MANCHESTER
TRANSIT-ORIENTED
DEVELOPMENT

IMPLEMENTATION MEMO

GOODYCLANCY

Contents

Manchester TOD Plan: The Long-Term Value Proposition

The future of the TOD area is important to the future of Manchester.

The Manchester TOD area is composed largely of places with unique potential to be strengthened or transformed to serve economic and community development in Manchester. The almost 250-acre study area, split into a core development area on the east side of the Merrimack River and a residential neighborhood on the west side of the river and I-295, makes up a substantial portion of the 11% of city land designated as places to strengthen or transform in the cities ongoing Manchester Comprehensive Plan. It is ideally located adjoining or overlapping some of the city's most valuable development assets: major employment centers in Downtown and the Millyard, regional transportation at I-293, regional event destinations, and the Merrimack riverfront. Adjacent to Manchester's most walkable areas in downtown and Millyard, the TOD area is currently served by local and regional bus service. When rail service is extended to Manchester, the station will be located in the TOD area.

Analysis of market-driven development investment potential in the TOD study area underscores the importance of this land to the future of Manchester. Within two to three decades, the area could reasonably accommodate approximately three million gross square feet of new mixed-use development worth approximately $600 million. This investment would also increase the value of some existing properties adjacent to the TOD area, including the Gaslight and Millyard Districts, and even downtown.

This memo lays out the estimated benefits of TOD development in this area and also recommends the next steps needed to achieve success. Included here are:

- Capital Improvements Necessary to Achieve the TOD Plan
    - Recommended Improvements by Phase and Potential Funding Sources
- A Cost/Benefit Analysis of the TOD Plan and Funding Opportunities
- Recommended Land Use and Zoning Changes

An Overview of Proposed Capital Improvements and the Cost Benefits

New development in the TOD study area is dependent on private investment. The overall success of the area's redevelopment, and the City's ability to recruit private investment and see this area built out to its full potential will be tied to the City's willingness to make proactive investment in new or improved street, recreational, and parking infrastructure. The area's long history of railroad and industrial use, much diminished today, leaves it with a primitive street network that limits parcel access and prevents the area from being perceived and used as a coherent district. Fortunately, a modest extent of new street connections, coupled with a crossing of the area's active railroad track, will have a transformative effect, improving circulation within the study area and strengthening connections to adjoining areas of the city. Similarly, a modest investment in recreational path connections along these new streets will connect several existing city recreational paths into a substantial regional network linking neighborhoods across Manchester with the signature Merrimack River landscape, approximately 60,000 jobs, and downtown's concentration of dining, cultural, and entertainment destinations.

The Rationale for Infrastructure Improvements

Overall, a phased investment of under $100 million in street, recreational path, and parking infrastructure, along with companion investment of about $25 million in a frequent shuttle service linking the area with the Millyard, Downtown, and commuter parking, would unlock the $600 million

in new real estate development value at an attractive ratio of well over $4 private investment for each $1 of public investment. A critical initial phase of infrastructure improvement offers similarly strong return on investment, enabling over $180 million in new real estate investment with a public expenditure of less than $30 million in streets, trails, and parking. The City of Manchester has recognized the need for public infrastructure investment in its application for Federal BUILD grant funds, which would be targeted toward these valuable near-term connections. There are real opportunities for developers to share some of the infrastructure costs through public-private partnership agreements.

The importance of this public investment in infrastructure cannot be overestimated. Deferring these infrastructure improvements poses significant opportunity costs. The many underutilized study area parcels that are hard to access, hard to see from principal streets, and fragmented from each other, will not attract high-value redevelopment. Absent investment in infrastructure and changes to land use policy, some parcels may attract isolated lower-value commercial or residential development that falls short of potential and does not help stimulate reinvestment in other parcels. This could delay achievement of the area's full potential for decades.

Near-term steps to improve TOD area infrastructure will also help capture market momentum from other recent or planned real estate investments adjacent to the study area. These recent investments include development approvals and significant re-investment in a hotel on Lake Street, new residential units on Elm and Willow Streets, and restored restaurant space in the Gaslight District. Continuing to build market position will require continued support for high-value, higher-density development and amenities.

Overview of Recommended Infrastructure Improvements and the Cost Benefits

Phased economic development in the Manchester TOD study area can play out as follows, starting with the catalytic A-BUILD and A-MTA phases as prerequisites. In addition to street, path, and parking infrastructure, the calculations include investment of approximately $27 million in the frequent shuttle service described above. Figures are rounded and expressed in millions.

What follows are details on the type of infrastructure improvements recommended, proposed phasing, funding resource information, and detailed information on the cost benefit analysis competed.

Phase	**Proactive infrastructure investment**			**Potential private real estate investment**					**Cost-benefit**
	Street/ Path	Parking	Shuttle	Number of sample parcels	% of total	Gross floor area	Development value	% of total	Development value/ infrastructure cost
A-BUILD	$12.7 M	$14.7 M	$20.0	15	33%	0.92	$183.8	31%	
A-MTA	$6.3 M	$11.9 M		7	15%	0.40	$80.9	14%	
Total catalytic phases	$19.0 M	$26.6		22	48%	1.32	$264.7	45%	4.0
Later phases B-C-D	$21.3 M	$39.9 M	$7.0	24	52%	1.62	$324.0	55%	4.74
Total all phases	**$40.3 M**	**$66.5 M**	**$27.0 M**	**46**		**2.94**	**$588.7 M**		**4.40**

Figure 1: Illustrative TOD Plan with Proposed Capital Improvements Labeled by Type and Phase

Capital Improvements Necessary to Complete the TOD Plan: Details on Infrastructure Improvements, Phasing, and Costs

The proposed infrastructure improvements would enhance safety and convenience of walking, biking, using transit, and driving, in a coordinated and balanced manner. Some improvements would enhance existing streets and off-street pathways, while others would create entirely new streets and pathways to fill gaps in Manchester's transportation network. This multi-modal infrastructure strategy would reinforce the qualities of walkability that are already important assets for Manchester's downtown and adjoining neighborhoods. It would also expand this area of walkability to underutilized sites, maximizing opportunity for private reinvestment in real estate and business.

