

CONCORD OPPORTUNITY CORRIDOR MASTER PLAN

Prepared for:
The City of Concord

Prepared by:
The Cecil Group, Inc.
Bluestone Planning Group
Rizzo Associates, Inc.
Bonz and Company, Inc.

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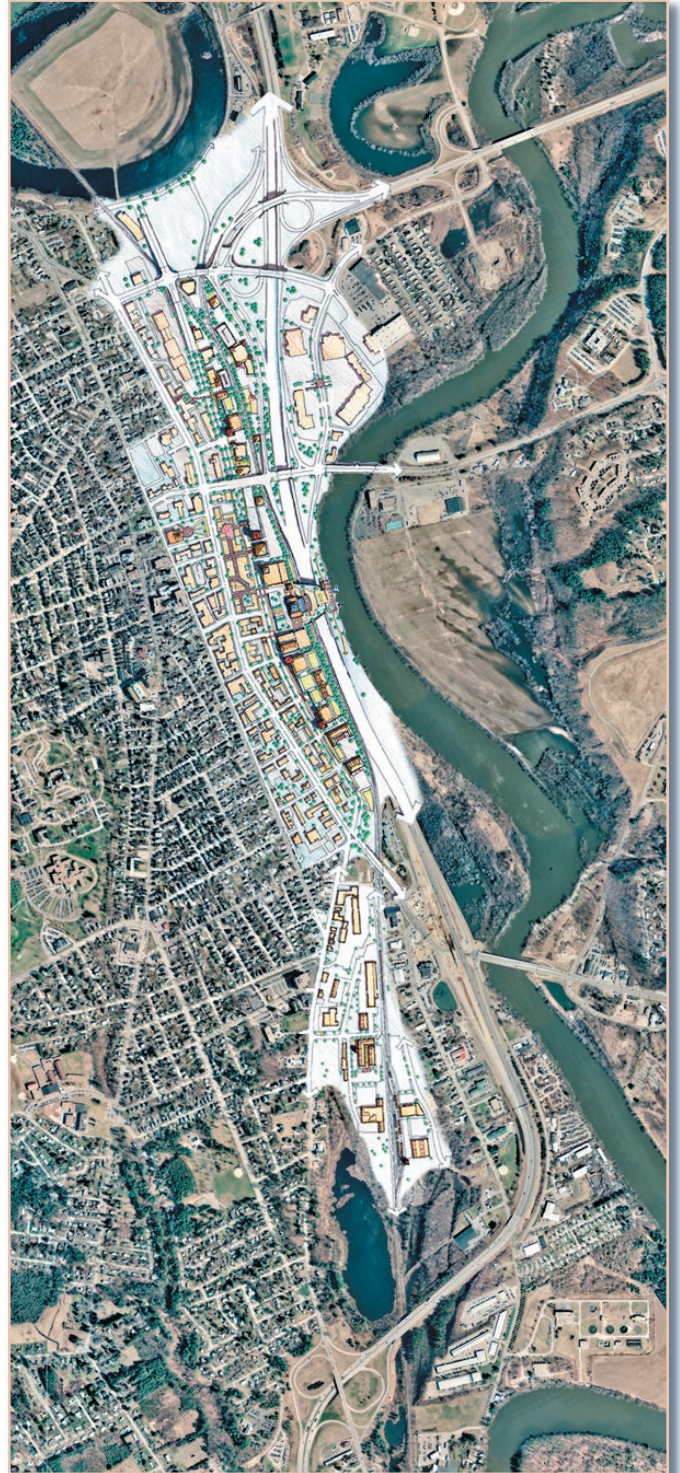


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1. INTRODUCTION

The Opportunity Corridor is one of the most valuable physical and economic assets for the future of the City of Concord. Running north-south between the downtown and the Merrimack River, and comprising approximately 500 acres of land, the corridor has always been a prime transportation spine, which led to its initial adoption as a place for shipping and manufacturing. The economy has evolved through the years, but the logic of using the corridor as a transportation spine remains intact. Today, the industries and manufacturing that had clustered along the main rail line connecting Canada to New England have been replaced by shopping malls, warehouses, and underutilized parcels that are poised to become prime redevelopment sites in the new economy.

This master plan is an effort to respond the key outstanding questions regarding the future character of the land along the corridor – how should it be developed, and what should be preserved? What uses will contribute the most to the economy and civic identity of Concord? How will this corridor serve as a gateway to a historic community that is the capital of New Hampshire? How can our contemporary appreciation and understanding of open space and the environment guide the area in the future?

1.1. Planning Background

The master plan study area is roughly bounded by the Horseshoe Pond redevelopment area to the north, Fort Eddy Road and the Merrimack River to the east, I-93 Exit 12 and industrial areas to the south, and North Main Street and South Main Street to the west, as shown on Figure 1.

Historically, the Opportunity Corridor was Concord's primary industrial district and rail spine, stretching north/south along the length of the Merrimack River. Located on the floodplain, the area first developed as farmland and river access. Later on, it became the natural area for rail services based on shipping and manufacturing, while the core business center and neighborhoods developed on highland over a bluff that runs 100 to 200 feet parallel to Main Street. For a century and a half, the Corridor was regarded as the city's back door. In more recent years, the construction of I-93 further separated the city, particularly the downtown, from the river; and the Capital Shopping Plaza and other businesses, when built, continued the pattern by turning their backs to the highway and the river's edge. However, with the shift of the economy and the

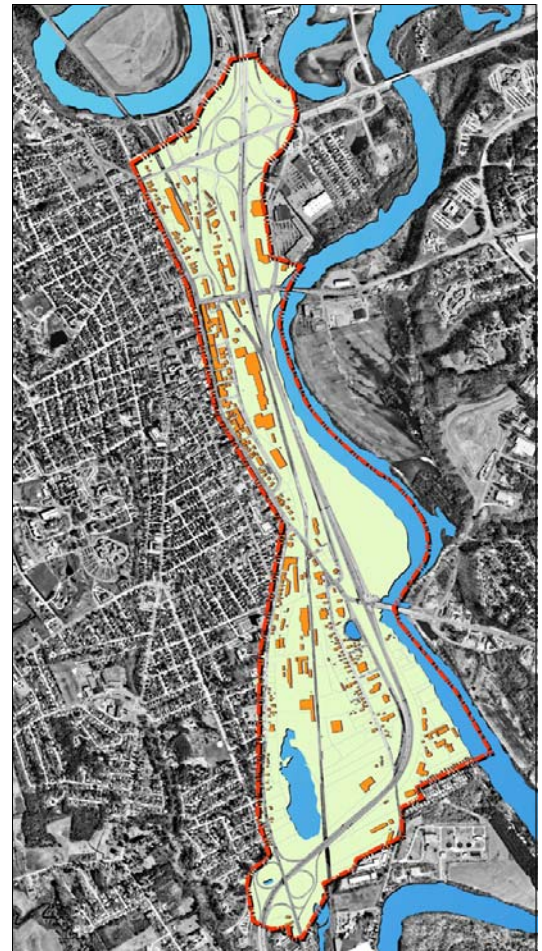


Figure 1. Map of Study Area

decline of rail freight service and heavy industry in recent years, the obsolescent industrial/transportation corridor is now seen as an opportunity for economic development and smart growth. As such, its successful redevelopment can serve to transform Concord's economy, create new opportunities for working and living, and connect the city with its riverfront.

In preparing a redevelopment plan and implementation strategy for the Opportunity Corridor to seize upon its potential, a number of strategic issues must be addressed, including the following:



- I-93 Corridor Improvements - NHDOT is working on design studies for improvements to I-93 that may include the widening of the highway corridor to accommodate increased traffic. Although this may offer many new opportunities for Concord, it is important to coordinate the design of transportation improvements with land use decisions that will impact the ability of the Opportunity Corridor to flourish in the future. Therefore, some of the specific issues that should be addressed by NHDOT in conjunction with Concord to insure a coordinated approach are: the design of attractive “gateways” into the City from redesigned highway interchanges, a better transition from highway to local roads and a coherent vision for north-south movement along the corridor, directional signage that announces arrivals points into the city, the provision of places for public access to the riverfront, and the shaping of properly sized and configured development parcels which may be impacted by right-of-way expansions and ramp alignments. Exit 14 off I-93, Loudon Road and Bridge Street provide primary access to the central portion of the opportunity corridor. Stickney Avenue and Storrs Street then provide frontage to the developable sites. Exit 15 and Constitution Avenue and Commercial Street provide direct access to the northern end of the opportunity corridor and Horseshoe Pond Place. The future role of these exits must be carefully considered and established from the City's perspective. “Transportation that serves the community.” This is one of the guiding principles adopted by the City of Concord as part of the Concord 20/20 Visioning process, and is one of the key goals of this Opportunity Corridor master planning effort.
- Land Use, Parcelization and Ownership - Much of the Opportunity Corridor's land is held in multiple private ownerships and parcels are not properly sized or configured for suitable redevelopment sites. In addition, government uses occupy other portions of the corridor that impede the private redevelopment of these sites. To address these issues, a variety of strategies must be crafted. For example, various means of encouraging land assembly need to be identified. Also, if certain sites now serving government uses are to eventually be redeveloped for more lucrative private development, then suitable replacement sites and relocation monies must be identified. Alternatively, land swaps can be explored between various private owners, or between government and private

owners to better configure development parcels and assemble land into attractive development parcels.

- Pollution, Remediation and the Future - Much of the Opportunity Corridor consists of brownfield sites as a result of the Corridor's rail and industrial history. Remediating these sites can be extremely costly to redevelopers unless strategies are devised to minimize these premium costs. Redevelopment plans and strategies must be devised that mesh well with cost-effective remediation strategies if these sites are to be feasibly redeveloped so that they can compete with greenfield sites located elsewhere in the Concord area. If possible, plans should be developed and layouts configured that allow for much of the contaminants to be capped, remediated on-site, or placed under parking lots and roadways to avoid costly transport of contaminants to off-site distant qualified landfills.
- Connecting to the River - The City of Concord is disconnected from the river along much of the Opportunity Corridor. Places must be identified where Concord's citizens can reach and view the river – both in the downtown, at Healey Park, and other locations. In two previous plans – the Downtown Plan and the Vision 20/20 Plan, a key site for either a new and significant public park, “Common”, or water basin to connect the downtown and Storrs Street to the riverfront was identified at the same exact place – along Storrs Street and near the foot of Pleasant Street. Clearly, this area is a key to connecting the city to its riverfront for public access, enjoyment, and the creation of a new “common ground” for Concord's citizens. Strategies must be devised to create a new and exciting “public realm” that will also enhance property values along the corridor.
- Setting the Stage for Economically Productive Development - Demand for new commercial, research or light industrial space in the Opportunity Corridor may now be weak, particularly since there may be development sites elsewhere that are not burdened by access issues, soils contamination, etc. Incentives may need to be created to attract development to the Corridor. These may include zoning incentives, the negotiation of land swaps to create suitably configured development parcels, and the provision of new public infrastructure and roads to create attractive development sites.
- Access and Circulation - If the Opportunity Corridor is to be successfully redeveloped, improved access is an important factor. Perhaps the most significant opportunity to provide such access and unlock the potential of the Opportunity Corridor is the extension of Storrs Street to both the north and south of the downtown. A north/south extension of Storrs Street must be successfully coordinated with the potential realignment of rail tracks that occupy



the same corridor and present potential grade crossing conflicts that must be reduced, if not entirely eliminated, in any extension or realignment plans. Furthermore, the alignments of both the Storrs Street Extensions and rail lines must be laid-out to create suitable development parcels. Therefore, close cooperation must be initiated between the City, NHDOT, and the rail companies to incorporate all these factors into a rail alignment, street alignment, and parcelization plan that work for all. Fortunately, with the potential for improved passenger rail service on the horizon and imminent plans by NHDOT to improve I-93, there may now be momentum and impetus for all parties and agencies to work together to achieve a coordinated vision.

The key issue in developing a transportation network that serves the south end of the Opportunity Corridor is to maintain the residential character of some of the existing arterials while developing transportation alternatives that support the redevelopment of the corridor. South Main Street, Broadway and South Street are the primary roadway links serving the South End. South Main Street is the westerly edge of the study area, and provides access from downtown and Exit 12 off I-93. The City has recently implemented neighborhood traffic improvements on Broadway.

