

Manchester TOD Plan

EXISTING CONDITIONS PROFILE

Appendix 1: **Environmental Constraints Memo**

Appendix 2: **Existing and Future Multi-Modal Transportation Memo**

Manchester TOD Plan: Existing Conditions Profile

Manchester TOD Plan Study Area

The Manchester TOD Plan study area, also known as the South Elm district, includes the area roughly bounded by Granite Street to the north, the South Elm corridor to the west, Queen City Avenue to the south, and Second Street to the east, across the Merrimack River. It is immediately south of Manchester's historic downtown and riverfront Millyard, now a major office employment center.

Transit-oriented development concentrates compact, high-density, and mixed-use development within one-half mile of transit service, such as Manchester's future train station, to take advantage of existing infrastructure and maximize the impact of transit investments. Transit-oriented development is multi-modal and promotes walking, biking, and other mobility strategies for an area. Existing transit service, including the public bus system and shuttles, are an important part of transit-oriented development.

There are significant assets in the study area to support transit-oriented development, including a downtown grocery store, major employment base within walking distance, the emergence of the study area and downtown as a desirable residential neighborhood with a growing inventory of multi-family housing options, range of housing types including riverfront condominiums, downtown one-bedroom apartments, and micro-units, energy and momentum around downtown marketing and placemaking, and recognition of need to invest in multimodal access and connectivity in the area as evidenced by the BUILD Grant application.

The study area also includes major entertainment destinations, including the 11,000 seat SNHU Arena and 6,500 capacity Northeast Delta Dental Stadium.

Existing Rail Infrastructure and Access

The existing rail tracks are owned and operated by Pan-Am Railways. North of the study area the tracks parallel Canal Street through the Millyard. The track is currently used for freight deliveries, including rare but lengthy seasonal coal trains. There is a third spur track, currently leased to another entity, is also located in the study area and is used for storage and operations.

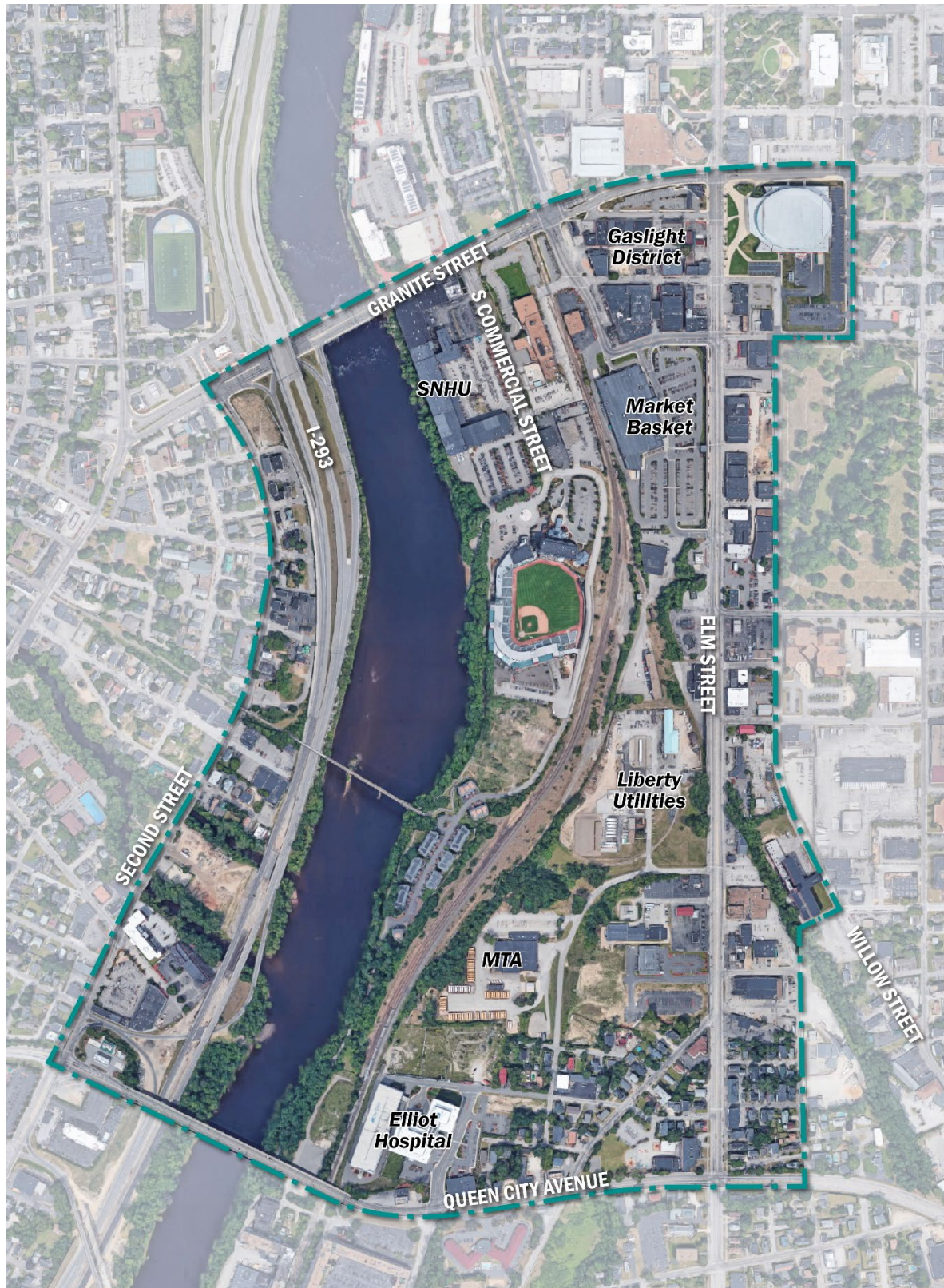
In the northern end of the study area, the existing tracks are a major obstacle to pedestrian and vehicular access. There are currently two vehicular at-grade crossings of the rail track in the study area at Granite Street and Depot Street; these crossings are within one short block (300 feet) of each other. A third, trespassed but well-utilized pedestrian crossing exists near the end of Auburn Street, and connects through to South Commercial Street in a walkway along the side of the WMUR property.

In the southern end of the study area, the railroad tracks are closer to riverfront; the combination of floodplain, the small width of land between the tracks and river, and limited roadway access makes development on the river side of the tracks more challenging in this area. The Queen City Avenue Bridge is above the grade of the track.

A vacated rail right-of-way extends from the study area underneath Elm Street in parallel to Willow Street; this right-of-way is now owned publicly: some portions by the State of New Hampshire and some portions by the City of Manchester. The corridor is envisioned for future improvements with a trail and/or potentially roadway infrastructure.

Additional information about connectivity, access, public transit service, and pedestrian and bicycle infrastructure can be found in the Transportation Memo. Additional information on environmental constraints on development can be found in the Environmental Constraints Memo.

Figure 1: Manchester TOD Study Area



Previous Planning Efforts

In addition to the previous planning efforts identified in the Transportation Existing Conditions Memo, the following planning efforts are significant to the Manchester TOD Plan study area.

Civic Center Area and Gateway Corridor: Opportunities and Strategies (2002)

This early plan identified opportunities to build on the success of the arena development and reconfiguration of the I-293 exit at Granite Street.

Major destinations identified for future developments as part of the plan—including the now Fishercats stadium, improvements to the trail system, and rehabilitation of the Millyard’s historic buildings—were identified.

The Gaslight District was a focus for design concepts, including improving visual appeal, pedestrian access, and landmarks. The idea of gateway arches at entrance points into the Gaslight District has since been implemented.

A future rail hub was designated near the Gaslight District.

2006 Downtown Strategic Plan

The 2006 Downtown Strategic Plan identified a number of strategies to support overall revitalization of downtown Manchester that are relevant to transit-oriented development and to the Manchester TOD Plan study area. One of the primary recommendations of the Plan is to continue to support downtown as a neighborhood that sustains a high level of activity outside of working hours, through additional residential development and density in the core of downtown, increasing connections to surrounding neighborhoods, and promoting the riverfront as a lifestyle amenity and destination.