Proposed improvements were defined through development of a phased approach based on the pending application for a BUILD Grant, the availability of potential redevelopment sites adjacent to Eliot/River's Edge facility and the Manchester Transit Authority property, and additional opportunities. Planning-level cost estimates for proposed construction were developed by planning team member Tighe & Bond using broad categories of construction with unit prices from NHDOT's "Weighted Average Current Unit Prices" database of bid tabulations. These roadway construction costs were converted to linear foot costs for each of the roadway cross sections proposed in the plan. The cost of intersection signalization and roundabouts were added to the totals, as were costs for construction of new utility infrastructure. An allowance for "soft costs," construction costs unrelated to hard construction such as engineering and permitting, insurance and contractor OH/P, and contingency were added to the improvement costs to reach an estimated cost of each element of proposed improvements.

Potential costs of excess grading, retaining walls, environmental remediation, right of way acquisition and development site preparation are unknown at this time and are not included in these cost estimates. Detailed survey and engineering design will need to be done to further define these costs. Timing of construction is not known and so all costs are expressed in current (2020) dollars, without any allowance for escalation. As a matter of reference, construction costs have been escalating between 8% and 10% per year for the last several years. Costs shown have been rounded to the nearest $5,000.

Major proposed capital improvements are shown in Figure 1, labeled by the type of improvement:

- "S" represents new street connections to provide access to new development, circulation throughout the TOD area, and a connected transportation system.
- "P" represents public and/or district parking that can serve multiple developments within a parking structure. These improvements help increase project feasibility; serve the broader public who may live in, work in, or visit the TOD area; and support major transportation assets like the Millyard shuttle and rail service.
- "W" represents walkable streetscapes, or improvements that will help make the area a more inviting and attractive place to walk, such as improving the alleyways and paths of the Gaslight District.
- "R" represent recreational paths, including new segments that tie into the Riverwalk and a future path in the right-of-way paralleling Willow Street.

The capital improvements are described below as part of the phased development they would enable.

Phase A - BUILD Grant Capital Improvements S1, S2, S3a, S3b, S4a, S12, P20, W3, W4, R1, R2

The Phase A BUILD Grant Capital Improvements provide a meaningful "backbone" to other improvements in the TOD area.

Proposed street and roadway improvements include:

- Connection between South Commercial Street and Elm Street at the southerly end of the Market Basket site with an associated new rail crossing ($2,150,000)
- New streets extending the urban grid toward the north and west of the Valley Street/Elm Street intersection with roundabout and signal improvements ($3,290,000)
- New roadway connection along the north and east side of the Liberty Gas property, connecting to South Willow Street ($1,780,000)
- New street connection between South Commercial Street on the south to South Bedford Street ($1,095,000)

New pedestrian, streetscape and parking improvements include:

- New multi-modal trail connection from South Commercial Street to Queen City Boulevard utilizing the existing rail corridor ($720,000)
- New trail connection between South Commercial Street, Granite Street and the Riverwalk with a traffic-separated trail ($520,000)

The City and its partners included these capital improvements, along with others, as part of an application to the federal USDOT BUILD Grant program. The grant application provides $4.88 million in local match for a request of $19.52 million in grant funds. The 2020 application allowed for refinements and responses to USDOT comments from the 2019 application; federal funding for this infrastructure under the BUILD grant program or a successor program should continue to be pursued.

Two other capital improvements for pedestrian, streetscape, and parking improvements not included in the current BUILD grant application should be pursued:

- Enhanced streetscape/pedestrian improvements that extend the Franklin Street corridor as a north/south pedestrian spine between Granite Street and West Auburn Street, enhancing the pedestrian environment of the Gaslight District and piloting new stormwater strategies ($2,450,000)
- Construct surface parking north of the Liberty Gas property in anticipation of later construction of structured parking – approximately 120 spaces ($580,000). Public parking here could provide access to the new multi-modal trail connection and the larger TOD area. Over time, a parking structure could include public parking to access the area, in addition to shared parking supporting surrounding development and future rail station. The costs of a parking structure could be shared by multiple users ($5,600,000). Combined with rehabilitation of the historic Manchester Tower, this project could establish a major public and multi-modal node at the center of the TOD area before rail service arrives. Some public funding towards the rehabilitation of the historic Manchester Tower will likely be required, but overall costs will depend on eventual scope and program.

Figure 2: Phase A - BUILD Grant Capital Improvements

Figure 3: Phase A - MTA Grant Capital Improvements

Phase A - MTA Capital Improvements S4b, S4c, S6, P28, S9a

Phase A MTA Capital Improvements are generally centered around the southerly portion of the study area and provide connectivity from the The Eliot at River's Edge to the Commercial Street corridor and the Millyard. These improvements could occur at the same time as those clustered in the BUILD Grant area (Phase A – BUILD described above), or could move forward asynchronously. These improvements would enable development of significant underutilized land near the Elliot at River's Edge and as part of neighboring MTA-owned property.

Proposed streets and roadway improvements include:

- New roadway connection parallel to the rail tracks connecting Sundial Avenue/Queen City Boulevard with the new improvements north of the Liberty Gas property ($4,680,000)
- New street connecting Gas Street with the new north/south connector road and connecting through to Hancock Street ($1,640,000)

This phase would likely also need to include some contribution towards the capital costs of constructing a new parking structure in the area, to potentially be shared to provide new public parking while also serving private developments.

Millyard Shuttle Improvements

As the Millyard, downtown, and TOD area continue to densify and attract more high-tech businesses and educational institutions, the ability to provide more surface parking spaces or construct parking structures for future employees and visitors grows more limited. Compared to demand, there is not enough surface area for more vehicle parking should these companies grow or construct new office space.

The proposed shuttle route connecting the Millyard and TOD area to parking facilities northwest and south of Downtown takes advantage of this imbalance, as there is available capacity at parking lots and garages more distant to the center of the Millyard. A high frequency shuttle or people mover is a feasible alternative to provide parking and commuter access to the Millyard and TOD area for those commuters who continue to drive to work.

