, uses, and/or lots over the long-term because zoning ordinances were originally adopted to set in place legal standards to promote responsible, sustainable development. Therefore, by definition, nonconformance to the code should indicate that a structure, use, and/or property is detrimental to the health, safety, and welfare of the citizenry.

While the original 1925 Building Zone Ordinance of Somerville only controlled the form of buildings through front, side, and rear setbacks and a height metric measured in stories, the ordinance was amended over the years to include over ten (10) dimensional requirements, various supplementary clauses, and a menu of special permit exceptions (see Section 1) in response to changing concerns. When taken at face value, the specific dimensions of each newly enacted requirement appear to have been adopted with full understanding that existing properties would simply not be able to meet the majority of the requirements demanded of them by the regulations.

The adoption of regulations that cause such high levels of nonconformance implies two potential expectations for affected properties. On the one hand there exists the hope that nonconformities would slowly go away through redevelopment as lots are aggregated and homes torn down to provide more room for parking, private outdoor space, and more space between buildings. While this strategy may bring about wholesale change in places suffering from disinvestment, it struggles in vibrant, thriving communities. On the other hand is a tacit understanding that land subdivision patterns are one of the most resilient features of land development and therefore the original schemes for platting the city would continue to have a direct influence on whether or not existing properties would ever have the ability to adhere to increasingly restrictive regulations.

Long ago, State Legislators had realized that blanket restrictions on the expansion or alteration of nonconforming properties was and would remain impractical. In response, they created a process where property owners could request to modify their nonconforming properties by Special Permit (see Section 1). To grant this permission, Special Permit Granting Authorities (SPGA) are required to make certain discretionary ‘findings’ for the approval or denial of the permit. Two of these stipulations for approval are that proposed projects 1)

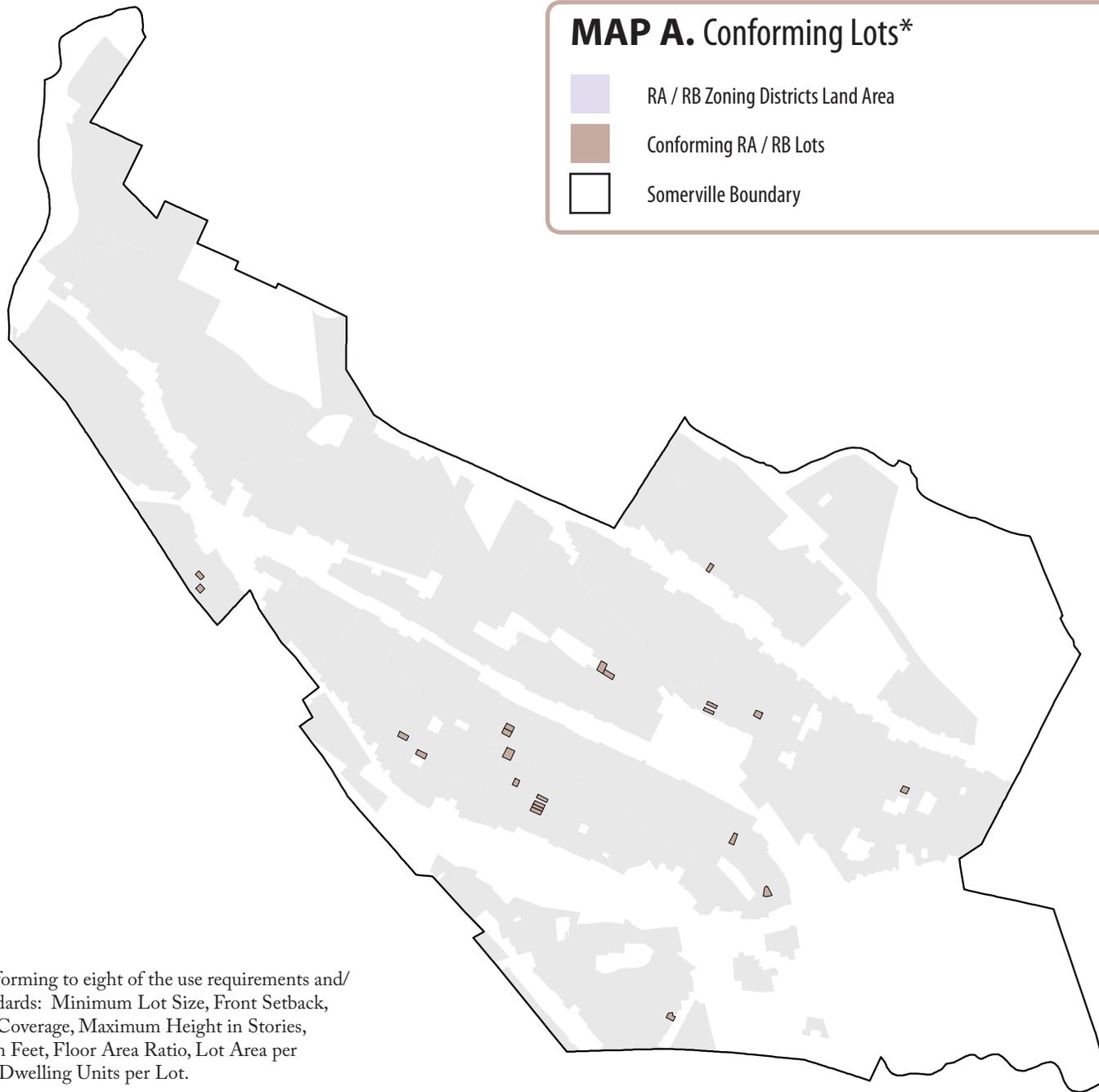
not be substantially more detrimental to the neighborhood than the existing nonconforming structure, and 2) be designed in a manner that is compatible with the characteristics of the built and un-built surrounding area, including land uses.

In practice, 98.2% of all properties in the RA and RB districts are nonconforming to at least one of the dimensional standards in the ordinance (see Appendix), creating an interesting philosophical riddle for the application of zoning regulation in Somerville. If the SPGA must find that *any* addition or modification to a nonconforming structure not be any *more* detrimental to the ‘neighborhood’ than the current structure, how is any reasonable person to know what is or is not detrimental if that decision is to be based on comparison to a ‘neighborhood’ that is almost 100% nonconforming itself? Furthermore, if appropriateness for design purposes is to be based on the characteristics of the surrounding built area (i.e. the neighborhood), why even have dimensional standards that result in nonconformance in the first place? The intent behind the State level regulation appears to be one favoring existing neighborhoods because legislators never intended for entire areas to be declared nonconforming *to begin with*.

While zoning is meant to protect neighborhoods from the negative impacts caused by redevelopment, dimensional requirements that fail to reflect the characteristics of existing properties simply result in a high rate of nonconformity that causes confusion about what truly is an exception to the rules. Rather than nonconformance signifying a threat to public health and safety, as is the intuitive definition, *everything* is nonconforming and thus an exception to the rules. Property owners are left in a void of unpredictability about how or why administrators might “limit the continuation and/or expansion of their nonconforming structures” as intended by State law. Consequently, this conundrum raises questions as to whether it is the actual metrics of the dimensional requirements that are detrimental to Somerville’s neighborhoods rather than *existing properties themselves*. Although Special Permits can be granted for modifications to nonconforming structures, SPGAs are directed to favor the reduction or elimination of nonconforming lots, structures, and uses and to favor projects that bring structures within compliance of the zoning regulations – a circumstance that would be nearly impossible in Somerville without radically altering the existing character of the city. In fact, eliminating all nonconforming structures in the RA and RB zoning districts would eliminate Somerville as it is known today and replace it with something contradictory to the desired outcome of the SomerVision Comprehensive Plan.

MAP A. Conforming Lots*

-  RA / RB Zoning Districts Land Area
-  Conforming RA / RB Lots
-  Somerville Boundary



* Lots shown are conforming to eight of the use requirements and/or dimensional standards: Minimum Lot Size, Front Setback, Maximum Ground Coverage, Maximum Height in Stories, Maximum Height in Feet, Floor Area Ratio, Lot Area per Dwelling Unit, and Dwelling Units per Lot.



HOUSING DEMAND

The next important issue is related to the functionality of tools intended to promote affordable housing. Meeting the ever increasing need for housing was part of Somerville's early history when the original developers and home builders of the city could not convert brickyards into new neighborhoods fast enough to quench the demand. Much like the 1800's, Somerville is once again recognized as a city composed of vibrant, walkable mixed-use neighborhoods that are highly valued and in high demand.

The need for new regulatory tools to address the high demand for housing was first identified in the report *Zoning for Tomorrow* (1955) where the Planning Board commented:

“a major difficulty has been dealing with the desire of owners to convert single and two-family dwellings to three -family units. The number of cases of this type [] has totaled 300 over the past twenty-seven years [1928-1955] and has been spread generally over the RA district. Many more such conversions seem to have occurred without official action.”

The 1960 update of the ordinance included provisions for converting existing dwelling in both the RA and RB districts and removed restrictions on the upper limit of units that could be built in the RB district. Although these changes allowed higher density construction, the demand for housing continued to be higher than the supply of units. Another update to the ordinance in 1990 enacted maximum DU/lot restrictions for the RA and RB districts, but in an effort to provide affordable housing options to low-income families, the DU/lot standards could be waived by special permit if projects included a minimum of twelve and a half percent (12.5%) affordable units (in no case less than one (1) affordable unit). Although minimum lot size, lot area/DU, and other dimensional and parking requirements must still be met, once the restriction on the number of units was waived the total possible units that can be built becomes a factor of the lot area/DU standard - a slight modification of the original framework adopted in 1960, but with guaranteed affordability built in.

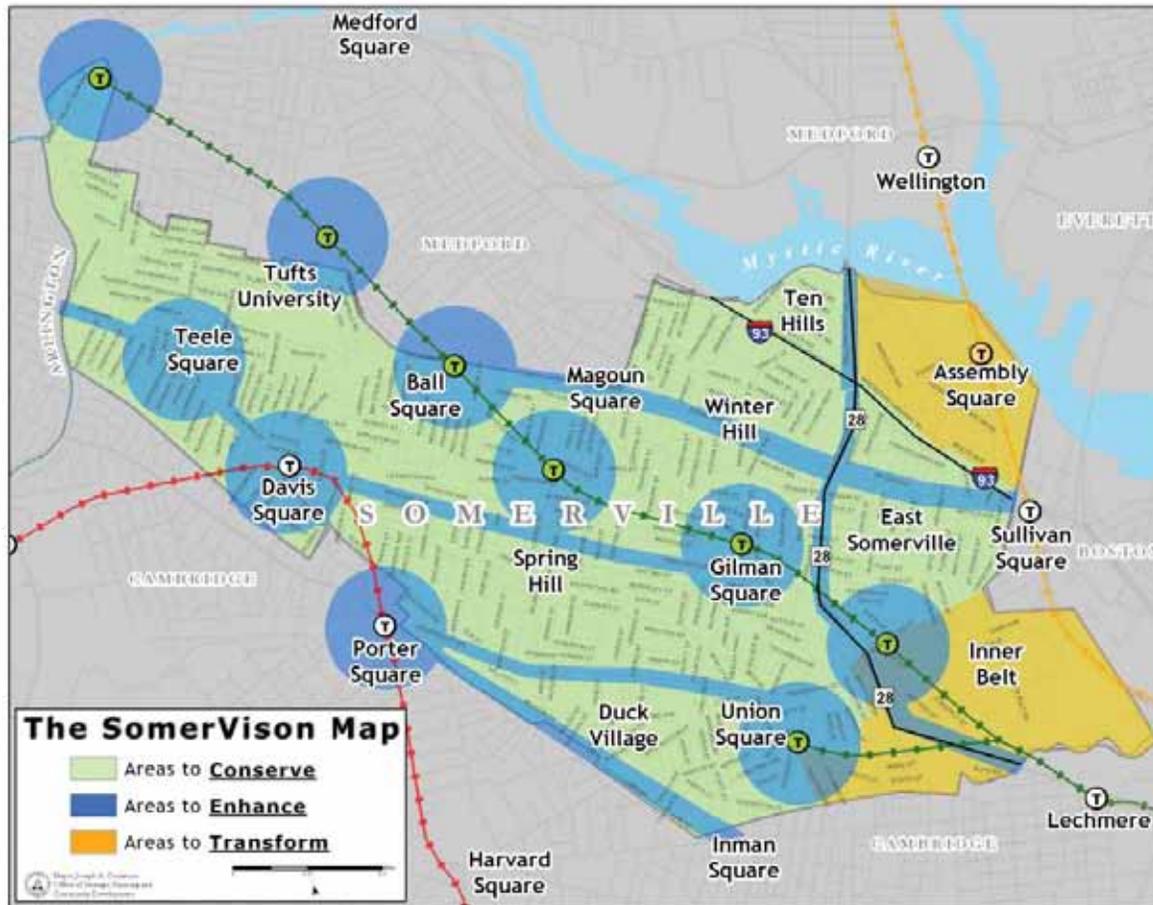
After twenty years of use, the maximum dwelling unit per lot waiver for affordable housing has produced 487 total housing units including 69 permanently affordable units, in forms that are typically mid-sized apartment buildings on modest lots. At the same time, the provision has drawn a few unanticipated complications, in large part due to the economics involved with the construction of housing. Solicited feedback from developers indicates that in order to cover construction costs, the sale of two market rate units is typically required to pay for

the cost of building one affordable unit, effectively eliminating the development of four- to six-unit buildings due to the financial constraints. When the cost of building an affordable unit means merely breaking even, the options available to developers are to either attempt to downgrade the exterior design of the building to make a profit or to simply build the number of units permitted by right rather than going through the additional steps involved with getting higher densities approved. This process in turn imposes an expensive permitting burden which brings with it a high level of uncertainty. With increases in demand likely to follow the extension of the Green Line, permitting appropriate building types though an understanding building economics will be paramount to satisfy the demand for affordable housing near transit.