- Shaping Places - Traditional City Planning Principles and Challenges – Many cities, towns and developers have identified the advantages of traditional principles of neighborhood and town planning that are conducive to a high quality of life. In order for the Opportunity Corridor to be intensively developed with a lively new mix of uses, perhaps including housing, offices, a hotel, or other uses in the vicinity of downtown, an expanded parking supply must be provided. Private redevelopers would be expected to provide sufficient parking to meet their own parking needs. However, parking economics will likely dictate that surface parking is the only affordable choice. To prevent the Opportunity Corridor from being consumed by large surface parking lots, the City or State may have to contribute to an expanded public parking supply by means of structured parking facilities that allow for the intensity of uses desired. There may be an opportunity, if a multi-modal transit station is developed, to include a station-related parking deck or garage that is expanded beyond the size needed to simply meet transportation parking needs in order to help meet the additional parking needs of new private development. Parking charges could help amortize the cost of such a parking facility and actually prove less expensive to private redevelopers than providing the parking spaces themselves – thereby offering an incentive to develop in the Corridor rather than elsewhere.

1.2. Opportunities for the Future

Fortunately, the discussion of issues hints at the seeds of their resolution. Therefore, the flip side of every issue offers an opportunity. Those opportunities, outlined below, are recognized and incorporated into the proposed strategies for the Opportunity Corridor.

- Direct Access - Both the upcoming highway improvement and rail corridor passenger service projects offer many opportunities for properly reconfiguring the Opportunity Corridor to be more suitable for redevelopment. Rail alignments can be reconfigured to not only provide operational efficiency, but

also help shape land parcelization, and remove grade crossing conflicts with new street extensions into the Corridor. The redesigned highway, interchanges, and realigned on and off ramps can provide graceful entrances into the City – both in the downtown as well as in the north and south portions of the Opportunity Corridor. All of these transportation projects, and the federal monies they will provide, can be leveraged to achieve land use, site cleanup, river access, parking, and transportation access goals otherwise unattainable with local funds and initiatives.

- Public Places - As the Corridor is redeveloped, opportunities will materialize to create new places of public focus – riverfront plazas, parks, a revitalized Storrs Street as a new district boulevard, and a new “Common” or “Green” – as new land configurations, infrastructure, and roadway improvements within the Opportunity Corridor are built to connect the City to the Corridor and the Corridor to the Merrimack River. These new public spaces will not only provide new public amenities but also increase the property values of adjoining and nearby property owners –resulting in a win-win situation for all.
- District for Appropriate Development - The opportunity exists to extend Storrs Street both north and south to open up large underutilized parts of the Opportunity Corridor for development of modern light industrial and service uses, primarily to the south, and perhaps office space, retail stores, restaurants, housing, and hotel uses adjacent to the downtown to the north. The opportunity also exists to transform existing Storrs Street, particularly adjacent to the downtown, into a lively riverfront boulevard filled with activity, restaurants, retailers, and people that will connect back “up the hill” to Main Street and the downtown.

There is significant potential to create a new transit-oriented mixed-use development community around a new multi-modal transit station within the Opportunity Corridor where local buses, inter-city buses, and passenger rail service converge. The additional commuter parking that would be necessary to support this station could be leveraged to provide an even larger public parking supply, which could support the development of new businesses and residences in the surrounding areas. If the new station is combined with a major new public common or green, a revitalized Storrs Street, as well as structured parking, it could serve as the nucleus or centerpiece of a lively new river-edge mixed-use community.

- The Landscape and the Environment – Open space and environmental planning could become an identifying hallmark of this area of Concord. By planning in advance for coordinated landscapes, the City can gain the advantages of both natural landscapes, which provide direct environmental



benefits, and urban landscapes, which maintain the progression of streets and public spaces that connect to the downtown and serve as a setting for the state capital. Significant lessons can be learned from other capital cities that have identified the environment and landscape as principle, structuring elements, such as Olympia, Washington, which lies along the Tumwater River.

Providing access to the river along and through the Opportunity Corridor may open up numerous opportunities for recreational trails and paths – both to and along the river’s edge – and to larger regional trail systems as well – including the Merrimack River Greenway and the NH Heritage Trail.

1.3. Planning Approach

In order to resolve the issues and capture the opportunities described above, this master planning effort has been based on the following overall goals and guiding assumptions:

- Weave Previous Recommendations into a Coherent Vision - A number of good recommendations have been made for the redevelopment of the Opportunity Corridor in previous studies over the past several years. Earlier recommendations and new insights need to be incorporated into a new coherent vision and implementing strategy. The City will then have a blueprint to work with NHDOT and the Federal Railway Administration to incorporate their current transportation initiatives into a coordinated planning effort.
- Coordinate Rail, Highway, and Land Development Projects to Work Together – The City needs to work with NHDOT and the Federal Railway Administration to coordinate redevelopment plans for the corridor with I-93 improvement strategies and rail line strategies for revived passenger rail service and a multi-modal terminal in the future. This will ensure that well-configured development parcels are created by the transportation projects’ relocations.
- Coordinate Highway and Land Use Strategies – This planning effort should leverage NHDOT I-93 improvement studies and future investment to incorporate land use strategies that will benefit the City, for example, by creating inviting “gateways” into the City from newly improved interchanges and better transportation access along the corridor.

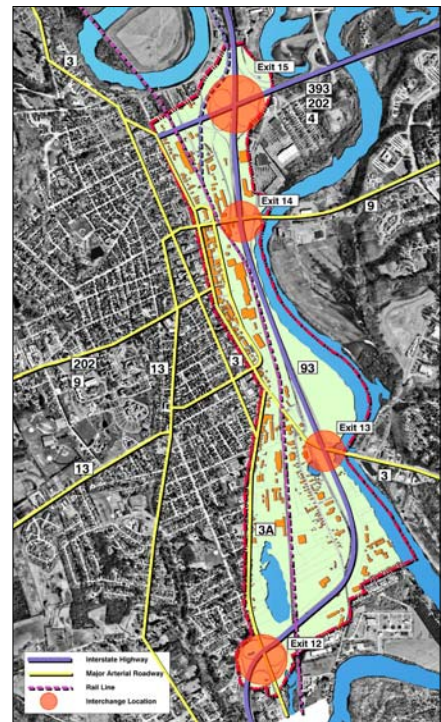


Figure 2. Transportation Access

- Coordinate Infrastructure and Redevelopment Strategies with Brownfields Remediation - Redevelopment strategies and the provision of new roads and infrastructure needs to be coordinated with potential soils remediation for the Opportunity Corridor's many brownfield sites. This approach is required to leverage planned transportation project monies and rail right-of-way relocations to help cleanup and remediate poor soil conditions.
- Provide Enticements to Attract Development to the Opportunity Corridor - Given competing sites throughout the Concord area that may prove more attractive to new business developments, it is important to devise strategies to attract businesses to locate within the Opportunity Corridor through zoning incentives, grant enticements, or the creation of infrastructure improvements and public amenities.
- Establish Priority Sites for Redevelopment: The Opportunity Corridor is a large area that will only fully redevelop over many years. Therefore, it is important to identify priority sites for redevelopment that should be placed on a fast track and which are strategically located to catalyze adjacent development in the future. Once selected, target remediation efforts and infrastructure improvement initiatives can be linked to these areas to gain early successes.

2. EXECUTIVE SUMMARY

The Opportunity Corridor is one of the most valuable physical and economic assets for the future of the City of Concord. Running north-south between the downtown and the Merrimack River, and comprising approximately 500 acres of land, the corridor has always been a prime transportation spine, which led to its initial adoption as a place for shipping and manufacturing. The economy has evolved through the years, but the logic of using the corridor as a transportation spine remains intact. Today, the industries and manufacturing that had clustered along the main rail line connecting Canada to New England have been replaced by shopping malls, warehouses, and underutilized parcels that are poised to become prime redevelopment sites in the new economy.

The master plan study area is roughly bound by the Horseshoe Pond redevelopment area to the north, Fort Eddy Road and the Merrimack River to the east, I-93 Exit 12 and industrial areas to the south, and North Main Street and South Main Street to the west.

2.1. Summary of Findings

Based upon the review of prior studies and plans, observations on existing conditions, and comments from meetings and interviews, the following is a summary of key findings about existing conditions, issues, and opportunities that should be addressed by this master plan. A more detailed analysis is contained in the Appendix section of this report.

We have organized this summary, and the master plan report, according to the different aspects of analysis reviewed and in the following order:

- Land Use and Urban Design
- Natural and Historic Resources
- Environmental Conditions
- Economic Development Potential
- Transportation and Infrastructure

Whenever applicable depending on the character of each section, we have organized the comments in three subsections, dedicated to each one of the key geographical areas included in the Opportunity Corridor study area – North, Central and South.

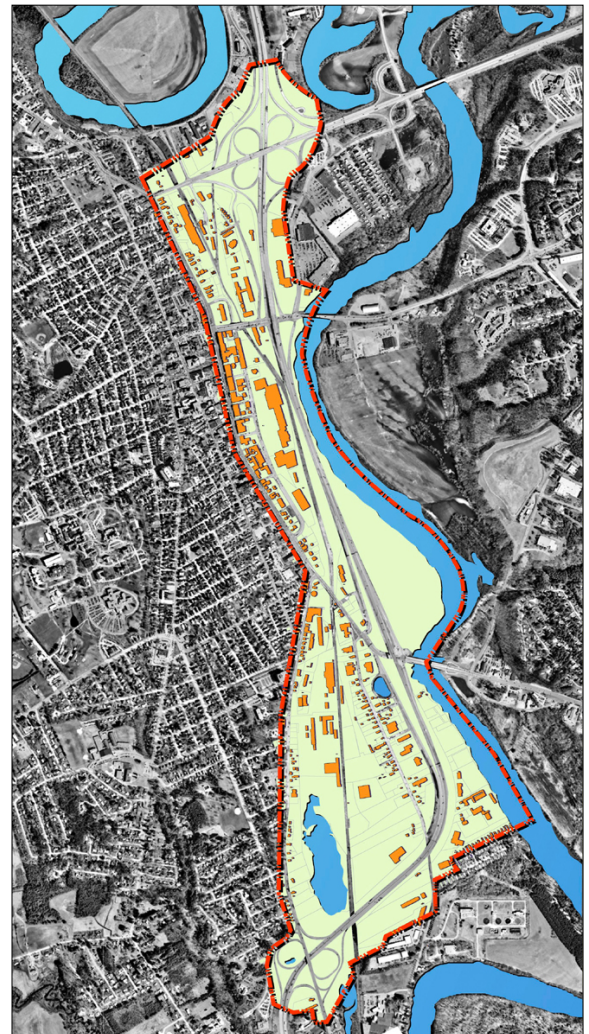


Figure 3. Existing Conditions

Land Use and Urban Design

North Opportunity Corridor

Located between Loudon Rd./Exit 14 and I-393 Extension/Exit 15, this area remains primarily a transportation and industrial corridor with rail lines, maintenance yards, and the city's regional and intercity bus depot, although access is less than ideal.

- The extension of Storrs Street into the North Corridor, together with possible rail realignments, must be laid out so as to create and establish properly sized and configured development parcels in this area which now only offers irregularly shaped parcels divided by rail lines and poorly paved roads.
- The North Opportunity Corridor has excellent visibility from I-93 and therefore has an image when seen from the highway. However, the Corridor is both visually and functionally isolated from downtown and North Main Street by the railroad and the fact that it is below the Main Street bluff.
- The existing NHDOT's Maintenance Facility is in the process of being relocated outside of the study area, allowing for the potential redevelopment of this strategic parcel.
- If new uses, such as offices, are to be developed in the Opportunity Corridor as recommended in the 2020 Vision Plan, versus at other competing sites in and around the city, site remediation premium costs as well as other infrastructure and rail realignment costs must be clearly addressed from the beginning. If not properly addressed, the Opportunity Corridor will always carry a premium cost to redevelopers compared to other available sites around the city.



Central Opportunity Corridor

Located between Loudon Rd./Exit 14 and Water Street/Exit 13, this area remains a low-density commercial shopping area largely filled with one-story strip-mall retail buildings and large surface parking lots, in spite of good access and proximity to downtown.

- Storrs Street now functions as a support and service road to Main Street. It is greatly underutilized, however, and could become a prominent riverfront boulevard in its own right while retaining its supporting functions for Main Street. This opportunity needs to be explored by investigating the construction of small mixed-use buildings along Storrs Street with housing or offices on upper floors above retail or business service shops at the ground. As the 20/20 Vision report points out, new businesses initially built along Storrs should reinforce and not compete with Main Street businesses.