The proposed Millyard parking shuttle will target commuters who work or study in the Millyard and TOD area who currently do not have access to parking close to their destination, or for whom the cost of existing parking is prohibitively expensive. Previous studies have shown that riders are generally attracted to commuter services due to time or cost savings over commuting in a private vehicle. Once shuttles arrive at or near job centers, most riders reach their destination by foot. Dense and walkable job centers like Downtown Manchester, the Millyard, and the TOD area are the most conducive for commuter services since more jobs are within a short walk, and the walking environment allows direct paths to jobs in many directions. Typically, a commuter bus serves a select number of stops located within a short walk of all major employers/buildings of the district but does not stop at every building. Too many stops or weaving in and out of parking lots to serve every employer, can significantly increase total trip time, making the commuter service less attractive. Serving commercial buildings set back from the street with large parking lots abutting the street is particularly difficult for this reason.

Additionally, because employee parking is relatively inexpensive or provided for free by some within the Millyard and TOD area, encouraging employees to park and ride from a remote location alone is not likely to gain traction, as it will add additional time to their commute. Employers and land owners should recognize the value of their limited parking facilities and price parking at or closer to a market rate. By doing so, employees who are not willing to pay more to park for convenience may seek alternative locations that are more cost-effective.

Therefore, to support the operation of this proposed parking shuttle and secure substantial ridership for efficient operations, the following goals should be established:

- Ensure competitive pricing at the origin parking facilities and the shuttle service itself
    - Remote parking lots should cost less than parking immediately adjacent to destinations.
        - Free parking at remote lots initially is recommended to encourage use.
        - Pricing should only occur once lots exceed 75% capacity regularly.
        - Increase parking rates at facilities directly adjacent to major employers.
    - The round-trip shuttle ride itself should not cost more than the parking immediately adjacent to destinations.
- Run buses at a frequency that allows commuters to realize travel time savings from driving and parking themselves at the destination.
- Designate multiple stops throughout the Millyard and TOD area, but not too many that they have a negative operational impact on the service.
    - Slower speeds reduce the time savings
    - Slower speeds may require an additional vehicle to run at the same frequency, increasing the total cost of providing service.
- Improve pedestrian connections from proposed shuttle stops to employment destinations to make transfers as seamless as possible.
- Provide excellent wayfinding signage, branding, and placemaking to make the service visible, attractive, and easy to use. These costs may vary, depending on the extent of effort, and thus are not incorporated into the estimated total. These costs are also particularly appropriate for public-partnership funding opportunities.

Proposed Parking Shuttle

The proposed parking shuttle alignment will extend from the Velcro/Sundial Center in the Gaslight district to the Park and Ride located on Exit 6 of Everett Turnpike. It will operate on weekdays, between the hours of 8:00 AM and 6:00 PM, with 20-minute headways. The following service assumptions were used to determine the shuttle's implementation cost:

- The shuttle will use 20-seat vehicles, the same type currently used for the Green DASH shuttle.
- The shuttle will be operated by the Manchester Transit Authority (MTA).
- The shuttle's average operating costs are based on a typical MTA bus ($61.45 per service hour).
- The vehicle will operate weekdays only, but can be put into service for limited hours for late evening and weekend events as it is not used for another route at those times. This would increase the annual cost above the stated estimate.
- The shuttle's average operating speed will be 14 mph, the same as a typical MTA bus in service.
    - Additional stops along the route will lower the average speed.

Shuttle operations will be rolled out in two phases:

Phase 1

Phase 1 will span between the parking lot on 1-97 W Pennacook Street adjacent to the National Guard Building (or 641-785 N Commercial Street if access issues cannot be overcome) and the

Switchyard on South Commercial Street in the Gaslight district, for a total distance of 1.6 miles. Running this service will require one shuttle bus and cost approximately $160,000.

- If bus speeds slow to 10 mph, an additional bus would be required to maintain headways of 20 minutes all day, and the service would cost approximately $320,000 annually.
- If buses run 14 mph at headways of 12 minutes during the AM and PM peak hour and 20 minutes in the off-peak during midday, annual costs are $192,000. Operating this service is more complicated for operations and driver scheduling.

The implementation of Phase 1 depends on the completion of the roadway infrastructure within the BUILD grant to create a new railroad crossing over the tracks from S. Commercial Street near the baseball park to a new road south of Market Basket.

Phase 2

Phase 2 will span between the Exit 6 Park and Ride (once constructed) to the east of, travel over the Amoskeag Street bridge, travel south along Commercial Street, including the proposed extension of S Commercial Street described in Phase A MTA and Phase A BUILD, to Sundial Avenue and the Velcro/Sundial Center to the south of Queen City Avenue – a total distance of 2.9 miles. Running this service will require at least two 20-seat shuttle buses and cost approximately $320,000 annually. Similar to Phase 1, should travel speeds decrease considerably, a third bus may be needed to provide 20-minute headways, which would increase annual costs. The implementation of Phase 2 depends on the completion of two roadway infrastructure projects:

- The extension of South Commercial Street (described and labeled as S4a in Phase A Build and S4b in Phase A MTA)
- The construction of a new railroad crossing (described and labeled as in S1 and S2 Phase A BUILD)

On-time service reliability will be critical to the success of the shuttle operation. Removing as many obstacles that lead to trip delays should be prioritized. This includes bus-only lanes wherever possible to remove shuttles from general traffic, traffic signal prioritization (TSP) at key intersections (e.g. Granite Street), and low-level buses and high-level platforms to provide enhanced accessibility for those with mobility impairments.

Potential funding for a Millyard shuttle could include private funding through a Millyard/TOD area Transportation Management Association (TMA). A TMA is a membership based, public-private partnership of businesses, institutions and government that collaborate for the purpose of providing and promoting transportation options for commuters that reduce traffic congestion and improve air quality. There is a TMA currently under formation in the Millyard; it has identified addressing parking as being the top priority. Further upgrades to Millyard shuttle service could be funded through federal grants for public transportation.

Infrastructure cost assumptions in this report include approximately $20 million toward the capital costs of new frequent shuttle service. Capital costs addressed include right of way acquisition, upgrades of existing streets and traffic signals, three service vehicles, and associated design and permitting costs. Costs are based on a rough estimate prepared by the SNHPC that totaled approximately $25 to $30 million (2020 dollars) for the entire length of the shuttle route from Sundial & Vernon Streets to I-293 Exit 6. The $20 million figure excludes right of way costs to the north of the TOD study area.

Figure 4: Millyard Shuttle Options, by Phase

Phase B: S8, S11, P16

Phase B includes new road segments and parking to support continued development surrounding Phase A – BUILD and MTA investments in the TOD area.