Approximately 85% of Somerville's land area will soon have access to rapid transit with the coming extension of the Green Line subway and streetcar system into Somerville. The demand for residential infill within a 5 to 10 minute walk to each new station will continue for many years, and failure to address this demand with any increase in the number of units available, including affordable units, will place extreme pressure on the costs of existing units around each station. The SomerVision Comprehensive Plan directs the city toward three important actions related to transit oriented development: 1) revise the zoning ordinance to allow for higher density housing developments proximate to transit stations, 2) reduce parking requirements for housing units close to transit stations, and 3) promote the construction of affordable housing in close proximity to transit stations.

Transit accessibility is a primary concern for residents that are either too young or too old to drive, households not wealthy enough to own one or more automobiles, and recent graduates just beginning to shape their lives. The market however will seek to maximize profits for properties within an easy walk of the new T-stations, reducing the likelihood that new construction provides affordable options by default. To guarantee that housing options exist for households of all types and sizes from diverse social and economic backgrounds, SomerVision calls for higher density residential construction in the “enhancement” areas identified on the SomerVision Map (See p.14) and for the implementation of regulatory mechanisms that will make sure the City's goal for 1,200 new permanently affordable units is achieved without sacrificing neighborhood character.

Our Vision: The SomerVision Map



The SomerVision Map illustrates our Vision for the community to:

Conserve

our great residential neighborhoods

Enhance

our funky squares and commercial corridors

Transform

opportunity areas on the eastern and southern edges of Somerville.

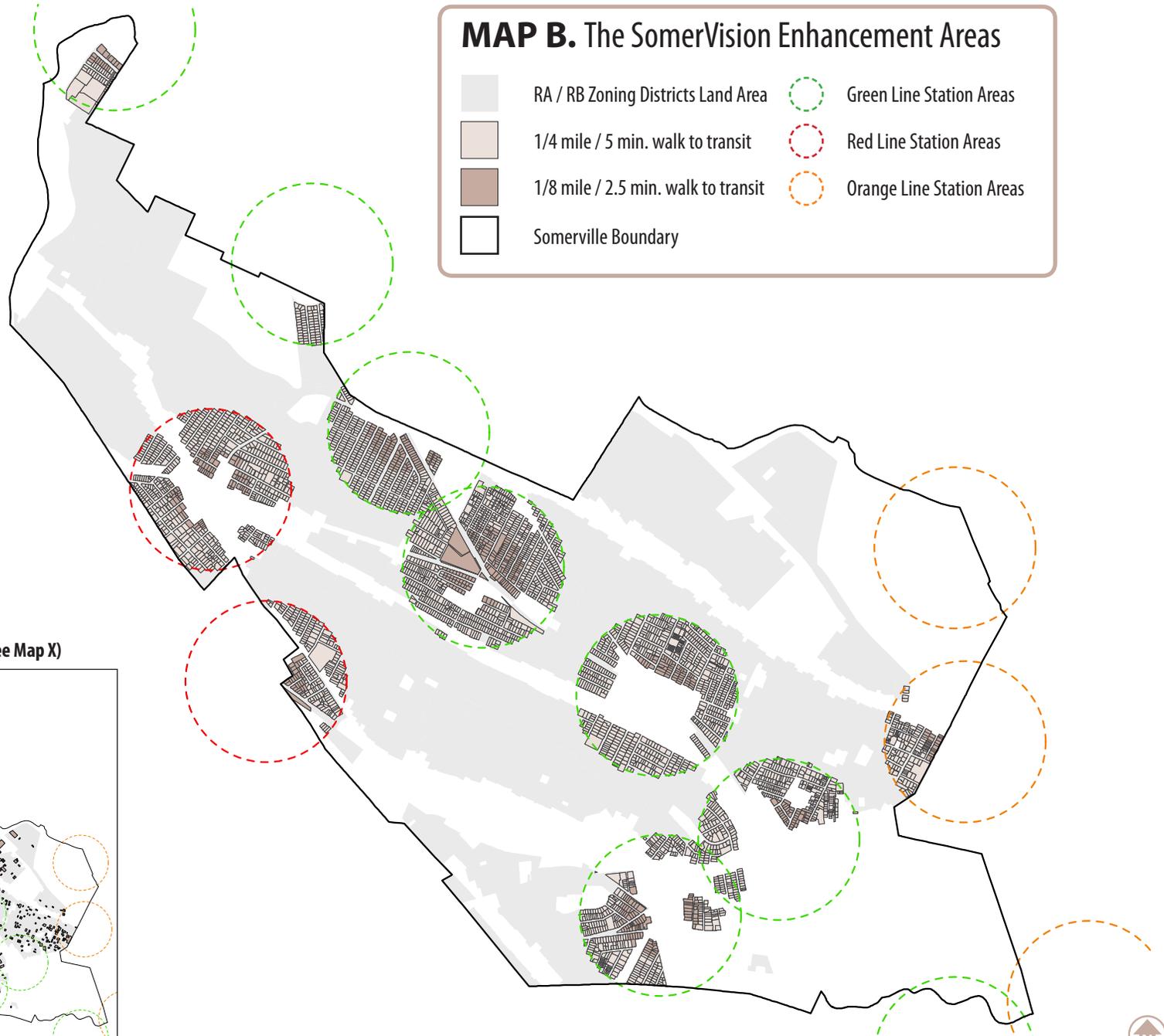
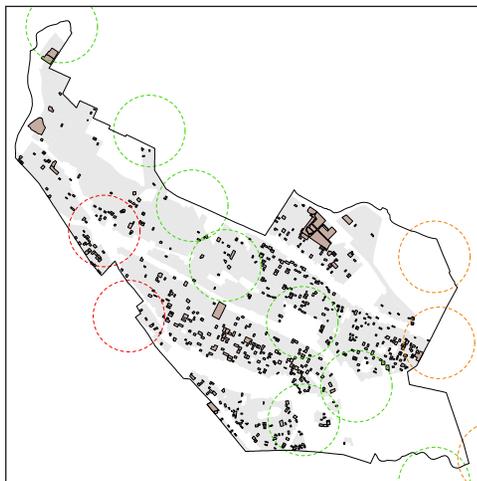


Photo by: Juliette Melton

MAP B. The SomerVision Enhancement Areas

- RA / RB Zoning Districts Land Area
- 1/4 mile / 5 min. walk to transit
- 1/8 mile / 2.5 min. walk to transit
- Somerville Boundary
- Green Line Station Areas
- Red Line Station Areas
- Orange Line Station Areas

Random Infill in RA & RB (see Map X)



SECTION 3

SOLUTIONS FOR RA/RB



DISTRICT COMPOSITION

Analysis of zoning compliance across the city (see Appendix) reveals that properties in the RA district tend to have a higher rate of nonconformance to the dimensional requirements than properties in RB. A rather simple explanation for this rate of nonconformance is that properties in the RA district are actually very similar to those in RB because both areas were built prior to the enactment of zoning requirements that required them to differ. Investigation into the rate of nonconformity not only highlights commonly shared characteristics between RA and RB properties, but also suggests that the creation of a single residential zoning district should go hand in hand with an adjustment of the dimensional requirements to better reflect existing physical conditions.

The book *Beyond the Neck: The Architecture and Development of Somerville, Massachusetts* provides invaluable insight on the history and nature of development throughout Somerville and can help inform the investigation into why the RA and RB zoning districts were formulated and mapped the way they were. Interestingly, one of the first clues comes from a quote originally from the August 5, 1882 issue of the *Somerville Journal*:

Nature has done more for Somerville than for any of our sister cities in the gift of charming hills, beautiful in outline, graceful in slope, easy of ascent and fortunately connected. **To these hills the better class of the community inevitably tend.** There seems to be a law of residence as of morals that **the best go upon the heights** eventually, as **the lower classes trench upon their lowland territory...**

If a topographical map showing the landscape contours of Somerville is overlaid on top of a map of the RA and RB zoning districts (see Map C p.19), the City's hills line up well with areas mapped as RA and a majority of the lowlands with RB. Additional details of why the two districts were originally mapped the way they were can be uncovered from the chapters of *Beyond the Neck* covering each of the City's neighborhoods. The following excerpts serve to reinforce the theory that differences between RA and RB were at least partially based on class prejudice, but they should also be understood in the context of the zoning strategies of that era:

Prospect Hill "...many large single family houses were constructed on Prospect Hill and Highland Avenue for Somerville's most prominent citizens." (RA)

Spring Hill "Westwood Road was developed as one of the city's exclusive residential enclaves." (RA)

Powder House "Albion Street, near Central Street, had a collection of Italianate businessmen's homes" (RA)

West Somerville "Mayor Zebedee E. Cliff...built many of the city's two family houses as well as some of the finest single-family houses. Powderhouse Terrace, Ossippee, and Whitfield Roads were among his residential developments." (RA)

Winter Hill "Dartmouth, School, and Thurston Streets between Medford Street and Broadway...the lots were large and intended for the construction of ample businessmen's homes." (RA)

Winter Hill "West of Marshall, on the higher elevations, resided many of the speculators as well as a small population of [] businessmen." (RA)

Winter Hill "East of Marshall Street, closely built workers houses and tenements were constructed by speculators." (RB)

Ten Hills "A small residential subdivision was platted near Temple Street in 1845 to house Brickyard Workers...and included the present-day streets of Jaques, Heath, and Bond." (RB)

Ten Hills "Another enclave of brickworker's houses [] were situated near Chauncy Street, the present Fellsway West...constructed cheaply and quickly, and are of standard frame constructions with few ornamental details." (RB)

One example where this class-based differentiation can be illustrated is on Spring Hill. George O. Brastow, a former State Senator and first Mayor of Somerville, split from the traditional block and lot practice of land subdivision and developed short, dead-end courts that would permit the development of land that was typically 'lost' to the depth of more traditionally divided lots. This significantly increased the potential density of residential lots while providing frontage onto rights-of-way, even though the lots themselves were smaller than

typical developments being carried out elsewhere. Brastow built double Greek Revival houses with Doric columned porticos and ornamental cupolas along Monmouth Street, Harvard Place, Elm Place, Atherton, and Beech Streets - the majority of which are mapped as RA. However, other speculative builders followed Brastow's example and built small single family workers houses on short, dead-end courts leading off streets such as Cedar and Porter. These areas are all mapped as RB.

Another intriguing bit of history is the development of the area between Cedar Street and Willow Avenue from Boston Avenue to Morrison Avenue in the Powderhouse neighborhood. This area, currently mapped as RA, was originally platted in 1873 by Samuel Wolcott as 482 lots on just 50 acres of land for small, closely sited homes. After twenty years of changing hands, Wibur Rice subdivided the property into 500 lots and filled the area with one and two family houses. The high quality character of the neighborhood was reinforced by the inclusion of over 600 shade trees and a wide central thoroughfare, the present day Kidder Avenue, that featured wide planters filled with elegant street trees.

Along with the Powderhouse Farm subdivision that was platted on the back slope of Quarry Hill, Rice's 'Somerville Highlands' became a sought after residential neighborhood with its distinctive streets lined by ornate two-family structures with ample interior space and articulated living quarters. The desirability of this neighborhood should be noted because according to the dimensional standards of the current SZO, the entire Powderhouse area (RA) consists of lots that are too small and structures that are too tall, too bulky, and too close to the sidewalk.

The original 1925 Building Zone Ordinance differentiated RA as permitting detached houses with one or two units or semi-detached double houses with up to two units on each side (duplexes and four-plexes) and RB as permitting detached houses of up to three units or semi-detached double houses with up to three units on each side (everything up to six-plexes). This differentiation reflected the historic development of "high class" areas of the city of primarily detached houses from the "working class" areas where everything from multi-unit detached houses to six-plexes and apartment buildings were built to accommodate the workforce of the city. The ordinance was effectively preventing the construction of building types associated with the working class from intruding into areas of the city that had building types associated with wealth - although both shared the multi-unit detached house.

Over time, regulators would respond to the variances that were constantly needed to permit the construction of higher density building types by amending the ordinance to, at first, implement a special permit process for the conversion of two (2) unit structures in both districts to three (3) units and later to add ability to

build as many units as possible under the Lot Area/DU dimensional standard so long as affordable housing units were included. While the unit conversion process would be used over time for around 16% of structures in the RA district, these processes to increase density were not necessarily abused by developers as 80% of the RA district remains one to two unit structures and only 3% of properties have more than three (3) units.