This study also identified the need for a downtown grocery store, since achieved with the development of the Market Basket on South Elm Street in the study area.

Manchester Connects

Manchester Connects was a planning and engagement effort to support broader revitalization in Manchester. The effort largely focused on downtown, the Millyard, and the riverfront, all areas that are adjacent to and influence the TOD study area. The effort resulted in four action kits, focused on the Riverwalk and a proposed loop of public spaces around the Millyard and river, land use and parking, placemaking, and organization. The land use and parking action kit recommends pursuing mixed use development and developing parking management strategies to support redevelopment.

Citywide Master Plan (Ongoing, 2019–2020)

The City of Manchester is currently updating its citywide Master Plan as part of an extensive community planning process. To date, the Master Plan process has identified the need for new types of housing, such as more multi-family housing development and accessory dwelling units, throughout Manchester as a top priority. The Master Plan process has also recommended continued investment in downtown, the Millyard, and the area around a future rail station in the Manchester TOD Plan study area as locations for transformation and change.

Market Demand to Support Transit-Oriented Development

The primary market opportunity within the TOD is for multifamily residential development, with estimated demand for 1,000–2,000 new units over the next decade. The largest challenge to

meeting this demand is identifying adequate sites. There are several multi-family development projects under way near the study area, but passenger rail will greatly enhance the opportunity for multifamily residential development.

Office uses are also an opportunity for development, in the range of 100,000–200,000 square feet, if adequate sites are available. Passenger rail will enhance opportunity for office development. Retail, entertainment, and restaurant uses also have market support, particularly in the Gaslight District, along Elm Street, and as part of select sites on Second Street. These uses could be provided in the ground floor of mixed-use development and could emerge as multi-family residential and office development occurs. Demand is estimated for 20,000–40,000 square feet over the next decade.

There is conceptual support for new lodging uses as other uses emerge within the TOD—possibly in the range of 85–125 rooms. There is weak opportunity for further manufacturing and warehousing development, apart from existing uses, because better sites are available elsewhere in the region.

Employment Growth

Projections for employment growth in the TOD study area and region are the most important driver of non-residential development. Consistent with state and national trends, manufacturing employment will decline, while other sectors will add jobs, resulting in a net increase. Health care and social services will dominate growth, adding 3,450 jobs. This represents one-third of the total growth in employment expected in the area. Professional and technical services, or jobs that could drive demand for office uses, will add 1,100 jobs. Retail and wholesale trade will add 1,200 jobs and accommodate and food services 1,150 jobs. Construction will add 700 jobs. Further details about each of these sectors are discussed below. Detailed projections are included in Table 2.

Table 1: Qualitative Assessment of TOD Opportunities

| | Regional Growth | TOD Competitive Position | Appropriate Sites in TOD | Influence of Passenger Rail | Overall | Comment |
|---|-----------------|--------------------------|--------------------------|-----------------------------|---------|--|
| Manufacturing | | | | | | Existing TOD multi-floor buildings can and do accommodate manufacturing, but market is not vibrant; Millyard properties moving away from traditional manufacturing; Better sites for new construction available elsewhere in region. Rail not a major factor. Conversion of existing mill buildings to residential/ office is a possibility. |
| Wholesale Trade | | | | | | Good regional growth expected. District has appropriate Interstate access, but lacks appropriate sites users are land intensive; More appropriate use of TOD sites is possible. And warehouse uses probably more likely around airport and Pettengill Road. |
| Office Uses | | | | | | Current market is weak, but expected to improve. Many users favor suburban sites, but proximity to Elliot, Millyard, Downtown and CMC are positive factors. Elliot once proposed major medical office presence. Needs structured parking. |
| Retail Trade, Food Service, Entertainment | | | | | | Regional growth is strong; Proximity to Millyard, health care, downtown are favorable. Gaslight District is an unrealized opportunity for restaurant and entertainment. Lacks conventional retail exposure. Convenient Parking will have to be addressed. Possible to combine with residential and office. Elm St. and Second Street enhance potential. |
| Residential | | | | | | Regional demand for multi-family is exceptionally strong. Nashua seeing growth around proposed station sites. Proximity to Millyard is a positive. Dual Interstate access at Granite and Queen City is very attractive. Downtown amenities (restaurants, SNHU arena, ballfield special events) are drawing cards. Demand is exceptional strong for both rental and condo. Exiting TOD developments doing well and several new project sari emerging. Fits lifestyle preferences of Millennials and empty nesters. Largest constraint is available sites. Will require convenient (on site) structure parking. Major constraint is not market, but availability of sites. |

Table 2: Long-Term Projections of Regional Employment Growth

| Southern New Hampshire Region: Manchester TOD Plan Long-term Industry Projections, 2016 to 2026 | | | | | |
|--|---|-------------------|-------------------|-------------------|-------------------|
| NAICS | Industry Title | 2016 Estimated | 2026 Projected | Numeric Change | Percent Change |
| | Total Employment | 143,422 | 154,394 | 10,972 | 7.7% |
| 101000 | Goods-Producing Industries | 17,448 | 17,545 | 97 | 0.6% |
| 11 | Agriculture, Forestry, Fishing and Hunting | 185 | 197 | 12 | 6.5% |
| 21 | Mining | 161 | 169 | 8 | 5.0% |
| 23 | Construction | 6,308 | 7,012 | 704 | 11.2% |
| 31-33 | Manufacturing | 10,794 | 10,167 | -627 | -5.8% |
| | | | | | |
| 102000 | Service-Providing Industries | 117,690 | 127,763 | 10,073 | 8.6% |
| 22 | Utilities | 362 | 353 | -9 | -2.5% |
| 42 | Wholesale Trade | 6,301 | 6,936 | 635 | 10.1% |
| 44-45 | Retail Trade | 16,810 | 17,350 | 540 | 3.2% |
| 48-49 | Transportation and Warehousing | 5,735 | 6,262 | 527 | 9.2% |
| 51 | Information | 3,591 | 3,477 | -114 | -3.2% |
| 52 | Finance and Insurance | 6,350 | 6,683 | 333 | 5.2% |
| 53 | Real Estate and Rental and Leasing | 2,003 | 2,119 | 116 | 5.8% |
| 54 | Professional, Scientific, and Technical Services | 7,772 | 8,870 | 1,098 | 14.1% |
| 55 | Management of Companies and Enterprises | 2,443 | 2,551 | 108 | 4.4% |
| 56 | Administrative and Support and Waste Management Services | 8,765 | 9,547 | 782 | 8.9% |
| 61 | Educational Services | 12,697 | 13,335 | 638 | 5.0% |
| 62 | Health Care and Social Assistance | 19,628 | 23,067 | 3,439 | 17.5% |
| 71 | Arts, Entertainment, and Recreation | 1,765 | 1,908 | 143 | 8.1% |
| 72 | Accommodation and Food Services | 10,961 | 12,121 | 1,160 | 10.6% |
| 81 | Other Services (Except Government) | 6,057 | 6,639 | 582 | 9.6% |
| | | | | | |
| | Government | 6,450 | 6,545 | 95 | 1.5% |
| | | | | | |
| | Self-employed Workers | 8,284 | 9,086 | 802 | 9.7% |

There is little demand for further manufacturing and warehousing use in the TOD study area. The

Source: NH Employment Security

Demand for office space commonly comes from industries including Finance and Insurance; Professional, Scientific, and Technical Services; Management of Companies and Enterprises; and Health Care and Social Assistance.

region faces declining employment in this sector and limited demand for additional manufacturing space. It is positive that existing manufacturing and warehousing uses are accommodated in existing mill buildings and the Gaslight District, and these spaces may continue to be affordable to existing users. However, across the state and region, mill buildings are continuing to convert to residential, office, and mixed uses. While the TOD study area has excellent access to the interstate, sites in the district are less attractive for new manufacturing uses than larger, more affordable, and flat sites available elsewhere in the region, such as near the Manchester Airport and along Pettengill Road. Little new development of manufacturing uses is expected, unless smaller in scale and/or accessory to an entertainment or research and development use, such as a brewery. The role of the TOD study area in the regional manufacturing market is to recognize that existing manufacturing uses within the study area may be transitioning to research/development, office and/or residential uses in parallel with the overall trajectory of the Millyard.

