

REPORT  
MARCH 2015

# ROUTE 20 CORRIDOR

*URBAN DESIGN STUDIES AND ZONING EVALUATIONS*



*prepared for the* **TOWN OF SUDBURY PLANNING BOARD**

**The Cecil Group**

Planning and Design

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# EXECUTIVE SUMMARY

## Purposes of the Study

This study will assist the Town of Sudbury in considering potential changes in zoning for several commercial districts along Boston Post Road (Route 20) and Union Avenue. The study takes into account preceding initiatives and plans by the Town of Sudbury to promote appropriate redevelopment within this area of the community, including sewer system improvements and land use management changes through its regulations.

As the study progressed, the purposes of the study and process were refined in response to input and requests from the Planning Board and the Department of Planning and Community Development. As a result, this Report encompasses a range of topics, including:

- Technical planning and urban design evaluation of proposed overlay zoning concepts contained in a report prepared by Metropolitan Area Planning Council (MAPC) for the Town (*Sudbury Route 20 Zoning Project, 2012*), using a set of prototypical parcels and sites to understand potential development capacities and issues.
- Observations by The Cecil Group regarding potential zoning standards and tools for the mixed-use area relative to Town goals that were not part of the preceding MAPC report.
- Documentation and formatting of zoning changes and provisions that could be incorporated into overlay zoning, incorporating the directions and requests of the Planning Board and Department of Planning and Community Development
- Explanation of the relationship between potential sewer improvements in the study area and zoning as incentives for development
- Observations by The Cecil Group regarding the potential of zoning to serve as an investment incentive in the study area
- Preparation of findings and recommendations regarding the potential use of Transfer of Development Rights (TDR) as a land use management tool in the study area
- Provision of example mixed-use overlay zoning used in a similar circumstance by another community, and examples of mixed-use redevelopment of comparable areas in other communities
- Discussion of other procedural changes and land use management tools that the Town may consider to help achieve its planning goals for the study area.

This document provides a resource for information and reference which addresses all of these topics. The Executive Summary provides an overview of principle findings, observations and components. The subsequent sections provide additional information and analysis.

## Goals for Redevelopment and Zoning

Revised zoning in this portion of Sudbury is intended to promote appropriate redevelopment of underutilized land. The resulting redevelopment would alter existing development patterns so that they will become more efficient, valuable and attractive.

“Overlay zoning” is the specific method suggested to better achieve the Town’s goals within certain areas along Route 20. Overlay zoning is superimposed over existing, underlying zones within specific geographic boundaries. Overlay zoning can allow for additional uses, alter dimensional standards and modify other provisions of the underlying zones. Except for the provisions in the overlay zoning, however, the underlying zones remain intact and in effect.

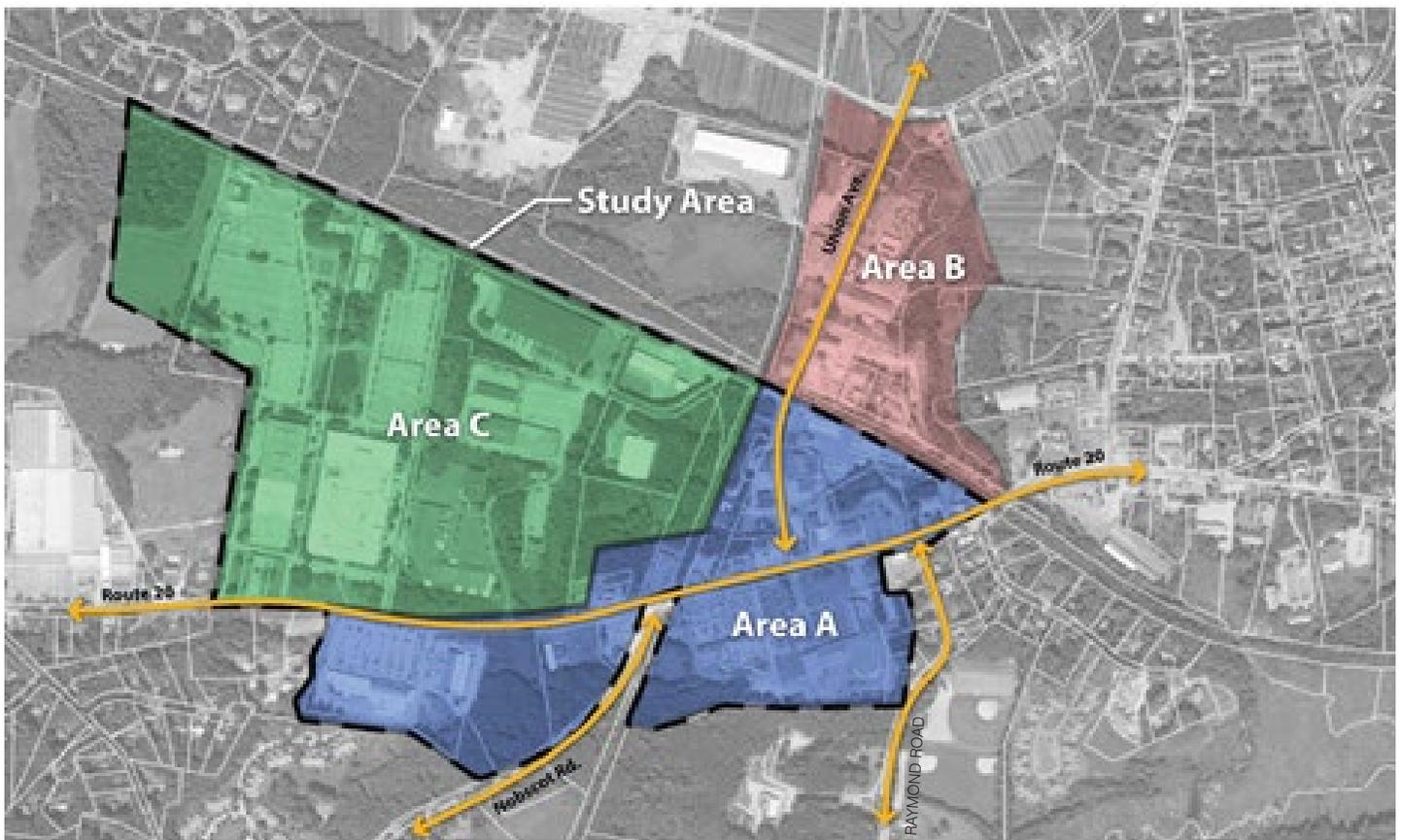
Other relevant community goals associated with revised zoning include:

- Promote a mixed-use development pattern, including the potential to introduce housing, retail and commercial uses into areas that have been zoned for industrial uses.
- Establish zoning standards that will be incentives for reinvestment in existing buildings and site improvements, and attract appropriate new development.
- Promote more coordinated development patterns.
- Maintain and establish site design and building compositions that are consistent with Sudbury’s traditional character that will enhance economic value for the area.
- Provide enhanced pedestrian connectivity that is safe, convenient and accessible.
- Promote improved traffic circulation and safety along Boston Post Road.
- Integrate open space and landscaping into the site planning and design of the area.
- Provide land management and design standards in advance of potential new development that may be enabled through the Town’s sewer improvements initiatives in this area.

## Study Area

The study encompassed two of the three areas identified by the Planning Board as prospective opportunities for revitalization and reinvestment near the Boston Post Road (Route 20). All three areas are shown in Figure 1 - Prospective Areas for Zoning Changes. Land use and development upgrades in these areas would be enabled by a combination of new zoning measures and sewer improvements.

**Figure 1 - Prospective Areas for Zoning Changes**



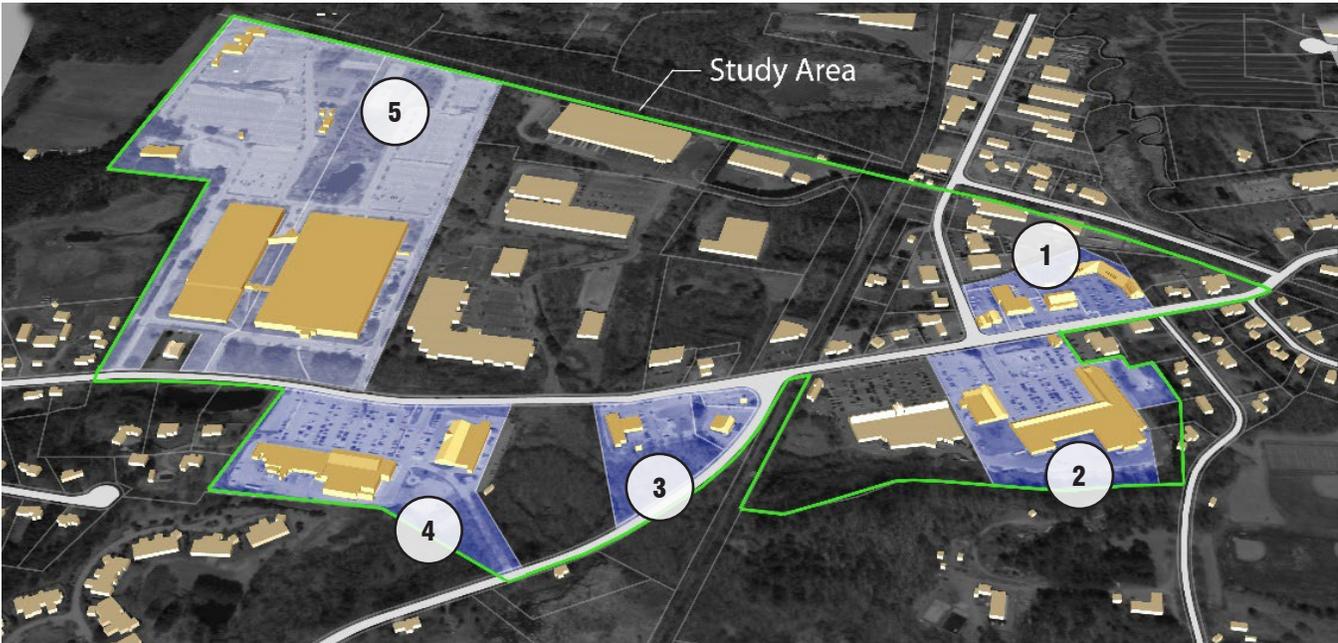
This study specifically focused on Area A and Area C as indicated in **Figure 1**.

- Area A is located in the eastern part of the study area and includes properties in several existing zoning categories, including Business District 5, Limited Business District 2, Limited Business District 6 and Industrial District 8. The area currently consists of a mix of shopping complexes and smaller retail and service oriented developments.
- Area C is located in the western part of the study area and is currently zoned Limited Industrial District 1. The area consists primarily of large industrial buildings.

## Prototypical Sites

This study used prototypical sites to evaluate existing development patterns, existing zoning, and overlay zoning concepts. The five chosen sites (see **Figure 2**) represent the range of site and development configurations found within the study area. The prototypical sites were selected from both Area A and Area C. The chosen sites included the Rugged Bear Plaza and adjacent parcels, Sudbury Crossing, several parcels including the Interstate Gas and Oil property, Sudbury Plaza, and Raytheon Company Property. Other sections of this report included expanded descriptions and evaluations of these sites.

**Figure 2 - Prototypical Sites**



## Summary of Findings and Recommendations

### Potential for Redevelopment of Existing Sites: Site Capacity

- THERE IS LIMITED CAPACITY FOR MIXED-USE REINVESTMENT WITHIN THE STUDY AREA WITHOUT INNOVATIVE ZONING CHANGES, IMPLEMENTATION OF SEWER IMPROVEMENTS AND OTHER POTENTIAL TOWN LAND USE MANAGEMENT ACTIONS – The evaluations of existing development patterns indicated that the prototypical sites are approaching maximum build-out capacities within the existing zoning standards, site constraints, and the practical limits of market conditions that prevail in similar suburban locations. Without the ability to expand the range of uses through land use standards, many owners will have very limited incentive to pursue significant changes.
- IF ZONING AND OTHER CHANGES OCCUR, SOME INDUSTRIAL-ZONED AND VACANT PARCELS MAY HAVE SIGNIFICANT ADDITIONAL POTENTIAL FOR MIXED-USED DEVELOPMENT – Zoning changes are particularly important for industrial zoning categories if mixed-use redevelopment is to occur. Because of the constraints of industrial zoning categories, parcels in the Limited Industrial District (LID) and Industrial (ID) designations would have very limited ability to absorb the type of development envisioned in the 2012 MAPC Report and in Town planning concepts for the study area.

- **SUBSTANTIAL RE-ORGANIZATION OF SITES AND REDEVELOPMENT IS LIKELY WITHIN PARTICULAR PARCELS AND LOCATIONS** – Redevelopment meeting the urban design and land use goals of the Town with substantial reinvestment is most likely where existing buildings are outmoded and need to be replaced or where land is underutilized relative to mixed-use development potential.
- **INCREMENTAL IMPROVEMENTS TO EXISTING DEVELOPMENT MAY BE ENCOURAGED ON SITES THAT ARE LARGELY OCCUPIED BY VIABLE RETAIL AND COMMERCIAL BUILDINGS ALONG WITH THE PARKING NEEDED TO SUPPORT THE USES WITHIN THEM** – Where there is limited site capacity for redevelopment, re-organization of the sites and reinvestment may occur through building additions or relatively small new buildings which could be added to existing retail and commercial complexes.