- There is currently a lack of sufficient parking in the Central Opportunity Corridor area to support both the east side of North Main Street downtown and new development in this district. Public-private initiatives including public funding for parking may represent an option as an incentive to help attract new development.
- In spite of the Central Opportunity Corridor's clear locational advantages adjacent to the downtown, its chances for redevelopment are disadvantaged compared to other competing sites within and near Concord which have lesser development premium costs associated with their development – be they the availability of cheap parking, lack of potential soils remediation costs, or the need to realign major transportation infrastructure.
- The need for government subsidy (federal, state, local) to provide incentives for development (infrastructure, parking, land assembly/acquisition, remediation) in the Central Opportunity Corridor must be recognized, or significant building densities, and the demand for those densities, must be allowed to support the premium costs associated with development in this area. A public-private partnership to level the playing field in terms of eliminating the premium cost and providing incentives would be ideal.
- Many attractions and draws that could have reinforced downtown, Storrs Street, and riverfront activity (e.g. Marriott hotel, Convention Center, and Office Park) have recently been developed at the Horseshoe Pond area just beyond comfortable walking distance of the downtown. It is therefore critically important that other major draws that may be identified in the future (e.g. another hotel, or a multimodal station) be located closer to downtown so that they can reinforce downtown and Storrs Street activity.



- Opportunities may exist to make the downtown-to-riverfront connection by horizontally realigning or vertically realigning the highway. Less costly opportunities may exist as well however – such as bridging over the highway as suggested in the Vision 20/20 plan, or raising the highway on a bridge to allow passage beneath it to the riverfront as suggested in the 1997 Downtown Plan.
- As suggested in the Vision 20/20 Plan, the highway should probably be horizontally realigned and moved westwardly, to allow sufficient width for a riverfront bank for trails and walkways. Alternatively, an air rights deck could be built over the highway to provide a riverfront overlook much as exists at the Belvedere at the Ohio River waterfront, Louisville, Kentucky.
- A new riverfront central public meeting place – a “Town Green”, civic plaza or water pool should be constructed at the foot of Pleasant Street between Storrs Street and the riverfront as has been previously suggested in the 20/20 Plan and the 1997 Downtown Plan.
- Storrs Street needs new street trees and streetscape to visually enhance its image, possibly as a future boulevard.
- The streetscapes of the side streets connecting Main to Storrs should eventually be improved to encourage more pedestrian traffic between Main Street and Storrs. Because of the steep incline of these streets and sidewalks, they can be difficult to negotiate by pedestrians in icy winter weather. Pedestrian amenities such as hand railings attached to building walls along sidewalks are some of the options that could be considered as part of new streetscape and street furniture plans.
- The alleyway system along Low Avenue represents an opportunity that should be improved with lighting, signage and streetscape improvements to expand downtown Concord’s intimate pedestrian way system. It would link Eagle Square with a perhaps revived Phenix Theatre and provide another pedestrian link between Main Street and the Storrs / riverfront area. If accomplished, businesses along Low Avenue would probably open new entrances to this pedestrian way.
- The existing Legislative Garage spanning over Storrs Street is visually unattractive and acts as a blighting influence.
- The Exit 14 Loudon Rd I-93 Interchange is marked by highway ramps and strip shopping centers. Also, Loudon Road’s intersection with Main Street is visually weak as a “gateway”. Both these arrival experiences diminish Concord’s image.



The I-93 redesign needs to address the highway arrival gateway, and this Opportunity Corridor plan needs to strengthen the arrival image at Main Street.

- Adjacent to the Central Opportunity Corridor, as the 20/20 Vision report suggests, the design of I-93 should take on a different character to announce to motorists that this is a more urban stretch of the highway passing next to the downtown. Suggestions to design this segment of highway with special features – such as a landscaped median and landscaping to either side may be considered. However, any such landscaping on the city side or riverside of the highway should not block views and vistas.
- Flood plain elevations must be accounted for in redevelopment of the Central District. If the vertical alignment of I-93 is depressed in order to make a better downtown to riverfront connection, then flood control mechanisms or regrading must be carefully examined to ensure that the Central District is protected.
- Zoning for this area will need to be restructured in order to expand the opportunities for mixed-use development.

South Opportunity Corridor

Located between Water Street/Exit 13 and I-93 Exit 12, this area remains largely industrial. It includes a large marshland area, and has limited access. Commercial uses have evolved along Hall Street.

- The South Corridor area is distant from and has little relationship to downtown Concord. Therefore, new uses here should not be downtown business related. The South Opportunity Corridor may be best suited for modern industrial uses and flex-tech space as the 20/20 Vision Report recommends. However, that same report points out that Concord currently has a 65-70 year supply of industrial land now available in other industrial parks throughout the city. Therefore, unless certain industries need rail access, or public incentives are provided, it may be difficult to attract industry or flex space to this area.
- The South Opportunity Corridor is relatively distant from and separated from the downtown. It is bisected by the rail line, and, as a precinct, has its own character, albeit it a confusing one – an eclectic mix of natural wetlands, scrap metal yards, light industrial uses, a rail corridor, cargo transfer site, housing, motels, and historic railroad buildings. To undo the confusion, distinct sub precincts need to be defined by shaping a new road armature, providing new access points, and establishing a set of well sized and configured development parcels.



- Although the South Opportunity Corridor is often touted as the southern “gateway” into the City as it historically was, it does not, in fact, work as a “gateway” but rather as a local road. If this area is truly to serve as a gateway, the quality and continuity of development along South Main Street must be significantly upgraded.



- The historic railroad buildings should be preserved and reused. The Gas House in particular is a landmark and its visibility to motorists should be enhanced.
- Much of the South Opportunity Corridor lies below the Main Street bluff in a floodplain. Consequently, parts of this area may still be subject to flooding. Any redevelopment in this area must accommodate this flooding condition.
- The South End Marsh, as recognized in the Concord Master Plan, should be preserved as a natural amenity.

Environmental Conditions

- Most of the land located within the study area boundaries is subject to some level of environmental concern due to the presence of contaminants, or the potential impact of a contaminated off-site source. This will likely result in remediation cost premiums affecting the redevelopment potential of many parcels.
- The areas of higher concern are generally located in the proximity of the rail line, corresponding to old rail yards and old industrial sites served by the railroad.
- A *Level 1 Environmental Site Assessment* (ESA) of the Opportunity Corridor performed in 1997 indicates that close to half of the land in the corridor is in a Moderate-High Concern area.
- Rating criteria for Moderate-High Concern areas include properties with long-term historical oil and/or hazardous materials-related activities, but with little or poorly updated soil or ground water quality data; properties that moderately exceed certain documented standards; and properties undergoing current investigation, monitoring or remediation.
- In addition to the Moderate-High Concern areas, about one-quarter of the land in the corridor is assessed as Moderate-Low Concern and Low Concern areas.

- In addition to the areas already mentioned, there are smaller environmental sites with documented releases of Oil and Hazardous Materials (OHM) or a history of OHM-related activities located along North Main and South Main Street.
- A Brownfields Tax Incentive has been made available in 1997 to national demonstration areas including the Opportunity Corridor, under which environmental cleanup costs are fully deductible in the year when they are incurred rather than having to be capitalized.

Economic Development Potential

Concord offers moderate but steady demographic growth prospects, and a relatively upscale demographic profile. Ongoing economic growth will continue to feature gains in the area's professional employment, along with a continued decline in manufacturing-related activity.

Short-term development opportunities in the Opportunity Corridor include potential retail developments as well as high-end attached housing both rental and for-sale. Over a longer-term time frame, lodging and office development should also offer potential opportunities.

a. Retail Market

Well-situated sites with good highway access and visibility would be likely to support additional retail development. Support for new retail development, however, would be contingent upon the implementation of physical improvements that would provide convenient access and visibility.

b. Office Market

While the Concord office market will offer limited depth in the short term, over time the Opportunity Corridor can provide suitable locations for future office growth. Upper-story locations oriented toward the Merrimack River, the downtown core or other amenities would offer attractive opportunities.

c. Residential Market

The Opportunity Corridor offers potential opportunities for market-rate attached residential development. New and renovated properties close to major retail centers, downtown amenities, employment locations, and riverfront amenities would offer a unique combination of advantages.

d. Lodging Market

Over time, locations in the Opportunity Corridor can offer desirable sites. Given convenient visual and vehicular access to I-93 and I-393, such sites may be able to support the development of one or two new lodging properties.

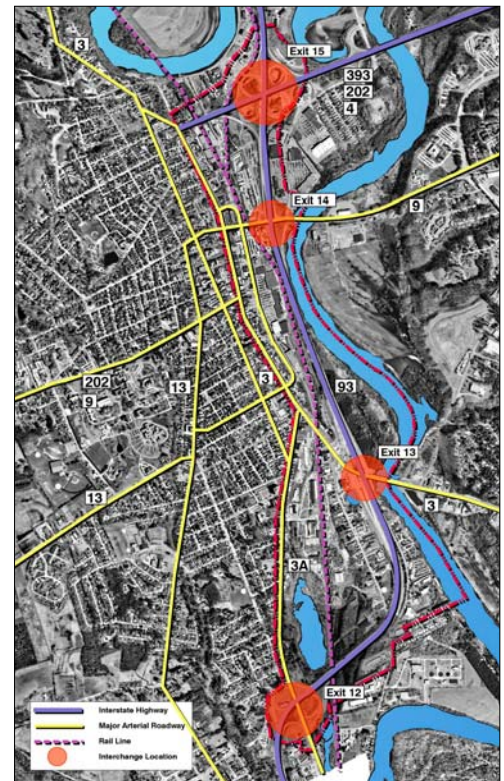
Transportation and Infrastructure

North Opportunity Corridor

- Storrs Street needs to be extended northward into the North Opportunity Corridor, as suggested in all recent plans, to link the Central and North Opportunity areas to the recent new development and conference center surrounding Horseshoe Pond.
- The new office workers who locate here may support and patronize North Main Street businesses if better street and sidewalk connections are made to North Main Street from the new Storrs Street Extension.
- An opportunity may exist to construct a new local street with sidewalks connecting the future Storrs Street Extension in the North Opportunity Corridor to Ft. Eddy Rd. and the Ft. Eddy shopping plaza on the east side of I-93, by bridging over I-93. This would allow the patrons of the Ft. Eddy shopping plaza to easily access the North Opportunity Corridor district, thereby increasing potential patronage in the North Opportunity Corridor.
- An alignment for the New Hampshire Main Line intercity rail corridor must be established and preserved in any redevelopment plan if intercity and commuter rail service is to be initiated in the future.
- Any new street network in this area should avoid grade crossings of the passenger rail alignment that must be preserved in this Corridor.
- The existing Concord Trailways bus station site on Stickney Ave. could become a redevelopment opportunity if the station is relocated to a new multimodal transit station.

Central Opportunity Corridor

- The proposed expansion of I-93 allows a host of realignment opportunities to occur that, if done properly, could open the development of the Opportunity Corridor, allow more attractive “gateways”, and allow the long-sought-after downtown to riverfront connection.
- The limited amount of available parking in the Storrs Street area on the east side of Main Street is a real constraint to new development in this area. New structured parking may need to be constructed in the Central Opportunity Corridor to help attract new



development. Since some parking is used by state office workers and legislators, parking could possibly be publicly funded, if market rents for new commercial buildings do not support the cost of parking decks.

- To help manage and increase the available parking supply, the time limits on street spaces should perhaps be further tuned to encourage quicker turnovers.
- Small parking decks, taking advantage of the slope between Main Street and Storrs Street could be built on one or two of the blocks between Storrs and Main to support Main Street and Storrs Street businesses. However, such decks would need to be fronted with active commercial ground floor uses along Storrs Street
- A new multimodal transportation center should be developed, ideally near the downtown, and possibly in the Central area as recommended in the Vision 2020 Plan. If this is located in the Central area, an Amtrak and/or commuter parking structure could be built to support commuter patronage plus additional parking to help support new businesses as well as night use for the nearby Capitol Center for the Arts.
- An alignment for the New Hampshire Main Line rail corridor must be established and preserved in any redevelopment plan if intercity and commuter rail service is to be initiated in the future.
- The Exit 14 Loudon Rd I-93 Interchange remains the most direct and important “gateway” into the downtown, Central, and North Opportunity Corridor from I-93.
- The 20/20 Vision Plan notes that citizens would like to see local trolley or trackless trolley service connecting attractions along the full length of the Opportunity Corridor from the Convention Center in the north to the Capitol Center for the Arts in the south. Although this is a desired goal, the transit patronage necessary to financially support such service is likely to be many years in the future unless this line is heavily subsidized.

South Opportunity Corridor

- As recommended in previous plans, extending Storrs Street south of Chandler to Langdon, and then Langdon to South Main Street would provide the road armature to open this area to access and allow the creation of properly sized and configured redevelopment parcels. The redesigned Water Street Bridge over the rail yards has been designed to accommodate the future extension of Storrs Street through the westerly bay of the bridge, and the rail tracks through the easterly bay.
- A number of rail line relocations may be needed to allow new road construction in this area. To minimize crossing hazards, adequate new access to the South Opportunity Corridor may need to be provided directly from South Main Street without requiring at-grade crossings of the rail line, which may become a commuter rail line and high-speed intercity line in the future.