Overall, the office market is expected to expand over the coming decade. About one-third of the region's job growth will generate the need for office space, or 3,050 jobs. Current office market occupancy is weakened by the declining amount of space needed to accommodate job growth as telecommuting, pooled workstations, and other trends reducing space per employee. Overall occupancy of office space state-wide is 90% and rents have trended flat.

Applied Economic Research estimates that it will take about 500,000 square feet of new regional office space, or 50,000 square feet per year, to accommodate the projected growth. This demand is based on an estimate of 150 square feet per employee, in contrast to the historic estimate of 250 square feet per employee.

The TOD study area is well positioned to accommodate a share of that growth and office development because of its accessibility to downtown, Elliot Hospital, Catholic Medical Center, and the Millyard. A reasonable annual absorption of 10,000–20,000 square feet per year is an appropriate planning target for the TOD study area. Passenger rail service and improved bike and pedestrian access will be moderately helpful and will enhance the appeal of the TOD study area for office uses, but accommodating this development will also require structured parking.

There is expected to be significant growth in retail, accommodation, and food service jobs in the region over the next decade. Retail will add at least 500 jobs and accommodation/food service will add 1,100 jobs. Within the core of the TOD study area, the Gaslight District is an under-improved setting for retail and restaurant use. There are also opportunities on the edges of the TOD study areas, such as along Elm Street and the Second Street corridors, to accommodate growth. There is possibility of significant lodging opportunity to complement the current offerings in and near the District. The availability of rail service is probably not a major incentive for these uses; rather, residential and office development enabled by rail may expand demand. Applied Economic Research estimates demand at 20,000–50,000 square feet over the coming decade.

The most significant development opportunity in the TOD study area is for multi-family residential uses. Applied Economic Research estimates there is an unmet need for 15,000–20,000 new housing units to address the current state-wide housing shortage statewide. Approximately 5,000–7,500 of those units should be provided in multifamily formats. Since 2010 Hillsborough County has added 3,650 new multi-family units. Manchester has absorbed 850 new multi-family units, averaging just under 100 new multifamily units per year—a 25% capture rate. Given the extreme shortage of multifamily units, evidenced in the 1% vacancy rate in the city, the pace of new construction is increasing and is expected to continue to increase in the near future. There are over 500 new units in the approval/construction pipeline in Bedford and approximately 250 units proposed in four projects adjacent to the TOD study area and downtown.

Rail service will have a major positive influence on the TOD residential market, particularly once the plans become more concrete. Nashua, where the station location is already determined, is capturing some development in advance of rail service. The TOD study area also has excellent accessibility to the interstate and has immediate accessibility to major employment clusters—like the Elliot Hospital, Catholic Medical Center, downtown, and the Millyard. Further, the TOD study area has significant amenities for multifamily residential development. Both Millennials and Boomers are looking for multi-use amenity location; the TOD study area has accessibility to downtown venues, SNHU arena, SNHU campus, UNH-Manchester campus, the stadium, and Riverwalk.

The major constraint on TOD opportunity is the availability of significant sites for development. The largest sites in the area, such as the Liberty Utilities or MTA site, have existing infrastructure and

uses that may complicate redevelopment. All things considered, a demand range of 1,000–2,000 units within the TOD study area is reasonable, depending on availability of sites.

Development Trends

The following projects, all of which have characteristics of transit-oriented development, are all adjacent or within the study area:

- 252 Willow Street renovation: 60 residential units, live-work capacity, commercial first floor
- 379–409 Elm Street redevelopment: retail/office space, 90 market-rate residential units
- 1195–125 Elm Street renovation: café/diner on first floor, 33 residential units, public storage facility in basement, includes 24 parking spaces, adjacent to Pearl Street parking lot
- S Elm Street renovation: 23 residential units (one-bedrooms and studios) to serve as workforce housing, bus service as asset
- Dunbar Street project: 160 unit multi-family project, new construction along riverfront

Land Use and Development Patterns

Residential Neighborhoods

The study area includes a broad mix of uses in a variety of physical forms and character across the study area. There are three distinct residential areas: the Second Street corridor, the riverfront, and the portion of the Bakersville neighborhood near Elm Street and Queen City Avenue. In all three of these areas, parcel sizes are small, at under 20,000 square feet. These areas are shown in yellow on Figure 2.

The Second Street corridor includes smaller commercial parcels near Queen City Avenue and Granite Street, as well as some legacy industrial uses. Most of the corridor is a medium-density traditional residential neighborhood of small-scale multi-family buildings. Some parcels are vacant and covered with surface parking associated with adjacent residential uses. The larger vacant sites, particularly those located on Bass Island, are largely located within the 100-year floodplain and floodway in some instances. A map of these environmental constraints can be found in the Appendix, Environmental Constraints.

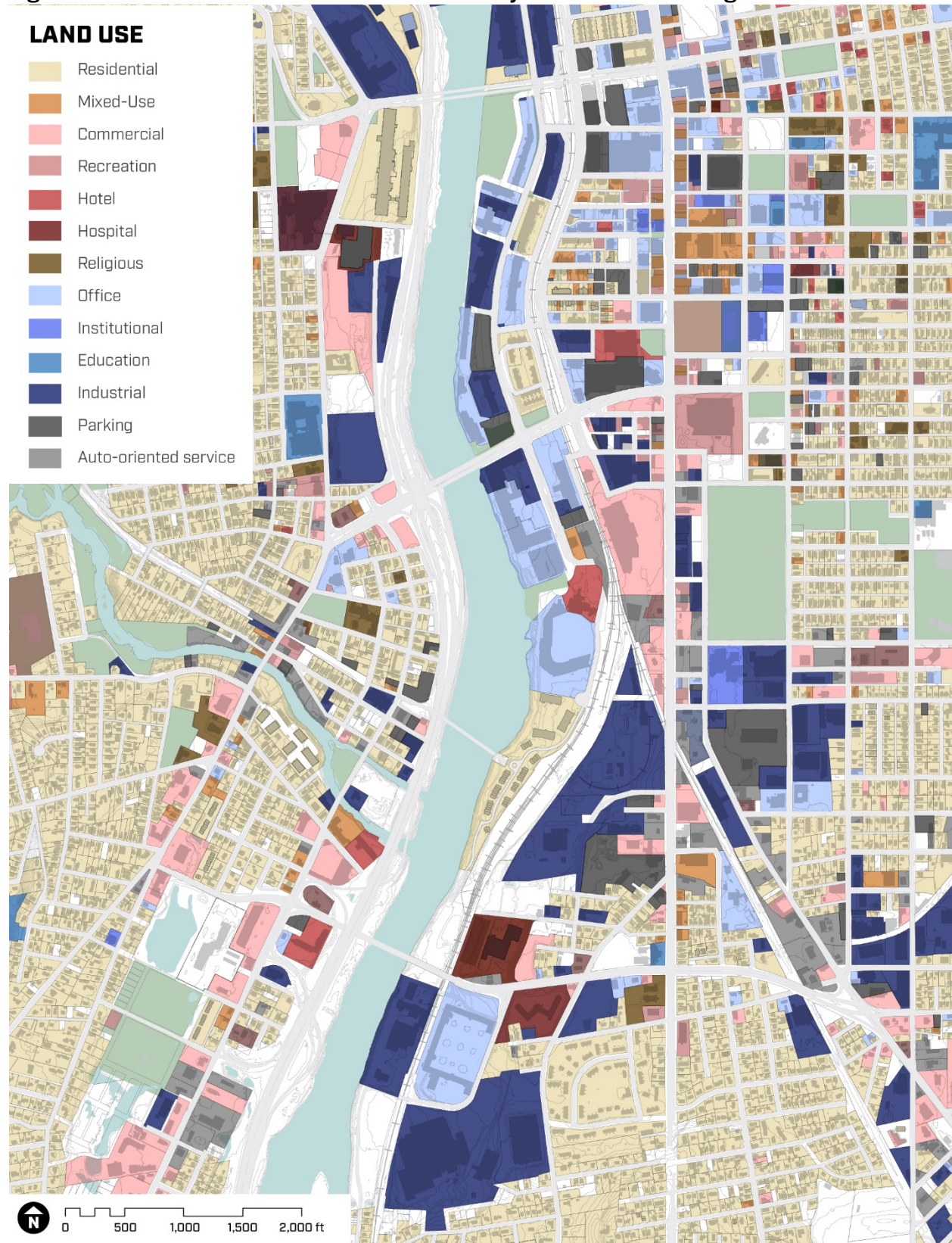
The Bakersville neighborhood area northwest of Queen City Avenue and Elm Street, neighboring the Elliot Hospital, is a mix of single-family and small-scale multi-family properties, interspersed with smaller industrial properties. The Liberty Utilities and MTA sites to the north of the neighborhood constrain this area, although it is similar in character to other neighboring residential areas to the south and east of the study area.