## Relationship between Zoning and Sewer Improvements

- **THE COMBINATION OF PROSPECTIVE SEWER IMPROVEMENTS AND ZONING CHANGES COULD PROVIDE SIGNIFICANT INCENTIVES TO ATTRACT NEW INVESTMENT THAT WOULD MEET TOWN GOALS** – The Town has undertaken separate evaluations regarding the direct benefits for potential mixed-use redevelopment associated with added sewer capacity through a shared system. Without a new shared system, prospective redevelopment would generate additional sewerage demand that would require on-site septic systems. In locations where on-site septic systems could be feasibly expanded or created, such on-site systems limit the amount and location of buildings, parking and other improvements.
- **A SHARED SEWER SYSTEM WILL UNLOCK LAND AREAS THAT ARE CURRENTLY USED FOR SEPTIC SYSTEMS WITHIN EXISTING PARCELS OF THE STUDY AREA** – Some reinvestment opportunities could result from a shift to a shared sewer system by removing the land needs of on-site sewer systems. In cases where new septic systems or system expansion is not feasible, a shared sewer system would be a pre-requisite for new and expanded development, regardless of changes in zoning.

## Potential Overlay Zoning Provisions

An overlay zone modifies the allowed uses, dimensional requirements and other standards of the existing, underlying zoning within boundaries designated for their application. The observations and evaluations in this report are based on a zoning strategy that would use overlay zoning to modify the existing zoning regulations. The potential zoning provisions described below would all be associated with new overlay zones within the study area.

## ■ Revised Use Standards

- **ADDITIONAL USES THAT COULD BE ALLOWED IN THE UNDERLYING ID AND LID ZONES WOULD BE A SIGNIFICANT INVESTMENT INCENTIVE** – In order to promote reinvestment and mixed-use development, additional uses such as retail, personal services, housing and certain medical uses can be provided through an overlay zone.
- **EXPANDING THE RANGE OF USES IN THE OTHER UNDERLYING ZONING CATEGORIES WOULD PROVIDE A LESSER INVESTMENT INCENTIVE** – Because the allowed use mix is fairly broad and aligned with market-supported uses in the other underlying zones, the expansion of allowable uses in the Limited Business and Business zones would provide a more limited incentive than in industrial zoned land.
- **RESTRICTIONS ON THE USE OF GROUND FLOORS FOR COMMERCIAL OR RETAIL USE MAY BE PRACTICAL ALONG THE PRINCIPAL STREET FRONTAGES, BUT IS NOT LIKELY TO BE A PRACTICAL RESTRICTION FOR SOME LARGE SITES** – Various market and design considerations typically make “stacked” mixed-use development impractical and unfeasible for entire large sites. If the Town wishes to incorporate housing as part of a mixed-use pattern, then the constraint regarding ground floor uses should be limited to buildings within an established setback from the street.

## ■ Potential Revised Dimensional Standards

- **THE EXISTING DIMENSIONAL STANDARDS ARE NOT A SIGNIFICANT DETERRENT TO REINVESTMENT FOR EXISTING ALLOWABLE USES WITHIN THE UNDERLYING ZONES** – The existing zoning standards that govern height, bulk, setbacks and the like are not a significant restriction for the uses allowed in the existing zoning districts.
- **INCREASING HEIGHT LIMITS TO 3 STORIES OR 45 MORE FEET WOULD BE AN INCENTIVE FOR NEW MIXED-USE DEVELOPMENT** – The current limits in the area range from 2 to 2.5 stories; development opportunities could be marginally increased by an increase in allowable height.
- **AN ADDITIONAL STORY COULD BE PROVIDED FOR BUILDINGS WITH SETBACKS OF MORE THAN 1,000 FEET FROM POST ROAD** – Prospective zoning revisions include a provision allowing 4-story buildings if they are a considerable distance from the major public road. This provision would be consistent with the planning area goals, by encouraging reinvestment and limiting the visual impacts from public ways.
- **CHANGED SETBACK REQUIREMENTS FROM THE STREET EDGE WILL HAVE BENEFICIAL EFFECTS** – A combination of minimum and maximum setbacks can encourage existing uses to expand and allow new buildings to be constructed along pedestrian-oriented frontages that will reduce the visual impacts of automobiles and create more attractive districts.
- **A SUGGESTED REQUIREMENT FOR MINIMUM BUILDING HEIGHTS HAS PRACTICAL DRAWBACKS** – The MAPC Study suggested requiring a minimum building height of 2 stories along the Post Road. This standard

would need to be accompanied by a phasing standard that would require frontage development prior to development of the backland portions of a property. The two-story standard could prevent development or additions to existing buildings if there is inadequate demand for the use of upper floors, or leave portions of parcels undeveloped while backland portions proceed.

### ■ Potential Revised Parking Standards

- **REDUCING PARKING REQUIREMENTS IS A PRACTICAL AND DESIRABLE CHANGE THAT COULD BE ACCOMPLISHED THROUGH OVERLAY ZONING** – The underlying zoning requirements for parking exceed practical requirements for typical uses in similar suburban environments. Reduced requirements would provide an incentive for productive redevelopment of sites.
- **MAXIMUM PARKING REQUIREMENTS IS NOT ADVISABLE FOR THE STUDY AREA** – There is no incentive for owners and developers to provide parking that is not demanded by market conditions. Because there is no robust transit system and significant population density within walking distance as occurs in urbanized districts, parking maximum requirements will deter potential investment within the study area.

### ■ Potential Open Space Requirements

- **THE TOWN CAN ESTABLISH AN EXPLICIT OPEN SPACE REQUIREMENT THROUGH OVERLAY ZONING** – The zoning could articulate the amount of undeveloped green space that should be provided for landscaping, in keeping with the Town's goals for zoning in the study area and the preceding MAPC study.

### ■ Potential Definition Changes

- **ENHANCED ZONING DEFINITIONS WOULD BE APPROPRIATE TO ACCOMPANY NEW OVERLAY DISTRICTS** – Definitions would be appropriate for uses such as applicable multi-family or attached single family residences (town houses) which do not appear in the existing zoning. Similarly, live/work uses should be defined.

### ■ Observations on Potential Standards for Minimum Parcel Size

- **PROVIDING MINIMUM PARCEL SIZE IN THE ID AND LID ZONES COULD CREATE INCENTIVES FOR REDEVELOPMENT, IF USED IN CONCERT WITH OTHER PROVISIONS** – The industrially zoned land in the study area is currently composed of large parcels. Provisions for minimum lot sizes in the industrial-zoned land could help lead to comprehensive site planning and avoid future problems associated with small parcels that could be created by subdivision in an unplanned manner. To be effective, the minimum lot size would be a pre-requisite for expanding the range of uses allowed under the mixed-use overlay zone. However, the minimum parcel standards should not preclude subsequent reasonable future subdivision of land into smaller

parcels that would be needed to support market requirements such as the financing and sale of development components.

#### ■ Comments on Potential Procedural Changes

- DESIGN GUIDELINES COULD BE BENEFICIAL TO FUTURE PERMITTING AND APPROVAL PROCESSES – Design guidelines could be provided as a shared basis for the design and site planning decisions associated with new development within the study area.
- CONSOLIDATING THE PERMITTING AND REVIEW PROCESS FOR DEVELOPMENTS WITHIN THE CORRIDOR WOULD PROVIDE FOR A MORE PREDICTABLE, CONSISTENT, AND EFFICIENT PROCESS FOR DEVELOPERS AND FOR THE TOWN – Clear, predictable review and approval processes are an incentive for desirable reinvestment. They also lead to more coherent and consistent project reviews and approvals to link planning and the zoning that implements Town goals.

#### Observations on Overlay Zoning and Planned Development Areas (PDA's)

- THE TOWN COULD CONSIDER A PLANNED DEVELOPMENT AREA PROVISION TO PROVIDE FOR A SPECIAL MASTER PLANNING PROCESS FOR LARGE SITE DEVELOPMENT – This type of zoning tool can be used to establish specific standards and guidelines to shape large and phased development projects. A PDA provision could be provided as part of an overlay zone.

#### Observations on Transfer of Development Rights (TDR)

- OBSERVATIONS PROVIDED IN THIS REPORT – This report includes a description of Transfer of Development Rights (TDR) as a land use management tool, and provides observations regarding its potential applicability to the study area.

# METHODOLOGY

This study considered several both existing and prospective zoning for the study area from several perspectives, and using several methods. During the course of the study, a series of meetings and discussions were held with the Sudbury Planning Board and the Planning and Community Development Department to guide the process and confirm the methods being employed.

## Prototypical Sites and Zoning Evaluations

Part of this study was designed to test the relationships between zoning concepts and actual site and development conditions using a selection of existing sites within the study area. The sites represent different scales, proportions, level of existing development and existing zoning designations. This approach provides the ability to draw reasonable general conclusions about similar sites and conditions within the study area. Prototypical sites within the study area where chosen and confirmed by the Planning and Community Development staff and discussed with the Planning Board prior to conducting more detailed analysis.

The study considered both existing development under existing zoning and potential future development that might reasonable occur if a new mixed-use zoning overlay were applied to the study area.

## Evaluation of Existing Conditions and Zoning Parameters

The existing conditions and zoning parameters were analyzed to determine the opportunities and constraints for additional development under current and prospective zoning bylaw.

Base maps of each site were prepared using aerial photography and GIS mapping that included the locations of property lines, buildings, streets, parking areas, wetland setbacks, and other pertinent site information. The base maps where then utilized to determine the net buildable area, gross floor area, parking information, and floor area ratios for each site. Additionally, building setback distances and lot frontage dimensions where inventoried.

The existing zoning bylaw was reviewed to determine the key factors that would have a dominant influence upon the density, massing and disposition of additional development upon each site. Maximum build-out scenarios were then developed using the existing zoning parameters and likely achievable floor area ratios (FAR's) in suburban market conditions.

## Zoning Standards and Scenario Site Plans

The zoning concepts provided in the *The Sudbury Route 20 Zoning Project* (MAPC) were initially employed to establish prospective zoning parameters. However, many of the zoning descriptions in that report provide general concepts without the level of detail and specific parameters that a zoning bylaw will require.

Additional detail concerning prospective uses and dimensional parameters were then developed with input from the Planning Board and Planning and Community Development staff that would more closely resemble the desired uses and community character envisioned by the town along different sections of the Route 20 corridor within the study area. The drafted dimensional parameters were then used to generate representative site plans and 3-dimensional models that would be achievable under assumed market conditions. The resulting building volumes, density and other characteristics associated with the potential dimensional parameters were compared with the likely development characteristics to occur under existing zoning bylaw.

The Cecil Group then provided a series of observations and recommendations concerning the potential effectiveness of the zoning concepts to achieve the Town's goals and suggested refinements in the zoning concepts, based on its analyses and experience with similar development and contemporary zoning methods.

Images representing potentially desirable development were discussed with the Planning Board. The design characteristics of potential future development were assumed to be similar to these examples. A selection of relevant images are shown in [Figure 3](#).

## Responses to Questions and Requests

The Cecil Group prepared information and evaluations of additional related questions and requests from the Planning Board and the Planning and Community Development staff. These methods used in this report include the following:

- **COMPARISONS OF PROSPECTIVE ZONING CHANGES RELATIVE TO EXISTING ZONING STANDARDS** – The existing zoning tables for uses and dimensions were used as the basis for listing zoning changes relative to existing zoning parameters
- **SEWER AND ZONING RELATIONSHIP** – Observations on the relationship between potential sewer improvements in the study area and zoning as incentives for development used information provided by the Planning and Community Development Department, the *Assessment of Wastewater Management Needs for the Route 20 Business District*, Weston & Sampson, June 2001, and the *Route 20 Wastewater Project Evaluation Report*, Weston & Sampson, June 2013.

**Figure 3 – Examples of Intended Development Character**



Wayland Town Center, Wayland



1502 Tremont Place, Duxbury



Mixed-use Development, Falmouth



TD Bank, Sudbury



Oak Grove Village, Melrose



Concord Riverwalk, Concord

- **INCENTIVE EVALUATIONS** – The evaluation of how prospective zoning measures might serve as either an incentive or disincentive for the area was based on The Cecil Group experience with real estate economics and development practices for similar areas and project types.
- **TDR EVALUATIONS** – The description and evaluation of Transfer of Development Rights (TDR) as a land use management tool in the study area was based on The Cecil Group’s experience and analysis of land development economics and TDR tools in other communities.
- **EXAMPLES** – The Cecil Group provided a range of examples of mixed use development from other communities for the Planning Board’s consideration and discussion, and several examples considered appropriate for Sudbury have been included in this report.
- **OTHER LAND USE MANAGEMENT TOOLS** – The discussion of other procedural changes and land use management tools that the Town may consider to help achieve its planning goals for the study area is based on The Cecil Group’s experience with similar circumstances in other communities.