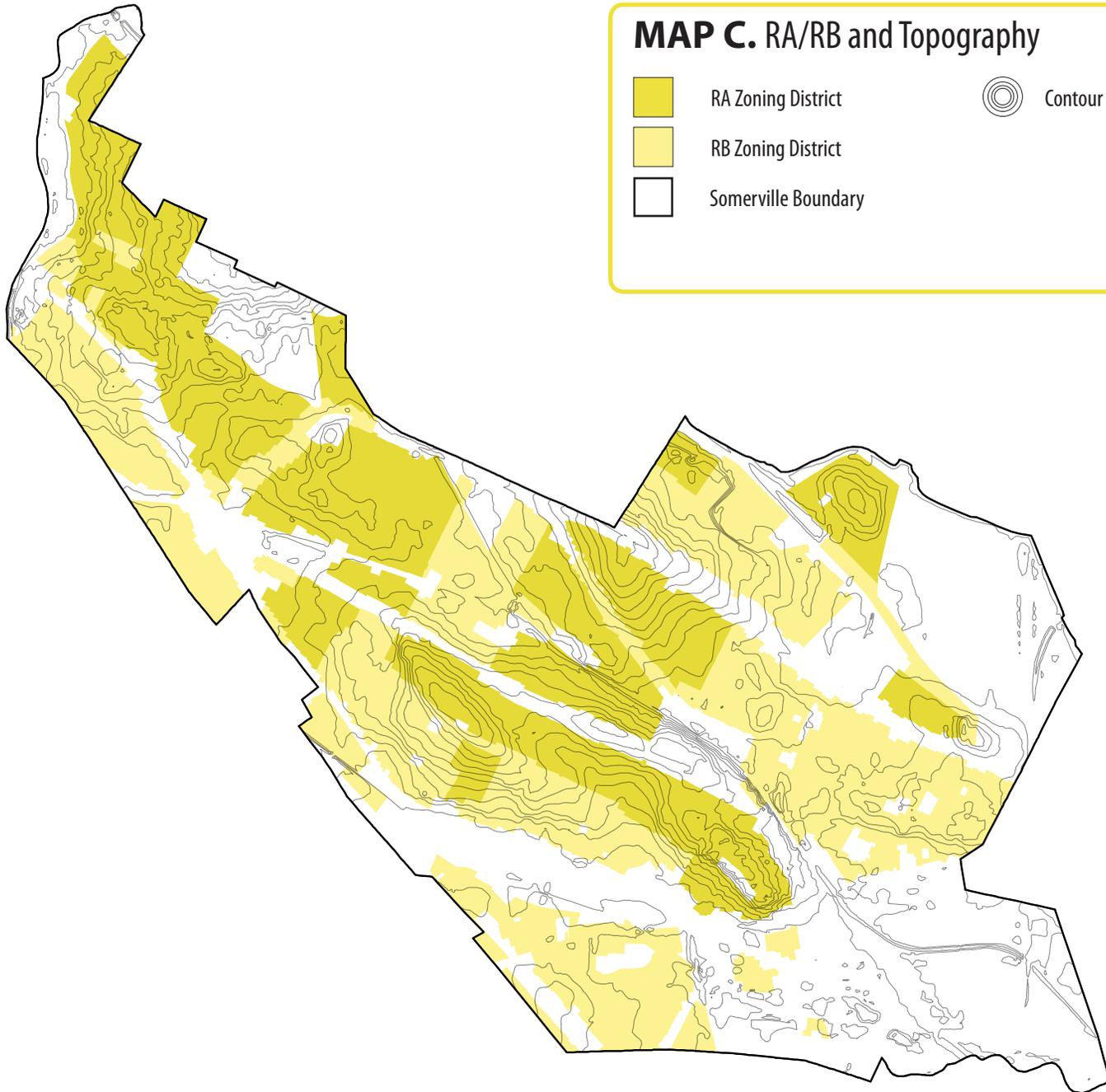
The fundamental unifying aspect that exists between RA and RB remains the multi-unit, detached house building type. Over 94% of structures in the two districts are this type of building whether they are two and a half (2.5) stories with pitched roofs or triple-deckers. Additionally, some 40% of these detached houses have three units, just over 16% in RA and 24% in RB. Since the prevalent building type in both districts are similar, it is the small differences of detail in "pocket neighborhoods" throughout the city that begin to enlighten the contextual concerns that would remain under a unified RA/RB district.

For example, when considering how the ordinance regulates building height, just under 5% of structures in RB are nonconforming to the permitted three (3) stories and less than 1% are nonconforming to the two and a half (2.5) stories permitted in RA. Yet when considering height restrictions in feet, the nonconformance of properties in the RA district (35 feet permitted) jumps to over 80%. In light of the fact that homes in the RA district are actually an average of three (3) feet taller than structures in RB (see Appendix), it is the *perception* of height and ultimately differences in roof design (i.e. pitched vs. flat roofs) that seems to be of greatest concern for preserving the local character of certain areas of the city.

Rather than continuing to differentiate areas of the city that are fundamentally the same, a single 'Neighborhood Residential' district with rationalized tools along with an overlay to that provides protection for areas with specific features that contribute to a unique character will work together with other reforms to improve the functionality of the ordinance. To distinguish neighborhoods that need additional protection, one possible solution is a new regulatory mechanism known as a Neighborhood Conservation District (NCD). These districts provide a greater range and flexibility over design than traditional historic districts but enable municipalities to control unique physical features that distinguish small areas of the city apart from others, even when the two areas share the same underlying zoning. Use of an NC overlay would address the demand for neighborhood conservation by residents while making sure the zoning ordinance does not become cumbersome to administer or hard to understand.

MAP C. RA/RB and Topography

-  RA Zoning District
-  RB Zoning District
-  Somerville Boundary
-  Contour Lines



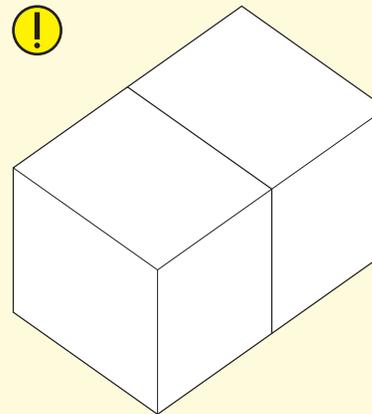
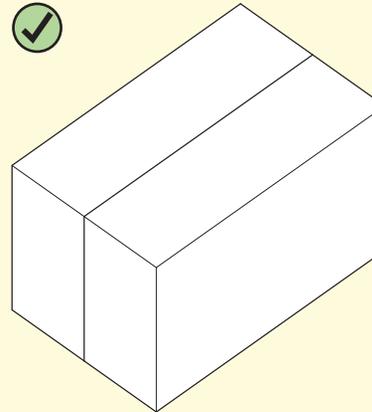
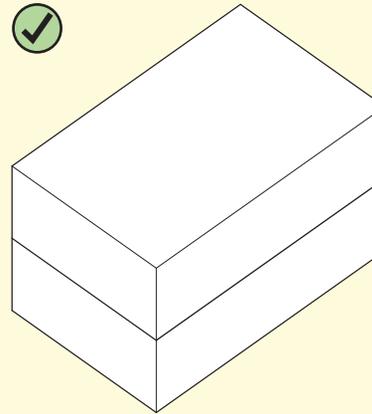
BUILDING TYPES

The current dimensional requirements in the SZO do not produce predictable physical outcomes for neighbors partially due to a lack of clarity built into each regulatory mechanism. Conventional zoning controls like setbacks, building envelopes (see p.3), and Floor Area Ratios were all engineered with a bias toward new construction and lack the sophistication needed to guide contextual change in a city like Somerville. When such a lack of clarity exists, administrators and decision makers fall back on the discretionary review of all development as the only means available to ensure context sensitive redevelopment and infill projects. Yet, these reviews further exacerbate uncertainty, rather than reinforcing the kind of predictability that property owners, neighbors, and residential infill developers rely upon to properly invest in their property. Two of the greatest challenges in the SZO are the absence of any regulatory control over the arrangement of dwelling units within a structure and special permits that allow for multiple principal structures to be built on a lot.

Many property owners have been able to extend nonconforming aspects of structures and increase the number of dwelling units within their buildings. In the process, these new building forms are atypical of established residential building types in the city. The unique and highly modified configurations of these structures present challenges for satisfying the needs of residents, the concerns of neighbors, and can also create challenges for meeting the City's emergency accessibility requirements. For example, fire safety officials require clear access to the front door and windows on one (1) side of a building and an access lane for emergency vehicles. The street orientation of typical building types, whether they have one or more stacked or side by side units, plays a large role in meeting these requirements because the street functions as a lane of access and each unit within the building has frontage on the street. When buildings feature front to back units where the front door and windows are oriented toward a side or rear lot line, the configuration necessitates a fire lane of at least 18 feet in width on the lot. Since the fire lane is required to be maintained free of all obstructions, including vehicles, the expectation for accessibility on one side of a building for each unit is achieved. This means the front to back arrangement of units within a building or the rear addition to a building housing a unit(s) unto itself compromises other zoning requirements that limit the size of curb cuts and the width of driveways.

Until 1990, the ordinance also lacked the precision needed to limit the number of principal structures that could be built on a lot. Even once the ordinance was amended to limit the number of structures per lot, there had already been decades of infill activity using multiple structures. Secondary and accessory residential structures can be readily spotted in many areas of the city,

ARRANGEMENT OF UNITS



STACKED

Stacked units are a common arrangement for multi-unit, detached houses because individual floors of a single structure can be built as or converted into individual units. Apartment buildings typically combine stacked units with side by side units that are accessed by single or double loaded corridors.

SIDE BY SIDE

Side by side units are common for all types of buildings that are attached at one or both sides. Duplexes and row houses are the most common small scale iteration beyond which side by side units are typically combined with stacked units to create four- and six-plexes and apartment buildings.

FRONT TO BACK

Front to back units are rarer than either stacked or side by side arrangements but do exist. In most cases, front to back layouts result from specific limiting factors within a building or on a lot that prevent more traditional configurations.

but each case is unique unto itself and in many situations an acceptable response to various site specific hardships such as topography, the need to access interior lots, and historic land development patterns that did not include alleys.

In an attempt to address this existing pattern and to continue to allow for this type of infill where conditions were appropriate, Section 7.2 of the SZO allows for additional ‘principal’ structures on a lot when authorized by special permit with site plan review. Historically, secondary structures were of similar or smaller massing than the front structure that was fronting onto the street. But, the control over multiple principal structures of 1990 makes no such distinction between the building types. This generates a popular development practice where infill developers propose second principal structures of the largest possible bulk, height, and density that can be achieved within the other dimensional requirements - often dwarfing the original, more contextual building on the lot.

Over the past decade, planners and architects working together to reform zoning regulation have developed a building type classification system that works within the uniformity clause of the State Zoning Act to deliver the level of precision that has been missing from ordinances of the past. Section 4 of MGL 40A states “any zoning ordinance or by-law which divides cities and towns into districts shall be uniform within the district for each class or kind of structures or uses permitted.” Thus, a classification system that differentiates houses from row houses or multi-plexes from triple deckers functions within the uniformity clause so long as the regulations governing the form and site planning of each building type are uniformly applied within each district they are permitted - but each type can have different standards that they must uphold under their type classification.

Building types provide another level of precision beyond the limited definitions of principal and accessory structures because they are themselves “types” of principal and accessory structures and can thus function as a system within legislation. In this way, building types can also address the multiple structures on a lot challenge of the current ordinance by either permitting only accessory building types behind principal building types or establishing rules for secondary structures that directly reference the context of the existing principal structure (ie. only smaller secondary structures should be permitted behind larger principal structures). Similarly, building types also allow decision-makers to more accurately regulate concerns over density and emergency accessibility because the number of units and their arrangement within a building can be incorporated as a factor of individual building typology. In general, a regulatory framework based upon differentiating building types not only guarantees a superior contextual response but simultaneously generates a harmonious building fabric by regulating an array of building forms and the appropriate site planning for each type in order to promote specific development goals.

BUILDING TYPE EXAMPLES

HOUSE



TRIPLE DECKER



ROW HOUSE



SIX-PLEX



CONTEXTUAL DESIGN REVIEW

Somerville likely represents the highest possible residential density using detached houses in the entire country. In just 1,133 acres, the RA and RB districts have a combined 26,632 housing units on 11,775 lots. This provides 23.5 dwelling units per acre (DU/ac), a number that is typically suggestive of attached row houses and walk-up apartment buildings. According to *Beyond the Neck: The Architecture and Development of Somerville, Massachusetts*, early architects and builders developed much of Somerville by following an already well established practice in New England of using ‘pattern books’ to aid them in their work. Manuals such as *The Modern Builder’s Companion* (1833), *Cottage Residences* (1842), *Homes for the People in Suburb and Country* (1855), and *Model Homes for the People* (1876) provided floor plans, facade elevations, and construction and ornamental details that would heavily influence the unique character found in Somerville still to this day.

The uniqueness of Somerville’s residential environment makes context sensitive design and site planning for each house an important topic to address if zoning is to live up to its traditional intent of protecting the relative health, safety, and welfare of residents. This, of course, is the not so hidden agenda behind how the dimensional standards and nonconformance rules are being used today - to trigger special permit hearings as a proxy for design review. Dimensional requirements and use regulations commonly found in zoning ordinances do not accurately address many of the design related concerns that can make or break the relationship between a structure and the urbanity around it. Thus, the use of dimensional requirements that are out of character to the properties they regulate allows the city to use the legal framework for permitting modifications to nonconforming properties under state law to address concerns over design on a project by project basis.

Although the Somerville Zoning Ordinance currently provides minimum guidelines for residential design in addition to the findings that must be made for Special Permits, the guidelines are written in language that is often contradictory and/or vague. Design guidelines like those in place in Somerville remain ambiguous when a community, and its ordinance, is confused about what is and is not an appropriate form of new construction and infill development because everything is nonconforming to the requirements of the code. Only after zoning standards are adjusted to better reflect existing conditions, the original intent behind nonconformance is re-established, and a typological classification system implemented, will it become easier to draft clear language to address contextual design considerations like the appropriateness and compatibility of structures.