2.2. Key Recommendations

The overall goals set at the beginning of the planning process call for the resolution of traffic and transportation problems affecting the corridor, and planning for new land uses that will attract people to the area and economic development. Additional design objectives include the creation of a public waterfront and the establishment of visual and physical connections between the downtown and the river.

Three concept plans illustrating a variety of layout options were explored in response to these goals, representing different planning and urban design approaches to the solution of a common set of problems:

- Seek and support redevelopment of underutilized parcels that will result in positive economic or public benefits
- Improve traffic congestion and difficult access conditions to the downtown and core city neighborhoods
- Investigate alternatives for needed I-93 improvements that will be consistent with the City's vision for the future of the corridor, and enhance the image of Concord as a state capital.
- Preserve site options for potential future transit service and a station site to service Concord and the downtown in particular.

The alternative concept plans were reviewed and evaluated in regards to their response to the identified goals and objectives. As a result, the following planning recommendations and preferred plan elements are proposed:

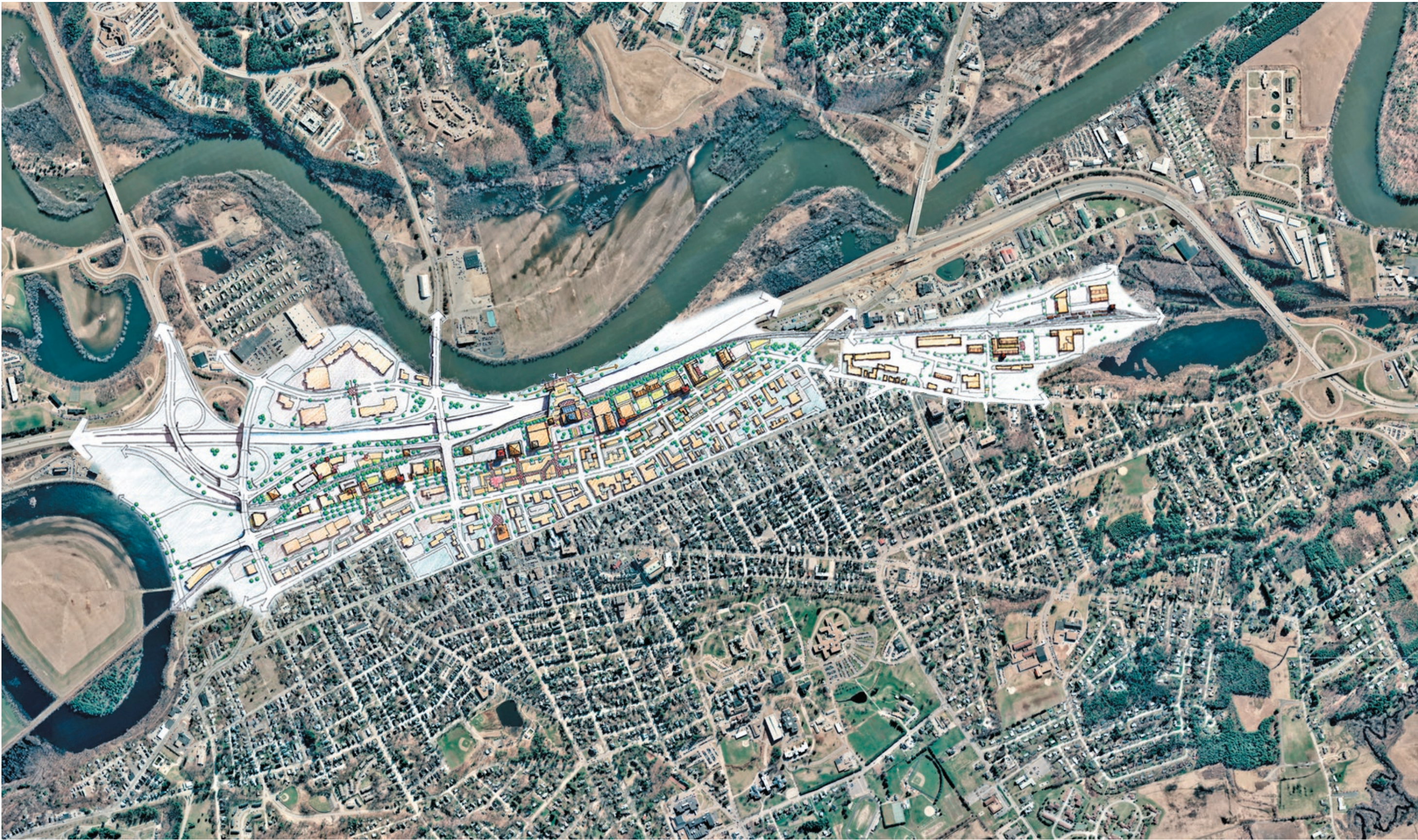
Land Use and Urban Design

Planning Recommendations

- Relocate I-93 and rail alignments approximately 100 feet to the west along the Central Opportunity Corridor District, in order to allow for the creation of a public waterfront.
- Create a downtown to waterfront connection. Depress highway along the Central Opportunity Corridor District in order to facilitate visual and pedestrian connections between downtown, the river, and areas to the east.
- Implement Vision 20/20 recommendations for a Loudon Road bridge spanning over I-93, which would include pedestrian and bicycle access provisions.
- Create a bike path along the waterfront with connections to other existing and proposed bike paths in the area.
- Create an open space of civic character to identify the new Central Opportunity Corridor District and approach spine to the riverfront, and a focal point at the intersection of Pleasant and Storrs Street

- Create an observation deck or public amenities that will attract people to the waterfront, and provide pedestrian access between downtown and the river.
- Establish land use patterns supportive of economic development that will be complementary to the existing downtown and allow for its future expansion.
- Create additional opportunities for public parking near the downtown.
- Remove the Legislative Garage over Storrs Street as a visual liability to the downtown and deterrent to new development.
- Create a pedestrian-friendly network of streets and open space connections, and a recognizable streetscape image for the Opportunity Corridor.
- Protect and enhance the image of the downtown as seen from the highway and the river.





Proposed Plan Elements

- **Realigned I-93 and rail tracks** along the Central Opportunity Corridor (relocated an approximate distance of 100 feet further from the water).
- **Depressed I-93 and rail corridor** along the Central Opportunity Corridor (up to an estimated depth of 10 to 12 feet for the highway, and 2 to 3 feet for the rail tracks).
- **New Loudon Road Bridge** over I-93 and rail corridor (designed to allow for a minimum clearance of 22 feet over the rail tracks).
- **New local street network and Storrs Street Boulevard** to serve as the armature for development and parcelization within the Opportunity Corridor.
- **Waterfront park** and recreational open space along the river, including a bike path, walking trails and opportunities for boating.
- **New civic open space** on Storrs Street at the foot of Pleasant Street as a “gateway” to the riverfront, and as a central civic focus for the Central Opportunity Corridor.
- **Multimodal transportation center** in the Central Opportunity Corridor area, providing pedestrian amenities and access to the waterfront by bridging over the highway and rail tracks with a series of landscaped rooftop terraces.
- **Mixed use redevelopment** providing opportunities for a variety of new businesses (retail, office, hospitality, and flexible use space) and the introduction of downtown residential uses.
- **New public parking** in the vicinity of Storrs Street and Loudon Road to replace the existing Legislative Garage, created in conjunction with the construction of the multimodal transportation center and joint public/private development initiatives.
- **Pedestrian network** of landscaped alleys connecting North Main Street to **Storrs Street Boulevard**, new **through-block connections** and new **sidewalks** enhanced with trees, greenery and pedestrian amenities.



- **Design guidelines and standards** requiring buildings to face the streets and the waterfront, building heights not to obstruct views of the Capitol dome from vantage points (not to exceed 80 feet).
- **New vantage points** to appreciate views of the historic downtown and the river (new Loudon Road bridge, pedestrian decks over the corridor, lookout tower).

Economic Development

Planning Recommendations

- Provide opportunities for new development in a variety of formats, parcel size and configuration that will be attractive to different types of developers
- Promote redevelopment of underutilized parcels that will increase real estate values, unlock development opportunities, or result in relative benefits to the public.
- Preserve/target opportunities for rail dependent uses and light industrial redevelopment compatible with adjacent uses in appropriate locations.
- Set priorities for investment in public amenities such as parks, scenic views, recreational and cultural activities that will act as catalysts for private development.
- Retain the presence of a mid-size grocery store and other neighborhood oriented retail near the downtown
- Leverage federal and state funding to achieve goals of public parking, transportation, open space, and the community's vision for the future.

Proposed Plan Elements

- **Diversity of parcel types** allowing for a variety of parcel layouts, size, character and use mix, depending on final zoning provisions and location within the corridor.
- **Redevelopment of public land** currently undervalued, and used for services that could be successfully relocated outside the corridor or incorporated into a joint public/private development initiative (i.e. DOT maintenance facilities, public parking lots along Storrs Street, vacant rail properties in the South End, etc.)
- **Rehabilitation of historic rail properties** in the South Opportunity Corridor for light industrial, rail-dependent, and flexible uses compatible with adjacent commercial and residential areas.
- **New public amenities** such as parks, trails, civic uses that will identify the Opportunity Corridor as a unique district to work, shop and live in.
- **Grocery store** and other neighborhood oriented retail serving the downtown in the Central Opportunity Corridor area.

- **Spin-off benefits** from transportation and environmental cleanup funding to areas where the results can be combined to simultaneously achieve multiple goals (such as a multimodal transportation center that provides access to the river).

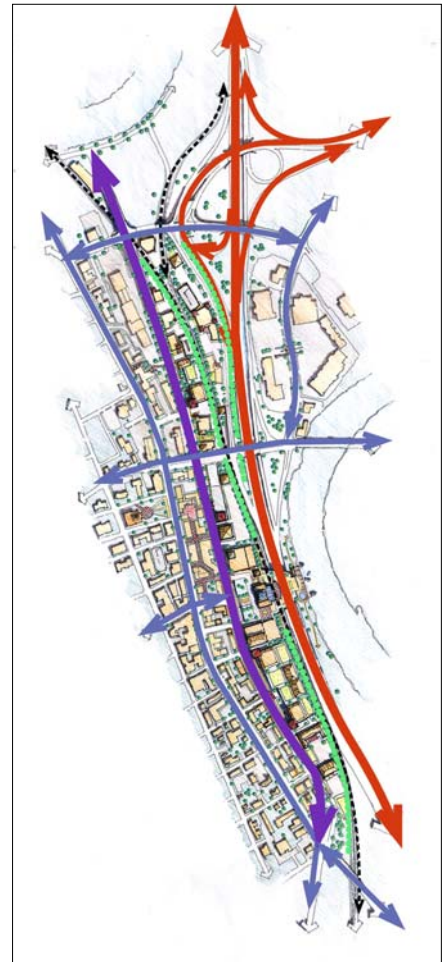
Transportation and Infrastructure

Planning Recommendations

- Modify I-93 Exit 14 and 15 interchanges to improve roadway and district connectivity, and eliminate weaving hazards posed by the close proximity between the two exits.
- Create alternative routes along the Opportunity Corridor to facilitate north-south circulation at the local level.
- Improve east-west accessibility between the downtown, the Opportunity Corridor, and the neighborhoods to the east of the river.
- Provide roadway alternatives that will alleviate traffic congestion on Loudon Road, North Main Street and Fort Eddy Road
- Preserve and enhance a passenger rail right of way into and through Concord.
- Secure a preferred location for a future multimodal transportation center near the downtown.
- Improve integration of pedestrian, bicycle, transit and local vehicular circulation.

Proposed Plan Elements

- **New Exit 15 interchange** to improve transition from highway to local roads while easing highway-to-highway connections (proposed trumpet configuration).
- **New collector-distributor roadways** parallel to I-93 between Exits 14 and 15, in order to allow for the closure of the northbound on-ramp and southbound off-ramp at Exit 14, and the elimination of traffic weaving hazards on I-93.
- **Storrs Street extension** to provide a north-south spine and double-loaded development boulevard along the corridor, connecting the Horseshoe Pond area to the North and Central Opportunity Corridor districts.



- **New Fort Eddy Road east-west connector** to provide an alternative to Loudon Road, and reduce traffic congestion on Loudon Road, North Main Street and Fort Eddy Road.
- **Reduction of traffic signals on Loudon Road** to three, with improved spacing between signals.
- **Rail corridor alignment** that will accommodate freight and passenger rail service, minimizing at grade rail crossings, and maintaining adequate clearances and track curvature.
- **Multimodal transportation center** located in the Central Opportunity Corridor District, providing access to local and regional buses, public parking, and downtown passenger rail service.
- **Relocation of rail yard** out of the Central Area.
- **Accommodations for bicycles and pedestrians** along the existing and new transportation infrastructure networks.