# PLANNING CONTEXT

## Previous Plans and Studies

### Sustainable Sudbury Master Plan (2001)

*The Sustainable Sudbury Master Plan*, prepared by The Town of Sudbury, laid out a framework for sustainable growth consistent with the Town's character for the foreseeable future.

### A Community Vision for the Old Post Road (2002)

*A Community Vision for the Old Post Road*, prepared by The Cecil Group, illustrated potential physical design recommendations for open space, mixed-use development and streetscape treatment that would create a better commercial and civic environment along the Route 20 corridor.

### Sudbury Route 20 Zoning Project (2012)

*The Sudbury Route 20 Zoning Project* prepared by the Metropolitan Area Planning Council (MAPC) identified general options for land use controls along a two mile portion of Route 20 that would encourage development to be consistent with the Town's character. Planning and regulatory changes were considered during this process and included:

- Overlay zones as a regulatory method
- An overlay zone mechanism that would be optional and administered through the Special Permit Granting Authority
- Mixed use district concepts
- Transfer of Development Rights as a land use management tool
- Restriction of ground floors to commercial or retail uses throughout the area
- Dimensional parameters for height limits, setbacks, minimum lot frontages
- Recommended uses for the area as a whole

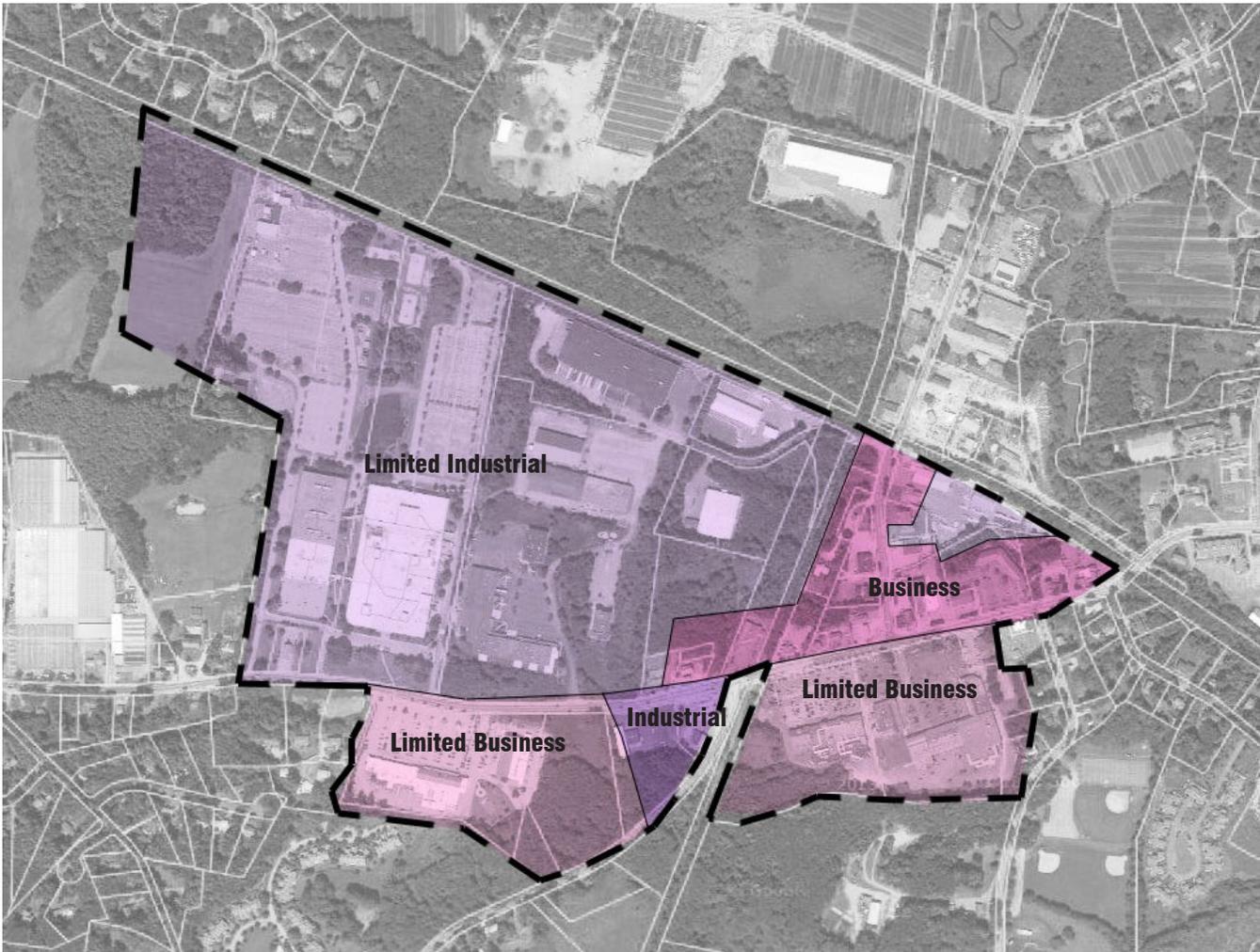
## Existing Regulations

### Zoning Districts

The existing zoning in the study area includes four different zoning district designations. Business, Limited Business, Industrial and Limited Industrial are defined in the *Town of Sudbury, Map 5: Zoning* and shown in **Figure 4**. This map also indicates adjacent zoning categories outside of the study area (Single Residence A and Village Business).

Most existing land uses in the study area are legally permissible under current zoning. The principal uses permitted in the districts are defined in *Section 2230 Appendix A - Table of Principal Use Regulations* and the dimensional

**Figure 4 - Sudbury Study Area with Existing Underlying Zoning Districts**



requirements are defined in *Section 2600 Appendix B – Table of Dimensional Requirements* of the Sudbury Zoning Bylaw.

### Water Resource Overlay District

The entirety of the study area sits within Zone II of the Water Resource Protection Overlay District. Within Zone II, maintenance, repair and enlargement of any existing structure is permitted provided no more than fifteen percent (15%) of the lot in total is rendered impervious. Residential development, if permitted in the underlying district, is permitted provided that no more than fifteen percent (15%) of a building lot is rendered impervious. Exceeding these thresholds for impervious cover may be allowed by Special Permit from the Planning Board, provided it is demonstrated that a net improvement to existing conditions is made with respect to water quality and groundwater recharge.

It should also be noted that individual on-site sewage disposal systems for business, industrial, research or institutional uses discharging more than 1,000 gallons per day (gpd) per 40,000 square feet of lot area are prohibited unless granted approval by the Sudbury Board of Health for meeting DEP drinking water performance goals.

## Site Plan Review Regulations

The zoning bylaw establishes the types of activities and uses that require site plan review. Below is a selection of the activities and uses that require approval that are relevant to the purposes of this study, but most commercial development, redevelopment and expansion of commercial uses requires site plan approval.

- Construction or exterior expansion of, or change of use within, a municipal, institutional, exempt, commercial, or industrial structure involving more than 500 square feet.
- Construction or expansion of a parking lot for a municipal, institutional, exempt, commercial, or industrial structure or purpose.
- Substantial alteration to areas for parking, loading or vehicular access, including a change in the layout or location of parking spaces, an increase in pavement area or any relocation, addition or change in driveways. Resurfacing shall not be construed as a substantial alteration unless it involves a change of surface material.

## Subdivision Rules and Regulations

Proposed subdivisions require approval from the Sudbury Planning Board and need to comply with *Sudbury's Rules and Regulations Governing the Subdivision of Land*. The regulations put forth specific design and improvement standards for roadway design, easements, open spaces, protection of natural resources, landscaping, and stormwater design. Few commercial properties require subdivision approval as there is no minimum lot area for properties in BD, LBD and ID zoning districts.

## Parking and Driveways

The Town of Sudbury *Zoning Bylaw Article IX, 2014* gives specific dimensional standards for parking design and space requirements for defined uses. Some of the relevant standards drawn from the regulations that are applicable to the study area include:

- The parking regulation for mixed-use developments requires that spaces be provided for the sum of the requirement for each different use.
- Small car stalls are permitted for parking areas that contain more than 40 parking stalls. Fifteen percent of the parking lot can be dedicated to small car use, except for retail stores, service businesses, and restaurant uses.

- Parking spaces or other paved surfaces, other than driveways and walkways, may not be located within ten feet of any lot line or located within the limits of a landscape buffer area required in section 3543 of the zoning bylaw.
- For all non-residential uses, parking must be located to the side or the rear of buildings.
- Bicycle racks must be provided for parking areas of ten or more spaces at a rate of one bicycle space per ten vehicular parking spaces.
- Business and Industrial use lots may have one additional access driveway for each 200 feet of frontage provided all such access driveways are at least 200 feet apart on the lot measured from the centerline of each access driveway.
- The zoning bylaw permits common driveways that serve two or more lots used for business, research or industrial use and located in the Business, Limited Business, Industrial, Limited Industrial Districts - provided that the common driveway is no wider than 40 feet at any point where it crosses required open space or any parking required setback.

## Existing Conditions: Prototypical Sites

Prototypical sites were employed as a means to consider prospective zoning changes relative to existing conditions. The prototypical sites were selected within both Area A and Area C.

### Rugged Bear Plaza Area

The Rugged Bear Plaza and adjacent parcels constitute a site area of approximately 5.1 acres. The site consists of a mix of one and two story retail developments and a vacant auto body shop. The majority of parking is located towards the front of the buildings with multiple points of entry.

**Figure 5 - Rugged Bear Plaza**



# Sudbury Crossing

The Sudbury Crossing property is approximately 9.7 acres and is a shopping complex comprised of a mix of anchor stores and smaller format retail. The buildings on the site are all one story. The majority of parking is located within the front of the property and there is one point of entry.

**Figure 6 - Sudbury Crossing**



## Interstate Gas and Oil Area



The Interstate Gas and Oil area site is approximately 4.4 acres. The site is comprised of an abandoned gas station and a one story building housing the Interstate Gas and Oil office and a barber shop. The site lacks definition of entries and there is little separation between the roadway and parking.

### **Figure 7 - Interstate Gas and Oil Area**

## Sudbury Plaza

The Sudbury Plaza property is approximately 9.2 acres and is a shopping complex comprised of a mix of anchor stores and smaller format retail. The buildings on the site are all one story. The majority of parking is located within the front of the property and there are three points of entry.

**Figure 8 - Sudbury Plaza**



## Raytheon Property

The Raytheon property is 49.6 acres and contains an industrial and office complex for the Raytheon Company. The structures vary in height between one to two stories and are setback approximately 245 feet from the roadway. Two points of entry are used to access the property and the parking is located at the rear.

The property is within the Town's Limited Industrial Zone (LID) classification.

During the course of the study, the owners of this site announced the intent to close their operations and offer the site for sale and redevelopment. Because of these circumstances and the need for the Town to undertake separate discussions and evaluations, the study of this property was limited to a review of existing zoning and development conditions. As a result, the conclusions and recommendations associated with the Limited Industrial Zone are based on general observations regarding the characteristics of all of the properties within this zone.

**Figure 9 - Raytheon Site**



## **Land Use Conditions**

The corridor largely consists of a mix of shopping complexes and smaller retail and service oriented developments. Two large industrial complexes, Raytheon Company and Chiswick Park, are located towards the western part of the study area. Most structures within the study area are one story with a few structures reaching two stories.

With the exception of the Interstate Gas and Oil site, the properties have floor area ratios that are typical of similar suburban developments and effectively maximize lot coverage for the existing uses.

Floor area ratios (FAR) are a commonly used indicator of density and intensity of use. It is a ratio of the gross building area on a site, divided by the total site area. So, for example, a one-story building that covered an entire site without any setbacks, parking or site improvements would have an FAR of 1.0.

In suburban environments, a significant portion of developed sites is typically associated with surface parking, landscaped setbacks, and site circulation. Environmental standards limit the areas where buildings can be built, as well. So, for example, wetlands or septic fields can occupy site area.

In general, the site area required for parking and circulation for many suburban uses such as retail, restaurant and commercial uses is approximately the same as the floor area within buildings. As a result, when additional floors

are added to a building, site area needs to be available for more parking. So creating more height does not result in higher density, because larger sites are needed to support taller buildings.

If there are environmental constraints on a site, this achievable ratio is diminished in proportion to the extent of land that cannot be used buildings, parking, or circulation.

For suburban sites that have retail, commercial, restaurant and similar uses, the maximum achievable FAR on sites without significant environmental constraints ranges from about .25 for uses that require substantial parking such as grocery stores to about .35 for office uses.

The achievable FAR for multi-family housing in suburban areas without environmental constraints is somewhat higher, because the building areas do not require quite as much proportional parking. As a result, achievable FAR in the range of .4 to about .5 are typical, depending upon the dimensional requirements in zoning and other factors.

The FAR associated with industrial uses is dependent upon the individual establishments and the number of employees, visitors, and deliveries that need to be taken into account. If an establishment operates similar to an office environment, then achievable FAR's will be the same as for office uses in a suburban setting, peaking at about .35 in the absence of environmental constraints.