New streets roadway improvements, pedestrian, streetscape and parking improvements include:

- Connecting road from Gas Street to Elm Street adjacent to the NH State Liquor Store ($1,555,000). This segment may be ideal for a developer partnership to provide access to developable property.
- Enhanced streetscape/pedestrian improvements that connect from Canal Street to South Commercial Street and through to the Riverwalk, improving the existing pedestrian rail crossing behind the WMUR property, and constructing an ADA accessible ramp in the median of South Commercial Street to accommodate east/west movement of pedestrians ($1,090,000). This project may be suitable for public-private partnerships including stakeholders such as SNHU, DEKA, and other Millyard tenants.

Phase C: S5, S7, S9b, S10, P38, R3, W1, W2

This phase consists of several independent infrastructure improvements that complete the urban grid in the southern portion of the study area, allowing for a more complete build-out of a new transit-oriented district. These investments generally complete connections between existing streets or are discrete development projects. These projects could be completed independent of the larger infrastructure projects discussed above. Elements of these improvements include:

- Upgrade of Gas Street and connection to the North-South road, including an additional roundabout ($2,795,000). This project may be ideal for a developer partnership to provide access to developable property.
- Upgrade of connection between Gas Street and Jefferson Street ($1,235,000)
- Multi-use trail connection between Hancock Street and the Riverwalk via bridge over the railroad ($2,720,000). This project may be ideal for a developer partnership.
- At-grade pedestrian crossing and pathway connection to the Riverwalk and baseball stadium at the rail station ($640,000)
- Reconstruct South Commercial Street by raising a portion of the southbound lane to the same grade as the WMUR site, maintaining existing access to the SNHU parking on the westerly side of the street, and improving pedestrian movement across South Commercial Street. This also has the benefit of Allowing potential redevelopment of the WMUR property, and development on the SNHU site with parking underneath and first floor elevations relating to the street elevation. ($2,625,000)
- Construct streetscape enhancements on Commercial Street north of Granite Street to Pleasant Street ($465,000)

Figure 5: Phase B Capital Improvements

Figure 6: Phase C Capital Improvements

Phase D: Commuter and Intercity Rail Service

Commuter rail service extension to Manchester has been under discussion for at least two decades. In the early 2000's the Massachusetts Bay Transit Authority (MBTA) proposed extending commuter service to Nashua as part of a plan to provide a northerly layover facility so that trains would avoid "deadheading" back to Boston at the end of each day. That proposal was challenged by an intervening party and funding was rescinded. Since then, there have been multiple proposals for extending commuter service to Manchester, as well as providing intercity rail to Concord. Extension of commuter rail to Manchester with stops in Nashua, Bedford and Manchester has been viewed as the most feasible alternative.

With important changes to both the legislature and state staff, rail service is under consideration once again. NHDOT is conducting initial environmental assessments for extending service now.

Phase D represents a new scale and mix of development enabled by rail service to achieve the highest-value development scenario. Prior phases of development and infrastructure investment will ensure that Manchester is best positioned to benefit from this major investment in transportation infrastructure and links to the regional economy.

Potential Funding Sources for Capital Improvements

Planning and feasibility studies may be funded through the Federal Rail Administration (FRA) with no match required. Implementation of the most viable alternative could be funded through the Federal Transit Administration (FTA), with potential participation from MBTA. In previous discussions, rail station facilities and commuter accommodations would be the responsibility of host communities.

In comparable recent projects, rail station and commuter parking facilities have been constructed under Transportation Enhancements (TE) or Congestion Mitigation and Air Quality (CMAQ) programs. These programs, funded through FHWA and administered by NHDOT, may require local management and a local match. Other potential funding includes FTA grants and general program funding through the Statewide Transportation Improvement Program (STIP), or Ten-Year Plan.

Other potential funding sources for capital improvements include:

- FTA Joint Development grants, particularly for development of the MTA site
- FTA Transit Capital Funding for bicycle and pedestrian improvements
- Public Private Partnership (PPP), particularly for Millyard Shuttle
- General program funding through the Statewide Transportation Improvement Program (STIP), or Ten-Year Plan
- Tax Credit programs for historic preservation and for qualified affordable housing.

In addition to established programs, there may be opportunities for funding under any special infrastructure programs that are created as a result of the Covid-19 pandemic. There are also programs in the City, such as the on-going Combined Sewer Overflow Separation Project that may represent opportunities to partner with other agencies in partially funding utility infrastructure as a part of TOD Development projects. Brownfields programs may help remediate and prepare sites for redevelopment, such as the Brownfields Assessment Grant that SNHPC has already submitted for the TOD area.

Figure 7: Phase D Capital Improvements

Cost Benefit Analysis of Manchester TOD Plan and Ramifications for Funding

A cost- benefit analysis of the TOD plan was prepared by team member Applied Economic Research. The conclusion of this analysis is that the proposed TOD plan presents a viable strategy to invest in incremental infrastructure improvements that can generate significant revenue benefits to Manchester through the private real estate investments.

Projected Private Investment and Infrastructure Costs by Phase

The projected infrastructure costs and new private investment by phase have been developed by the Goody Clancy consulting team, as follows:

Phase	Component	Total Development (gross square feet)	Construction Cost Value
A-BUILD	New Development	919,175	$183.8 M
	Capital Improvements (including all of Millyard shuttle costs)		$47.6 M
	Value/Infrastructure Cost		**3.9**
A-MTA	New Development	404,460	$80.9 M
	Capital Improvements		$18.2 M
	Value/Infrastructure Cost		**4.4**
Total Catalytic Phases	New Development	1.3 M	$264.7 M
	Capital Improvements (includes all of Millyard shuttle costs)		$65.8 M
	Value/Infrastructure Cost		**4**
B	New Development	456,050	$91.2 M
	Capital Improvements		$15.6
	Value/Infrastructure Cost		**5.7**
C	New Development	583,855	$116.7 M
	Capital Improvements		$19.5 M
	Value/Infrastructure Cost		**6**
D	New Development	579,915	$116.0 M
	Capital Improvements (does not include cost of rail station platform)		$26.0 M
	Value/Infrastructure Cost		**4.5**
Total	**New Development**	**2.94 M**	**$588.7 M**
	Capital Improvements		**$127.3 M**
	Value/Infrastructure Costs		**4.4**

New development is assumed to have a cost of $200 per square foot, which is sourced from the City's May 2020 BUILD grant proposal. The cost of construction for parking associated with development is assumed at $400 per surface parking space and $20,000 per space for structured parking. Approximately 2/3 of the cost of construction of shared district parking structures, totaling approximately 3,300 spaces, are included as part of capital improvements cost; within the TOD area, shared parking offers important efficiencies for development and helps support several transportation mode options. About 1550 additional spaces are assumed to occur at the

basement/lower levels of buildings - these are not assumed to be district or shared parking, and are not included in the capital improvements cost.