With direct inspiration from Somerville’s early tradition of pattern book

use, a new Somerville Pattern Book with a strong foundation in the existing development patterns of lots and structures would be mutually beneficial for other reform recommendations. Under the guidance of a pattern book, special permit hearings that focus on design related concerns would become a more transparent use of discretionary authority because the factors considered in decision making can be established in understandable, illustrative, and explicit writing that is relative to existing conditions, prevents confusion, and stands up against appeal. This would be the best way to generate clarity and precision, while at the same time providing a framework that includes public input on neighborhood character.

Pattern books function as a valuable resource to property owners, designers, builders, developers, city officials, and volunteers in guiding the conservation and enhancement of Somerville’s recognized neighborhood character. The information, pictures, and diagrams typical of pattern books can illustrate the objectively observed block, subdivision, and building patterns of the City as well as address topics such as appropriately scaled additions, privacy, access to light, and landscape design. When used in conjunction with a building type based ordinance to inform the special permit process, this type of manual functions as a vital tool for working with the various stakeholders of the home building industry to generate efficient land development patterns, create neighborhoods of individualized character, and assure residents that buildings behave ‘neighborly’ - without limiting the individual creativity of homeowners, builders, or architects.

WHAT ABOUT PARKING?

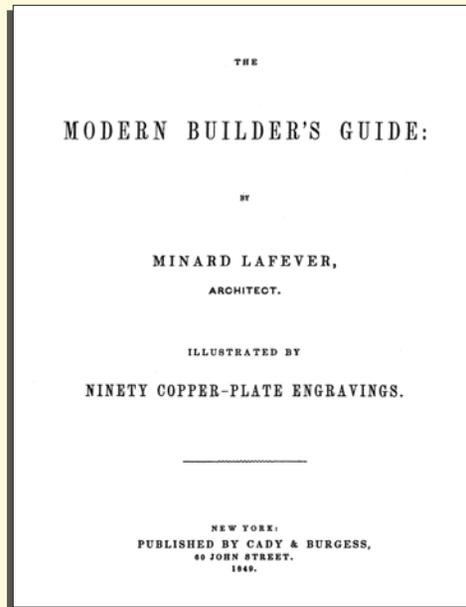
In comparison to the current RA and RB parking requirements of 1.5 to 2 spaces per unit, a number of communities with similar transit accessibility as Somerville have set their base parking requirements at 1 space per unit. Reducing required on-site parking keeps *the design* of infill development consistent with existing neighborhood patterns, reduces paved area and runoff, and encourages new residents to sell (or not buy) second cars. While the ZBA is generally reluctant to issue variances, there is a growing frequency of relief being awarded by the Board to ensure that the design infill projects is not negatively impacted by parking requirements. The City is looking closely at parking requirements city-wide. An updated SZO must address parking requirements that are not representative of the actual demand for parking and recognize how parking regulation influences design.

SOMERVILLE'S EARLY PATTERN BOOKS

THE MODERN BUILDERS GUIDE

by Minard Lafever
(1833; 1849)

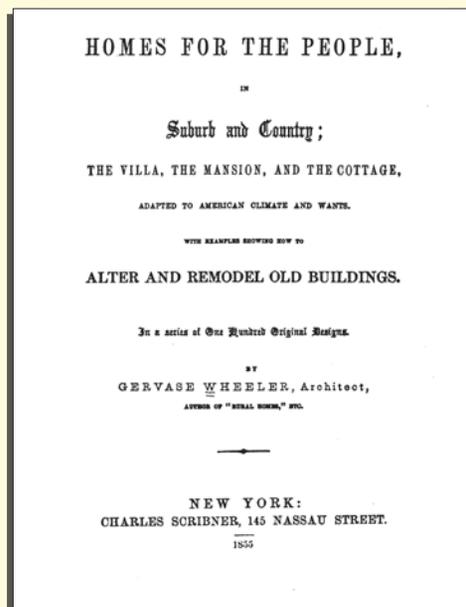
The Modern Builders Guide provides theoretical knowledge of architecture to building tradesmen. The book describes in great detail the facades, detailing, and construction technique of Grecian Architecture and informed Greek Revival Architecture in Somerville in mid-nineteenth century.



HOMES FOR THE PEOPLE IN SUBURB AND COUNTRY

by Gervase Wheeler
(1855)

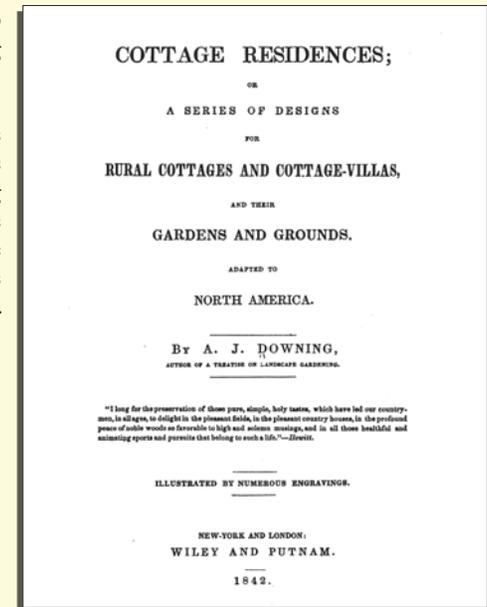
Homes For The People In Suburb And Country discusses the importance of architectural history and introduces various building classifications by cost of construction. This pattern book provided construction details for the balloon framing system used throughout New England that allowed for a rapid construction of blocks of houses in the 1840's and 1850's.



COTTAGE RESIDENCES

by Andrew Jackson Downing
(1842)

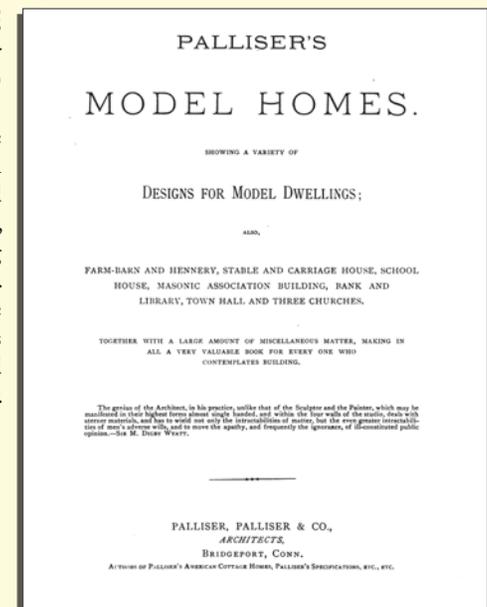
Cottage Residences primarily depicts large scale Italian Villas on large rural lots and offers typical site plans for situating the Villa and it's garden on a lot. This pattern book influenced the Italianate Style plans and elevations for buildings constructed between 1855 and 1875.



MODEL HOMES FOR THE PEOPLE

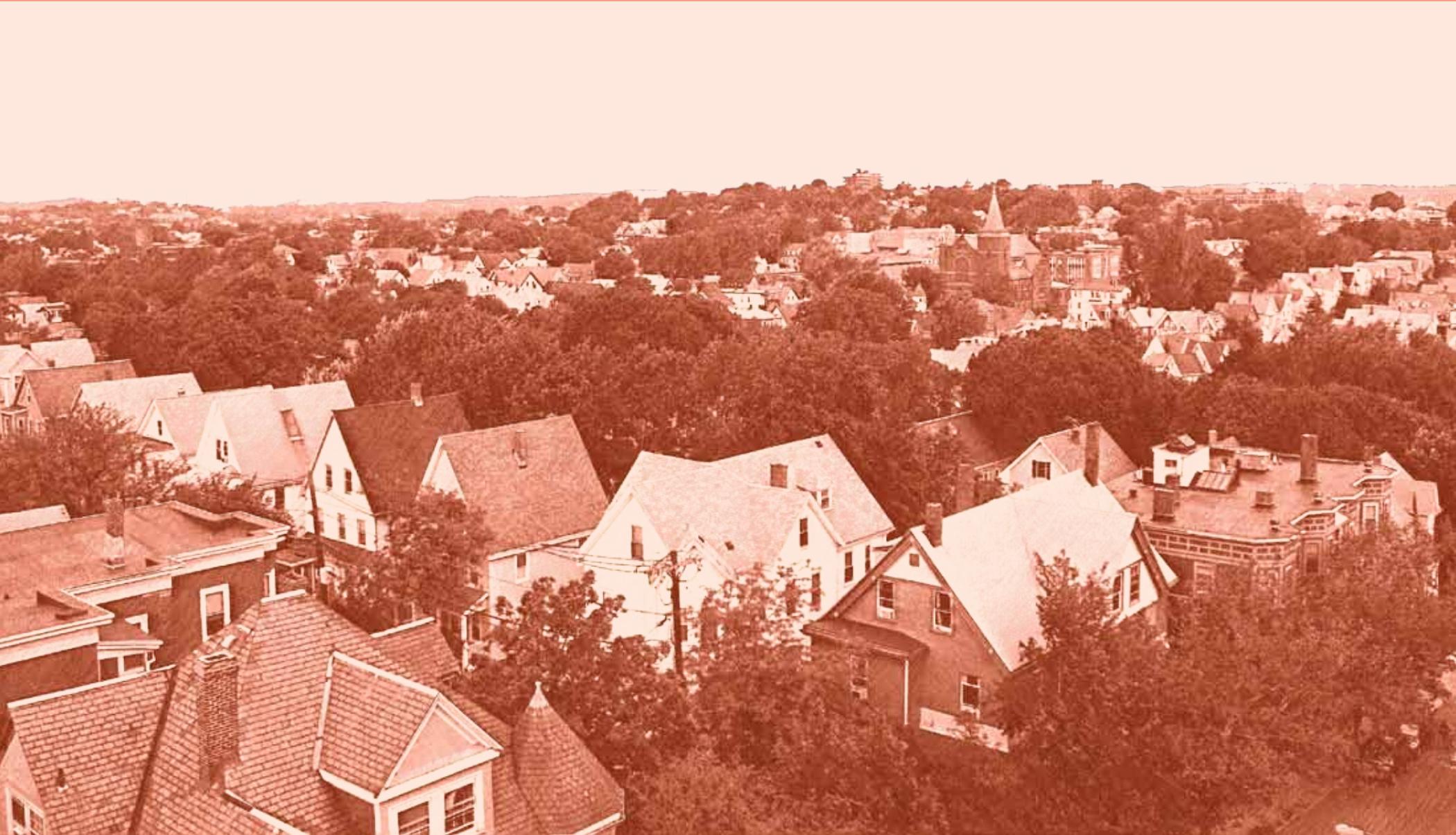
by George Palliser
(1876)

Palliser's Model Homes stresses the important role architects play in construction of a house of any scale and budget. The manual showcases Palliser, Palliser & Co. designed and built building types from across the United States. Somerville architects and builders were able to use Palliser's customized designs to build ornate Italianate and Mansard homes in the late 19th century.



SECTION 4

CONCLUSION



Now that SomerVision provides the City with direction toward a well agreed upon future, the City is challenged with establishing the right regulatory tools to address local zoning needs and support the goals, policies, and actions of the Comprehensive Plan. SomerVision guides reform of the Somerville Zoning Ordinance to achieve multiple outcomes including:

- to preserve and enhance the existing character, form, and development patterns of Somerville’s neighborhoods;
- to develop design standards for existing and new structures that reflect neighborhood context;
- to establish an efficient and fair design review and permit process;
- to coordinate and promote multi-unit and attainable housing infill development in close proximity to existing and forthcoming transit stations; and
- to balance the impact of various regulations with intended physical outcomes.

At their best, the regulations of the RA and RB districts protect against undesirable neighborhood change through the discretionary review process due to the high rate of nonconformance to the requirements. At their worst, the RA and RB districts encourage incompatible infill development, put severe limits on the adaptability of homes, encourage unpermitted construction activity, promote unpredictable physical outcomes, and the demolition of contextual homes while perpetuating a process that is inefficient for both property owners and city officials.

The OSPCD Staff recommends establishing the following set of objectives to promote conservation of the ‘Neighborhood Residential’ areas of Somerville as identified by SomerVision:

- Improve predictability, fairness, and ability to understand what is and what is not an appropriate form and pattern for development and redevelopment, in a way that is accessible to residents, developers, and decision makers alike;
- Create a more uniform application of standards and procedures for all properties;
- Ensure that discretionary review is focused on improving context sensitive design, by providing detailed but flexible design guidance to residents and SPGAs that is based on traditional neighborhood form;
- Return non-conformity to its original intent and establish procedures to permit modifications of nonconforming properties;
- Ensure that regulations do not produce unintended outcomes through

contradiction and incompatibility between tools and the existing residential patterns of the city; and

- Ensure that the iconic character of Somerville’s residential neighborhoods is preserved and, where appropriate, replicated with contextual infill.