The analysis of the densities of the prototypical sites (see **Table 2**) indicates that they are approaching full utilization, with the exception of Interstate Gas and Oil.

**Table 1 - Prototypical Sites FAR Values**

PROTOTYPICAL SITES	FLOOR AREA RATIO (FAR)
Rugged Bear Plaza Area	0.27
Sudbury Crossing	0.23
Interstate Gas and Oil Area	0.07
Sudbury Plaza	0.20
Raytheon Property	0.25

## Wastewater Conditions

The development densities of the prototypical sites are also limited by the wastewater capacity of individual sites, as well as the restrictions for septic systems located in Zone II of the Water Resource Protection Overlay District.

Constraints on future development of commercial and industrial zoned land within the study area are documented in reports prepared for the Town, including the *Assessment of Wastewater Management Needs for the Route 20 Business District*, Weston & Sampson, June 2001 and the *Route 20 Wastewater Project Evaluation Report*, Weston & Sampson, June 2013.

Under the Water Resource Protection Overlay District bylaw, uses that will render impervious 15 percent of the lot or 2,500 square feet, whichever is greater, are subject to special permit approval by the Planning Board, provided that it is demonstrated that a net improvement to existing conditions is made with respect to water quality and groundwater recharge. The *Sudbury Route 20 Zoning Project* stated that the Planning Board has granted permits that have resulted in 50 percent impervious cover in the Zone II Area.

## Transportation and Parking

The developments along Route 20 are accessed primarily by vehicle and large parking areas serving the area's uses. Most commercial businesses access Route 20 directly from individual driveways and curb cuts. There are few shared access drives, and only one alley which is not accessible from Route 20. As shown in the table below, some of the developments have parking quantities that are less than what is required by the zoning bylaw.

**Table 2 - Comparison of Existing Parking with Required Parking**

PROTOTYPICAL SITES	EXISTING PARKING SPACES	ESTIMATED PARKING SPACES REQUIRED BY ZONING BYLAW
Rugged Bear Plaza Area	219	326
Sudbury Crossing	397	544
Interstate Gas and Oil Area	68	70
Sudbury Plaza	434	436
Raytheon Property	1,854	60 + # of employees

Several of the parking areas along the Route 20 corridor have landscape buffers that partially screen the view from the roadway and adjacent properties. The zoning bylaw sets forth specific requirements for the screening and landscaping of parking areas.

Public transportation is not readily available within the area.

# Development Patterns

The development patterns along Route 20 within the study area are indicative of a typical suburban commercial corridor. The buildings are set back relatively far from the roadway and large parking areas are located primarily between the roadway and buildings. It should be noted that some newer developments, such as TD Bank and the proposed Northern Bank site, have located their buildings closer to the roadway and have placed parking in the rear.

# Pedestrian Environment

The Route 20 corridor is primarily automobile-oriented and accommodations for pedestrians are lacking. A narrow, sometimes undefined sidewalk exists on the north side of Route 20, but it is interrupted by the numerous and relatively wide entries into the shopping plazas. Defined crosswalks are missing at most entries, forcing pedestrians to cross wide expanses of roadway. Accessible curb cuts and detectable warning pavers are missing at many of the intersections and entry crossings.

The development patterns do not provide a convenient or safe pedestrian environment that connects uses and destinations. For example, many of the buildings do not have walkways connecting to the sidewalk on Route 20 or to adjacent properties. Although Sudbury Plaza and Sudbury Crossing shopping centers have walkways that connect the storefronts to the roadway, there are no sidewalks along the roadway.

The scale and comfort of the pedestrian environment is also uninviting for users. Where sidewalks exist, there is little separation or buffer between them and the busy roadway. The landscape and streetscape treatments in most locations are not designed to reinforce the pedestrian experience.



# FINDINGS AND RECOMMENDATIONS

## Potential for Redevelopment of Existing Site Capacity

The Cecil Group prepared evaluations of the existing development on each of the prototypical sites to provide an assessment of their capacity for future development. The capacity studies took into account the typical land use, building configurations and site requirements associated with feasible development in similar suburban locations in the greater Boston area. These factors provide the basis for understanding the opportunities to increase the intensity and extent of uses in the future. Appendix A includes graphics and tables that describe the sites and the results of the evaluations.

The prototype sites chosen for this study are approaching typical maximum site capacities for development of similar uses in suburban settings, with the exception of the Interstate Oil site, which has been previously used for truck operations and a gas station and is significantly underdeveloped and under-utilized.

Redevelopment potential was considered, taking into account the types of uses and dimensional standards that might be associated with new mixed use development overlay zoning where the following circumstances occur:

- **BUILDING AND SITE REDEVELOPMENT WILL OCCUR WHERE EXISTING BUILDINGS AND USES ARE OUTMODED** – Buildings may be demolished and sites entirely redeveloped where existing uses and improvements are substantially outmoded and misaligned with contemporary market demand and effective use of the sites. Substantial or complete redevelopment of the Interstate Oil site exemplifies this potential. The Raytheon site could exemplify this potential, if a comparable industrial use meeting existing zoning standards does not re-occupy the existing building area to replace Raytheon’s operations.
- **MARGINAL, INCREMENTAL DEVELOPMENT WHERE EXISTING BUILDINGS AND USES ARE CURRENTLY OCCUPIED BY MARKET-SUPPORTED USES AT SUBURBAN DENSITIES** – On sites that are occupied by buildings and parking that can be profitably leased or operated within current market conditions, reinvestment will most likely consist of renovating existing buildings or providing limited additional building areas on portions of the land that may be available due to future zoning changes and sewer improvements.
- **THE INCREASED RANGE OF USES AND CHANGES IN DIMENSIONAL STANDARDS WILL NOT BE SUFFICIENT INCENTIVE TO INDUCE DEMOLITION OF VIABLE EXISTING BUILDINGS AND REPLACEMENT WITH NEW DEVELOPMENT** – Where sites are substantially “built out” with densities that are

supportable within typical suburban market conditions and perform well financially, property owners will not have adequate financial incentives to demolish and reconfigure performing real estate assets.

Relevant observations concerning each of these sites support these findings, as discussed next.

## Rugged Bear Plaza Area

This area consists of several buildings and associated parking lots. Some of the sites are linked with internal circulation connections that allow vehicles to move among the parking lots without exiting to the street. The analysis took into account the footprint and configuration of the new bank project that was designed for the corner lot. Some lot areas are impacted by wetlands.

The existing FAR for this collection of buildings and parcels is about .30, indicating that it is intensely used, approaching maximum practical densities under current conditions. Within these circumstances, incentive for redevelopment would be associated with replacing outmoded buildings and sites with new buildings, such as occurred at the bank site. However, if buildings can be leased or employed effectively my market-demanded uses, there is little incentive to demolish, replace and re-organize the buildings and the sites.

However, there may be marginal opportunities associated with changes in zoning or other factors. For example, reduced setback requirements could allow the addition of about 2,000 square feet of space to the parcel occupied by the Rugged Bear. The addition may need to be accompanied by either additional parking, shared parking on other sites, or a reduction in parking requirements. The results are pictured in the graphic example. This site has some wetland constraints that reduce the achievable density, but a “buildout” FAR of .31 is depicted for that site. Such an addition would meet the Town’s purposes of creating a better street presence and support the pedestrian environment along a Route 20 sidewalk.

A scenario illustrates redevelopment of two other sites within the area, conforming to the dimensional concepts of mixed-use overlay zoning. In one case, one building might be determined to be outmoded and its replacement would be placed closer to the street, like the new bank on the corner. On another site, a large building addition might be created if shared parking with other lots were allowed and implemented. The resulting scenario would provide about 20,000 additional square feet to the area, reaching a “buildout” FAR of .35.

## Sudbury Crossing

The Sudbury Crossing scenario explored the potential to develop two-story buildings close to Route 20, with the setbacks that would be permitted. This would result in a significantly altered appearance along the street frontage and reinforce the urban design goals contained in the prospective mixed-use zon-

ing. This development density might be achieved using more effective shared use parking and lower required ratios than allowed under current zoning. It would also likely require sewer system improvements.

### Interstate Gas and Oil Area

These sites are underutilized today. New development was envisioned in the form of two new buildings near Route 20, to augment the existing building that would remain. The illustrations indicate a two-story building near the intersection and an adjacent one-story building. This combination is balanced by parking areas that would be needed. A similar scenario could be created for a single two-story building, if the overlay zoning prohibits single-story buildings along Route 20.

The achieved FAR in this scenario is .21. The relatively low density is due to the inefficient geometry of the sites and wetlands.

### Sudbury Plaza

The Sudbury Crossing scenario illustrates the potential to develop two buildings close to Route 20, with the setbacks that would be permitted. These could be developed as one-story buildings as shown, or as two-story buildings with smaller footprints. There would be no appreciable difference in the achieved density among these two approaches. This development density could be achieved through shared use parking and lower parking ratios than allowed under current zoning. It would also likely require sewer system improvements.

### Raytheon Property

The evaluation of existing conditions indicated that the Raytheon is relatively densely developed for an industrial site. The existing FAR of .25 is similar to commercial office or research & development facilities in suburban locations.

Due to the fact that Raytheon announced its intention to close its operation and potentially dispose of its property, investigations of site development potential were not pursued as part of this study, and the Town has undertaken separate processes to consider the potential for the site.

## Potential Regulatory Changes to Implement Mixed Use Overlay Districts

In order to implement the mixed-use concepts for Area A and Area C that have been advanced through preceding plans and studies, a series of changes will be required to Sudbury's zoning. This section of the report describes some of the components that would need to be incorporated into amended zoning. This section incorporates recommendations provided by The Cecil

Group and input from the Planning Board and the Planning and Community Development staff.

## Purposes

Revised zoning should be aligned with explicit public purposes. The following list has been drawn from the concepts from previous plans and studies, and could accompany zoning for new mixed-use overlay districts for Area A and Area C.

- **SITE DEVELOPMENT COMPOSITION AND PATTERNS** – Zoning should promote efficient and organized layout of buildings, parking areas, vehicular circulation, and pedestrian walkways.
- **USE MIX** – Zoning should encourage multiple uses in single buildings, or located in separate buildings on a property. In addition to private development, civic buildings and public opens spaces are recommended, as they can form a cohesive organizing element among the different developments and heighten the diversity of activities.
- **PEDESTRIAN ENVIRONMENT AND CONNECTIVITY** – Zoning should promote improved facilities and circulation for the safety, comfort, ease of movement, and convenience of pedestrians. This includes providing for continuous sidewalks along both sides of streets and walkway connections among all buildings on a site and all parking areas.
- **ARCHITECTURAL CHARACTER** – Zoning should be of an aesthetic that more closely emulates the Town’s traditional style and sense of history. The roof shape, building scale, articulation, and exterior materials are all important style elements that should be considered for new developments or renovations. Buildings that have individual integrity, rather than large bulky shopping complexes, should be promoted.
- **SITE AMENITIES, LIGHTING AND LANDSCAPING** – Zoning should require that new developments provide site amenities and landscaping that are traditional in character and provide convenience for pedestrians, including settings for resting, sitting and eating, and social encounters with others. Trees and landscaping are encouraged to provide shelter for pedestrians, traffic speed reduction, ecological enhancement and the establishment of a sense of place.
- **TRANSPORTATION AND PARKING** – Zoning should provide for overall traffic safety and operation along the Route 20 Corridor. Parking areas should provide for developments without being in excess of what is needed, should be flexible and cater to individual development needs. Parking should be placed in a manner that is not detrimental to the intended character of the corridor. Bicycle accommodations should be encouraged.

- INCENTIVES FOR REINVESTMENT AND IMPROVEMENT – Zoning should encourage development and economic investment that is of the type and character desired by the Town.
- PROJECT REVIEW AND APPROVAL PROCESS – The project review and approval process should be consolidated, efficient and timely.

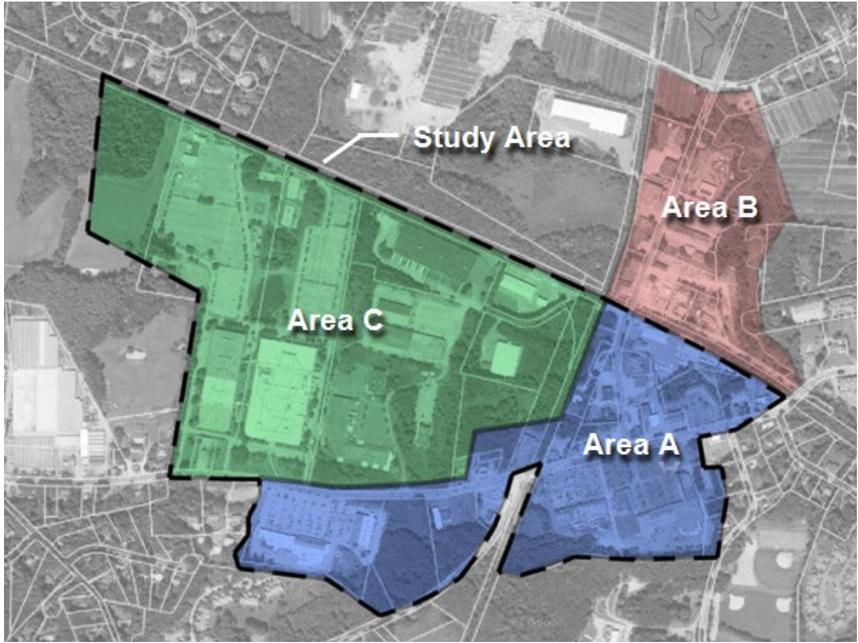
### Potential Revisions to Use and Dimensional Standards and the Study Areas

The potential use and dimensional standards revisions listed below represent a combination of suggestions provided by the Department of Planning and Community Development and the Planning Board. These could be implemented through overlay zones.