Details on the capital improvements included in each phase are included earlier in this report, including projected development accompanying those improvements. Costs for capital improvements have been estimated by the TOD team based on their experience with projects in the region and are detailed earlier in this report.

Despite significant new investments, the TOD area overall is underimproved. The average assessment of improvements in the TOD area is just over $60 per square foot, versus the anticipated new private investments at $200 per square foot of building area. As such, the area's property tax yield is well below market potentials, even allowing for the inherent uncertainty regarding projected private investment.

Cost-Benefit Ratio by Phase

Phase A consists of two major elements—the improvements and resulting private investment emanating from the City's BUILD grant application, as well as presumed redevelopment of the MTA/Elliot at River's Edge site. In both cases infrastructure improvements are an important prerequisite to redevelopment, providing site access, amenities, and expanded transportation options that enhance real estate investment opportunities. Subsequent phases will be driven more by property owner initiatives in response to market conditions.

The cost-benefit analysis reveals that each of the phases, as well as the overall TOD plan, generate a positive cost-benefit ratio (in terms of potential private real estate investment value divided by the cost of infrastructure needed to attract that private investment). This positive Cost-Benefit is generated even in the absence of the BUILD grant. Simply put, the TOD area can support significant private investment if the district's infrastructure is appropriately enhanced and higher-value, TOD-scale development pursued. That is, in each phase the total anticipated private investment exceeds the projected public infrastructure costs. As a point of reference, a cost-benefit ratio of more than 2:3 is generally considered favorable. The respective cost-benefit ratios for the infrastructure improvements proposed in this plan are as follows:

Table 2: Phased Cost Benefit Ratios

Phase	Private Investment	Infrastructure Costs	Cost-Benefit Ratio
A-Build	$ 183,835,000	$ 47,667,850	3.9
A-MTA	$ 80,892,000	$ 18,183,450	4.4
Subtotal: Phase A	**$ 264,727,000**	**$ 65,851,300**	**4**
Phase	**Private Investment**	**Infrastructure Costs**	**Cost-Benefit Ratio**
B	$ 91,210,000	$ 15,967,600	5.7
C	$ 116,771,000	$ 19,459,500	6.0
D	$ 115,983,000	$ 26,046,150	4.5
Subtotal Phases B-D	**$ 323,964,000**	**$ 61,473,250**	**5.3**
Total All Phases	***$ 588,691,000***	***$ 127,324,550***	***4.4***

Incremental Annual Net Property Tax Revenues

The basic financial concept of this TOD plan is that the public sector will fund (via bonds and grants) infrastructure costs (roads, utilities, parking, pedestrian/bike corridors, etc.) and those infrastructure improvements will spawn new tax-paying private investment. Within this concept, the "bottom line" consideration is whether the level of private investment will generate sufficient property tax revenues to offset annual debt service on the infrastructure bonds upon completion of the projected public sector costs and the private development.

Table 4 on the following page sets forth the relevant calculations, shown in summary here. These calculations do not include the $20 M in costs for the highest-quality Millyard shuttle, as that project is most likely to pursue federal and private sources of funding.

Table 3 Summary of Annual Net Property Tax Revenues

Phase	Annual Upon Completion	Over 20 Year Life of Bonds
A-Build	$ 3,052,000	$ 61,040,000
A-MTA	$ 432,000	$ 8,640,000
Subtotal Phase A	$ 3,484,000	$ 69,680,000
Phase B	$ 788,000	$ 15,760,000
Phase C	$ 1,043,000	$ 20,860,000
Phase D	$ 622,000	$ 12,440,000
Subtotal	$ 2,453,000	$ 49,060,000
Total, All Phases	$ 5,937,000	$ 118,740,000

Each anticipated phase of the development generates sufficient property tax revenues to offset annual debt service, generating a net fiscal surplus, particularly in Phase A-BUILD, due to the presumption that the BUILD grant request will be funded. Subsequent phases also generate a sizable net surplus of revenues over bonded infrastructure costs. The more that the City of Manchester can pursue additional funding opportunities, such as state and federal grants and public-private partnerships, the more significant this surplus will be. As such, the analysis indicates the proposed TOD plan is financially favorable to the City.

In the early phases of the development program the City may choose to deploy interim property tax incentives, such as the five-year incentive under RSA 79-E. It is recognized that such a decision would diminish the initial positive cost-benefit ratio while the incentives are in-place. However, from an economic perspective the decision to move forward is rightfully based on longer term considerations. The substantial revenue surplus indicates that the TOD plan could remain viable even if interim tax incentives are deployed.

Table 4: Incremental Net Revenues

Assumptions			
2019 Tax Rate Exclusive of County Pass-Through	$ 23.00	Per Thousand	
Equalization Rate	83.6%	2019	
Municipal Bond Rate (June 2020)	Aa3 Rating	2.1%	As of June 12, 2020 (NH Municipal Bond Bank
Term in Years		20	
Annual Constant Level Payment		6.17%	

Phase	Private Investment	Infrastructure Costs	Less: BUILD Grant	Net Infrastructure Cost	Annualized Debt Service	Equalized Assessment	Annual Incremental Property Tax	Annual Incremental Net Revenues	20 Year Total Incremental Net Revenues
A-Build	$ 183,835,000	$ 27,347,850	(19,520,000)	$ 7,827,850	$ 483,000	153,686,000	$ 3,535,000	$ 3,052,000	$ 61,040,000
A-MTA	$ 80,892,000	$ 18,183,450	-	$ 18,183,450	$ 1,123,000	67,626,000	$ 1,555,000	$ 432,000	$ 8,640,000
Subtotal: Phase A	**$ 264,727,000**	**$ 45,531,300**	**(19,520,000)**	**$ 26,011,300**	**$ 1,606,000**	**221,312,000**	**$ 5,090,000**	**$ 3,484,000**	**$ 69,680,000**