Both the Second Street corridor residential neighborhood and Elm Street/Queen City Avenue area are zoned R3 Urban Multifamily, with nearby B2 General Business areas concentrated at key intersections. The R3 district largely reflects the existing character and use of the areas, allowing up to 3-story buildings with a max FAR of 0.75. Lot sizes must be at least 5,000 square feet for the first three units and 10,000 square feet to allow non-residential development. The B2 General Business district allows for mixed use buildings, with commercial uses in the first floor and dwellings above. It allows for a broad array of business uses. There are requirements for a minimum lot size of 12,500 square feet, minimum 100 feet of frontage, 4 story maximum height, and a maximum FAR of 1 in the B2 district.

The riverfront neighborhood includes recent multi-family and townhome-scale development south of the stadium at the foot of South Commercial Street, arrayed on a small bluff above the Merrimack River. There are limited connections to the trail network and only one point of vehicular access in and out of the development, which is gated. The neighborhood is on property zoned CBD Central Business District and RDV Redevelopment, which allow for multi-family housing as a conditional use.

Apart from these three predominantly residential areas, the land use and corresponding physical form of the study area varies highly on a parcel by parcel basis. Key features are discussed by topic below.

Figure 2: Land Use Pattern in Manchester TOD Study Area and Surrounding Context



Large Parcels

Larger parcels over an acre have the capacity to accommodate large-scale transit-oriented development that can help catalyze further economic development (see Figure 3). The study area includes large parcels like the stadium, arena, and SNHU parcels that are already fully-developed and unlikely to change. The Market Basket development along S Elm Street is another large site. Redevelopment that disrupts the grocery use may be unlikely in the short-term, but over the longer term there are important opportunities to intensify use of the site, potentially through redeveloping the parking lot to take advantage of the significant grade change across the site, while retaining the grocery store use. Other large sites include the WMUR parcel on Commercial Street, the Liberty Utilities site along Gas Street, and the Manchester Transit Authority along Gas Street. Over the long term, any of these users might find benefit in relocating out of the study area, but would also require significant investment in replacement property and/or infrastructure. Vacant parcels adjacent to the Elliot Hospital were originally envisioned for medical office development. While this may still move forward in the future, these sites may also be appropriate for residential development that could share in the Elliot's parking garage. Parking associated with the NH State Liquor Store and the Market Basket on S Elm Street might also be options for infill development in the future. Redevelopment of all these sites will be explored further as part of the long-term development scenarios in the next stage of the Manchester TOD Plan.

Parking

Most development in the TOD study area is served by surface parking; over 35% of the land area in the TOD study area is used for parking (see Figure 4). In the Millyard, over 50% of land area is occupied with surface parking. Surface parking can be an inefficient and unattractive land use, making it less pleasant and safe to walk through the study area. More importantly, stakeholder interviews established that current parking availability was a key limitation on expansion of existing uses and redevelopment in the Millyard and the TOD study area. SNHU recently built a parking garage with more than 1,000 spaces to serve their employees in their building on South Commercial Street.

PARCEL AREA

- < 20,000 sq. ft.
- 20,001 sq. ft. - 1 acre
- 1 acre - 2 acres
- 2 acres - 5 acres
- 5 acres - 10 acres
- > 10 acres

Map labels include: UNION ST., LOWELL ST., CONCORD ST., MANCHESTER ST., HANOVER ST., CHESTNUT ST., PINE ST., LAKE ST., SPRUCE ST., BECH ST., AUBURN ST., VALLEY ST., UNION ST., PINE ST., WILLOW ST., CILEY, ELM ST., BRIDGE ST., SPRING ST., COMMERCIAL ST., BEDFORD ST., CANAL ST., RIVERWAY WAY, PLEASANT ST., W. AUBURN ST., QUEEN CITY ST., ELM ST., GRANITE ST., S. COMMERCIAL ST., CANAL ST., INTERSTATE 293, MERRIMACK RIVER, DUBUQUE ST., CONANT ST., MAIN ST., S. MAIN ST., MILFORD ST., MAST RD., BOYNTON ST., SECOND ST.