The following tables refer to the Area designations, which would become overlay zones.

- Area A is located in the eastern part of the study area and includes the Business, Limited Business, and Industrial Zoning Districts. The area consists of a mix of shopping complexes and smaller retail and service oriented developments.
- Area C is located in the western part of the study area and includes the Limited Industrial Zoning District 1. The area consists primarily of large industrial buildings.

**Figure 10 - Prospective Use Areas Map**



## Potential Revised Use Standards

The analyses prepared for this study led to the following observations and recommendations. An overlay district as currently being considered by Sudbury, would provide optional regulations, while the underlining zoning would remain intact. Projects that would benefit from new overlay zoning provisions such as uses that would not otherwise be allowed, would be subject to supplementary regulations. Overlay provisions would govern such topics as use standards, dimensional standards, parking provisions and other factors.

## Potential Revisions to Use Regulations

**Table 3 - Area A Use Regulations Revisions for Consideration**

PRINCIPAL USE	UNDERLYING EXISTING DISTRICTS			*** OVERLAY ZONE APPLICABILITY (•)
	BD	LBD	ID	
<b>RESIDENTIAL</b>				
Single-family Dwelling	N	ZBA	N	
Residential apartments on second and/or third floors, above ground level business uses**	N	N	N	•
Boarding House	N	ZBA	N	
Cluster Development	N	N	N	
Flexible Development	N	N	N	
Senior Residential Community	N	PB	N	
Incentive Senior Development	N	PB	N	
Residential Care Facility	N	N	N	
Attached Single Family (Townhouses)*	N	N	N	
Multi-Family Housing*	N	N	N	
Live/Work Units*	N	N	N	
<b>EXEMPT AND INSTITUTIONAL USES</b>				
Use of land or structures for religious purposes	Y	Y	Y	•
Use of land or structures for educational purposes on land owned or leased by the commonwealth or any of its agencies, subdivisions or bodies politic or by a religious sect or denomination, or by a nonprofit educational corporation	Y	Y	Y	•
Family Day Care	Y	Y	Y	•
Child Care Facility (in existing building)	Y	Y	Y	•
Child Care Facility (not defined in M.G.L., Chapter 28A, section 9)	ZBA	ZBA	ZBA	•

PRINCIPAL USE	UNDERLYING EXISTING DISTRICTS			*** OVERLAY ZONE APPLICABILITY (•)
	BD	LBD	ID	
Use of land for the primary purpose of agriculture, horticulture, floriculture, or in accordance with M.G.L. c. 40A, s.3	Y	Y	Y	•
Facilities for the sale of produce, and wine and dairy products, provided that during the months of June, July, August, and September of every year, or during the harvest season of the primary crop, the majority of such products sale, based on either gross sales dollars or volume, have been produced by the owner of the land containing more than five acres in area on which the facility is located	Y	Y	Y	•
Municipal Purposes	Y	Y	Y	•
Essential Services	ZBA	ZBA	ZBA	•
<b>COMMERCIAL</b>				
Agricultural Use, nonexempt	Y	Y	Y	
Educational Use, nonexempt	ZBA	ZBA	ZBA	•
Farm Stand, nonexempt	Y	Y	Y	•
Animal Clinic or Hospital	N	N	BOS	
Kennel	ZBA	ZBA	ZBA	
Nursing or convalescent home and assisted care facility	ZBA	ZBA	N	
Funeral home	ZBA	ZBA	ZBA	
Adult day care facility	ZBA	ZBA	ZBA	
Bed and Breakfast	ZBA	ZBA	ZBA	
Motel or hotel	N	N	ZBA	
Retail stores and services not elsewhere set forth	Y	Y	N	•
Motor vehicle sales and rental	N	N	ZBA	
Motor vehicle general and body repair	N	N	ZBA	
Motor vehicle light service	N	N	ZBA	
Personal service establishment	Y	Y	N	•
Restaurant	Y	Y	Y	•
Business or professional office	Y	Y	Y	•
Medical center or clinic	N	ZBA	N	•
Bank, financial agency	Y	Y	Y	•
ATMs, kiosks and similarly sized service booths and detached structures	N	N	N	

PRINCIPAL USE	UNDERLYING EXISTING DISTRICTS			*** OVERLAY ZONE APPLICABILITY (•)
	BD	LBD	ID	
Drive-in establishments regularly dispensing merchandise or money from inside a building to persons outside but excluding the dispensing of food or drink	Y	N	N	
Indoor commercial recreation	ZBA	N	ZBA	
Outdoor commercial recreation	N	N	ZBA	
Club or lodge, private	Y	Y	Y	
Major commercial project	ZBA	ZBA	ZBA	•
Pools, Private (reference section 2325)	N	ZBA	N	
Pools, Public or semi-public (reference section 2325)	N	ZBA	N	
Medical Marijuana Treatment Center	N	N	SP	
<b>INDUSTRIAL</b>				
Light manufacturing	Y	Y	Y	
Laboratory for research and development	Y	N	N	
Wholesale, warehouse, self-storage, mini-warehouse or distribution facility	N	N	Y	
Manufacturing	N	N	Y	
Wholesale or retail lumber yard	N	N	Y	

### NOTES ON TABLE 3

\* Use category should be defined in zoning bylaw

\*\* The Cecil Group notes that a restriction on ground level housing is likely to be a substantial deterrent to feasible redevelopment of large sites for mixed use development. Urban design goals for the visual character and activation of street frontage might be accomplished with this standard, and ground level housing could be permitted if it is greater than 100 feet from a bordering public street.

\*\*\* Projects for this use could take advantage of overlay zoning provisions.

**Table 4 - Area C Use Regulations Revisions for Consideration**

<b>PRINCIPAL USE</b>	<b>UNDERLYING “LID” DISTRICT</b>	<b>*** OVERLAY ZONE APPLICABILITY (•)</b>
<b>RESIDENTIAL</b>		
Single-family Dwelling	N	
Residential apartments on second and/or third floors, above ground level business uses**	N	•
Boarding House	N	
Cluster Development	N	
Flexible Development	N	
Senior Residential Community	N	•
Incentive Senior Development	N	•
Residential Care Facility	N	
Attached Single Family (Townhouses)*	N	•
Multi-Family Housing*	N	•
Live/Work Units*	N	•
<b>EXEMPT AND INSTITUTIONAL USES</b>		
Use of land or structures for religious purposes	Y	•
Use of land or structures for educational purposes on land owned or leased by the commonwealth or any of its agencies, subdivisions or bodies politic or by a religious sect or denomination, or by a nonprofit educational corporation	Y	•
Family Day Care	Y	•
Child Care Facility (in existing building)	Y	
Child Care Facility (not defined in M.G.L., Chapter 28A, section 9)	ZBA	•
Use of land for the primary purpose of agriculture, horticulture, floriculture, or in accordance with M.G.L. c. 40A, s.3	Y	•
Facilities for the sale of produce, and wine and dairy products, provided that during the months of June, July, August, and September of every year, or during the harvest season of the primary crop, the majority of such products sale, based on either gross sales dollars or volume, have been produced by the owner of the land containing more than five acres in area on which the facility is located	Y	•

PRINCIPAL USE	UNDERLYING “LID” DISTRICT	*** OVERLAY ZONE APPLICABILITY (•)
Municipal Purposes	Y	•
Essential Services	ZBA	•
Agricultural Use, nonexempt	Y	•
Educational Use, nonexempt	ZBA	•
Farm Stand, nonexempt	Y	•
Animal Clinic or Hospital	N	•
Kennel	ZBA	•
Nursing or convalescent home and assisted care facility	N	•
Funeral home	ZBA	•
Adult day care facility	ZBA	•
Bed and Breakfast	ZBA	•
Motel or hotel	N	•
Retail stores and services not elsewhere set forth	N	•
Motor vehicle sales and rental	N	
Motor vehicle general and body repair	N	
Motor vehicle light service	N	
Personal service establishment	N	•
Restaurant	N	•
Business or professional office	Y	•
Medical center or clinic	N	•
Bank, financial agency	Y	•
ATMs, kiosks and similarly sized service booths and detached structures	N	
Drive-in establishments regularly dispensing merchandise or money from inside a building to persons outside but excluding the dispensing of food or drink	N	
Indoor commercial recreation	ZBA	•
Outdoor commercial recreation	Y	•
Club or lodge, private	Y	•
Major commercial project	ZBA	•

PRINCIPAL USE	UNDERLYING "LID" DISTRICT	*** OVERLAY ZONE APPLICABILITY (•)
Pools, Private (reference section 2325)	N	•
Pools, Public or semi-public (reference section 2325)	N	•
Medical Marijuana Treatment Center	N	
Light manufacturing	Y	
Laboratory for research and development	Y	
Wholesale, warehouse, self-storage, mini-warehouse or distribution facility	Y	
Manufacturing	Y	
Wholesale or retail lumber yard	ZBA	

#### NOTES ON TABLE 4

\* Use category should be defined in zoning bylaw

\*\* The Cecil Group notes that a restriction on ground level housing is likely to be a substantial deterrent to feasible redevelopment of large sites for mixed use development. Urban design goals for the visual character and activation of street frontage might be accomplished with this standard, and ground level housing could be permitted if it is greater than 100 feet from a bordering public street.

\*\*\* Projects for this use could take advantage of overlay zoning provisions.

## ■ Observations on Potential Restrictions on Ground Floor Uses

The overlay zoning concepts in the MAPC Report included a prospective requirement that the ground floors of all uses be reserved for commercial or retail uses. However, analyses of multi-use development economic and design issues suggest that this may represent a significant restriction on new housing in the study area, for several reasons.

- **PRACTICAL LIMITS ON THE AMOUNT OF RETAIL AND OFFICE DEMAND FOR SPACE THAT HAS THE SAME PROPORTIONS AS UPPER FLOOR RETAIL** – Housing is normally composed with certain dimensions associated with the depth of units, distances from windows, relationships of corridors to windows, efficient floor sizes and the like. Retail and office floors often have different requirements, and in some cases do not align with residential units. It is unlikely the physical amount and proportions of the housing and retail/office uses will be precisely aligned and supportable by the market.
- **DESIGN AND BUILDING CODE IMPLICATIONS** – Buildings that stack housing above retail or office use have more complex vertical circulation, mechanical systems, fire rated separations and other complexities that make multiple use buildings more expensive to build than single use buildings, and can eliminate practical feasibility in some circumstances.
- **URBAN DESIGN CONSIDERATIONS** – If a mix of uses is desirable to create the type of districts and draw investment as articulated in previous studies, it is not clear why uses must be physically stacked upon one another, rather than being in separate buildings that are linked by pedestrian paths, circulation, open space and other site features.

In view of these observations, if the Town wishes to encourage mixed-use development that includes housing, it may consider providing more flexibility and not exclusively require stacked, mixed-use buildings. However, along certain areas such as buildings close to Route 20 where ground floor housing would be less desirable and retail or office uses more in keeping with the business and retail environment, a stacking requirement might be provided.

In some zoning formulations, the distinction between the character in the front and back portions of sites is regulated through the concept of “tiers”. The front portions (say, for example, the initial 100 feet from the road) becomes the front tier, and has appropriate standards. Different standards can then apply to areas further back from the road (interior tiers).

## Potential Revised Dimensional Standards

### ■ Dimensional Standards for Mixed-Use Relative to Underlying Zones

**Table 5 - Area A Dimensional Standards for Consideration**

	UNDERLYING EXISTING DISTRICTS			ZONE A
	BD	LBD	ID	
Min. Lot Area (sq. ft.)	N/A	N/A	N/A	N/A
Max. Front Yard Setback (ft.)	N/A	N/A	N/A	25
Min. Front Yard Setback (ft.)	20 <sup>3</sup>	35	20	15
Min. Side Yard Setback (ft.)	5 <sup>2</sup>	5	30 <sup>2</sup>	5 <sup>2</sup>
Min. Rear Yard Setback (ft.)	N/A	N/A	30	15
Min. Lot Frontage	50	50	50	50
Max. Building Coverage (% of lot)	60	60	60	60 <sup>1</sup>
Maximum Height (ft./# of stories)	2.5 Stories / 35'	2.5 Stories / 35'	2 Stories / 35'	3 Stories / 45'
Minimum Height (ft./# of stories)	N/A	N/A	N/A	No requirement

#### FOOTNOTES TO TABLE 5

1 – Uses that will render impervious 15% of the lot or 2,500 square feet, whichever is greater, are subject to special permit approval by the Planning Board, provided that it is demonstrated that a net improvement to existing conditions is made with respect to water quality and groundwater recharge.