Phase	Private Investment	Infrastructure Costs	Less: Grants	Net Infrastructure Cost	Annualized Debt Service	Equalized Assessment	Annual Incremental Property Tax Revenue	Annual Benefit (Cost)	20 Year Total Incremental Net Revenues
B	$ 91,210,000	$ 15,647,600	-	$ 15,647,600	$ 966,000	76,252,000	$ 1,754,000	$ 788,000	$ 15,760,000
C	$ 116,771,000	$ 19,459,500	-	$ 19,459,500	$ 1,202,000	97,621,000	$ 2,245,000	$ 1,043,000	$ 20,860,000
D	$ 115,983,000	$ 26,046,150	-	$ 26,046,150	$ 1,608,000	96,962,000	$ 2,230,000	$ 622,000	$ 12,440,000
Subtotal Phases B-D	**$ 323,964,000**	**$ 61,153,250**	**$ -**	**$ 61,153,250**	**$ 3,776,000**	**270,835,000**	**$ 6,229,000**	**$ 2,453,000**	**$ 49,060,000**
Total All Phases	***$ 588,691,000***	***$ 106,684,550***	***$ (19,520,000)***	***$ 87,164,550***	***$ 5,382,000***	***$ 492,147,000***	***$ 11,319,000***	***$ 5,937,000***	***$ 118,740,000***

C:\Users\owner\Documents\manchester TOD\cost benefit analysis\[AER cost benefit 3.0.xlsx]Sheet1

Impact of Tax and Revenue Caps

Since adoption in November 2009, Manchester has operated under an annual spending and property tax revenue cap.[1] The spending cap limits annual expenditures to the amount of the previous year, increased by the average of the Consumer Price Index for the three previous years. The cap does not apply to Enterprise Funds (aviation, environmental protection, parking, water works, etc.) or to municipal debt obligations. Some components of the capital improvements necessary to complete the TOD Plan, such as public parking, may be able to be funded through an Enterprise Fund. With a 2/3 vote the Aldermen may over-ride the cap.

Similarly, the cap limits property tax revenues to the previous year's amount, increased by the average of the Consumer Price Index for the previous three calendar years.

These caps have an impact on how the City utilizes the identified annual surplus in Tables 4 and 5. At a minimum, the surplus can be used to lower the property tax rate for City and school functions. This is a meaningful benefit.

Alternatively, the Aldermen may choose to override the cap, in which case the incremental revenues could be directed to incremental spending, possibly including debt service for public infrastructure investments within the TOD study area. Another option would be to utilize Tax Increment Financing, discussed in the following paragraph.

Tax Increment Financing

Many communities in New Hampshire[2] have utilized Tax Increment Financing (TIF) in similar settings to earmark incremental revenues to retire the infrastructure bonds supporting new private investment. This analysis reveals that a TIF is financially feasible to fund TOD infrastructure improvements. To this date, Manchester has not utilized a TIF to fund improvements. It is not clear how, or whether, TIF can be deployed considering the City's spending and revenue caps. An interview with the City's Finance Director indicted that the ordinance setting forth the caps is silent regarding whether a TIF can be deployed. The legal aspects of a TIF in Manchester have not been researched, primarily because an appropriate mix of infrastructure and private investment has not been put forth. It is recommended that the City research whether a TIF District is possible under the City's cap ordinance.

[1] See https://manchesterinklink.com/city-budget-101-understanding-manchesters-tax-cap/
[2] Londonderry, Bedford, Concord, Keene, Portsmouth, Lebanon, Dover, Laconia, etc.

Land Use and Zoning Changes to Implement the TOD Plan

The prior Manchester Connects planning effort, the Manchester TOD Plan, and the Plan Manchester citywide master plan that is currently underway have all identified a strong vision for mixed-use future land use throughout TOD area and broader downtown and Millyard. Each of these planning efforts has also identified walkability as a key goal for the physical character of the area. The City of Manchester is also considering adopting a form-based code, or more form-based measures, as part of land use regulation in the future. The following changes to land use and zoning regulations would help achieve full development of the TOD study area and support the City's larger efforts:

1. Provide Predictable Zoning and Regulation of the TOD Area as a Mixed-use Area
2. Ensure a Transit-Oriented Building Form Through a New Overlay or Other Form-Based Tools
3. Address Transitions and Walkability to Neighboring Residential Areas

Provide Predictable Zoning and Regulation of the TOD Area as a Mixed-use Area

Most of the TOD area is already within one of three zoning districts that allow for larger-scale mixed-use development: the CBD Central Business District, the RDV Redevelopment District, and AMX Amoskeag Millyard Mixed Use District. The boundaries of these zoning districts are shown in Figure 8. The AMX Amoskeag Millyard Mixed Use District is based on the specific locations and historic buildings of the Millyard, and thus is not appropriate to be extended further in the TOD area.

The TOD Plan establishes a development vision for the southern area of the TOD area, clustered around catalytic development at the MTA site and near Elliot at River's Edge, that will be a significant cluster of higher-density development within a walkable environment. This area is currently zoned RDV Redevelopment District. Over the last two decades, the CBD Central Business District has been extended from downtown to include the northern portion of the study area. As part of the TOD Plan, the CBD could be extended to include all areas envisioned for development. A proposed future zoning map is show in Figure 9. It is particularly important to set the same regulation and standards for both sides of Elm Street so that it functions as a singular corridor for TOD.

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. There is no height limit or parking requirement beyond that determined by the Planning Board to be appropriate to the project.

The southern portion of the study area and the Willow Street corridor would be rezoned from the RDV Redevelopment District to CBD Central Business District. The RDV Redevelopment District, while allowing a higher-density mix of multi-family residential and commercial uses, also allows motor-vehicle oriented uses that will not contribute to transit-oriented development and can negatively affect walkability. Rezoning this area is an important step to avoid currently permitted development that is incompatible with the TOD Vision for this area.