While there is still a need for significant public input and feedback on the details, based upon the above objectives Staff recommends the following strategy:

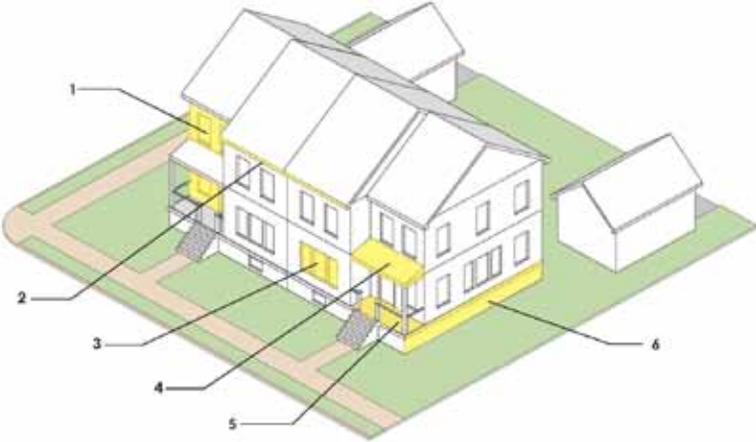
- Develop a reformatted and updated version of the Somerville Zoning Ordinance that improves readability, organization, and graphic design so that the document is more accessible to property owners, developers, business owners, and city officials.
- Combine the current RA and RB districts into one ‘Neighborhood Residential’ district and use tools such as a Neighborhood Conservation Overlay to protect unique characteristics of smaller areas that would exist within this new single zone.
- Feature building types as the fundamental regulatory framework of a code rewrite so that infill development and modifications in residential neighborhoods are regulated with more precision;
- Develop a pattern book that details the traditional block, building type, and architectural patterns of the city to inform context sensitive design and serve as the basis for discretionary permitting; and

OSPCD Staff has already begun a physical survey of Somerville’s residential neighborhoods to inform the appropriate scale and pattern for infill development and the context sensitive redevelopment of existing structures. In the coming months, Staff will establish a Zoning Advisory Group of residents, business owners, neighborhood and community groups, and other stakeholders for a series of public and small group meetings to develop a new strategy for residential land use control that moves forward the 100+ recommendations on zoning in the SomerVision Comprehensive Plan.

EXAMPLE BUILDING TYPE PAGE

Woodbury, NJ - Redevelopment Code

FORM-BASED CODE



C. Massing: Required Building Elements

Required Building Elements are regulated in Transect Charts and General Design Standards to ensure that buildings respect the pedestrian scale of the City. To meet the regulated standards, the following elements are suggested for incorporation into the building design:

Vertical Breaks: porches (5), awnings or overhangs (4), horizontal bands (6), offset roof line (2), balconies or balconettes, window grouping (3)

Horizontal Break: vertical windows, building offsets (1), offset roof line (2)

Ground Floor: unit entrances, awnings or overhangs (4), porches (5)

Upper Floor: vertically-oriented window openings (reflective of function), private outdoor spaces

Pedestrian Accommodations: awnings or overhangs (4), rear-yard garage accessed from alley

Open Space: front setback, balconies or balconettes, porches (5), decks, rear setback, side setback

D. Permitted Building Dimensions

DIMENSION	STANDARD
A Min Lot Size	4000 sf
B Min Width	25 feet
C Max Width	35 feet
D Min Depth	35 feet
E Max Depth	-

E. Permitted Façade Materials

MATERIAL	STANDARD
A Brick	P
B Stone	P
C Architectural Form	P
D Extruded Metal	P
E Stucco	P, Rear Façade
F Siding	P
G Clapboard	P
H Concrete Block	NP
I Concrete Panel	NP
J Polycarbonate Panel	NP

F - Permitted, NP - Not Permitted
See section 6.20 Definitions for further clarification of materials

GMD 05-24-19 Woodbury Downtown Business District Redevelopment Plan | 147

EXAMPLE PATTERN BOOK PAGE

Jamestown, RI - Pattern Book and Design Guidelines

JAMESTOWN VISION PATTERN BOOK BUILDING FORM

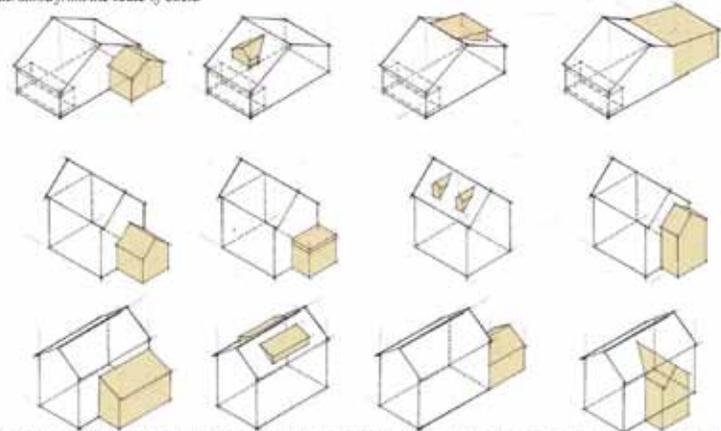
TRANSFORMATIONS



10.1 Simple volumes such as dormers, bays and porches can be added to basic house forms to accommodate growing families and uses.



10.2 A backbuttling connects the main house with an addition. There is a hierarchy among the three pieces that can be understood from the scale of each.



10.3 There are various ways to expand and transform an existing home. Additions are most successful when they defer in scale and proportion to the primary form of the original building.

RESIDENTIAL DESIGN GUIDELINES

12

APPENDIX

REVIEW OF USE REGULATIONS AND DIMENSIONAL STANDARDS



MINIMUM LOT SIZE

Minimum lot size functions as a highly influential regulatory tool because the SZO defines a ‘buildable lot’ as “one which satisfies the dimensional requirements of [the ordinance]” and a footnote to the dimensional requirements states that “no increased nonconformity of lot size shall be permitted as result of [any] further division[s] of the lot.” This means that any existing lot that is ‘undersized’ is considered unbuildable and that land subdivision to create ‘undersized’ lots is strictly prohibited. There is also a strong history of case law from decisions made by the Massachusetts Land Court that upholds the legality of regulatory tools that prevent subdividing existing lots for the creation of new nonconforming lots. Nonetheless, lots smaller in size are often redeveloped when they happen to have a preexisting structure because one can “modify” structures on nonconforming lots through special permits - even if this means turning garages into a new home.

As the overwhelming majority of lots in Somerville were platted prior to the 1990 adoption of a minimum lot size regulation, over 97% of lots in RA and RB are smaller in land area than the minimum required. In all, only 405 lots in the RA and RB districts meet their respective minimum lot size regulations out of a total 11,773 lots. Around 77% of RA and RB lots are less than 4,500 square feet in size and nearly 50% of those lots are between 3,001 and 4,500 square feet in size.

Despite the entitlement for smaller lot sizes in the RB district, there is a lack of any significant difference between the size and range of sizes of lots in RB from those in RA. In fact, the RA district has an average lot size that is more than 200 sq. ft. smaller than the average lot in RB and has a higher rate of nonconformance to its requirement. On the ground, lots in the RA and RB districts are almost identical in size, despite regulations that require them to be not only different from one another, but also quite different from the character of existing lots throughout the city.

Where large lots that conform to the minimum lot size requirements do exist, many of them have large multi-family housing developments, schools,

Table X. Number of Lots by Lot Size for each Zoning District

Lot Size (Sq. Ft.)	Number of Lots in RA	Number of Lots in RB
0-1499	89	292
1500-2999	769	2113
3000-4499	3380	2415
4500-5999	898	869
6000-7499	185	269
7500-8999	58	132
9000-9,999	31	40
10,000+	81	152
Total	5491	6282

and/or religious institutions owned by public entities or institutional non-profit organizations such as the Somerville Community Corporation or the Roman Catholic Archdiocese. Out of Somerville’s 11,773 RA and RB lots, only 193 are conforming to minimum lot size requirements and have a one, two, or three unit structures that better reflects the intent for the RA and RB zones.

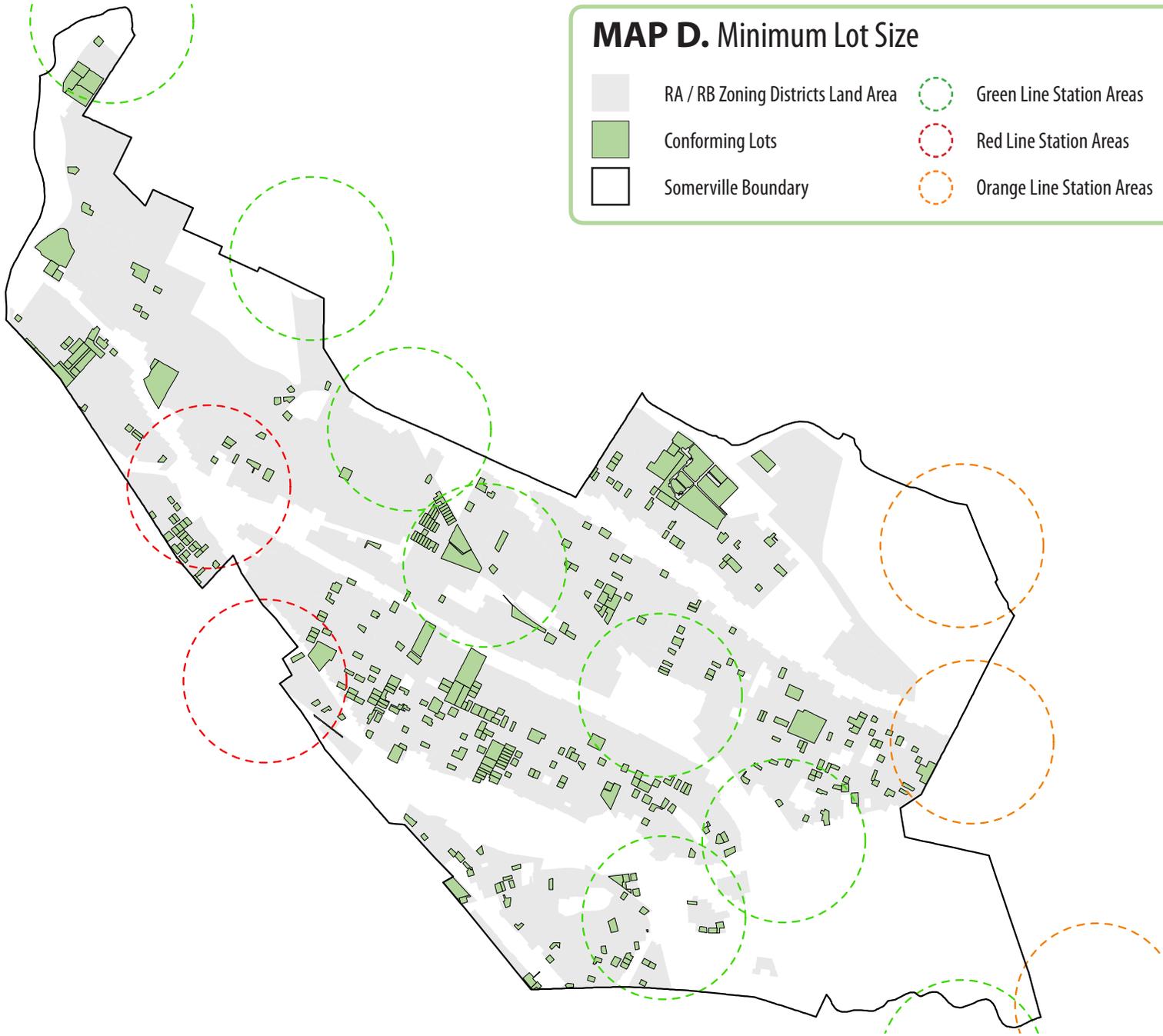
This may not come as a surprise however, as requiring lots to be larger was intended to function as a neighborhood protection strategy within the code. Yet, large lots are *not* a common characteristic of Somerville’s development pattern and historically never were since much of the original subdivision pattern of the city remains intact and can be objectively observed. Parcels that meet the minimum lot size requirements of the RA and RB districts are actually out of character to the majority of other nearby parcels and the buildings that could be constructed on them would have a by-right bulk that would be inappropriate compared to the many surrounding parcels that are considered nonconforming.

Table X. Lot Size

Zone	Minimum Lot Size Requirement	Conforming Lots	Nonconforming Lots	Percent Nonconforming	Average Lot Size	25% Compliance	50% Compliance	75% Compliance
RA	10,000 sq. ft.	86	5372	98.42%	4382 sq. ft.	4378 sq. ft.	3677 sq. ft.	3200 sq. ft.
RB	7,000 sq. ft.	319	5888	94.86%	4602 sq. ft.	4370 sq. ft.	3358 sq. ft.	2556 sq. ft.

MAP D. Minimum Lot Size

- RA / RB Zoning Districts Land Area
- Conforming Lots
- Somerville Boundary
- Green Line Station Areas
- Red Line Station Areas
- Orange Line Station Areas



FRONT SETBACK

Following minimum lot size, infill developers and property owners have to consider front, side, and rear yard setback requirements. The various setbacks are the same for the RA and RB districts, but are complex to interpret because the actual dimension of the requirement can be contingent upon the width and/or depth of a lot, the height of buildings, and/or the existing setbacks of neighboring buildings. While this provides some valuable flexibility, it makes the discussion of any definitive setback metric relative to a specific lot under review.

Accurate data on the actual setback of structures from property lines is typically only acquired when land owners have their property surveyed to generate a plot plan. Although a database of the actual distances buildings are setback from property lines is not currently maintained, OSPCD staff was able to estimate the conformity of properties to the front setback requirement using ArcGIS, a computer program that links statistical information to a map of properties in the city. By calculating the distance between the front of each building footprint (as drawn from aerial photographs) and the edge of the nearby right-of-way, an estimated measurement of the actual front yard setback for each property can be generated.

The SZO requires a minimum fifteen (15) foot setback from a front property line for both RA and RB, but also allows for a reduction in the required front setback through a contextual front setback clause. When the depth of any front yard setback for two (2) or more neighboring properties (within 100 feet and within the same zone) is less than the required fifteen (15) foot front setback, the average of these actual front yard setbacks may be substituted for the fifteen (15) foot requirement. This reduction is only available for buildings of three (3) stories or less and to a minimum of ten (10) feet, a distance that is often still behind the line made by the front porches of neighboring properties on many of Somerville's streets.