2 – Unless abutting a railroad siding.

3 – Set back a maximum of 40 feet.

**Table 6 - Area C Dimensional Standards for Consideration**

	UNDERLYING “LID” DISTRICT	ZONE C
Min. Lot Area (sq. ft.)	100,000	100,000
Max. Front Yard Setback (ft.)	N/A	50
Min. Front Yard Setback (ft.)	125	15
Min. Side Yard Setback (ft.)	50	10
Min. Rear Yard Setback (ft.)	50 <sup>3</sup>	15
Min. Lot Frontage	50 <sup>3</sup>	100
Max. Building Coverage (% of lot)	25	60 <sup>1</sup>
Maximum Height (ft./# of stories)	2 Stories/35	3 Stories/45 <sup>2</sup>
Minimum Height (ft./# of stories)	N/A	2 stories/ 25 feet for buildings within 100 feet of Route 20

**FOOTNOTES TO TABLE 6**

1 – Uses that will render impervious 15% of the lot or 2,500 square feet, whichever is greater, are subject to special permit approval by the Planning Board, provided that it is demonstrated that a net improvement to existing conditions is made with respect to water quality and groundwater recharge.

2 – (4) stories is permitted if setback 1000’ from Boston Post Road.

3 – Unless abutting a railroad siding.

4 - These standards may vary subject to an approved master plan for eligible properties, except for maximum height.

## ■ Observations on Minimum Parcel Size Requirements

The Cecil Group examined whether requiring minimum parcel sizes for eligibility in the overlay zone would serve as an incentive for reinvestment and redevelopment within the study area.

Providing for a minimum parcel size as an overlay zone requirement is not likely to have a significant incentive on land assembly or reinvestment. This is because property owners can effectively buildout their sites under the underlying zoning with a range of market-supported uses, and the prospective mixed-use zoning provisions do not present a very significant incentive for new development in these areas. Limiting the use of the overlay zone to large sites would also preclude smaller sites from undergoing reinvestment that would be beneficial to the community and comply with the principles within the overlay zoning mechanism.

Minimum parcel sized in the ID and LID zones might be productively linked to the use of overlay zone provisions that would include new allowed uses. So for example, mixed- use development that would not otherwise be allowed might be available only to a defined, minimum lot size. For example, a 100,000 minimum lot size would encompass the existing ID and LID parcels in the study area. The following additional considerations should be noted:

- Requiring a minimum lot size could forestall pre-emptive subdivisions of land by owners into small parcels that would be more difficult to coordinate through site planning in the future.
- Minimum lots sizes could be used to qualify a project for consideration under a PDA/master plan approach.
- Once a master development plan or site plan is approved, then subsequent subdivisions of land below the minimum threshold should be allowed to facilitate feasible financing, sale and lease of property.

## Potential Revised Parking Standards

The current zoning standards which require parking to be placed behind buildings or along the sides if set back adequately in both Zone A and Zone C. should remain. Parking should not be permitted in between the roadway and the building frontage under any circumstance. It is recommended that the required minimum parking in both zones be lower than what is currently required in the zoning bylaw, as displayed in the table below.

**Table 7 – Table of Parking Recommendations**

USE	PARKING REQUIRED BY ZONING BYLAW	MINIMUM RECOMMENDED PARKING IN ZONE A AND C
Dwelling	Two spaces for each dwelling unit	One parking space per unit for one and two-bedroom units; 2 parking spaces per unit for 3 bedroom and greater units
Hotel, Motel, Inn, Boarding House, Bed & Breakfast	One space for each bedroom plus one space for each employee on the largest shift; except in VBD, one space per bedroom	0.75 space for each bedroom, plus one space for each 500 sf of meeting, banquet or restaurant area; except in VBD, one space per bedroom
Educational Purposes, exempt or nonexempt	One space for each staff position plus one space for each five persons of rated capacity of the largest auditorium plus one space for each student vehicle which can be expected at maximum use time on the premises; except in VBD, one space for each two persons of student and staff population	One space for each staff position plus one space for each five persons of rated capacity of the largest auditorium plus one space for each student vehicle which can be expected at maximum use time on the premises; except in VBD, one space for each two persons of student and staff population
Retail Store; Personal Service Establishment; Bank or Financial Agency; Building Trade; or Restaurant with no seating	One space for each 180 square feet of gross floor area; except in VBD, one space for each 300 square feet of gross floor area	One space for each 300 square feet of gross floor area
Business or Professional Office	One space for each 200 square feet of gross floor area; except in the Research District , one space for each 300 square feet of gross floor area; and in VBD, one space for each 350 square feet of gross floor area	One space for each 350 square feet of gross floor area; except in the Research District , one space for each 300 square feet of gross floor area
Restaurant; Religious Use; Funeral Home; Private Club or Lodge; or other Place of Assembly as defined in the State Building Code	One space for each three seats plus one space for each employee on the shift, except in VBD: one space for each three seats	One parking space for each six seats and where benches are used, one parking space for each 6 feet of bench
Mixed Use	Sum of the requirement calculated separately for each area of use	Sum of the requirement calculated separately for each area of use, and a maximum reduction of 20% of the total requirement that would be otherwise required if the uses were calculated separately to account for shared use.

Red shading in table Indicates parking requirement change from underlying district

Additional parking standards and guidelines may be implemented through zoning and associated site plan and special permit processes. Typical principles associated with mixed-use zoning include the following:

- Shared use parking should be allowed and encouraged. Parking spaces for one use should be considered as providing the required spaces for any other use, when it is demonstrated that the need for parking occurs at different times.
- A shared parking agreement can be required for property owners who wish to implement shared parking off-site.
- In both prospective overlay zones, the Town could maintain its requirement that off-street parking may be satisfied through payment of an annual access fee at the applicant's option.
- As both zones are within Zone II of the Water Resource Protection Overlay District, permeable parking areas should be encouraged whenever feasible and it is shown that such design does not impact the safety of users or the integrity of the construction. A set standard could be employed, such as 20% of the area used for parking.
- Shared access drives should be encouraged between adjacent developments whenever possible to encourage more efficient land use and support a mixed-use environment. Typical principles call for drives designed to minimize the crossing of pedestrian areas, laid out in an efficient manner that minimizes paved surface area.
- Bike racks can be encouraged in convenient locations near building entries whenever found appropriate.
- The pedestrian connection to, from and within parking areas should be designed for safety and amenity and lead to perimeter sidewalks as well as building entrances.

### Potential Open Space Requirements

New mixed-use overlay districts can include specific standards associated with open space that are not in the underlying zoning provisions. The Town can include requirements for the amount of landscaped open space (usually as a percentage of the site). These should be distinct from landscaped setbacks, for example, but might reasonably include wetlands or wetland buffers. The provisions should allow for a variety of landscape treatments, so that pedestrian plazas with permeable paving can be used to meet a portion of the provisions.

The location and character of the open space should be directed towards reinforcing pedestrian connectivity and visual continuity with the landscape character of Sudbury, nearby wetlands or other preserved open space.

## Potential Pedestrian Connectivity and Landscaping Requirements

Site design guidelines or standards can be used to enhance zoning provisions for pedestrian connectivity in the overlay districts. Pedestrian connections with sidewalks or paths should be provided among all buildings on a lot, and a direct connection should be made to any perimeter sidewalks. Pedestrian connections should be provided to allow pedestrians and persons with disabilities to access parking areas, and cross through large parking areas.

## Potential Definition Changes

In conjunction with overlay zones, new definitions will be needed for any new uses added to the Zoning Bylaw, including multi-family or attached single family residences (town houses), artist studios and live/work uses.

## Observations on Other Zoning and Land Use Management Tools

### Overlay Zoning and Planned Development Areas (PDA's)

Planned Development Areas (PDA's) allow for flexibility of development that cannot otherwise be achieved with conventional zoning bylaw or subdivision regulation. This type of zoning is also sometimes referred to as a Master Planned Development Area (MPDA's) or other terms. They can be applied through overlay zoning, and some zoning bylaws incorporate the term "Mixed Use Overlay District" (MUOD) to represent the same concepts.

There are many examples of such zoning tools that can be found. A potentially relevant example for Sudbury has been included in an Appendix of this Report, consisting of the MUOD zoning in Wayland that was applied to the former Raytheon property redevelopment near Route 20 to shape its redevelopment.

While the zoning bylaw regulates land use and lot size and the subdivision ordinance regulates street layout and other public infrastructure, PDA's give the Town and developers the flexibility needed to create planned areas where a mix of uses, protected areas, common open space, and circulation are spatially integrated into a creative approved solution. In addition to providing flexible provisions for the town and developers, PDA's can allow for a review process with an appointed review board that guides decisions on project acceptability. The Master Planned Development Areas must refer to design guidelines that are reflective of the character and composition that the Town envisions.

## Design Guidelines

The overlay zoning is intended, in part, to advance the Town goals for appropriate urban design, architecture and site design in the study area.

Many methods can be used to manage the design of buildings, sites and landscapes to meet community goals. A fundamental part of the project approvals in Sudbury have been interactive design reviews and discussions with project proponents with the participation of staff and participating boards.

In the future Town may consider creating specific design guidelines for the study area to express its intentions as it relates to the zoning and site plan approvals. A clear and concise set of guidelines can set out expectations in advance of submittals being prepared. Guidelines can also provide useful criteria to inform the subsequent discussions between proponents and the Town.

In the case of large Planned Development Areas, project-specific guidelines could be incorporated into the approvals at a master plan level. Once approved, the guidelines can then be used to simplify reviews and approvals of individual projects and phases, over time.

## Comments on Potential Procedural Changes

Under the current approval structure in Sudbury, the Board of Selectman serves as the Special Permit Granting Authority, while the Planning Board is responsible for other project reviews and approvals. This introduces the possibility of extended reviews and the potential for differing interpretations in the implementation of the planning purposes that underlie zoning. In the context of mixed-use overlay zoning that is intended to result in coherent, planned districts, it is advisable to designate the Planning Board in a coordinating, consolidated role as the Special Permit Granting Authority.

## Transfer of Development Rights

Transfer of development rights (TDR) is one of the more complex forms of land use management. The typical goals of a TDR regulation are to restrict or eliminate development in one area and ‘transfer’ that development density to a place where development is encouraged. The idea is that development may not be desired in one area, which is called the “sending district,” but is encouraged in another location, which is called the “receiving district.” If a land owner restricts development potential on property in the sending district, the TDR regulation allows that development potential to be transferred, or sold to property in the receiving district, thereby increasing the development allowed on the property in the receiving district.

This is typically used in a community where the goals of preservation and development may be accomplished simultaneously and the private real estate market supports the transaction. When the development rights are purchased and a deed restriction is placed on a property in the sending district, an in-

crease in density or intensity of development may be permitted by the town on a property in the receiving district. However, a TDR is only successful where the difference in development value may provide enough incentive for the private market; that is where the value of the development sold in the sending district will provide a corresponding profitable return in the receiving district. This is the case when a low value development in the sending district provides a significant increase in value in the receiving district.

The transfer of density to encourage redevelopment in the Study Area would require designation of a sending district with characteristics that promote some public goal. On top of this, the existing restrictions on intensity of development in the Study Area placed by the existing wastewater limitations and the Water Resource Protection District limit the potential density increases available for a receiving district. Consequently, the differential in value does not appear significant enough for a standard TDR.