Figure 4: Parking Areas

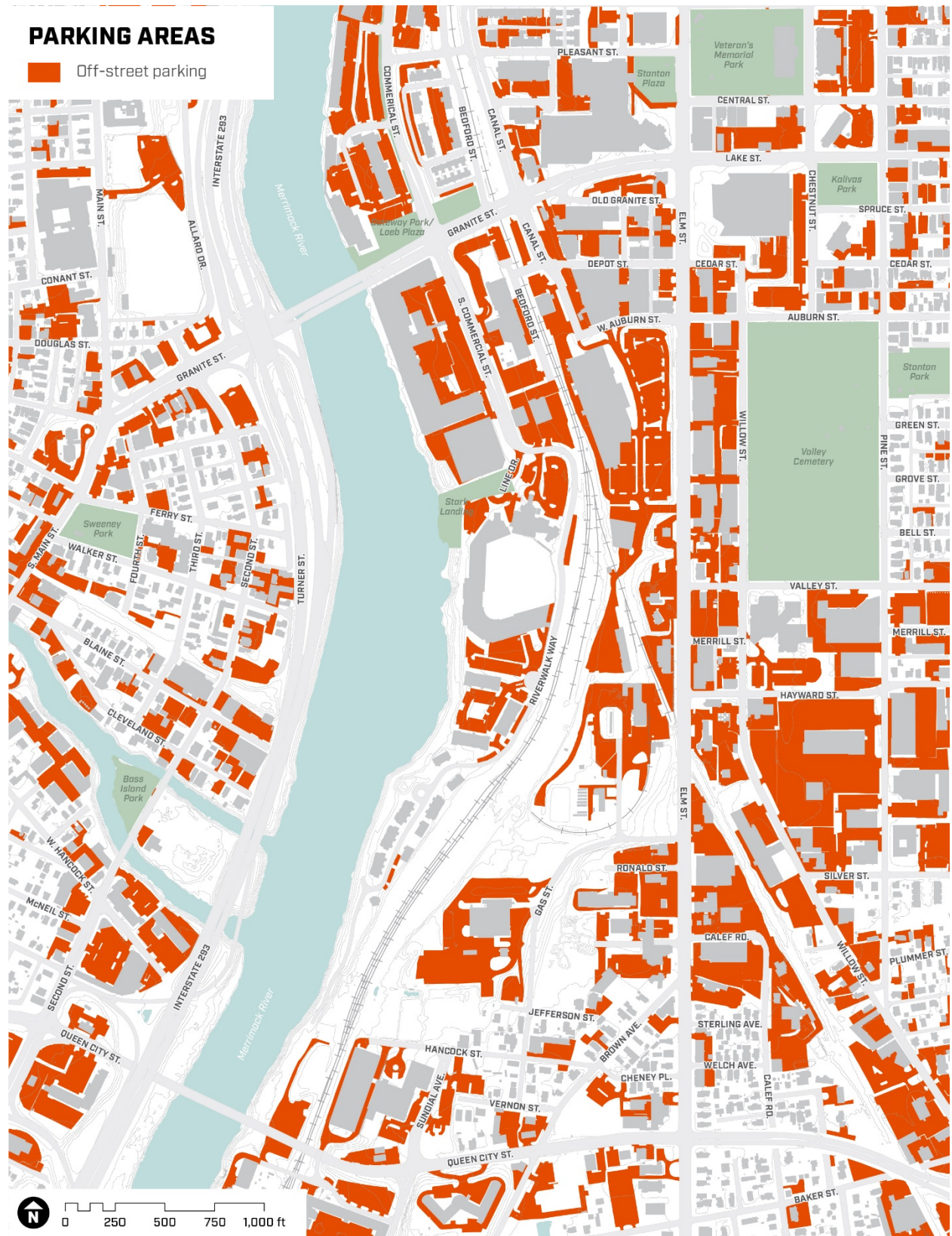


Figure 5: Floor Area Ratio

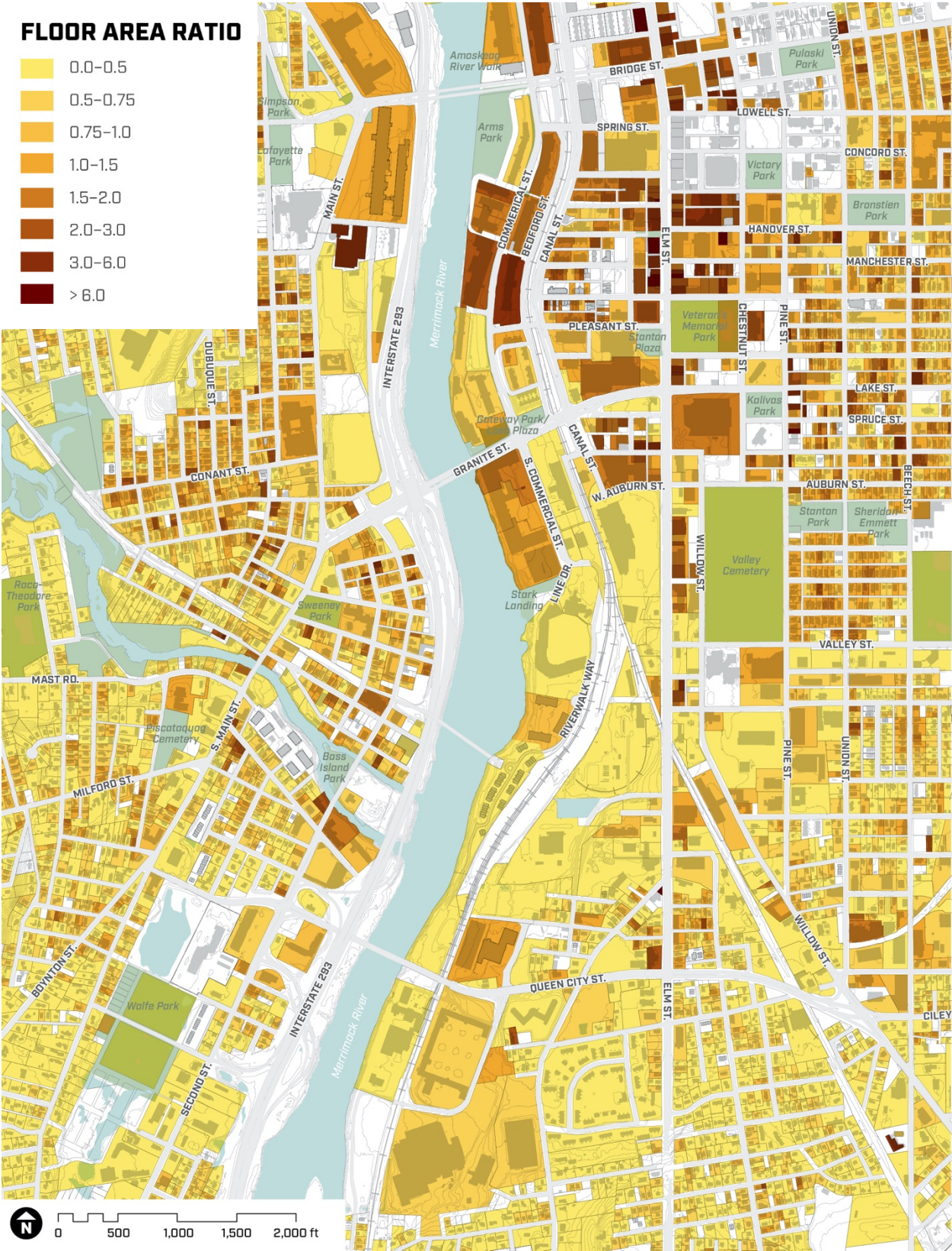
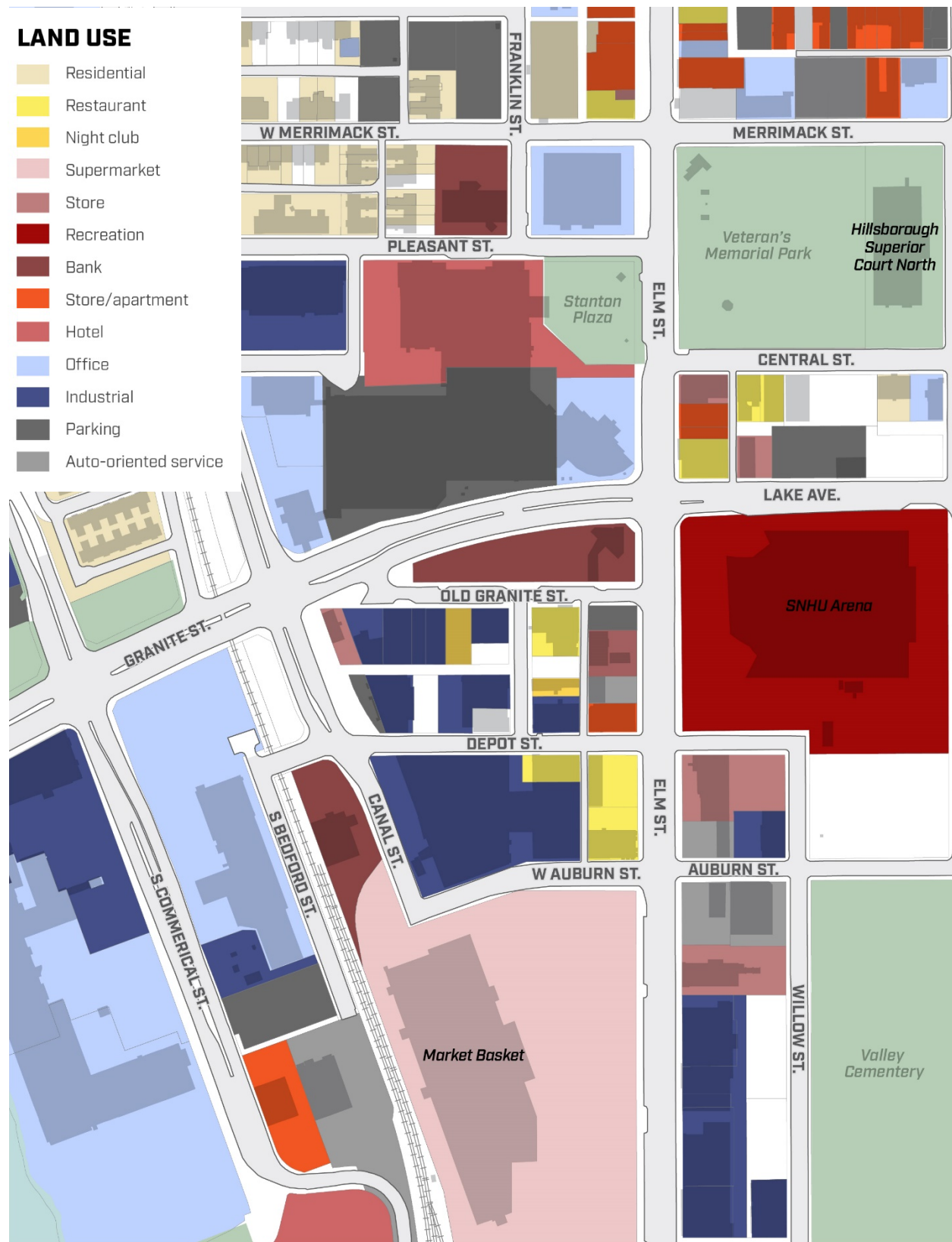