Analysis of the estimated data reveals that only 1,604 lots out of the total 11,773 (13.62%) meet the required 15 foot minimum front yard setback in both districts (about 16% of properties in RA and 11% in RB). From a purely

Table X. Number of Lots by Front Setback for each Zoning District

Actual Front Setback (ft.)	Number of Lots in RA	Number of Lots in RB
0 - 2 ft	596	1590
2.01 - 4 ft.	355	579
4.01 - 6 ft.	617	720
6.01 - 8 ft.	718	758
8.01 - 10 ft.	878	751
10.01 - 12 ft.	711	649
12.01 - 15 ft.	713	534
15 ft. +	903	701
Total	5491	6282

statistical point of view, fifty percent (50%) compliance can be achieved using the contextual front setback reduction in the RA district, but RB would require a reduction to seven (7) feet to achieve the same level of compliance.

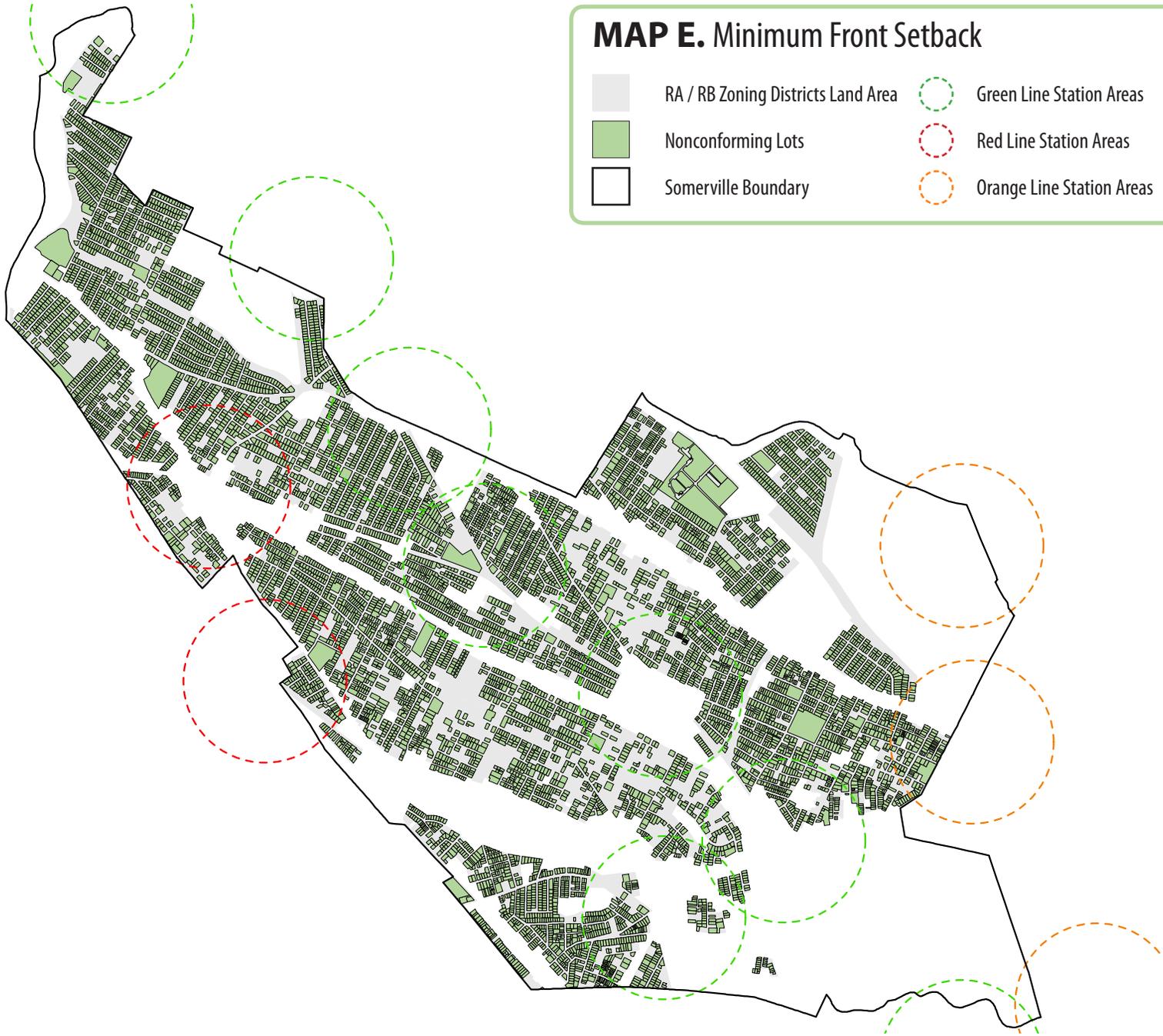
As a zoning metric, the front setback is one of the most important dimensions influencing neighborhood character. Front setbacks work together with building height to spatially define street space by establishing a 'street wall' of building facades. Front setbacks can either incentivize or prohibit facade articulation and semi-private building attachments like front porches by either permitting or restricting their encroachment beyond the street wall. The SZO actually discourages the typical open front porch for this reason, because porches are not permitted to encroach the front setback and are viewed as a loss of buildable floor space by developers. Although the ZBA has discouraged the practice, the SZO also does not prohibit the enclosure of porches regardless of their setback.

Table X. Front Setback

Zone	Minimum Front Setback	Conforming Lots	Nonconforming Lots	Percent Nonconforming	Average Front Yard Depth	25% Compliance	50% Compliance	75% Compliance
RA	15 feet	903	4588	83.55%	10.27 ft.	13 ft.	10 ft.	6 ft.
RB	15 feet	701	5581	88.84%	8.32 ft.	11 ft.	7 ft.	2 ft.

MAP E. Minimum Front Setback

- RA / RB Zoning Districts Land Area
- Nonconforming Lots
- Somerville Boundary
- Green Line Station Areas
- Red Line Station Areas
- Orange Line Station Areas



MAXIMUM GROUND COVERAGE

The ratio of ground coverage by all buildings except for garages and carports becomes the next limiting dimensional requirement applied to lots following delineation of the required minimum setbacks. The front, side, and rear setbacks, however, play a direct role in determining the un-built area of individual lots. If considering a hypothetical conforming lot for each of the RA and RB districts, the required front setback of 15 feet, the 17 foot sum of side setbacks, and rear setback of 20 feet combines to create an un-built area of 5,200 sq.ft. on a conforming 100'x100', 10,000 sq. ft. RA lot (52%) and 4,325 sq. ft. on a conforming 75'x100', 7,500 sq. ft. RB lot (58%). Taken at face value, the setback requirements are more restrictive than the maximum ground coverage standard of 50% for either district.

Aside from limitations required by minimum setbacks, there is a high level of conformity to the maximum lot coverage requirements in both the RA and RB districts for existing lots. On average, the ground coverage of lots even falls within the 75% compliance range of 42% and 44% for RA and RB respectively. This high rate of compliance is achieved even though 97% of properties in RA and RB have a smaller lot area than required (see minimum lot area) and though features such as porches, decks, breezeways, balconies, bay windows, and patios are calculated as coverage.

Interestingly, the ground coverage requirement is one of very dimensions that is identical in the RA and RB district, despite the fact that the minimum lot size requirements differs substantially between the two districts and that setbacks regulate a variable un-built area that fluctuates according to the width and depth of lots. At its best, lot coverage works with minimum landscape standards and recently adopted impervious surface requirements to create lots with an integrated site planning that unifies buildings, driveways, and private open space. But, lot coverage requirements alone do not always produce the intended result.

Table X. Number of Lots by Percent of Ground Coverage for each Zoning District

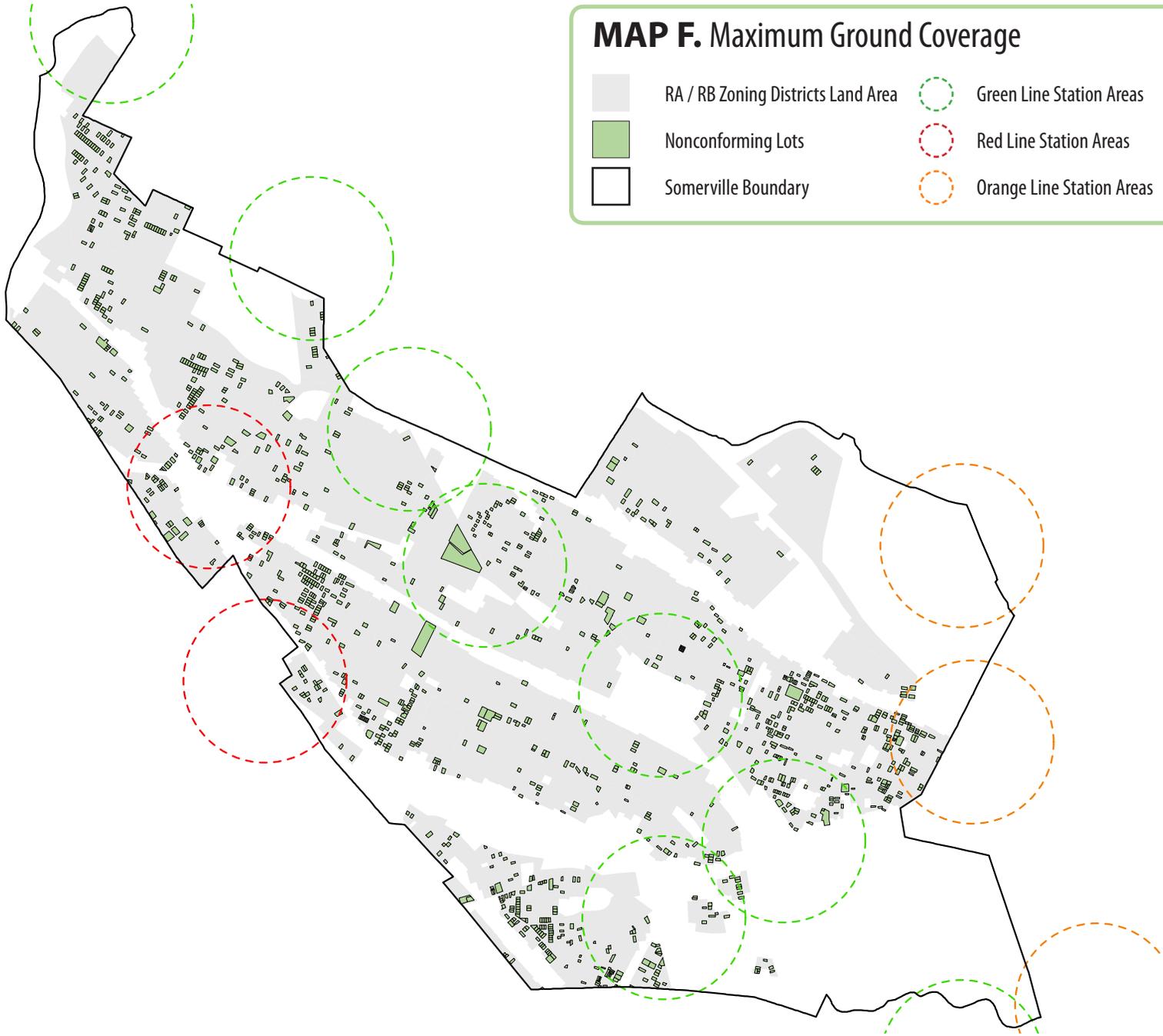
Ground Coverage (%)	Number of Lots in RA	Number of Lots in RB
0-20%	518	819
21-40%	3097	3248
41-60%	1821	1931
61-80%	49	245
81-100%	6	39
Total	5491	6282

Table X. Maximum Ground Coverage

Zone	Maximum Permitted Ground Coverage	Conforming Lots	Nonconforming Lots	Percent Nonconforming	Average Ground Coverage	25% Compliance	50% Compliance	75% Compliance
RA	50%	4898	409	7.71%	36%	29%	36%	42%
RB	50%	5063	868	14.63%	37%	26%	35%	44%

MAP F. Maximum Ground Coverage

- RA / RB Zoning Districts Land Area
- Nonconforming Lots
- Somerville Boundary
- Green Line Station Areas
- Red Line Station Areas
- Orange Line Station Areas



BUILDING HEIGHT AND NUMBER OF STORIES

Once the buildable area of a lot has been determined within the designated setbacks and ground coverage requirements, maximum standards for height in feet and number of stories for any building must be considered. Existing buildings in RA and RB are very similar in height and number of stories, yet the SZO applies height regulations to the two districts differently. Just under 5% of structures in RB are nonconforming to the permitted three (3) stories and less than 1% are nonconforming to the two and a half (2.5) stories permitted in RA. Yet when considering height restrictions in feet, the nonconformance of properties in the RA district (35 feet permitted) jumps to over 80% and RB (40 feet) just over 20%. The contradiction between height regulations could be brought into over 75% compliance for both districts and for both measures of height if the requirements were adjusted to reflect the typical existing condition of 2.5 stories and 40 feet. It is also notable that despite the entitlement for an additional five (5) feet of height in the RB district, buildings in the RA zoning district are generally taller than buildings in the RB zoning district.

The impact of the differing height requirements is that property owners in the RA district are much more constrained in how they might alter the top floor of an existing house. This is a challenge, as well designed dormers present one of the most aesthetically acceptable ways to increase the living space of a third story while still respecting existing neighborhood character.