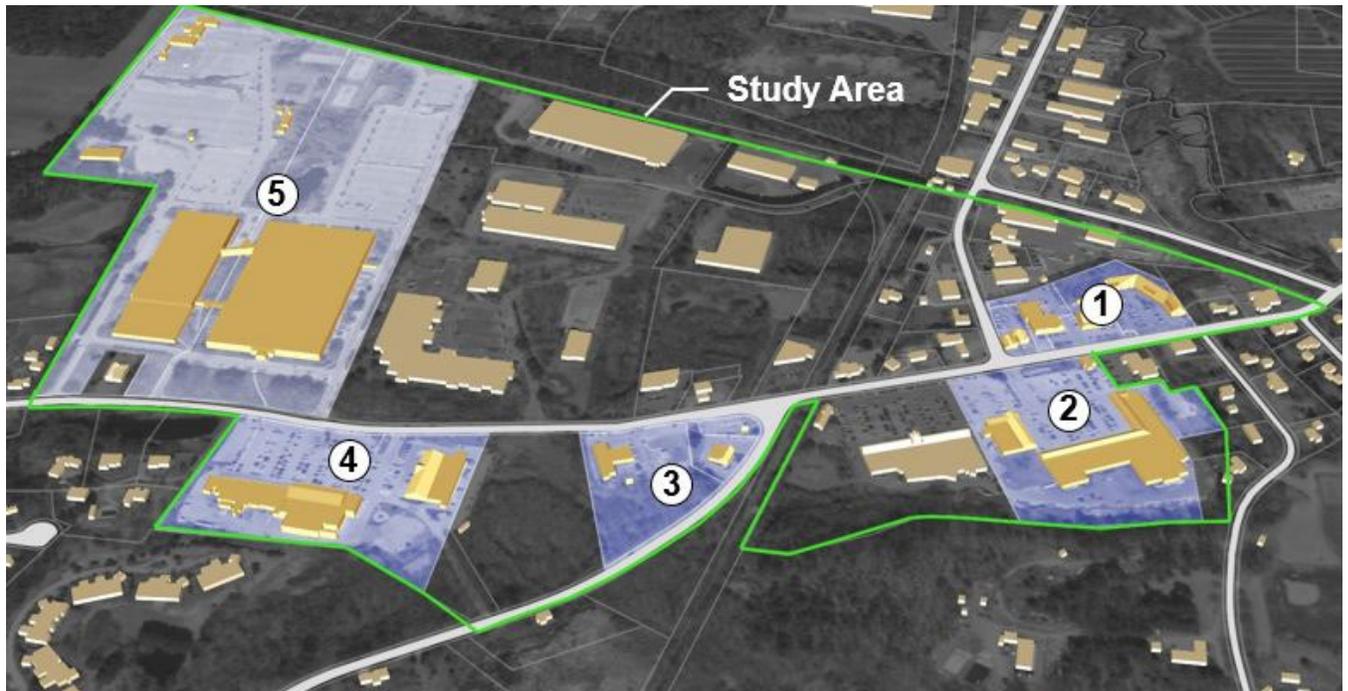
One TDR concept discussed was the allowance for increases in impervious coverage, which would allow more intensive redevelopment. In the study area this would be of value because of the significant restrictions on coverage imposed by the Water Resource Protection District. This would only be appropriate public policy if there was a balance elsewhere within the watershed and the intensity of use did not create other adverse environmental conditions. This could be determined through an engineering evaluation of the watershed characteristics and potential conditions from the TDR.

In addition, if increasing allowable impervious coverage to attract investment through more intensive development is appropriate public policy, it should not be dependent upon the mechanism of TDR to implement; the Town is more likely to achieve its goals simply by increasing the potential for development, rather than inducing an expensive and complex process that could be a barrier to development.

In sum, TDR does not appear to be promising as an incentive for mixed-use redevelopment within the study area. There are many barriers to successful redevelopment within the study area that the zoning changes are intended to help overcome. The use of TDR would provide an additional barrier that would need to be overcome by prospective redevelopers. Redevelopers would need to purchase development rights within the study area, which is both an added cost and increased risk associated with redevelopment. These costs and risks are not likely to be offset by the value of increased development.

# APPENDIX A: ANALYSIS OF PROTOTYPE PROPERTIES

## Study Area and Selected Prototypical Sites for Study



- 1. Rugged Bear Plaza Area      2. Sudbury Crossing      3. Interstate Gas and Oil Area
- 4. Sudbury Plaza                  5. Raytheon Property

**Table A-1. Existing Property Analysis Summary**

	GROSS FLOOR AREA (SF)	SITE AREA* (SF)	NET BUILDABLE AREA** (SF)	PARKING SPACES	PARKING RATIO (SPACES/1000 SF)	FAR***
Rugged Bear Plaza Area	65,956	217,707	189,324	219	3.7	.30
Sudbury Crossing	97,927	420,924	373,105	397	4.1	.23
Interstate Gas/Oil Area	12,635	191,535	133,022	68	5.3	.07
Sudbury Plaza	78,596	401,144	330,290	434	5.5	.20
Raytheon Co.	530,372	2,162,279	1,392,157	1,854	3.5	.25

## NOTES FOR TABLE A-1

\* Site Area is total land area within the privately owned parcels

\*\* Net Buildable Area is the area of a site that could have buildings located within it, taking into account required setbacks.

\*\*\*FAR is the floor area ratio (gross building area/site area)

**Table A-2. Illustrative Lot Frontage**

	ACTUAL LOT FRONTAGE	EXISTING ZONING LOT FRONTAGE	PROSPECTIVE ZONING LOT FRONTAGE	CONFORMANCE OF EXISTING PROPERTIES WITH PROSPECTIVE ZONING
Rugged Bear Plaza	330'	50'	50'	Yes
Sudbury Crossing	481'	50'	50'	Yes
Interstate Oil	110'	50'	50'	Yes
Sudbury Plaza	1021'	50'	50'	Yes

**Table A-3. Illustrative Height Limits**

	ACTUAL HEIGHT	EXISTING ZONING MAXIMUM HEIGHT	PROSPECTIVE ZONING MAXIMUM HEIGHT	CONFORMANCE OF EXISTING PROPERTIES WITH PROSPECTIVE ZONING
Rugged Bear Plaza	1 -2 Stories	2.5 Stories/35'	3 Stories/45'	Yes
Sudbury Crossing	1 Story	2.5 Stories/35'	3 Stories/45'	Yes
Interstate Oil	1 Story	2.5 Stories/35'	3 Stories/45'	Yes
Sudbury Plaza	1 Story	2.5 Stories/35'	3 Stories/45'	Yes

\* Prospective zoning suggested in previous studies suggests a maximum height for properties with frontage along Route 20 as 3 stories. But 4 stories would be permitted for properties fronting Route 20 only if the buildings were setback 1,000 feet from the R.O.W.

**Table A-4. Illustrative Front Yard Setbacks**

	ACTUAL FRONT SETBACK	EXISTING ZONING MIN. FRONT SETBACK	PROSPECTIVE ZONING MIN. FRONT SETBACK	PROSPECTIVE ZONING MAX. FRONT SETBACK	CONFORMANCE OF EXISTING PROPERTIES WITH PROSPECTIVE ZONING
Rugged Bear Plaza	60'	20'	15'	25'	No
Sudbury Crossing	200'	35'	15'	25'	No
Interstate Oil	32'	35'	15'	25'	No
Sudbury Plaza	80'	35'	15'	25'	No

**Table A-5. Illustrative Parking Ratios**

	ACTUAL SITE PARKING RATIO (SPACES PER 1000 SF)	APPROXIMATE EXISTING ZONING MINIMUM PARKING RATIO (SPACES PER 1000 SF)	PROSPECTIVE ZONING MINIMUM PARKING RATIO	CONFORMANCE OF EXISTING PROPERTIES WITH PROSPECTIVE ZONING
Rugged Bear Plaza	3.7	5.5	3.3	Yes
Sudbury Crossing	4.1	5.5	3.3	Yes
Interstate Oil	6.3	5.5	3.3	Yes
Sudbury Plaza	5.5	5.5	3.3	Yes

## Rugged Bear Plaza Development Scenarios

Limited Changes Development Scenario using Regulation Recommendations



**Table A-6. Rugged Bear Plaza Potential Development Scenario Data Changed at Rugged Bear Plaza Only**

RUGGED BEAR PLAZA POTENTIAL DEVELOPMENT SCENARIO DATA CHANGED AT RUGGED BEAR PLAZA ONLY	
Existing Gross Floor Area	65,956 SF
Potential Gross Floor Area	67,956 SF
Parking Ratio (added parking, Rugged Bear Parcel)	1 Space/250 SF
Open Space Percentage	36%
Floor Area Ratio (FAR)	0.31

### Substantial Changes Development Scenario using Regulation Recommendations

The following development scenario uses regulations recommendations with additional changes, including replacement of one building and insertion of an additional building.



**Table A-7. Rugged Bear Plaza Potential Development Scenario Data using Regulations Recommendations with Additional Changes**

RUGGED BEAR PLAZA POTENTIAL DEVELOPMENT SCENARIO DATA USING REGULATIONS RECOMMENDATIONS WITH ADDITIONAL CHANGES	
Existing Gross Floor Area	58,787 SF
Potential Gross Floor Area	75,702 SF
Parking Ratio (all parcels)	1 Space/316 SF
Open Space Percentage	38%
Floor Area Ratio (FAR)	0.35

## Sudbury Crossing Development Scenario

Using Regulation Recommendations



**Table A-8. Sudbury Crossing Potential Development Scenario Data using Regulations Recommendations**

<b>SUDBURY CROSSING                      POTENTIAL DEVELOPMENT SCENARIO DATA                      USING REGULATIONS RECOMMENDATIONS</b>	
Existing Gross Floor Area	97,927 SF
Potential Gross Floor Area	145,927 SF
Parking Ratio	1 Space/350 SF
Open Space Percentage	17%
Floor Area Ratio (FAR)	0.35

**Interstate Gas and Oil Development Scenario**  
 Using Regulation Recommendations



**Table A-9. Interstate Gas and Oil Potential Development Scenario Data using Regulations Recommendations**

INTERSTATE GAS AND OIL POTENTIAL DEVELOPMENT SCENARIO DATA USING REGULATIONS RECOMMENDATIONS	
Existing Gross Floor Area	12, 635 SF
Potential Gross Floor Area	39,818 SF
Parking Ratio	1 Space/300 SF
Open Space Percentage	52%
Floor Area Ratio (FAR)	0.21

## Sudbury Plaza Development Scenario

Using Regulation Recommendations



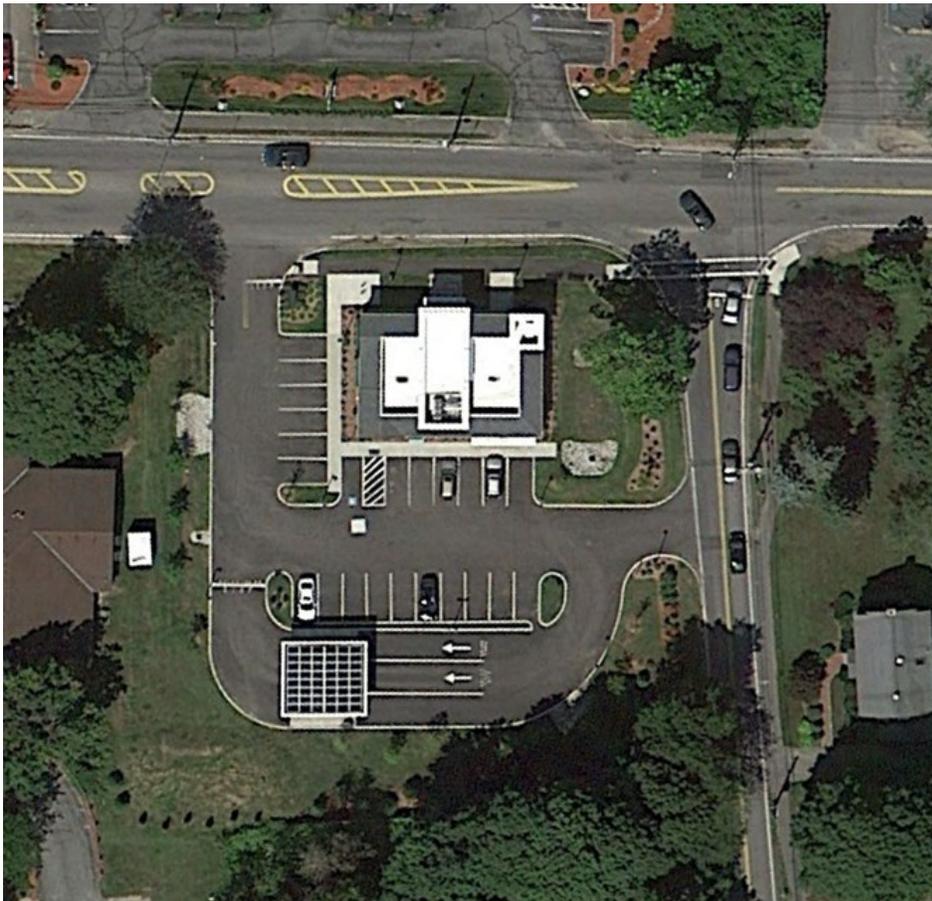
**Table A-10. Sudbury Plaza Potential Development Scenario Data using Regulations Recommendations**

<b>SUDBURY PLAZA POTENTIAL DEVELOPMENT SCENARIO DATA USING REGULATIONS RECOMMENDATIONS</b>	
Existing Gross Floor Area	78,596 SF
Potential Gross Floor Area	120,300 SF
Parking Ratio	1 Space/340 SF
Open Space Percentage	21%
Floor Area Ratio (FAR)	0.30

# APPENDIX B: EXAMPLES OF SIMILAR DEVELOPMENT PATTERNS

The following projects and developments represent the types of site development that would be generally consistent with the Town's purposes in advancing mixed-use development as described in this *Report*.