2.3. Implementation

The Opportunity Corridor Master Plan seeks to inform ongoing transportation planning and engineering studies to improve the I-93 highway corridor, and promote an integrated, multimodal approach to addressing Concord's transportation needs. These studies also provide an opportunity to further evaluate and refine the proposed improvements in this master plan report. Aspects of the proposed plan elements that require further study during future planning steps include more detailed traffic analysis, rail passenger forecasts, transit service planning, roadway and rail design, right-of-way issues, construction staging, and phasing considerations.

Development Priorities

From a real estate development perspective, implementation strategies should focus on those steps that will most efficiently leverage private investment in the corridor. For the most part, in an area as large as the Opportunity Corridor, most of the envisioned investments in private redevelopment must occur within the framework of the market's mechanisms. In seeking to leverage private investment, however, the City must assume a leadership role in stimulating "catalyst" projects that can (1) demonstrate the viability of certain types of projects; (2) create new amenities that will in turn generate new interest in new projects; and/or (3) inject new vitality to the area.

2.4. Action Plan

It is difficult at this point to establish a definite timeline for implementation, since the basic interventions proposed by this plan are contingent upon the adoption and further development of the proposed transportation elements by the NHDOT I-93 improvement study. However, the following summary is outlined as an initial approach to the sequence of actions and events that will lead to accomplishment of the plan.

SHORT TERM ACTIONS			
Planning		Timeline	Responsibility
1.	Enact Opportunity Corridor Master Plan.	2005-2006	City
2.	Coordinate next steps with NHDOT.	2005-2006	City
3.	Revise zoning to support plan goals, vision and recommendations.	2005-2006	City
4.	Develop design guidelines for new development.	2005-2007	City
5.	Coordinate with NHDOT the relocation of its service facility outside of the study area.	2005-2007	City
6.	Create a Concord Redevelopment Authority.	2005-2007	City
7.	Prepare a strategic plan for the long-term development of public parking.	2005-2008	City
8.	Coordinate next steps with owners of rail right-of-ways (Guilford, Amtrak, NHDOT, etc.)	2005-2008	City and NHDOT
9.	Pursue right-of-way acquisition of northerly Storrs Street Extension	2005-2008	City
10.	Advance analysis and design of conceptual transportation elements.	2005-2008	City and NHDOT
11.	Actively participate in the analysis of I-93 design alternatives.	2005-2008	City
MID TERM ACTIONS			
Planning		Timeline	Responsibility
12.	Strategically market the NHDOT service facility site for a signature type of development.	2005-2010	City and NHDOT
13.	Continue working with NHDOT and rail owners to see that the final planning solution and detailed construction plans responds to the plan's vision.	2005-2010	City
14.	Establish the legal foundation for assembly and disposition of land for redevelopment (in conjunction with #6).	2005-2010	City and NHDOT
15.	Create mechanisms for joint public/private development of parking facilities.	2005-2010	City and NHDOT
16.	Revise on-street city parking regulations and parking meter fees to coordinate with overall parking strategy (in conjunction with #15).	2005-2010	City
17.	Study and implement long-term incremental improvements to local transit along the corridor.	2005-2010	City
18.	Initiate environmental permitting process for new parks, local roads and roadway realignments.	2007-2010	City and NHDOT
19.	Initiate long-term plans for the creation of a regional transportation center outside the study area (possibly at Bow).	2007-2010	City and NHDOT
20.	Work with electric utilities company to relocate high-voltage lines impacted by realignments.	2008-2012	City and NHDOT
21.	Facilitate the relocation of the existing rail yard/spur tracks from the Central Area.	2008-2012	City and NHDOT
22.	Obtain permits and approvals for construction of the new riverfront park (e.g., U.S. Army Corps of Engineers for altering the river bank, etc.)	2008-2012	City and NHDOT

Design	Timeline	Responsibility
23. Prepare construction documents for highway, associated roadway, and rail improvements.	2008-2012	NHDOT
24. Advance detailed construction phasing for highway improvements and traffic maintenance.	2008-2012	City and NHDOT
25. Advance the design of parks, streetscape and bike path connections.	2008-2012	City
26. Design the proposed Storrs Street extension and intersection with South Main/ Water Street.	2008-2012	City
27. Advance planning and design for upgrading of utilities.	2008-2012	City and providers
Funding	Timeline	Responsibility
28. Prepare an infrastructure and relocation capital funding plan.	2007-2010	City
29. Identify funding sources for new streets, sidewalks, and streetscape improvements.	2007-2010	City
30. Identify and secure funding for new public and private utilities.	2008-2012	City
31. Identify and secure funding for new operating budgets (e.g., riverfront park and green areas).	2008-2012	City
Acquisition	Timeline	Responsibility
32. Coordinate with NHDOT acquisition/transfer of development rights of excess land impacted by the realignment of I-93 and the rail line.	2007-2010	City and NHDOT
33. Secure site for multimodal transportation center and public amenities.	2008-2012	City and NHDOT
34. Secure land for the creation of a riverfront park.	2008-2012	City and NHDOT
35. Secure land for the creation of a park/green space at the foot of Pleasant Street.	2008-2012	City
36. Acquire land for necessary easements, rights of way and redevelopment parcels.	2010-2012	City
37. Acquire/secure site for replacement grocery store in the Central Area.	2010-2012	City
38. Acquire/secure site for the relocation of the Legislative Garage parking.	2010-2012	City and NHDOT
LONG TERM ACTIONS		
Planning	Timeline	Responsibility
39. Continue working with NHDES and private developers to support environmental cleanup and brownfield redevelopment.	2005-2020	City
40. Promote redevelopment of historic rail properties on the South Opportunity Corridor Area (compatible with residential uses nearby).	2005-2020	City
41. Preserve the right-of-way for high-speed passenger rail service (and “lobby” for its provision).	2005-2020	City and NHDOT

Construction		Timeline	Responsibility
42.	Initiate highway and rail reconstruction process.	2012-2015	NHDOT
43.	Relocate Legislative Garage parking to a nearby site, and demolish old structure.	2012-2015	City and NHDOT
44.	Construct the proposed Storrs Street extension and/or intersection with South Main Street.	2012-2018	City and NHDOT
45.	Construct riverfront park and related links to existing roadways and open space.	2012-2018	City
46.	Construct multimodal transit station, associated parking, and related public amenities.	2015-2018	City and NHDOT
47.	Construct “green” at the foot of Pleasant Street and streetscape improvements.	2015-2018	City and NHDOT
Development		Timeline	Responsibility
48.	Issue Request-for-Proposals to private developers for the redevelopment of selected parcels.	2012-2018	City
49.	Designate developers and negotiate land disposition agreements.	2012-2018	City
50.	Initiate design review and approval processes.	2012-2018	City
51.	Issue building occupancy permits.	2015-2020	City



3. PLANNING GOALS AND OBJECTIVES

3.1. Overall Planning Goals

Overall goals for the master plan were established early on at the beginning of the planning process, and during initial coordination meetings with the City and the Steering Committee. The following summary is organized by topics consistently with the rest of the plan:

Land Use and Urban Design

- Create an accessible waterfront for Concord.
- Establish views and connections between the downtown and the river.
- Plan for redevelopment that will attract people to the area.
- Plan for incremental improvements that can take place over time.
- Attract people friendly uses that will increase foot traffic, not big boxes.
- Promote residential uses and cultural activities.
- Identify options for reuse of the rail yard.
- Enhance the image of the city as seen from the highway and the river.
- Create a place for the people of the city to come together and celebrate.
- Create an open space system and trails along the river.

Environmental Conditions

- Review and improve mechanisms to reuse brownfields sites.
- Reassess and mitigate environmental impacts on the South End marsh.
- Support environmental cleanup.

Economic Development

- Introduce positive changes in the local and regional economy.
- Increase real estate values, and recapture fiscal benefits.
- Set public investment priorities for the corridor.

Transportation and Infrastructure

- Solve the transportation problems posed by the confluence of roadways and rail.
- Identify options for rail and highway realignment that will result in a better land use.

- Plan for the creation of a multi-modal transportation center.
- Improve the existing infrastructure and utilities.

These overall goals were later expanded and complemented with comments and community input at public meetings, and the results from the analysis of existing conditions. The results are compiled in the following list of design goals and objectives, which has been used as a basis to guide the preparation and evaluation of alternative redevelopment concepts.

3.2. Design Goals and Objectives

The following design goals and objectives for the Opportunity Corridor Master Plan have been identified and confirmed through meetings, interviews and conversations:

Land Use, Urban Design, and Economic Development

1. Explore highway and rail realignment options that solve existing transportation problems while responding to a vision for the future of the corridor.
 - a. Establish an armature or infrastructure network of streets, public spaces, and utilities that will set the base for future redevelopment.
 - b. Identify short-term improvements that can be readily implemented within a short-time frame and will help catalyze subsequent improvements.
2. Identify and recommend land use patterns supportive of economic development.
 - a. Create a blueprint for redevelopment along the corridor that will complement the existing downtown and allow for its future expansion.
 - b. Encourage mixed-use redevelopment and the introduction of downtown residential uses.
 - c. Investigate the potential for the development of artist live/work and flexible office/industrial space.
 - d. Financially leverage federal and state funding to achieve local goals of physical improvements, economic development, environmental clean up, and access to the river.
3. Establish visual and physical connections between the downtown and the river.
 - a. Create an attractive public waterfront oriented towards recreation and the enjoyment of the natural environment.

- b. Create pedestrian and bicycle connections between the downtown and the waterfront, and along the river.
 - c. Create an observation deck and public amenities that will attract people to the waterfront.
 - d. Target potential development of a multimodal facility to facilitate access to the river by crossing over the tracks and the highway.
- 4. Recognize and enhance Concord's design character and image as a state capital.
 - a. Create a public open space of civic character to identify the new Central Opportunity Corridor District.
 - b. Protect and enhance views of the State House from vantage access points, including I-93 Exits 13, 14 and 15, and Loudon Road.
 - c. Promote land use and redevelopment patterns that are responsive to the scale of the existing building fabric.
 - d. Set building heights at levels that do not interfere with views of the historic downtown.
- 5. Create a safe and attractive network of open space and pedestrian connections throughout the corridor.
 - a. Explore and identify streetscape solutions that are complementary to Main Street and its traditional commercial environment.
 - b. Convert Storrs Street into a landscaped boulevard.
 - c. Create a district focal center at the intersection of Pleasant and Storrs.
 - d. Encourage the development of new buildings that face the street with parking located on the back.
 - e. Consider options to relocate/replace the existing Legislative parking garage.
- 6. Protect historic resources by encouraging the adaptive reuse and renovation of historic buildings.
 - a. Explore land use options for the South Opportunity Corridor District that are responsive to its historic transportation and industrial background.
 - b. Relocate the existing freight rail sidings and storage yard within the study area.
 - c. Investigate the potential for rail-dependent uses compatible with the proximity of residential areas.

7. Promote and support a better environment.
 - a. Protect and enhance natural assets such as ponds and wetlands.
 - b. Encourage and support redevelopment of brownfields.

Transportation and Infrastructure

8. Improve the integration of the regional highway system with the local street network.
 - a. At Exit 15, improve the transition from interstate highway (I-393) to local streets (North Main Street) and enhance traffic flow, safety, and access to the downtown.
 - b. Identify roadway connections that will replace the functions of I-93 northbound on-ramp and southbound off-ramp at Exit 14, allowing for the ramps' elimination.
 - c. Simplify the relationship between the Exit 14 and Exit 15 ramp systems to create improved connectivity to local streets and safer highway operations.
 - d. Consider the use of collector-distributor roadways to avoid excessive highway widenings and to facilitate the elimination of ramp/weaving conflicts.
9. Improve the Opportunity Corridor's internal circulation.
 - a. Create an alternate North-South collector road along the entire Opportunity Corridor in order to provide a transportation spine to link the districts of the Opportunity Corridor
 - b. Improve vehicular access between the regional highway system and local destinations in the Opportunity Corridor
 - c. Provide an alternative north-south traffic corridor to protect Main Street from increased traffic volumes
 - d. Expand/improve roadway connections in the North Opportunity Corridor
 - e. Strengthen roadway connections to the Horseshoe Pond development area.
10. Rationalize Loudon Road's functions and re-design it as a pedestrian-friendly city street.