Table X. Number of Lots by Height in Stories for each Zoning District

Number of Stories	Number of Lots in RA	Number of Lots in RB
1.0	267	721
1.5	21	43
2.0	725	941
2.5	2394	2560
3.0	2063	1969
3.5	9	19
4.0	8	26
> 4	4	3
Total	5491	6282

Table X. Building Height

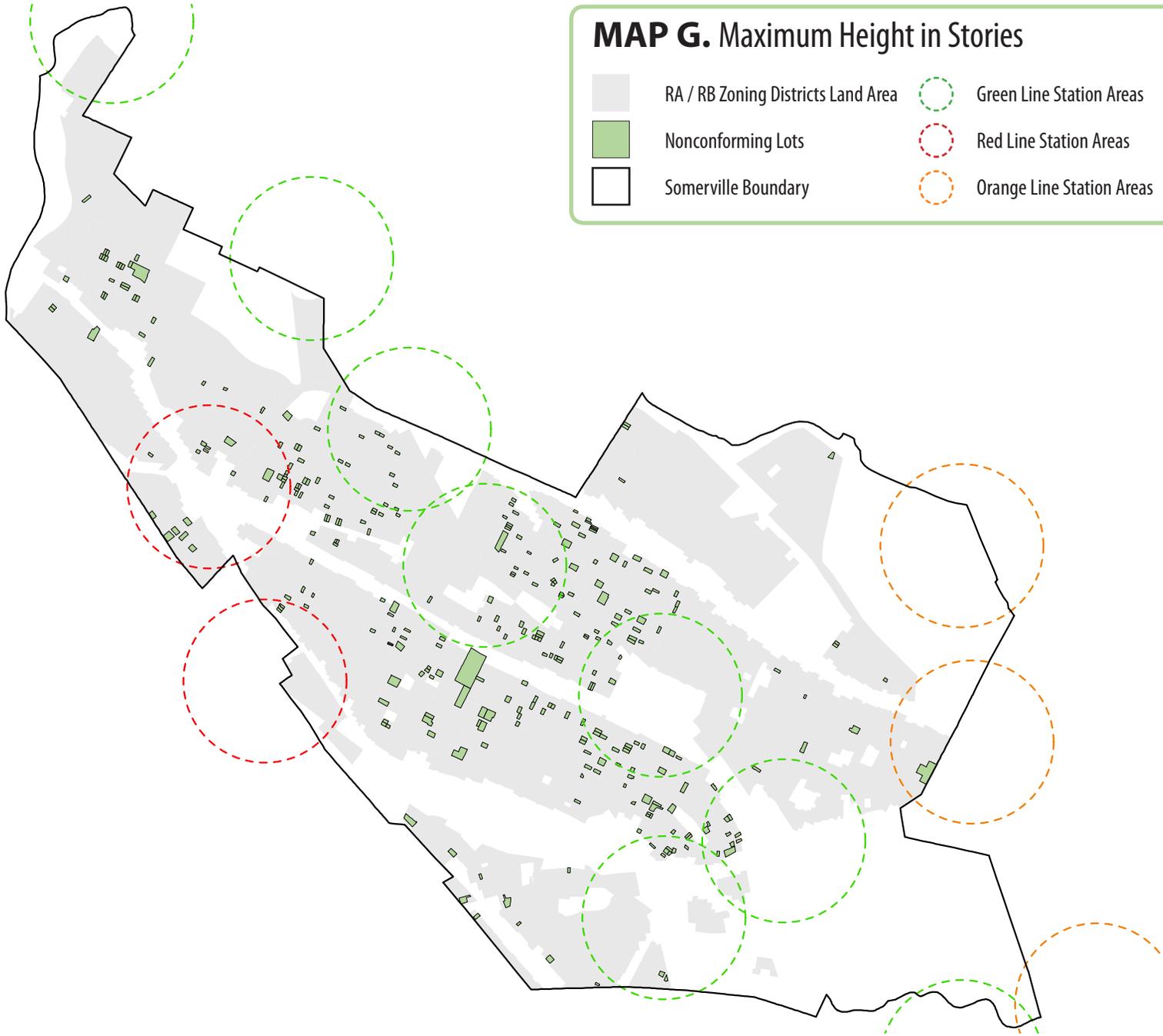
Zone	Height	Conforming Lots	Nonconforming Lots	Percent Nonconforming	Average Height	25% Compliance	50% Compliance	75% Compliance
RA	35 feet	908	3447	79.15%	39.2 ft.	31.41 ft.	37.50 ft.	40.45 ft.
RB	40 feet	4464	1248	21.85%	36.8 ft.	32.38 ft.	36.55 ft.	39.30 ft.

Table X. Number of Stories

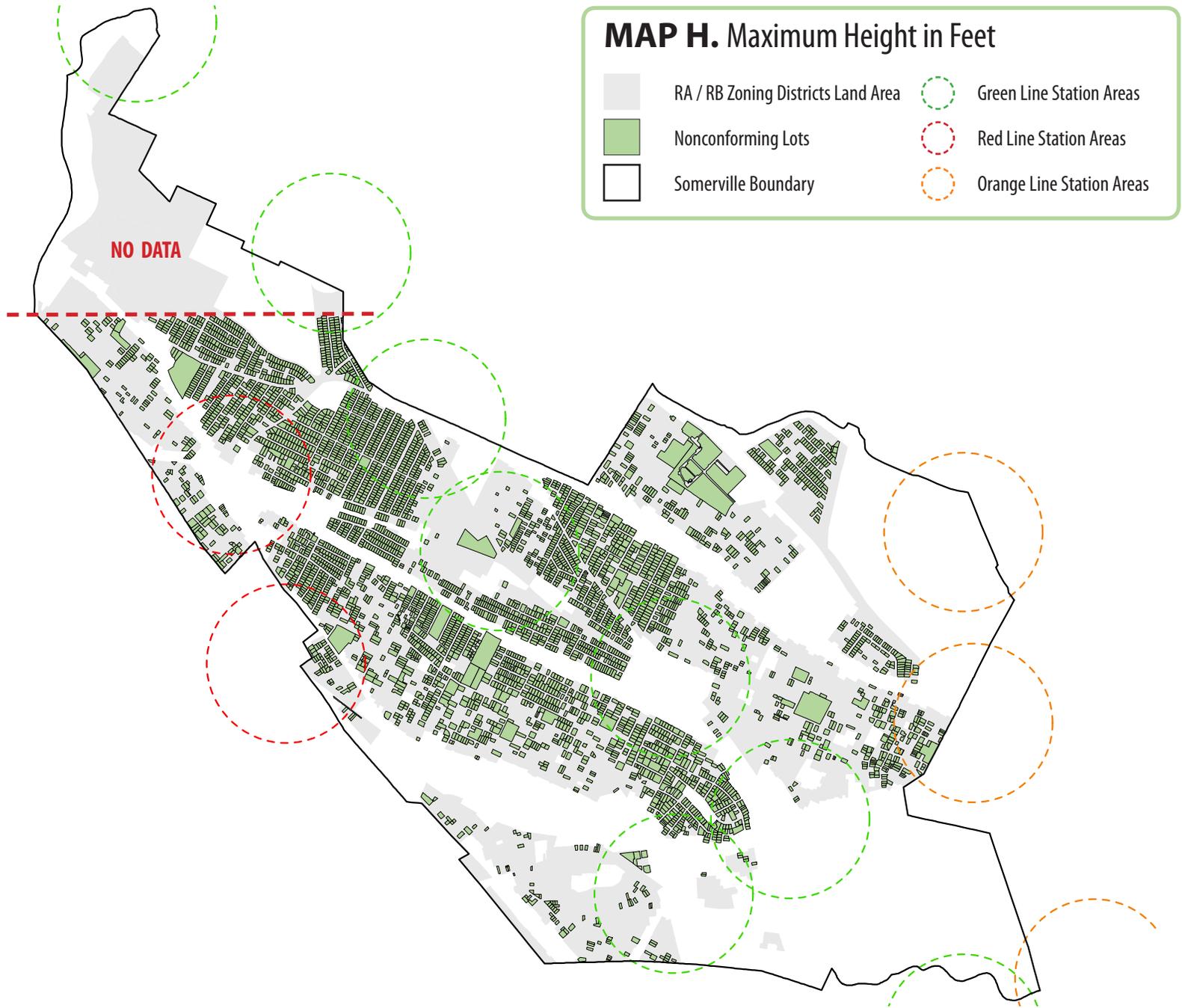
Zone	Permitted Stories	Conforming Lots	Nonconforming Lots	Percent Nonconforming	Average Number of Stories	25% Compliance	50% Compliance	75% Compliance
RA	2.5	4981	266	5.07	2.5	2.5	2.5	2.5
RB	3	5594	48	0.85%	2.5	2.0	2.5	2.5

MAP G. Maximum Height in Stories

- RA / RB Zoning Districts Land Area
- Nonconforming Lots
- Somerville Boundary
- Green Line Station Areas
- Red Line Station Areas
- Orange Line Station Areas



MAP H. Maximum Height in Feet



FLOOR AREA RATIO

Within the buildable area of a lot and under maximum height limits, the floor area/lot area ratio (i.e. Floor Area Ratio or FAR) permitted for structures functions as an indirect method of regulating the bulk of buildings and is a ratio of the net floor area of a building to the total area of the lot it is located upon. Quite simply, FAR controls the total amount of square footage that can be built on a given amount of land. Somerville measures *net* FAR, thereby excluding unfinished attic and basement spaces. Properties within the RB district have a FAR of 1.0, meaning that the total amount of buildable square footage is equal to the total lot area. In the more restrictive RA district, the buildable square footage equals 0.75 times the lot area.

Existing properties in the RA district have a fairly even distribution for the actual FAR of structures while RB features a similar pattern except for extremes at either end of the spectrum, below 0.50 and above 1.0. Data indicates that there is little difference between the average floor area to lot area of existing structures when the RA and RB districts are compared to one another. Despite the different zoning requirements, the RA and RB districts have a mean FAR of .72 and .78 respectively - for all practical purposes, they are the same. As a result of this circumstance, while the home sizes are similar in the two districts, twice as many RA homes are nonconforming while many RB properties have additional capacity to add living space. In effect, owners in the RB are allowed more usable space on their properties than RA owners even though properties are nearly identical in both districts. This often has impacts on the ability to add small additions or finished non-habitable spaces. If the floor area ratio permitted in both district were increased closer to 1.0, over 75% of parcels would be conforming.

Table X. Number of Lots by Floor Area Ratio for each Zoning District

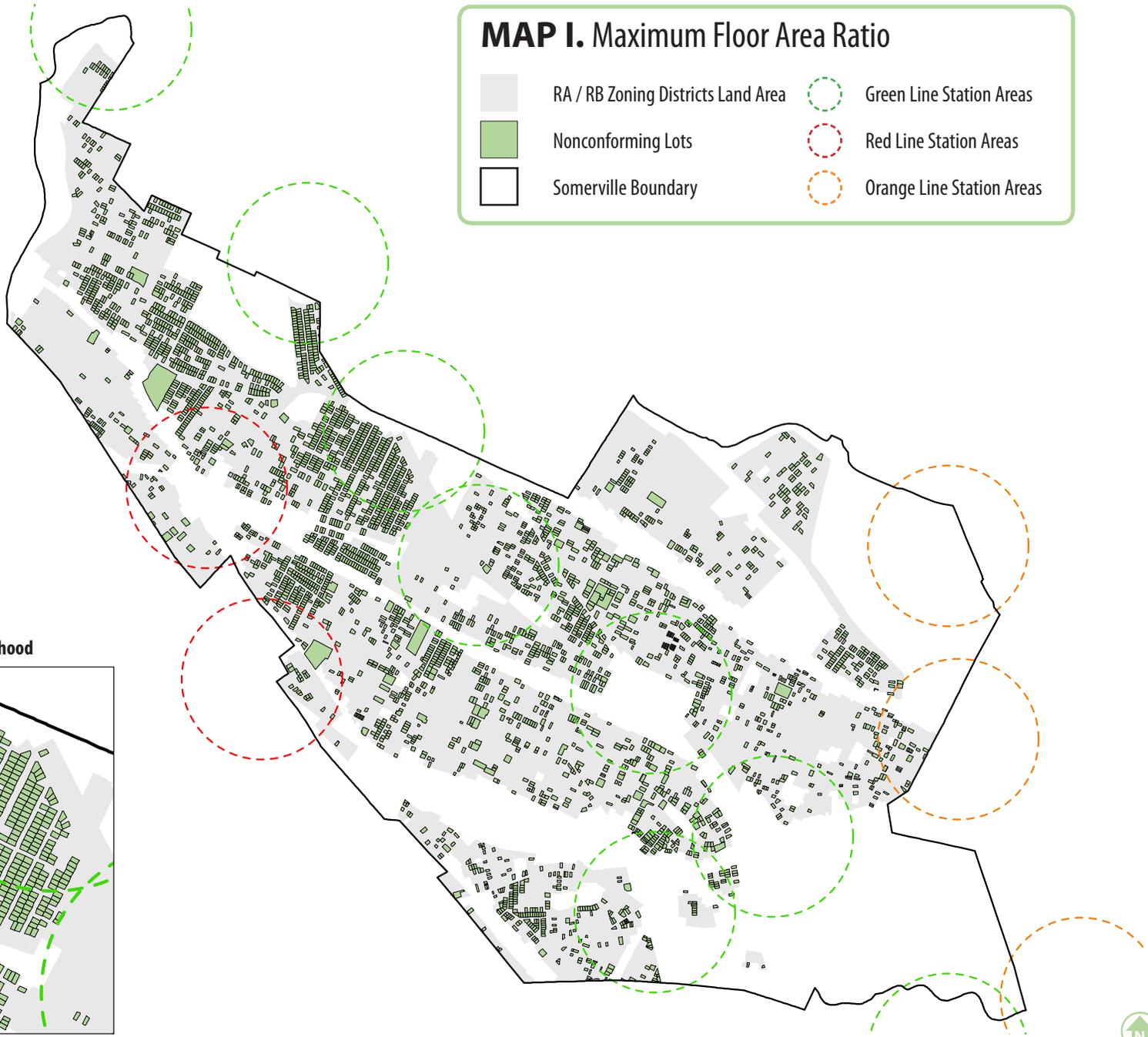
Floor Area Ratio (FAR)	Number of Lots in RA	Number of Lots in RB
.00 - .50	999	1516
.51 - .60	755	747
.61 - .70	987	794
.71 - .80	857	794
.81 - .91	761	635
.91 - 1.0	602	539
1.1 - 1.99	521	1215
2.0 +	9	42
Total	5491	6282

Table X. Floor Area Ratio (F.A.R.)