Figure 6: Land Use Patterns in the Gaslight District



Gaslight District: Land Use and Parcel Patterns

The Gaslight District is an area of many smaller but substantially developed parcels immediately adjacent to downtown, Millyard, and SNHU Arena. Because the parcels in the Gaslight District are smaller, potential development here is likely to be smaller in scale. There are potential opportunities to fill vacant spaces, intensify existing uses, and promote infill development. The gradual slope of the district from Elm Street towards Commercial Street creates significant views across the Merrimack valley from building rooftops, creating an opportunity for rooftop use or additions that promote this amenity. The bank parcel at the southeast corner of Elm and Granite Street is a key target for infill development to support the broader district owing to its low density use and potential to enhance the pedestrian connection between the Gaslight District, downtown, and SNHU Arena. As shown in Figure 5, the Gaslight District is one of the higher density areas of the TOD study area, analogous to downtown.

The land use pattern of the Gaslight District, shown in Figure 6, is a heterogenous mix of light industrial uses and newer entertainment and smaller-scale offices. Restaurants and dining are the most frequent use. While some of these properties have since become vacant due to turnover in the businesses, spaces that have already been fitted out with commercial kitchen and other restaurant facilities are easier to re-tenant with future dining and entertainment uses. This land use pattern supports the transition of the Gaslight District into an entertainment hub, a goal cited by stakeholders as a part of interviews and established in previous planning efforts. This can be compatible with continued operation of existing light industrial businesses.

Elm Street Corridor

The Elm Street Corridor is an important near-term opportunity for further mixed-use development and redevelopment. Elm Street is downtown's signature address, and can readily accommodate an extension of downtown's vibrant mix of uses south into the study area. Development here can leverage recent complete streets investments in sidewalks and bike lanes, and existing bus transit service that runs along the corridor to support transit-oriented development. While uses in the corridor are largely appropriate, redevelopment in this area could promote increased density and de-emphasize auto-oriented uses and surface parking. A proposed redevelopment project at 409 Elm Street demonstrates such an approach.

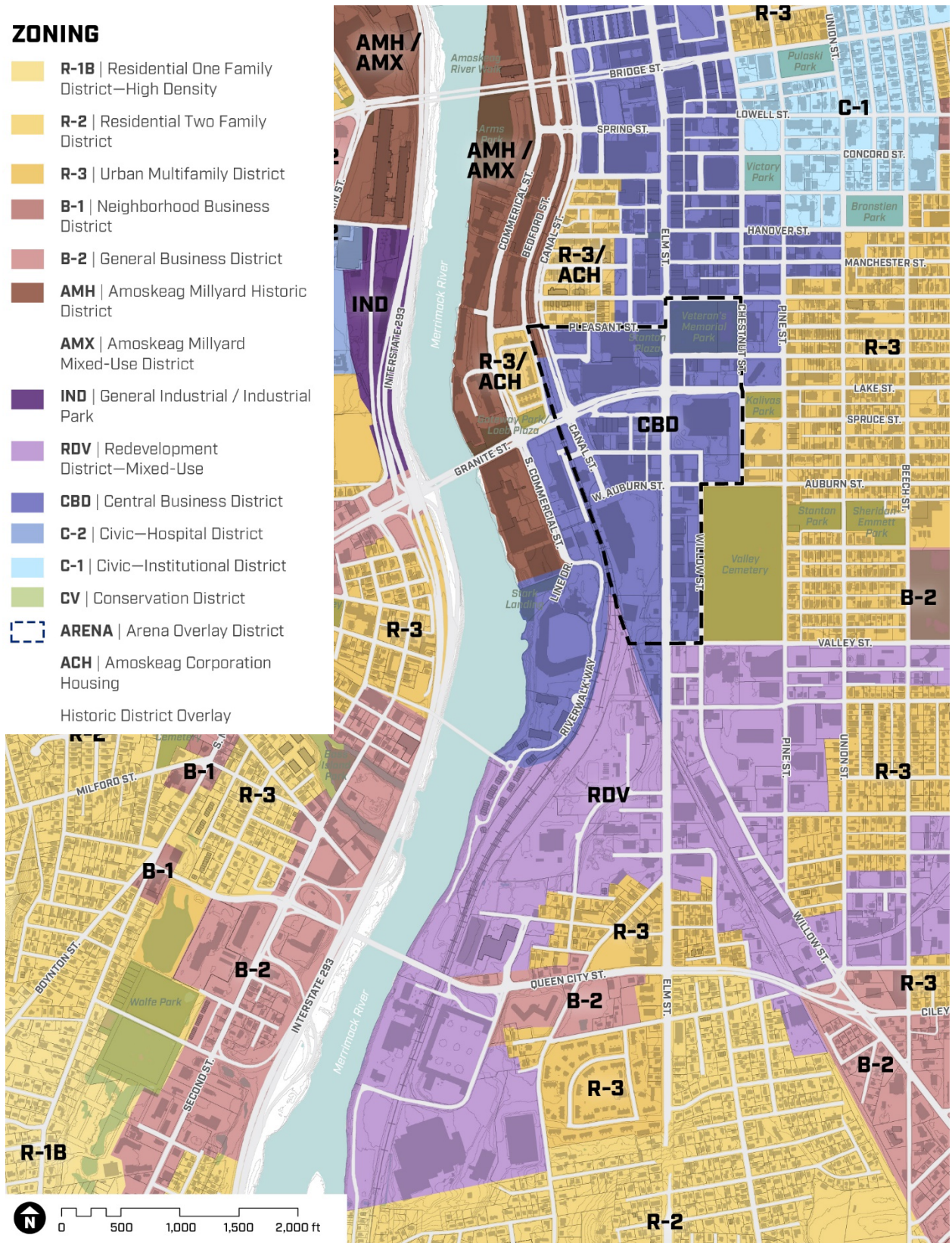
Willow Street Corridor

The Willow Street Corridor, while outside the immediate study area, is an important potential location for redevelopment that can support S Elm Street and the TOD study area. The area currently lacks connectivity and direct access to S Elm Street. Investing in a multi-use trail along the existing rail right-of-way in this area could catalyze "trail-oriented development" with an easy walk, bike, or ride to jobs in the TOD study area, Millyard, and downtown, as well as connections to outlying residential neighborhoods. The adaptive reuse of 252 Willow is a catalytic project for this area.