- a. Enhance the function of Loudon Road (Rte. 9) as a prime access and gateway to the downtown from neighborhoods and villages located to the east of the river.
 - b. Reduce the number of traffic lights/intersections along Loudon Road between the river and the downtown.
 - c. Provide alternative connections for traffic currently using Loudon Road.
 - d. Propose improved pedestrian and bicycle accommodation via Loudon Road between downtown Concord, the riverfront, and Concord Heights.
11. Define an advantageous location for a future multimodal transportation center.
- a. Accommodate potential high-speed rail services.
 - b. Accommodate potential commuter rail service with consideration for the need of a second station that is commuter-oriented, possibly in the South End.
 - c. Provide adequate parking with good highway access.
 - d. Enhance bus transit connections for local distribution and commuter trips.
 - e. Propose a location and configuration for the multimodal center that will enhance accessibility within the Opportunity Corridor, and if possible across the rail lines and the highway.
12. Enhance public transportation connections between the Opportunity Corridor and other areas.
- a. Use the multimodal center as a local transit hub.
 - b. Enhance CAT bus service to meet future demands of new land uses along the corridor
13. Explore and define options for rail alignment that work in conjunction with the proposed roadway layouts and land use patterns.
- a. Eliminate the necessity for at-grade railroad crossings.
14. Incorporate bicycle and pedestrian improvements that enhance strengthen the network of existing and planned facilities.
- a. Establish active and functional pedestrian and bicycle connections from the downtown to the corridor district.

- b. Create a bike path along the river with connections to other bike paths and trails outside of the study area.
15. Provide a comprehensive approach toward parking that balances the needs of potential development in the Opportunity Corridor, commuter patterns to a multimodal center and the adjacent downtown land uses.

3.3. Vision Statement

The following vision statement for the future of the study area has been compiled and edited from wishes, ideas and opinions contributed by members of the community at the first public meeting:

The Opportunity Corridor should become a magnet for new job opportunities, bringing new residents into the city, hosting commercial and cultural activities, preserving large areas of green space, and providing for efficient transportation. The corridor will be walkable, livable, and characterized by human scale. An attractive mix of offices and shops, restaurants, cafes, residences, cultural amenities, parking, waterfront access and parks will create a unique destination for residents and visitors. Passenger rail service will connect to Boston and Montreal. Sidewalks and bike paths radiating from a central “Common” will connect to the surrounding downtown areas and neighborhoods, and trails along the river will lead to natural treasures beyond city limits.

4. ALTERNATIVE REDEVELOPMENT SCENARIOS

Three alternative redevelopment scenarios – Alternatives A, B and C – were explored in response to the design goals and objectives outlined above. Each scenario illustrates a different approach to land use, transportation and economic development for the corridor in general, and for each area of the corridor in particular.

A key consideration in the investigation of alternative scenarios was the location of I-93 and the main rail line corridor, assuming that highway relocation may be possible if it contributes to resolve the underlying traffic and transportation problems that affect the corridor today. The potential creation of an accessible public waterfront along the river, and the configuration of highway interchanges and arterial connections are two direct results of the location assumed for the highway.

Alternative A

Assumes that I-93 remains in its current location and alignment. Transportation improvements to I-93 are focused on the reconfiguration of Exits 15 and 14 to avoid traffic merging conflicts that exist today. As a result, this scenario does not generate a new waterfront along the river. However, an opportunity is sought to create a civic open space at the intersection of Storrs Street and Pleasant Street, a new “Green”, which could include an observation tower with views of the river and the farms on the other side of the highway.

Storrs Street is extended to the north and south of its current alignment to connect the Central Opportunity Corridor area to Horseshoe Pond and the South End. The rail main line is realigned in the North area in order to allow for Storrs Street extension.

Alternative B

Assumes that I-93 is relocated approximately 100 feet to the west of its current alignment in the Central Opportunity Corridor area. This allows for the creation of a linear park along the river with opportunities for waterfront access, passive recreation and a bike trail. The rail main line is also relocated parallel to the new I-93 alignment. Both the highway and the rail line are slightly depressed (enough to pass below an elevated Loudon Road) in order to allow for better visibility and connections between downtown, the river, and the Fort Eddy Road area.

Highway Exits 15 and 14 are reconfigured to improve traffic circulation and safety. Storrs Street is extended to the north and south of its current alignment to connect the Central Opportunity Corridor area to the newly reconfigured Exit 15 interchange, and the South Opportunity Corridor area.

Alternative C

Assumes that I-93 is relocated approximately 200 feet to the west of its current location in the Central Opportunity Corridor area, and depressed. This allows for the creation of a generous waterfront park. Storrs Street is extended to connect to Commercial Street and Horseshoe Pond to the north, and South Main Street at its intersection with Water Street to the south. The rail line is moved accordingly to the west along the Central Opportunity Corridor, and realigned as closely as possible to the highway in the North Opportunity Corridor in order to maximize redevelopment site opportunities.

Figure 5. Alternative A

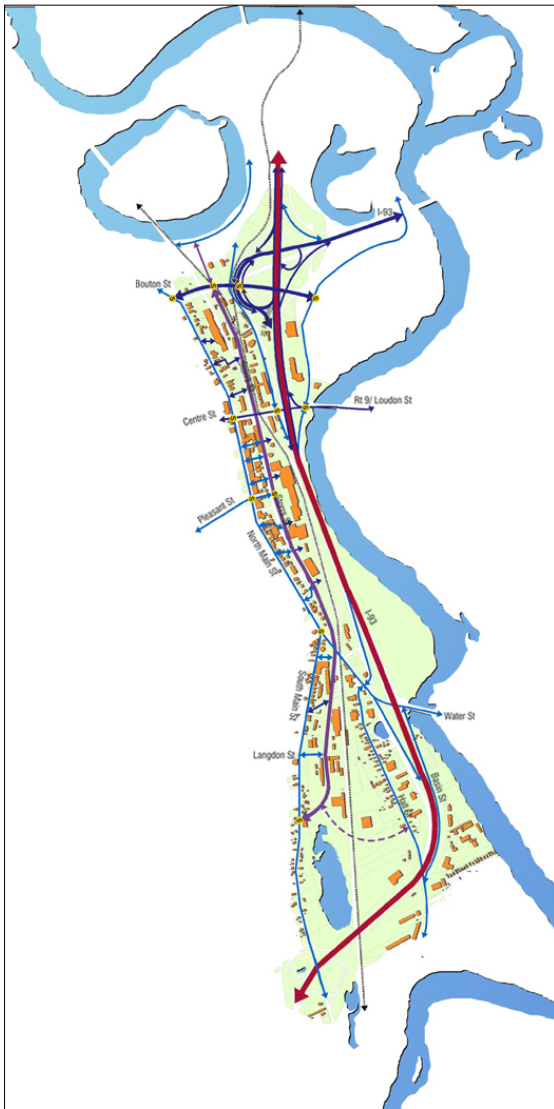


Figure 6. Alternative B

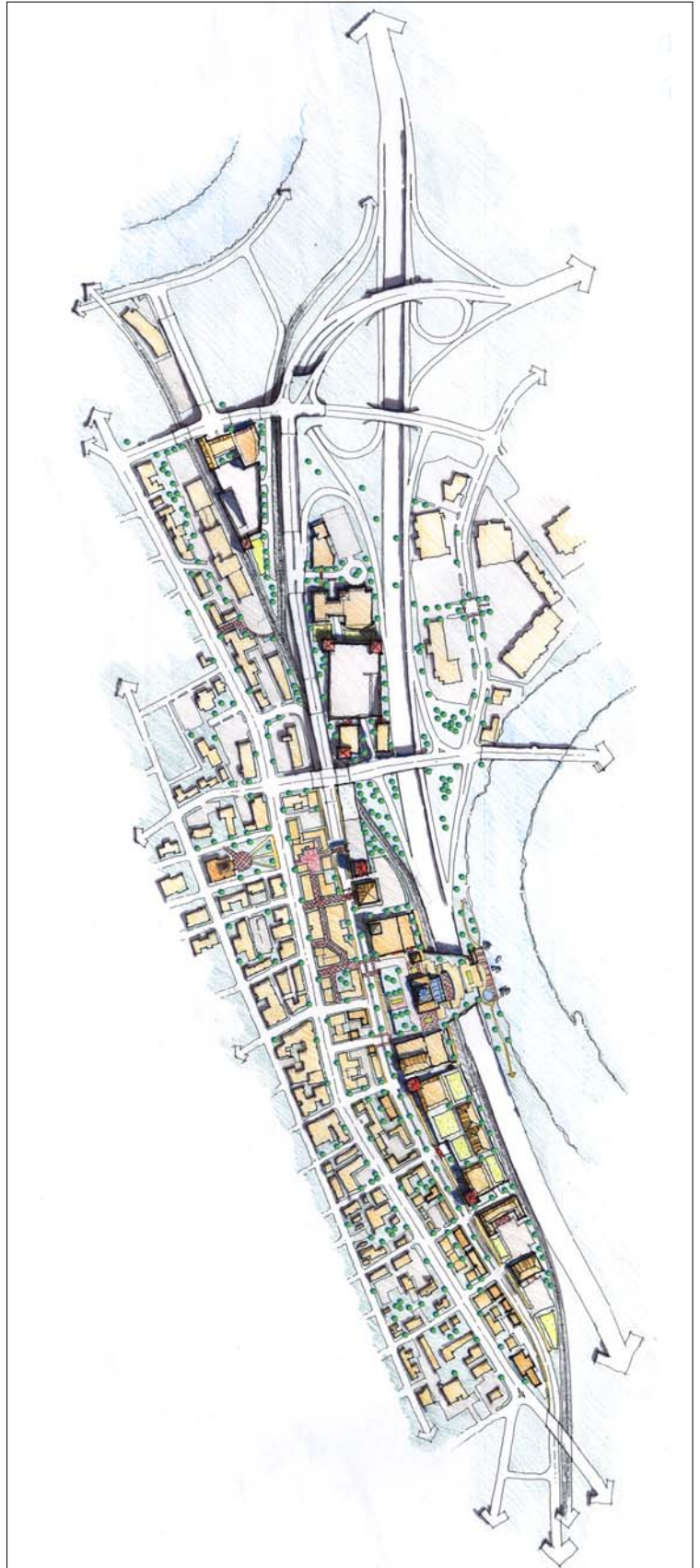
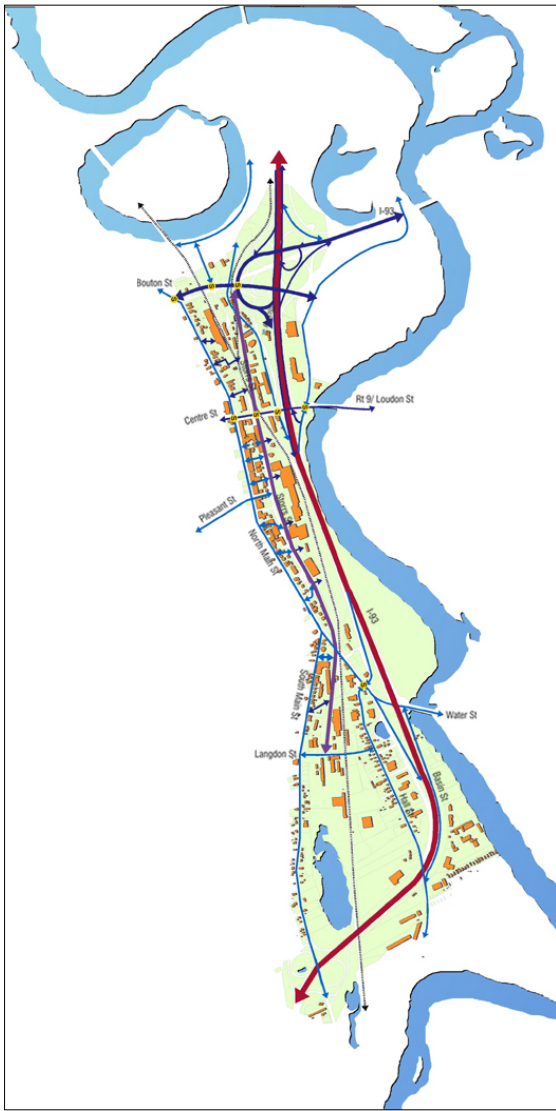
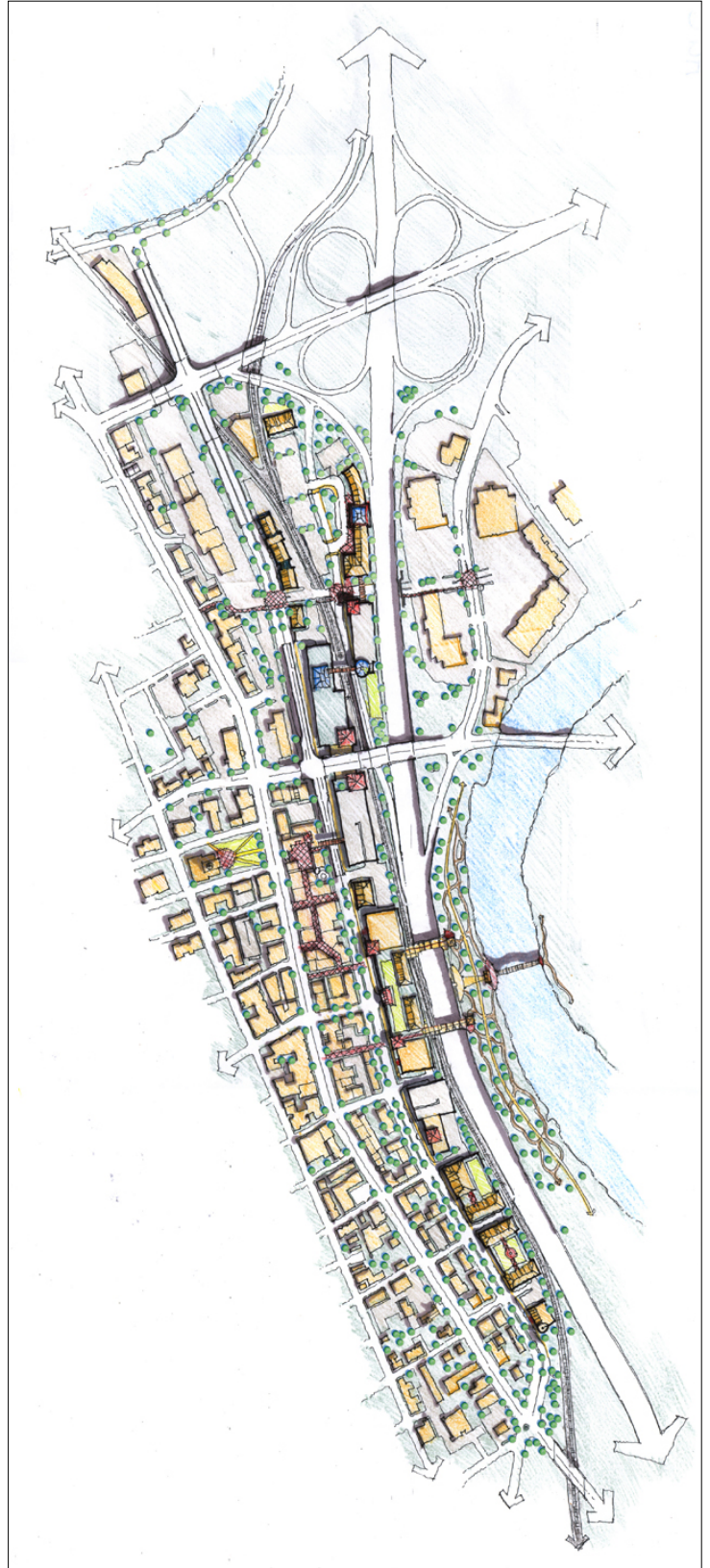
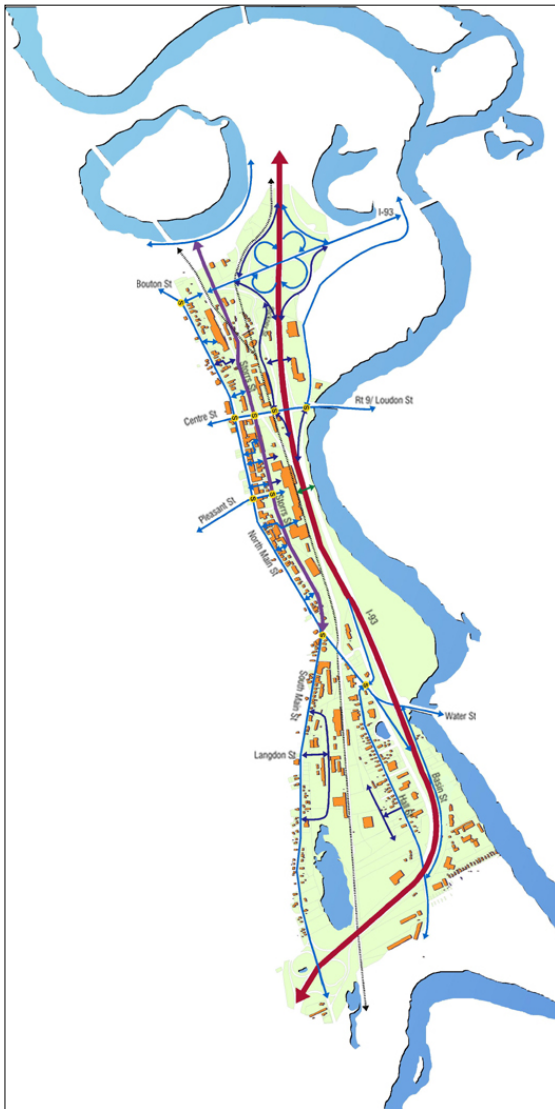