Zone	FAR	Conforming Lots	Nonconforming Lots	Percent Nonconforming	Average FAR	25% Compliance	50% Compliance	75% Compliance
RA	0.75	3045	2298	43.01%	.72	.56	.70	.86
RB	1.00	4663	1255	21.21%	.78	.51	.71	.94

MAP I. Maximum Floor Area Ratio

- RA / RB Zoning Districts Land Area
- Nonconforming Lots
- Somerville Boundary
- Green Line Station Areas
- Red Line Station Areas
- Orange Line Station Areas



LOT AREA PER DWELLING UNIT

The minimum lot area per dwelling unit is the most direct mechanism through which the Somerville Zoning Ordinance controls the number of built units and the resulting density of residential development. Through this tool, the ordinance constrains the number of households that may live on properties in these zoning districts and thus in the city.

According to this criteria, there is a relatively high degree of non-conformity among the RA parcels, and a moderate degree of non-conformity among the RB parcels. The difference in compliance between the two districts is not surprising given the fact that the built environment in both districts – in terms of lot size and numbers of units per parcel – is largely the same. Basically, the requirements in the RA district, which do not reflect the buildings that exist today, make a large number of parcels nonconforming. The nonconformity in the RB district is less because the allowable number of units per acre is higher. In order to bring 75% of the parcels into compliance with the code, the required amount of land area per unit would need to be between 1,200 and 1,600 square feet per unit – a reduction of only 300 to 650 square feet per unit.

While the levels of conformity are relatively consistent in these two zones across the city, several areas stand out. Among the RA districts, the area southeast of the Powder House is notable for a high degree of nonconformity. This area is also noted for a high degree of nonconforming lot sizes, suggesting that the source of the nonconformity in lot area per dwelling unit is the lot size rather than the raw number of units per lot.

Table X. Number of Lots by Lot Area per Dwelling Unit for each Zoning District

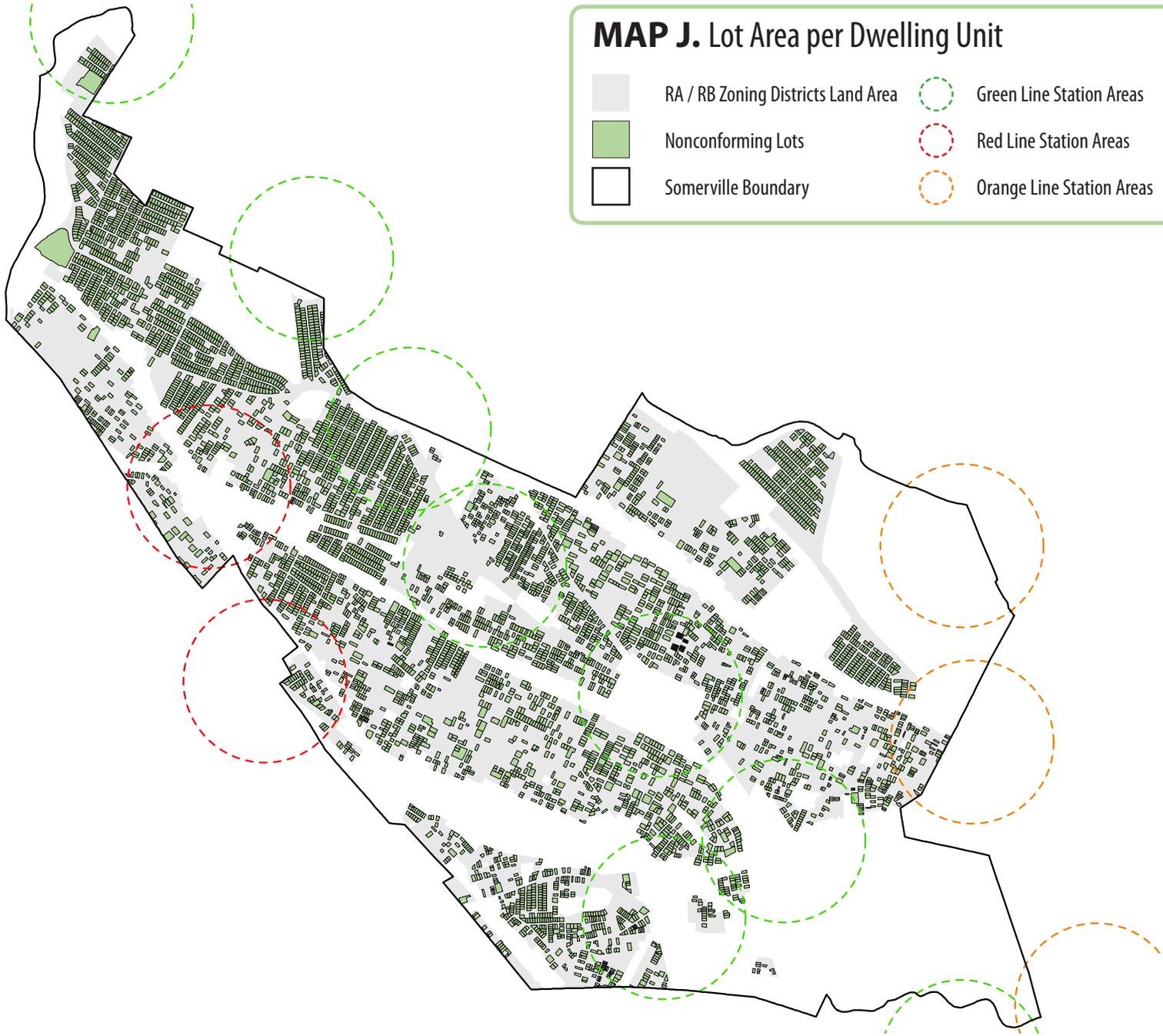
Lot Area per Dwelling Unit	Number of Lots in RA	Number of Lots in RB
0-500	202	513
501-1000	170	816
1001-1500	949	1687
1501-2000	1989	1315
2001-2500	1005	777
2501-3000	307	371
3001-3500	272	239
3501+	597	564
Total	5491	6282

Table X. Lot area per Dwelling Unit

Zone	Minimum Lot Area per Dwelling Unit	Conforming Lots	Nonconforming Lots	Percent Nonconforming	Lot Area per Dwelling Unit	25% Compliance	50% Compliance	75% Compliance
RA	2,250 [approx. 20 units/ac.]	1448	3727	72.02%	2186 sq. ft.	2362 sq. ft.	1837 sq. ft.	1533 sq. ft.
RB	1,500 [approx. 30 units/ac.]	3136	2400	43.35%	1954 sq. ft.	2249 sq. ft.	1556 sq. ft.	1085 sq. ft.

MAP J. Lot Area per Dwelling Unit

- RA / RB Zoning Districts Land Area
- Nonconforming Lots
- Somerville Boundary
- Green Line Station Areas
- Red Line Station Areas
- Orange Line Station Areas



DWELLING UNITS PER LOT

The majority of lots in the RA and RB district are conforming with respect to the by-right permitted number of dwelling units per lot for each district. Just over eighty percent (80%) of parcels in the RA district have two or fewer units, the maximum number of residential units allowed by right, while over ninety five percent (96.69%) of the parcels have 3 or fewer units. Of the parcels in the RB district, over ninety percent (92.3%) have three or fewer units, the maximum number of residential units permitted by right.

Despite the allowance for an additional unit in the RB zoning district, these areas of the city are nearly indistinguishable on the ground in terms of the percentage of properties that contain 1 to 3 units. Interestingly, there are actually more single-family properties in the RB district than there are in the RA district – both as a percentage and as an absolute number.

Table X. Number of Lots by Number of Units for each Zoning Districts

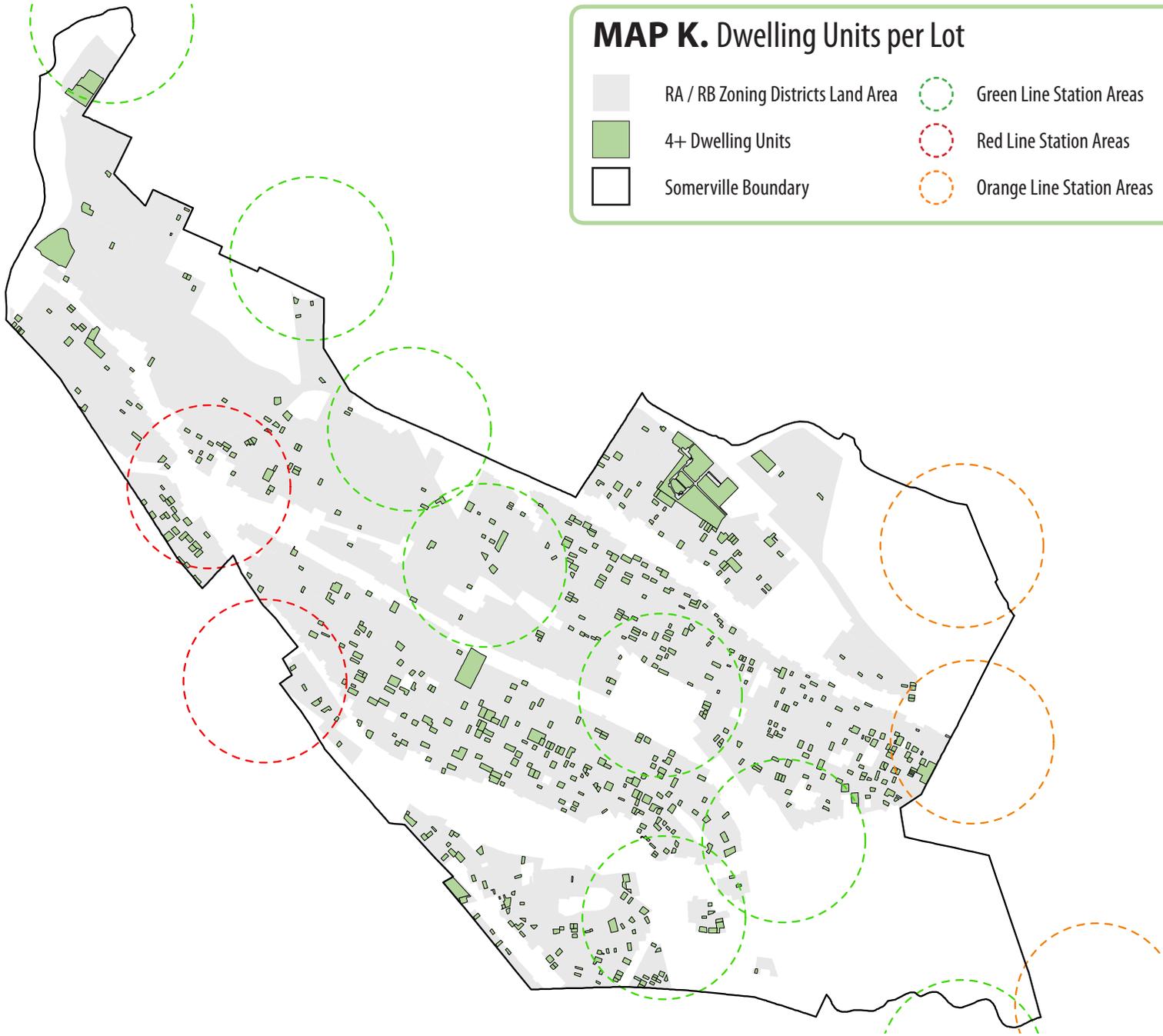
Units	Number of RA Parcels	% of RA	Number of RB Parcels	% of RB
0	289	5%	627	10%
1	1019	19%	1289	21%
2	3107	57%	2350	37%
3	894	16%	1552	25%
4-6	139	3%	350	6%
7+	43	1%	114	2%
Total	5491	-	6282	-

Table X. Dwelling Units per Lot

Zone	Units Permitted by Right	Conforming Properties	Nonconforming Properties	Percent Nonconforming	Average Units per Lot	25% Compliance	50% Compliance	75% Compliance
RA	2	4146	1029	19.88%	2.22	2	2	2
RB	3	5103	433	7.82%	2.67	1	2	3

MAP K. Dwelling Units per Lot

- RA / RB Zoning Districts Land Area
- 4+ Dwelling Units
- Somerville Boundary
- Green Line Station Areas
- Red Line Station Areas
- Orange Line Station Areas





OFFICE OF STRATEGIC PLANNING & COMMUNITY DEVELOPMENT

JOSEPH A. CURTATONE, MAYOR

Somerville City Hall • 93 Highland Avenue • Somerville, MA 02143
Telephone (617) 625-6600 • TTY Customers Dial 1-866-808-4851