Figure 7: Zoning Map

ZONING

- R-1B** | Residential One Family District—High Density
- R-2** | Residential Two Family District
- R-3** | Urban Multifamily District
- B-1** | Neighborhood Business District
- B-2** | General Business District
- AMH** | Amoskeag Millyard Historic District
- AMX** | Amoskeag Millyard Mixed-Use District
- IND** | General Industrial / Industrial Park
- RDV** | Redevelopment District—Mixed-Use
- CBD** | Central Business District
- C-2** | Civic—Hospital District
- C-1** | Civic—Institutional District
- CV** | Conservation District
- ARENA** | Arena Overlay District
- ACH** | Amoskeag Corporation Housing
- Historic District Overlay



Zoning and Regulation of Mixed Use Areas

Most of the study area outside of the residential areas is covered by one of three zoning districts that allow for larger-scale mixed-use development, the CBD Central Business District, the RDV Redevelopment District, or AMX Amoskeag Millyard Mixed Use District. The Arena District Overlay provides additional regulation beyond the underlying CBD Central Business District zoning. The boundaries of these zoning districts are shown in Figure 7.

The Arena Overlay District covers an approximately six block area surrounding the SNHU Arena. The underlying zoning is CBD Central Business District. The overlay's purpose is to encourage uses compatible with this area as a major civic center, a pedestrian-oriented character, and discourage auto-intensive uses. In addition to the underlying regulations, it allows for artisan lofts, small scale fabrication, and bed and breakfast uses. The overlay extends through the Gaslight District and along the Elm Street corridor to Valley Street. Both the AMX Amoskeag Millyard Mixed Use District and Arena Overlay District are based on specific locations and assets, and thus are less suitable to be extended throughout the study area for future transit-oriented development.

The City has established design requirements for projects within the Arena District Overlay, many of which support an active pedestrian environment and would be appropriate through the TOD study area. These requirements include:

1. Building facades along sidewalks shall include doors and windows in order to encourage pedestrian flows. No more than 20 feet of blank walls shall be allowed in these areas.
2. The primary entrance shall be fronting the street sidewalk.
3. Buildings should be a minimum of 20 feet in height.
4. Window system should not exceed 25 feet in width without being interrupted by another building material.
5. Vinyl siding products prohibited.
6. Pedestrian circulation throughout the district shall be improved as development or redevelopment occurs, in accordance with general design principles and objectives of safety, comfort, ease of movement, and convenience of access to properties

The Amoskeag Millyard Mixed Use AMX District allows for a broad range of higher-density manufacturing, office, and mixed uses while promoting the retention and reuse of the Millyard's unique architectural character. The district extends across Granite Street to the historic SNHU Millyard building and new parking garage along South Commercial Street. Multifamily housing development is a conditional use and there are limitations on new construction in the district unless for hotel, parking structure, major destinations like sports facilities or theaters, cultural and institutional uses, or retail and restaurant uses over 5,000 square feet. Larger retail over 8,000 square feet is a conditional use. Parking requirements are determined based on an analysis of expected parking demand. The Planning Board evaluates proposed parking based on compatibility, adjoining uses, parking analysis, and site design.

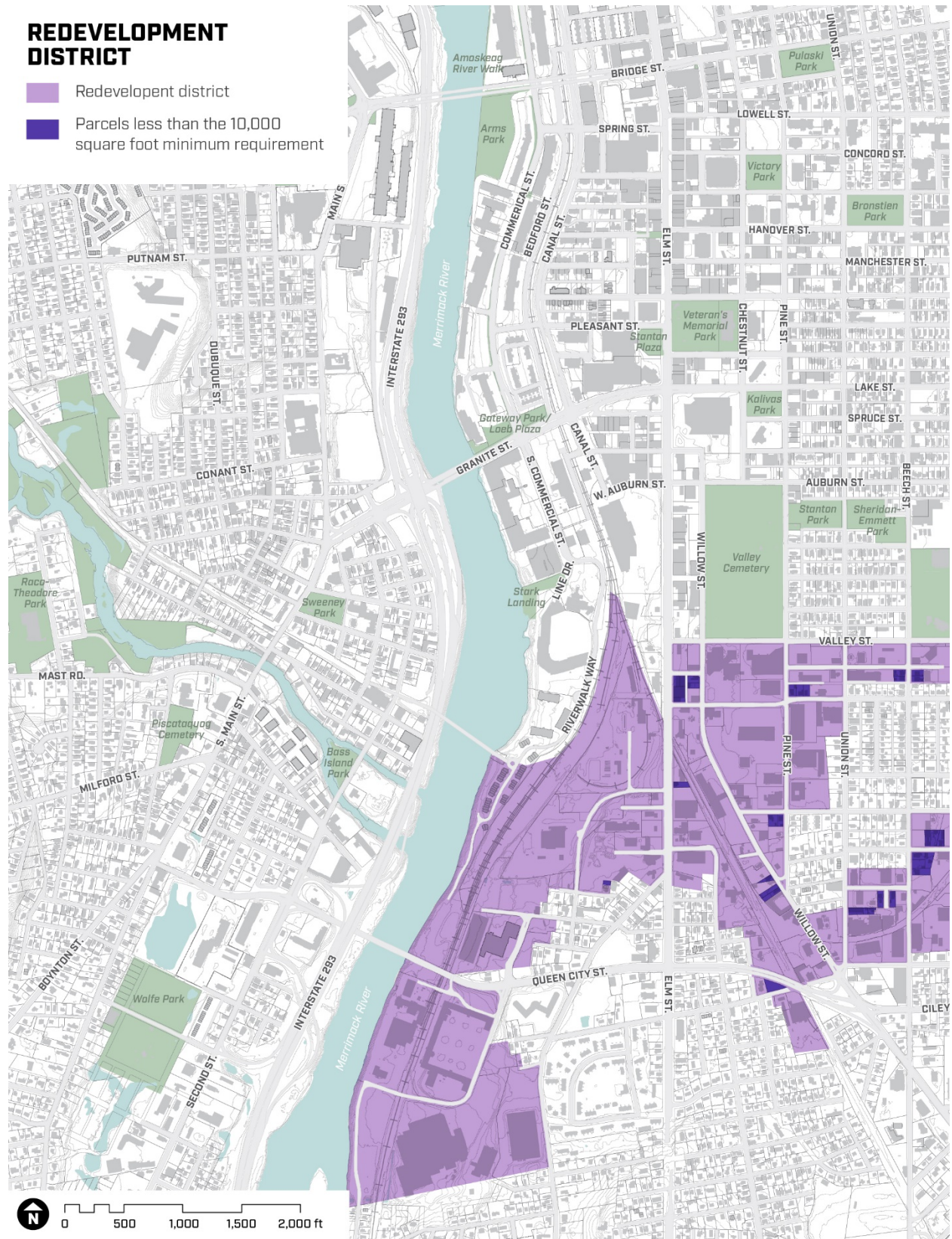
The CBD Central Business District covers a broad area of the Elm Street corridor, including most of downtown that is not already included in either the Amoskeag Mixed Use, Amoskeag MH, or R-3/ACH districts that address the reuse and promote retention of historic properties. The CBD Central Business District has been extended over time to include the northern portion of the study area, including additional properties on the eastern side of Elm Street to Hayward Street, the stadium and some of the multi-family development along the Riverwalk, and the properties between the rail right-of-way and Commercial Street east of the Gaslight District, including the WMUR building. The CBD

Central Business District allows for a wide range of uses, including multi-family residential, commercial, entertainment, and limited manufacturing. It is Manchester's highest density district, with no minimum lot size for most development and a maximum floor area ratio of 5. Multifamily residential development requires a minimum lot size of 3,000 square feet for the first three units, with 500 square feet required for each additional unit afterwards. There is no height limit or parking requirement beyond that determined by the Planning Board to be appropriate to the project.

The RDV Redevelopment District covers the southern portion of the study area and the Willow Street corridor. RDV allows larger scale development of a variety of commercial and residential uses, but does not allow nightclubs. It does allow motor vehicle-oriented uses, including repair shops and sales. Lots must be at least 10,000 square feet and residential development requires a lot size of 5,000 square feet for the first 3 units and 1,500 square feet per unit afterwards. There are a number of smaller existing parcels within the district that would not meet this minimum lot size requirement, including parcels fronting S Elm Street within the TOD study area. They are shown in Figure 3.