Figure 7. Alternative C



4.1. Summary of Key Features

There are important differences between the three alternative redevelopment scenarios in their approach, land use focus, and key transportation features, highlighted on Table 1, below. A convenient way to understand those differences is by comparing elements that are common or different to each alternative:

- I-93 Improvements – I-93 is realigned away from the river’s edge between Exits 13 and 15, to allow for the creation of a public waterfront (approximately 100 feet away from the water in Alternative B, 200 feet away in Alternative C). The highway also is depressed (10 to 12 feet below its current elevation) along the same stretch of roadway, in order to allow for the construction of an improved Loudon Road and Exit 14 (bridging over the highway).
- Exit 15 – A new interchange solution is proposed in Alternatives A and B. Alternative C retains the existing configuration.
- Exit 14 – The three alternative schemes propose the closing of the northbound on-ramp and the southbound off-ramp, due to the traffic hazards and merging conflicts they generate. Loudon Road retains its present character as an underpass in Alternative A. Alternatives B and C explore the possibility of building Loudon Road as a bridge over I-93, which allows for a more attractive gateway into the downtown and a potential widening of the road if needed.
- Storrs Street Extension (North) – Storrs Street is extended to meet Commercial Street in Alternatives A and C. Alternative B explores the extension of Storrs Street to a new intersection with redesigned Exit 15 southbound off-ramps and northbound on-ramps.
- Storrs Street Extension (South) – Alternatives A and B extend Storrs Street under the existing Water Street Viaduct to meet Langdon Avenue in the South End, where traffic would be able to connect to South Main Street. Alternative C shows Storrs Street meeting the intersection of South Main and Water Streets.
- North-South Connection – Storrs Street becomes the main north-south connector along the Opportunity Corridor. Given the way that roads and rail alignments are laid out, the intersection of Storrs and Loudon assumes a different character. Both maintain their current location on Alternative A. However, the two roads intersect at the Loudon Bridge elevation on Alternatives B and C.
- East-West Connections - A new east-west connector to Fort Eddy Road is proposed as part of the new Exit 15 interchange on Alternatives A and B. On Alternative C, I-393 remains as the only east-west connector in the North Area.
- Multimodal Transportation Center – Different potential locations are explored in each scenario: Outside the Opportunity Corridor on Alternative A, the Central Area on Alternative B, and the North Area on Alternative C.

Table 1 – Key Alternative Features

Area	Feature	Alternative A	Alternative B	Alternative C
<i>North</i>	<i>I-93 Exit 15</i>	I-93 Exit 15 is reconfigured, and on-off collector roads are added on both sides of the highway.	I-93 Exit 15 is reconfigured, and on-off collector roads are added on both sides of the highway.	I-93 Exit 15 is improved within existing configuration
	<i>East-West Connector</i>	New East-West connector to Ft. Eddy Road built as part of new interchange.	New East-West connector to Ft. Eddy Road built as part of new interchange.	I-393 remains as East-West connector.
	<i>North-South Connector</i>	Storrs Street is extended to meet Commercial Street.	Storrs Street is extended to meet new I-393 on- and off-ramps.	Storrs Street is extended to meet Commercial Street.
	<i>Rail Alignment</i>	High-speed line is moved east of new Storrs Street extension. Freight line is relocated to follow new interchange.	High-speed line maintains current alignment. Freight line is relocated to follow new interchange.	High-speed line is moved east of new Storrs Street extension. Freight line remains close to its current alignment.
	<i>Land Use Focus</i>	Regional retail, with the potential to connect to Ft. Eddy Rd. retail area	Office and hotel/Convention Center opportunities	Multimodal Transportation Center and office/retail opportunities
<i>Central</i>	<i>I-93 Alignment</i>	I-93 maintains current alignment and elevation	I-93 is relocated 100 feet to the west and slightly depressed (10-12 feet)	I-93 is relocated 200 feet to the west and slightly depressed (10-12 feet)
	<i>I-93 Exit 14</i>	I-93 bridges over Loudon/Rt.9. Northbound on-ramp and southbound off-ramp are closed; I-93 access provided by new collector roads.	Loudon/Rt.9 bridges over I-93. Northbound on-ramp and southbound off-ramp are closed; I-93 access provided by new collector roads.	Loudon/Rt.9 bridges over I-93. Northbound on-ramp and southbound off-ramp are closed; I-93 access provided by new collector roads.
	<i>North-South Connector</i>	Storrs Street maintains current alignment and elevation.	Storrs Street intersects Loudon/ Rt. 9 at current Loudon elevation; two lanes remain at ground level.	Storrs Street intersects Loudon/ Rt. 9 at current Loudon elevation; two lanes remain at ground level.
	<i>Rail Alignment</i>	Rail maintains current alignment and elevation	Rail is moved to follow new I-93 alignment and slightly depressed (4 feet)	Rail is moved to follow new I-93 alignment and slightly depressed (4 feet)
	<i>Land Use Focus</i>	Mixed-use office/retail/residential opportunities; restaurants and civic amenities	Multimodal Transportation Center and mixed-use office/retail/residential opportunities.	Mixed-use office/retail/residential opportunities; restaurants and civic amenities
<i>South</i>	<i>North-South Connector</i>	Storrs Street is extended under Water Street, south of Langdon Avenue with potential connection to South Main.	Storrs Street is extended under Water Street, up to Langdon Avenue.	Storrs Street meets the South Main/ Water Street intersection.
	<i>Rail Alignment</i>	Rail maintains current alignment and elevation.	Rail line is realigned westward to increase developable area to the east.	Rail maintains current alignment and elevation.
	<i>Land Use Focus</i>	Light industrial/flexible space opportunities.	Mixed use commercial/residential opportunities, with commercial emphasis on the Hall Street area.	Rail yard and light industrial/flexible space opportunities.



Figure 8. Alternatives A and B for the South Opportunity Corridor

A more detailed description of the preferred plan elements and other recommendations are included in the next sections.

4.2. Comparison and Evaluation

The three alternative scenarios were reviewed and discussed at a public meeting and two coordination meetings with the Master Plan Steering Committee. They were compared and evaluated according to their responsiveness to the design objectives established earlier, which are listed in the previous section of this report.

Table 2 below summarizes the results of that comparison and evaluation. The boxes containing scenario features and characteristics that were considered to be more responsive to the established goals, and more conducive to the best planning and design solutions are highlighted with a heavy border. Those will become preferred choices for key planning elements.

The alternative scenario with more responsive features and preferred choices was found to be Alternative B. Preferred choices included the realignment of I-93 approximately 100 feet westward of its current location, the creation of a waterfront access deck spanning over I-93 in the Central Opportunity Corridor area, taking advantage of opportunities generated by the creation of a multimodal transportation center in the same area.

Other important characteristics of Alternative B that were identified as preferred choices between scenarios were related to the land use focus for each area within the corridor:

- Office, hotel, convention center, high density attached residential, and retail uses in the North Area
- Mixed use commercial and residential development, and a multimodal transportation center in the Central Area
- Mixed use commercial and residential development, with short term light industrial/flexible space opportunities in the South Opportunity Corridor

Several features of the other two alternatives were also selected as preferred choices for plan elements, such as the following:

- New “trumpet” configuration for the redesign of Exit 15, new east-west connector to Fort Eddy Road, and the redesign of Exit 14 to include northbound on-ramp and southbound off-ramp replacement by new collector roads running sideways along the highway.
- Storrs Street will connect to Commercial Street and the Horseshoe Pond area to the north, and the intersection of South Main and Water Streets to the south. In the Central area, Storrs Street should not intersect with Loudon Road/Bridge Street. Storrs Street continuing under the Water Street Bridge to connect to Langdon Avenue is seen as important to the South End redevelopment.
- The rail alignment will be moved, particularly in the North area to follow the preferred choice elements for highway relocation and improvements as close as possible to the future highway alignment. This will help creating larger and more flexible redevelopment parcels in terms of area and layout.