The RDV Redevelopment District also has requirements for off-street parking that are more onerous than in the CBD Central Business District; under one unified CBD Central Business District, developers can "right-size" the parking to the needs of their project and better utilize shared and/or off-premise parking resources like those envisioned in the TOD Plan. Creating the same, predictable regulations across the entire TOD area will help ensure consistent outcomes. These proposed changes to land use and parking requirements are both supported by the State of New Hampshire's guidance on Innovative Land Use Planning Techniques for TOD, which provides guidance on model zoning practices enabled by state legislation.

Figure 8: Current Zoning Map

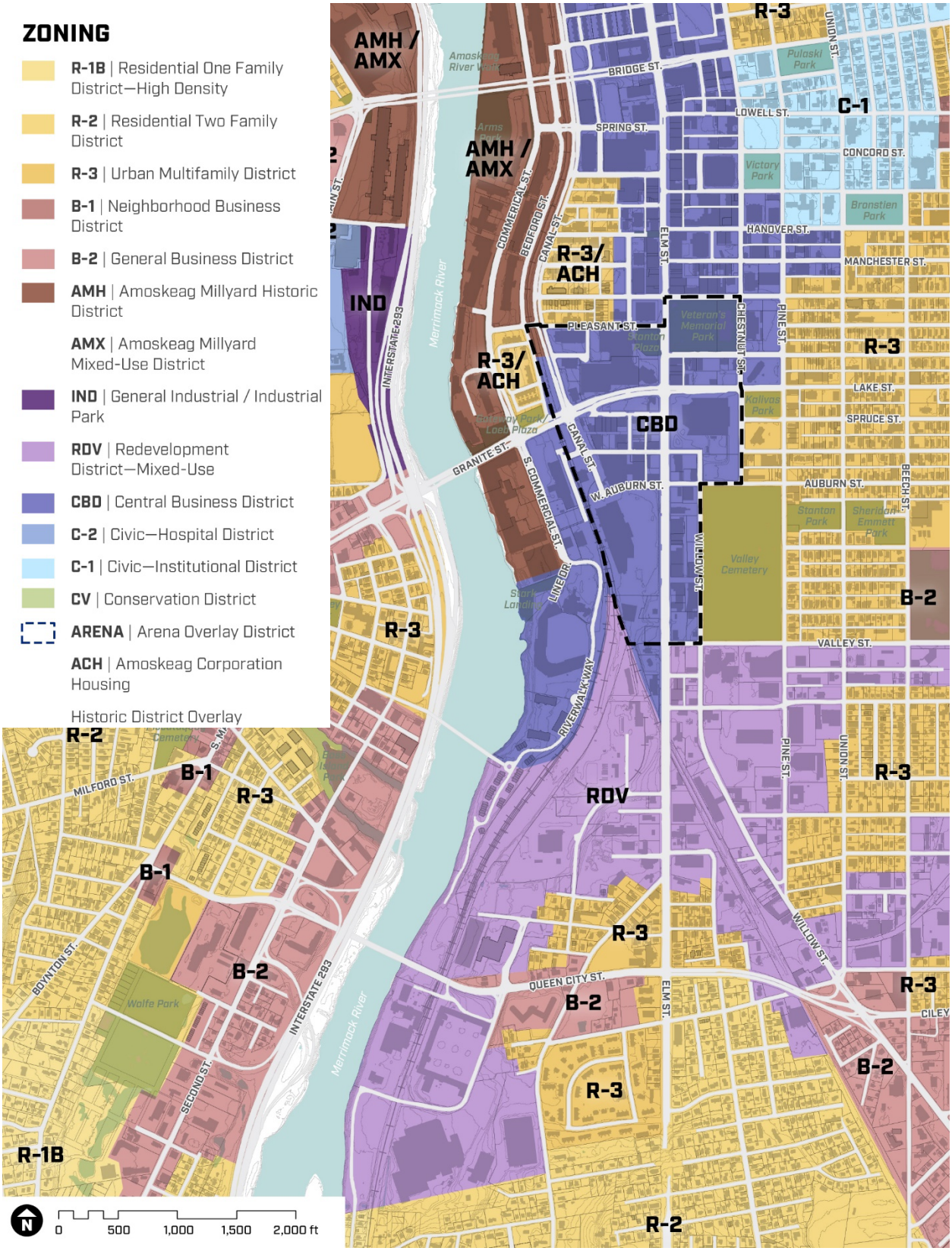
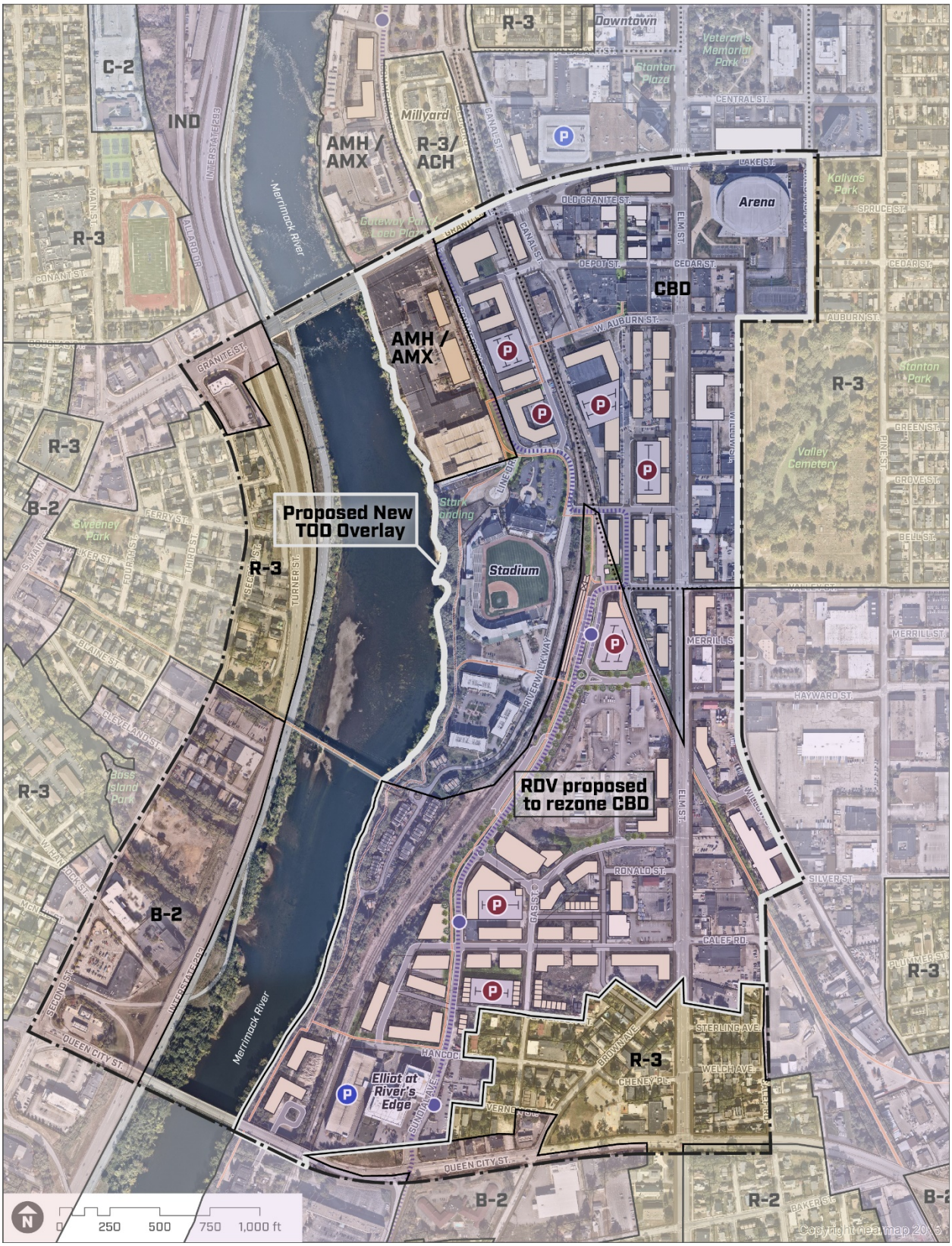