Off-street parking requirements stipulate a minimum of 1.5 spaces per unit, as compared to 2 spaces per unit in districts beside the CBD and AMX. The RDV district allows for off-site parking and provides credit for nearby public parking, measures that help support shared and district-based parking that may be important to TOD study area development in the future. Building height is limited to four stories and 50 feet, and density may not exceed FAR 2. There are no setback requirements, although there is a maximum of 85% lot coverage by impervious surfaces in order to avoid problems with runoff.

Figure 8: RDV Zoning District, Parcels Under 10,000 Sq Ft Minimum Size



Historic Resources

Manchester was incorporated in 1845 as a planned mill town. The study area is adjacent to the most historic sections of the city, including downtown and the Millyard. Several properties and historic areas near the study area in downtown are listed on the National Register of Historic Places and/or the State Register of Historic Places. The riverfront, the rail line, and onetime canals through the study area helped drive the historic development of Manchester. At its height in the late 19th century, the Amoskeag Mills was the largest cotton mill in the world, employing over 17,000 workers.

Near the study area, there are several individual mill buildings on the National Register, and four areas comprising factory-built housing on both sides of Canal Street that are part of the National Register Amoskeag Manufacturing Company Housing District. These historic residential properties adjacent to the Millyard housed workers at the Amoskeag Manufacturing Company.

Two additional resources are listed on the state register. The Valley Cemetery at Pine and Auburn Streets is adjacent to the study area. The property at 344 Second Street (H.E. Netsch and Sons Blacksmithing) was listed on the state register but has since been demolished. The Gaslight District, while containing some historic properties, lacks local, state, or national historic designation.

The Amoskeag Millyard Historic District, including the SNHU Millyard building in the study area, is a local historic designation. The Manchester Heritage Commission reviews and approves all building permit applications involving exterior work within the Amoskeag Corporation Housing Historic District. It also reviews and approves all proposals to demolish buildings and other structures in either the Amoskeag Corporation Housing or the Amoskeag Millyard Historic Districts. It also advises, upon request, local agencies and other local boards in their review of requests on matters affecting cultural and historic resources, including as part of the application of Section 106 under the Federal Historic Preservation Act.

Historic resources are also protected by special zoning regulations. The Amoskeag Millyard Mixed Use District (AMX) is an overlay district to promote the retention and reuse of the Millyard's unique architectural character while allowing for a broad range of higher-density manufacturing, office, residential, and mixed uses. The district and its overlays provide for special reviews of planning and design issues, with goals including pedestrian linkages to the downtown and the Merrimack River; maintaining a balanced diversity of uses; responsiveness to changing market demands; proper design control and planned integration of uses; and the promotion of additional resident and visitor enjoyment of the Millyard and the Merrimack River.

Manchester TOD – Existing Environmental Conditions

To: Kathleen Onufer - Goody Clancy
FROM: R. Gordon Leedy, Jr. – Tighe & Bond
DATE: January 24, 2020

Existing Environmental Constraints

The study area is characterized by its historic relationship with the Merrimack River. Since it's founding, the city of Manchester has derived its identity from the river, and development led to the establishment of what was the largest single industrial complex in the United States by the end of the 19th Century. As the area has been used for industry for over 150 years, there are significant known contaminated areas, as well as the typical environmental concerns related to proximity to the river.

Floodplain

The area near the Merrimack River is subject to flooding to varying degrees. Generally, the banks of the river are quite well defined, with the 100-year floodplain (FEMA Zone AE) confined to the floodway immediately adjacent to the river channel. There is a larger 500-year flood plain that is not subject to regulatory constraints.

The latest FIRM map became effective in 2009. There have been recent studies that have modified the flood elevations in portions of the study area through the Letter of Map Revision (LOMR) process, the most recent being in 2019, and there is an on-going effort by FEMA to update flood studies based on generally accepted increases in storm intensity and frequency. Additionally, there are significant US Army Corps of Engineers flood control facilities upstream in the watershed that have the effect of mitigating very large flood events.

Within the study area there are few constraints on development posed by flood elevations with the exception of development in areas that are defined as floodway. These areas are directly associated with the river channel and are unlikely to be impacted by development.

Shoreland Protection

In 2011 the State of New Hampshire enacted NH RSA 483-B, the Shoreland Water Quality Protection Act (SWQPA). This statute creates a regulated area within 250 feet from the reference line of major waterways, including the Merrimack River. Any projects within this area have enhanced regulation with regard to on-site sewage disposal, clearing, lot coverage and water quality measures required for development. A permit is required, which is currently considered concurrently with other NH Department of Environmental Services (NHDES) permitting required by the project.

There is a provision in the law allowing communities to apply for exemption from Shoreland Protection requirements if an area was previously "urbanized." This provision in the law is a recognition that many communities in New Hampshire were developed in close association with rivers, and that existing mills, dams and other facilities would be unduly impacted if the requirements of the SWQPA were implemented in these developed areas. Manchester has applied for and was granted several exemptions to the SWQPA. These areas are shown in Figure 1.

Wetlands

Wetlands areas as defined by the federal government are regulated by state and local authorities under Section 404 of the Clean Water Act. This general methodology for determining wetlands subject to regulation has largely been in place since the 1980's and is well understood. The regulation of wetlands is administered by NHDES under the Programmatic General Permit, and there are local zoning provisions that include a measure of local control as well.

There do not appear to be any major wetland areas in the study area that will be of concern, except the areas immediately adjacent to the river channel. Since these areas are also otherwise constrained, wetlands will not likely be a significant constraint to projects in the study area.

MS-4/Impaired Waters

Manchester is subject to the requirements of the US EPA Municipal Separate Storm Sewer System (MS-4) program that regulates stormwater discharges from municipal sources. This USEPA program requires states to identify water quality impairments and create a program to mitigate impairments and improve water quality in waters of the United States. Manchester is subject to the requirements of the MS-4 program, which require that new activities do not increase discharge of factors for which the receiving waters are impaired or create any new impairments. In practice, this means that the City must adopt and enforce compliant stormwater regulations, and all development must pursue water quality measures that address impairments "to the maximum extent practicable."

Urban development, including development within the study area will need to make every reasonable effort to adopt Low Impact Development (LID) water quality measures as a part of new development proposals in order to meet antidegradation standards of the Clean Water Act.

Brownfields/Environmental Contamination

As a long-standing center of commerce and industry, Manchester has had its share of environmental contamination. Brownfields mitigation efforts are controlled by the USEPA, and there are several federal grant programs that fund mitigation and clean-up. Known contaminated sites within the study area are shown in Figure 2.

In addition to known contaminated sites are areas where contamination can be expected, but no data exists. It should be expected that some contamination would be expected adjacent to the rail tracks that run through the facility. It would be common to encounter herbicide residue (arsenic), coal ash and waste adjacent to the rail lines and in areas where rail lines once existed.

Water/Wastewater Utilities

The City of Manchester has been operating for decades under a Consent Decree related to the Combined Sewer Overflow (CSO) issue. The City's storm water and sanitary systems are combined, and when there is a large rain event, the treatment system is overwhelmed, and the system discharges to the Merrimack River. Over the last twenty years, a Phase I mitigation program has been implemented, with the CSOs associated with the Piscataquog River being disconnected from the River. There are remaining portions of the east side of the river that continue to discharge into the river during storm events.

Recently the City entered into a Phase II Consent Decree with USEPA and the federal government that requires the expenditure of approximately \$230 million over the next ten years to undertake a sewer separation project that will mitigate the remaining CSOs. As that project proceeds, additional capacity will be available at the treatment plant.

Manchester Water Works is currently building a second withdrawal and treatment facility up river from downtown in Hooksett. This facility will ensure that ample water will be available in the region for the foreseeable future.

As a result of the planning and foresight of these two agencies, water and sewer capacity are not anticipated to be a constraint on development in the city.