## TD Bank, Sudbury, MA



# Mill Village Shopping Center, Sudbury, MA



# Wayland Town Center, Wayland, MA



WAYLAND TOWN CENTER, ARROWSTREET ARCHITECTS



# APPENDIX C: EXAMPLE OF PLANNED DEVELOPMENT BYLAW

### **ARTICLE III Master Special Permit**

#### **§ 304-10. Required Submittals.**

##### **A. Plans.**

###### **(1) General Requirements.**

- a. Plan sheets shall not be larger than 24 by 36 inches and shall be clearly and legibly drawn.
- b. Each set of plans shall have a cover sheet depicting the USGS locus map, an appropriate title block, an index of plan sheets, and the numbering system used on the sheets.
- c. Each plan sheet shall contain an appropriate title block, North arrow, scale of measurement, and legends of symbols used on the plan.
- d. Each plan sheet shall be signed by a Massachusetts registered architect or other pertinent design/engineering professional.
- e. Base plans shall be prepared so that layers of information can be later combined in a single plan sheet.

###### **(2) List of Plan Sheets and Required Plan Information.**

- a. Plan Sheets.
  1. Existing site conditions.
  2. Aerial photograph with the site plan superimposed to show the relationship of the proposed development to adjacent and nearby properties and roadways within a radius of three-fourths of a mile of the perimeter of the site boundary.
  3. Neighborhood contextual map with the site plan superimposed to show the relationship of the proposed development to adjacent and nearby properties and roadways within 500 feet of the property boundary of the Mixed-Use Project.
  4. Site development plan showing the location of proposed site improvements, including: footprint(s) of all buildings and parking structures with sizes and uses (including interchangeable uses) identified; setbacks; site grading with finish floor elevations; parking; landscaping; roads; walkways; access ways; open space; wetlands, areas for snow storage; and areas for refuse storage and handling.
  5. Utilities plan for the proposed project showing: i) the location of hydrants that would provide service to the Mixed-Use Project; ii) the location, size, capacity and type of private sewage/wastewater facilities, including required reserve areas; iii) the location and size of any piping or other connections to a publicly-owned sewage/wastewater facility; iv) the location and type of stormwater collection and drainage facilities; v) the location and size of the municipal water main serving the site; vi) the location of any on-site water supply wells and their distance from structures and sewage/wastewater disposal facilities; vii) the location and type of solid waste disposal facilities; viii) the location and type of all other utilities.
  6. Lighting and landscaping plan for the proposed project showing: i) the heights and locations of light poles, bases and fixtures; ii) the heights and locations of

- ornamental, area, pathway, architectural, and any other type of lighting fixture; iii) a photometric plan; iv) the location of open space, both public and private; v) the location of pedestrian pathways; vi) the location of on-site and perimeter buffer areas, including any “no-disturb” areas; vii) the location of landscaping including ground cover, street trees, and screening between adjacent properties, with plantings detailed by common name of species, height (at planting), spread (at maturity) and quantity to be planted.
7. Signage plan for the MUOD showing: i) the location, type, scale, and dimension of existing and proposed signs; ii) materials and, if known, colors to be used; iii).maximum sign area for individual types of signs to be used; iv) total aggregate square feet of signage to be used; v) types of lighting fixtures and wattages to be used.
  8. Parking and traffic control and circulation plan showing: i) each of the areas designated for standard size, compact size and handicap vehicle parking, with a listing of size dimensions for each type of space; ii) areas set aside for dedicated uses, including any designated employee parking areas; iii) any areas proposed for reserve parking; iv) aisles, driveways, pedestrian paths, bicycle lanes/paths; v) landscaping/islands; vi) loading areas; vii) garages/structured parking; viii) bicycle racks; ix) emergency access routes; x) pavement materials; xi) any proposed traffic calming mechanisms; xii) traffic controls such as stop signs and traffic lights within the MUOD and within the adjacent public ways.
  9. Use and massing plan showing: i) the location and size of each building and parking structure; ii) the proposed category of use(s) for each building and parking structure and portions thereof; iii) the gross floor area in each building and parking structure dedicated to a particular use category; iv) the elevations of the front, sides and rear of all buildings and parking structures, together with finished building heights; v) the main and the secondary entrance to each building and parking structure; vi) general architectural design.
  10. Perspective massing plan from the vantage point of two locations.
  11. Construction detail plan showing profiles and/or cross sections of the following features: i) rights-of-way; ii) catch basins and manholes; iii) stormwater collection and drainage facilities; iv) sidewalks, paths, driveways, parking areas, and loading areas; v) tree plantings and specialty planting areas; vi) retaining walls and freestanding walls; vii) erosion, sedimentation and pollution control devices; and plan views of examples of each type of parking space.
  12. A subdivision plan(s), if applicable.
- b. Additional Required Plan Information. Table 304-B, within Appendix A entitled “Master Special Permit Application -- Plan Submittal Elements” lists, by type of plan sheet, the additional information to be depicted on that plan. The letters in the column headings correspond to the plan sheets identified in Section 304-10. A. (2) a.

**B. Written Submittals.****(1) General Requirements.**

- a. An official form (available from the Planning Department) fully completed, which includes a check list indicating that all of the requisite information is contained in the submission.
- b. Names and addresses of all parties in interest, as defined in M.G.L. c. 40A, Section 11.
- c. Documentation showing that the applicant controls the site (e.g., a deed, a signed purchase-and-sale agreement, a signed option agreement) and has authority from the site owner to make this filing.
- d. A list of the names and addresses of all consultants expected to be used during the Mixed-Use Project Master Special Permit (“MUP Master Special Permit”) phase, together with their areas of expertise. This information shall be updated in a timely fashion if the applicant engages additional consultants.
- e. A list of federal, state, and local land-use permits/approvals, anticipated to be sought for the Mixed-Use Project. Local building permits, demolition permits, and certificates of use and occupancy are not required to be listed.
- f. A schematic/time line showing when in the development process each federal, state, and local permit application, referred to in Section 304-10.B.(1)e. above, but also including any demolition permit and the first certificate of use and occupancy, is likely to be submitted and the approval is anticipated to be received.
- g. A narrative describing how the MUP Master Special Permit Application meets the design principles and recommendations of the Concept Plan.
- h. Reference to any separate special permit(s) being requested in conjunction with the MUP Master Special Permit.

**(2) Specific Requirements.**

- a. Tables, with supporting calculations, specifying the individual and total square footages, by category, of: i) all building and parking structures; ii) paved and otherwise impervious areas; iii) constructed open spaces; iv) upland area of the MUOD; v) wetland area of the MUOD; vi) amount of earth to be moved pursuant to Section 198-504 or a statement that work on the site will not require zoning relief under the provisions of Section 198-504.
- b. A statement describing any constraints to site layout based on known environmental contamination.
- c. A description and analysis of design features intended to integrate the proposed Mixed-Use Project into surrounding neighborhoods and land uses.
- d. A description and analysis of design features intended to integrate the proposed Mixed-Use Project into the existing landscape to preserve and enhance aesthetic assets of the site and to screen parking lots and objectionable features from neighboring properties and roadways.
- e. Building Design, Construction, and Materials
  1. A general description of the architectural design of the project.

2. Description of exterior building features and proposed materials for building exteriors including, but not limited to, roofing, siding, windows, facades, entrances, and doors.
  3. Signage standards for each type of use, location on buildings, and for directional and wayfinding signs.
- f. Water
1. Documentation of the availability of sufficient water, including water for irrigation, and sufficient water pressure to serve the proposed Mixed-Use Project, together with a description of the sources of water.
  2. A description of the fire alarm and suppression system, including criteria for determining where to place any proposed fire alarm boxes, other warning systems, fire hydrants, and fire lanes.
- g. Lighting Study: The Applicant must submit a lighting study showing that the Mixed-Use Project will meet the standards set forth in Section 198-2309.8.2 and the applicable standards set forth in Section 198-606.
- h. Drainage and Stormwater Management
1. A description of the proposed stormwater management system within the MUOD which complies with applicable federal, state and local laws, rules, regulations and bylaws, including the Stormwater Management Policy of the Massachusetts Department of Environmental Protection.
  2. A description of stormwater collection and drainage facilities by type, including construction materials of pipes, culverts, catch basins and other system components together with sufficient information concerning the placement of drainage system components (rim and invert elevations, pipe slopes and amount of cover) to facilitate evaluation of the system.
  3. Drainage calculations used to support the design of the stormwater management system.
  4. A description of measures proposed to prevent pollution of groundwater and surface water, erosion of soil, excessive run-off of precipitation, excessive raising or lowering of the water table and flooding on other properties.
  5. An Operation and Maintenance plan which includes operation requirements for the stormwater system, recommended maintenance activities with specified schedules for same, and documentation outlining maintenance responsibilities and jurisdiction.
- i. Parking and Traffic Analysis
1. A parking and loading study, prepared pursuant to Section 198-2309.7.2.
  2. A Traffic Impact and Access Study (TIAS), that considers: i) all existing and proposed access points for the Mixed-Use Project; ii) major intersections along state-numbered routes within one-half mile of the proposed entrances to the Mixed-Use Project; and iii) other intersections identified by the Applicant along potential diversionary (or “cut-through”) routes (all hereinafter referred to as the “Study Area”) and that includes:
    - (a) Existing conditions data for on-site and off-site vehicular traffic circulation within the Study Area.

- (b) Trip generation data and calculations for retail, office, residential and municipal trip generators during the weekday morning, weekday evening, Saturday midday, and Sunday midday peak hours for traffic (each a “peak period”).
  - (c) Determination of trip distribution patterns for the existing and proposed uses on the Mixed-Use Project site. Trip patterns shall be determined based initially on a review of available (A) recorded local and regional traffic data and predominant travel trends during each peak period; (B) latest U.S. Census Journey to Work data; (C) existing travel times on the roadways and at intersections leading to and from the site during each peak period; and (D) current and projected use of nearby neighborhood streets to bypass arterial roadways; as applicable. Trips generated for the existing and proposed uses on the site are then to be assigned to the roadway network in accordance with the trip patterns. In addition, the potential for intercepting or diverting trips for the retail uses, other than the standard Institute of Transportation Engineers (ITE) pass-by rates, shall be based on the adjacent arterial roadways following collection of origin-destination data.
  - (d) Capacity and level of service (LOS) analyses of existing and proposed roadways and intersections within the Study Area.
  - (e) Alternatives analysis for the proposed site access points that considers an option with one major access point and an option with two or more full access points.
  - (f) A summary of proposed mitigation which describes differences in capacity, and takes into account safety, at the Study Area intersections and Mixed-Use Project access points for the future-year No-Build, Build and Build with mitigation scenarios.
- j. Construction and Operation
1. Description of devices to be used to control erosion and sedimentation during and after construction.
  2. A phasing schedule for construction of each component part of the Mixed-Use Project.
  3. A demolition and construction schedule, including a construction traffic management plan.
  4. Hours of operations, delivery times and vehicle routes, trash removal times, and lighting schedule.
  5. Snow storage and removal plans.
- k. Affordable Housing Plan
1. Affordable Housing Plan showing the distribution (i.e., number of units per building) of affordable units;
  2. Documentation sufficient to assure that the design and construction standards of the Local Initiative Program, 750 CMR 45.00, as amended from time to time, will be met with regard to indistinguishability from market-rate units;
  3. Draft deed riders assuring that the units remain affordable in perpetuity.
- l. Public Safety Impacts: A written study and analysis of the impacts of the Mixed-Use Project on the Town’s Police, Fire and Emergency Medical Response departments

and functions including personnel and equipment. The public safety impacts study and analysis shall be completed by an experienced municipal public safety consultant or firm.

**C. Number of Copies.** One original of the complete Master Special Permit Application and 25 paper copies shall be filed with the Planning Board along with an electronic copy via compact disc (CD) in PDF format. Multiple PDF files are acceptable and encouraged if they create smaller, more manageable files in terms of ease of use and ability to be downloaded. With regard to the aerial photograph required to be submitted pursuant to §304-10.A.(2)a.2., only 12 paper color copies need be filed with the Planning Board.

### § 304-11. Planning Board Procedures.

**A. Place of Filing Submittals.** One copy of the Master Special Permit Application shall be filed at the Town Clerk's office, and a receipt therefore shall be obtained from said office. One original and 25 copies of the Master Special Permit Application must also be filed at the Planning Board Office during normal business hours, together with a copy of the receipt obtained from the Town Clerk's office certifying that said Application was filed with the Town Clerk.

### **B. Completeness of Master Special Permit Application.**

(1) Within 14 days after receipt by the Planning Board Office of the Master Special Permit Application, or within 14 days after any subsequent submittal is made in response to a determination that a previous submittal was incomplete, the Planning Board shall review the submittal and inform the applicant, in writing, as to whether said submittal is deemed complete.

(2) If the submittal is determined to be incomplete, the Planning Board or its agent shall so inform the applicant by listing the items or information still needed to complete the submittal.

**C. Notice to local boards.** Within 10 days after the filing of a complete Master Special Permit Application, the Planning Board or its agent shall notify local officials, boards, and commissions by sending them a copy and requesting their comments.

**D. Public comment.** The Board shall hold public hearings on the complete application and shall solicit public comment.

### **E. Additional Information.**

(1) The applicant is encouraged to submit any other information that may aid in evaluation of the Master Special Permit Application.

(2) During the course of the Master Special Permit Application review, the applicant should be prepared to present visual aids, such as movable scale models of buildings and structures or online demonstrations using a CAD program or similar application to depict the relationships of the proposed layout, building heights, and massing on the site.