Figure 9: Proposed Areas for Rezoning or Other Changes to Land Use Regulation



Ensure a Transit-Oriented Building Form Through a New Overlay or Other Form-Based Tools

The zoning ordinance currently uses the Arena District Overlay, covering an approximately six-block area around the SNHU Arena, to provide additional regulation beyond the underlying CBD Central Business District zoning. The overlay extends through the Gaslight District and along the Elm Street corridor to Valley Street. 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 City has established design requirements for projects within the Arena District Overlay that support an active pedestrian environment. These design requirements would be appropriate through the TOD study area; the City could consider extending the Arena Overlay to cover more of the TOD area, or establishing a new TOD District Overlay to further regulate building form and urban design in the broader district. The existing 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.

New requirements could include:

- Explicitly prohibiting parking in the front yard of a development, or between the sidewalk and building façade
- Establishing a maximum setback of 15 feet, unless the setback includes outdoor dining, seating area, or some other publicly accessible amenity
- Requiring electrical and water hookups at all publicly accessible open space created by new development to create flexible spaces for events, placemaking, and gatherings.

Additional guidance to the Planning Board could include:

- Setting clearer guidance to promote reduced and shared parking throughout the district. Although the Planning Board can waive parking requirements under the CBD regulations and set a development-specific standard during Site Plan Review, applicants report that they feel they are sometimes asked to provide more parking than ideal for their development.
- Establishing stronger standards for the screening of parking lots and areas with landscaping, fencing, or other enclosures, and the screening of parking structures with active ground floor uses.
- Highlighting the importance of orienting the site plan to and making connections to public sidewalks, ways, and trails — including the proposed new rail trail — in development projects.

Address Transitions and Walkability to Neighboring Residential Areas

The TOD Plan does not envision significant development in the neighboring areas currently zoned R-3, for residential development, shown in Figure 8. However, these areas, particularly the blocks located in the southeast of the study area between the The Elliot at River's Edge and Queen City Avenue, as well as neighborhoods adjacent to the study area east of Willow Street, will be adjacent to new development. New land use regulations should address these areas to allow for strong, walkable connections between the neighborhoods and new development while transitioning the scale and design of new development to avoid negative impacts on adjacent residential areas.

One strategy for ensuring transitions if the City pursues a form-based code may be a transect, or a stepping down of the allowed density and mass of development. The TOD Plan envisions townhouse-scale development on a number of smaller sites near to residential areas in the MTA area to help provide more of this buffer. A proposed parking garage is screened by townhouse-scale uses along public street frontages. This scale of residential development will provide a comfortable transition to the surrounding neighborhoods while adding to the overall set of housing choices and options within the TOD area. Changes to the R-3 district may allow smaller-scale mixed uses and a wider variety of complementary residential development to help achieve the transect.

Urban design strategies to screen parking garages with other uses, orient building facades to sidewalks and street frontages, and buffer parking and other service areas with landscaping and enclosures may all also help address the transition from significant transit-oriented development to smaller-scale existing residential neighborhoods.

Moving Forward: Near-Term Support for Development Feasibility

Despite the positive cost-benefit analysis of full development of the TOD area over the long-term, near-term development opportunities may require incentives or removal of barriers to development to be successful. Achieving high-quality near-term development is particularly important to improve the market position of the TOD area and attract further high-value development that will help achieve the overall vision for the TOD area as an economic engine for the city and region.

Including the TOD Area as a Target Zone for State and Federal Investment

The TOD area should be considered as part of any expansion or re-mapping of areas targeted for economic development and investment. This could include changes to the federally-qualified opportunity zone, which does not currently include the TOD area, and expansion of the federal New Markets Tax Credit area and State of New Hampshire Economic Revitalization Zone, which includes some portions of the TOD area and does not include others.

Continued use of the 79-E tax deferral program to lower the costs of redevelopment may be important in the short-term. This strategy may need to be retired if the city is able to lift the revenue cap and establish a TIF district to fund capital infrastructure.

Addressing problems in the impact fee program that have created a mismatch for TOD-style multi-family development. Recent projects in the TOD area have pursued and been granted impact fee waivers out of acknowledgement of the long-term benefits of redevelopment, and low levels of additional school costs generated by denser multi-family development. Impact fees represent an initial “hurdle” to investment, as an up-front cost of development. Reforming the property tax cap with the TOD area may present more opportunities to shift from an impact fee model to one where more services are supported by ongoing property taxes. It should thus be studied in conjunction with any proposed TIF strategy.