Table 2 – Comparison of Alternatives

<i>Goal/Objective</i>	<i>Element</i>	<i>Alternative A</i>	<i>Alternative B</i>	<i>Alternative C</i>	<i>Reason</i>
Explore highway and rail alignments that solve transportation problems while responding to a vision for the future	<i>Highway Alignment</i>	Remains as current	Is relocated (app. 100 feet) and depressed	Is relocated (app. 200 feet) and depressed	<i>Allows for the creation of a waterfront while limiting realignment to a reasonable minimum</i>
	<i>Rail Alignment</i>	Relocated in North Area	Relocated in Central Area and portion of North Area; realigned westward in the South Area	Relocated in North and Central Areas	<i>Follows highway relocation and supports redevelopment parcels</i>
Establish visual and physical connections between the downtown and the river	<i>Waterfront Access</i>	Bridge to Healy Park	New waterfront, deck over I-93	New waterfront, bridge over I-93	<i>Creates new waterfront oriented towards the natural environment</i>
Improve the integration of the regional highway system with the local street network	<i>Exit 15</i>	New “trumpet” configuration	New “trumpet” configuration	Retains current configuration with minor improvements	<i>Improves the transition from highway to local streets</i>
	<i>Exit 14</i>	N on-ramp and S off-ramp replaced by side collector roads	N on-ramp and S off-ramp replaced by side collector roads	N on-ramp and S off-ramp replaced by Storrs/I-393 connection	<i>Improves connectivity and eliminates weaving hazards between Exits 14 and 15</i>
	<i>Connections to Ft. Eddy Rd.</i>	New east-west connector, potential for pedestrian I-93 underpass	New east-west connector, I-93 underpass contingent on highway design	Remain as current, potential for I-93 underpass	<i>Maximizes opportunity for east-west connections to Ft. Eddy Road</i>
Improve internal circulation along the Opportunity Corridor	<i>Storrs Street in the North Area</i>	Connects to Commercial Street	Connects to new Exit 15/I-393	Connects to Commercial Street	<i>Connects Horseshoe Pond area to the Opportunity Corridor</i>
	<i>Storrs in the Central Area</i>	Does not intersect with Loudon/Bridge	Intersects with Loudon/Bridge	Intersects with Loudon/Bridge	<i>Alleviates traffic on Bridge Street</i>

<i>Goal/Objective</i>	<i>Element</i>	<i>Alternative A</i>	<i>Alternative B</i>	<i>Alternative C</i>	<i>Reason</i>
	<i>Storrs Street in the South Area</i>	Connects to South Main past Langdon Avenue	Connects to Langdon Avenue	Connects to South Main at Water Street	<i>Steep slope; however, direct north-south connection</i>
Rationalize Loudon Road functions and design	<i>Loudon/ Storrs Connection</i>	Do not intersect	Signalized intersection	Signalized intersection	<i>Reduces in one the number of traffic lights</i>
Strengthen roadway connections to the Horseshoe Pond area	<i>Connections to Commercial Street</i>	Storrs Street connects to Commercial Street, Constitution Avenue connects to Stickney	No new connections are created	Storrs Street connects to Commercial Street and Horseshoe Pond area	<i>Storrs Street connects the corridor north-south</i>
Define an advantageous location for a multimodal transportation center	<i>Transportation Center Location</i>	Outside of study area	Central Area	North Area	<i>Opportunity to enhance local bus transit connections and regional commuter access</i>
Explore and identify options for creating public parking near the downtown	<i>Public Parking</i>	Bulk of potential new parking far from the downtown	Opportunities for public parking in the Central area	Opportunities for potential public parking in the North and Central areas	<i>Opportunity to create public parking associated to future multimodal transit facility</i>
Identify and recommend land use patterns supportive of economic development	<i>Land Use Focus – North Area</i>	Regional retail, potential connection to Ft. Eddy area	Office, hotel, retail, high density attached residential uses, convention center	Office, retail, multimodal transportation center	<i>Large parcels offer best opportunity for creating commercial uses/jobs</i>
	<i>Land Use Focus – Central Area</i>	Mixed use commercial residential, civic uses	Mixed use commercial residential, multimodal transportation center	Mixed use commercial residential, civic uses	<i>Proposed multimodal station adds one more use type to the potential mix</i>

<i>Goal/Objective</i>	<i>Element</i>	<i>Alternative A</i>	<i>Alternative B</i>	<i>Alternative C</i>	<i>Reason</i>
	<i>Land Use Focus – South Area</i>	Light industrial/flexible commercial space	Mixed use commercial and residential uses	Rail yard, light industrial/flexible commercial space	<i>Focus on uses that may depend on rail access, generate lesser traffic</i>
Increase real estate values and opportunities for new development	<i>Prime Development Sites</i>	Roadway layout allows for street access and incremental site opportunities	Roadway layout allows for large development parcels	Roadway layout limits the number and size of new development sites	<i>Offer more opportunities for creating prime development sites</i>
Leverage public funding to help achieving community vision	<i>Investment Priorities</i>	Lacks potential to leverage public funding and unlock redevelopment	Transportation funding could be leveraged to create access to the river and public amenities	Possibilities of leveraging public funding are limited to the North Area	<i>Offers more opportunities to leverage public funding</i>
Create a bike path along the river with connections to trails	<i>Bike Path Along the River</i>	From Storrs Street to Healey Park and south along the river	From Loudon Road and Fort Eddy Road south along the river	From Loudon Road and Fort Eddy Road south along the river	<i>Potential to provide continuous bike access along the waterfront</i>
Create a public open space of civic character to identify the new district	<i>Civic Open Space</i>	Proposes a new “Common” oriented towards Storrs Street	Proposes a deck over I-93 connecting to a new waterfront park	Proposes bridges connecting to a new waterfront park	<i>Create open space easily recognizable and accessible</i>
Create a pedestrian friendly network of street connections	<i>Pedestrian Network</i>	Roadway layout allows a continuous sidewalk elevation and multiple east-west connections	Elevated roadways and changes in slope limit pedestrian accessibility	Elevated roadways and changes in slope limit pedestrian accessibility	<i>Offers more opportunities for internal at-grade connections</i>
Enhance the image of the city as seen from the highway	<i>Views from the Highway</i>	Views from the highway open to a new Common in the Central Area	Views from the highway are limited along the depressed section but could be enhanced by design	Views from the highway are limited along the depressed section but could be enhanced by design	<i>Current highway elevation would allow for better views from highway; landscaping is important</i>

 Highlighted box indicates preferred choice

4.3. Economic Evaluation

The following are qualitative comparisons, from a real estate development perspective, of the three studied alternative redevelopment scenarios for the Opportunity Corridor.

In applying a real estate development perspective, this comparative evaluation focuses on the extent to which the respective concepts create new sites for development. In creating new sites, each of the Corridor's segments (northern, central, southern) present different sub-issues. Accordingly, this discussion is divided into separate comparisons for each of the northern, central and southern segments of the Corridor.

North Opportunity Corridor

For the northern segment of the Opportunity Corridor, key issues for comparison involve (1) vehicular and (2) pedestrian access. Vehicular access addresses the area's strategic linkages to areas such as Fort Eddy Road, the Heights and Horseshoe Pond; pedestrian access address the area's connections to downtown as well as its internal circulation.

Alternative A is the one that resolves more issues at this level. Vehicular access improvements in this concept include an improved east-west connection to Fort Eddy, strong connections linking downtown and the Horseshoe Pond area along Storrs Street, and a clear connection to I-393 and the Heights. For pedestrians, Storrs Street's continuous, uninterrupted elevation enables it to provide an unbroken streetfront. In addition, this alternative provides the greatest number of internal (east-west as well as north-south) at-grade streets, which in turn creates a potentially pedestrian-friendly urban block grid.

In comparison, while Alternative B provides the most direct connection to I-393 as well as the improved east-west link to Fort Eddy, its elevation of Storrs Street (at Center Street) and its use of two rather than three north-south streets compromises its ability to create pedestrian-oriented urban blocks.

Alternative C is comparable in most respects to Alternative A, but its elevation of Storrs Street and the absence of an improved connection to Fort Eddy Road enable Alternative A to create more prime development sites in this area.

Central Opportunity Corridor

For the Corridor's central segment, key comparisons involve the concepts' ability to (1) enhance riverfront amenities as well as (2) its ability to extend the downtown district – currently concentrated along Main Street – to Storrs Street.

Alternative B is the one that best responds to these goals. This alternative's depression of I-93 creates enhanced river views from properties on Main Street and Storrs Street. This alternative also creates access over a broad bridge to a new riverfront park amenity that serves downtown workers and residents while enabling pedestrian/bicycle links to a larger trail system along the river.

In comparison, Alternative A makes minimal improvements to the City's uses or views of the Merrimack River; its minimal connection to the river offers weaker support for the acquisition and elimination of the Capital Plaza Shopping Center. As noted above, Storrs Street becomes a stronger north-south connection and a potentially stronger business corridor under this Alternative. Overall, however, with minimal changes to I-93, this Alternative provides the lowest impact on downtown development prospects in the central corridor.

Among the three concepts, Alternative C creates the largest riverfront area. Access to the area, however, is less inviting than that provided in Alternative B, and the park amenity may therefore provide a lesser benefit to downtown development opportunities. This alternative may also seek to create development sites as well as recreational amenities in the newly created riverfront area. However, while this area would offer high-quality amenities, it may not offer sufficient area to create a residential community; for commercial uses, it would be isolated from the central business district. Thus, despite their direct adjacency to park and riverfront amenities, new development sites in this area may not provide prime opportunities for new development.

A final comment regarding all concepts in the Central segment focuses on the grocery store currently located in the Capital Plaza Shopping Center. Many downtown areas lack grocery stores; this often presents a significant problem for encouraging and retaining residential development. Therefore, this should be regarded as an important business – or type of business – to be retained in downtown Concord. Each of the proposed concepts could accommodate a grocery store; potential parking areas for the store are most limited by Alternative C and most easily accommodated under Alternative A.

South Opportunity Corridor

The southern segment offers limited potential for new development. In general, the significant differences among the concepts include their Storrs Street connections. In terms of land use, mixed use commercial and residential development, with short-term light industrial/flexible space opportunities in the South Opportunity Corridor are the preferred choices. In terms of circulation improvements, the opportunity to extend Storrs Street south under the Water Street Bridge should left be open for the future.

5. PREFERRED PLAN ELEMENTS

The overall goals set at the beginning of the planning process call for the resolution of traffic and transportation problems affecting the corridor, and planning for new land uses that will attract people to the area and economic development. Additional design objectives are the creation of a public waterfront and the establishment of visual and physical connections between the downtown and the river.

Three concept plans illustrating a variety of layout options, previously explored in response to these goals represent different planning and urban design approaches to the solution of a common set of problems:

- Seek and support redevelopment of underutilized parcels that will result in positive economic or public benefits
- Improve traffic congestion and difficult access conditions to the downtown and core city neighborhoods
- Investigate alternatives for needed I-93 improvements that will be consistent with the City's vision for the future of the corridor, and enhance the image of Concord as a state capital.
- Preserve site options for potential future transit service and a station site to service Concord and the downtown in particular.

The alternative concept plans were reviewed and evaluated in regards to their response to the goals and objectives identified by the Steering Committee and the community. As a result of the evaluation the following planning recommendations and preferred plan elements are proposed:

5.1. Land Use and Urban Design

Planning Recommendations

- Relocate I-93 and rail alignments approximately 100 feet to the west along the Central Opportunity Corridor District, in order to allow for the creation of a public waterfront.
- Create a downtown to waterfront connection. Depress highway along the Central Opportunity Corridor District in order to facilitate visual and pedestrian connections between downtown, the river, and areas to the east.
- Implement Vision 20/20 recommendations for a Loudon Road bridge spanning over I-93, which would include pedestrian and bicycle access provisions.
- Create a bike path along the waterfront with connections to other existing and proposed bike paths in the area.
- Create an open space of civic character to identify the new Central Opportunity Corridor District and approach spine to the riverfront, and a focal point at the intersection of Pleasant and Storrs Street

- Create an observation deck or public amenities that will attract people to the waterfront, and provide pedestrian access between downtown and the river.
- Establish land use patterns supportive of economic development that will be complementary to the existing downtown and allow for its future expansion.
- Create additional opportunities for public parking near the downtown.
- Remove Legislative Garage over Storrs Street as a visual deterrent to new development to a nearby site
- Create a pedestrian-friendly network of streets and open space connections, and a recognizable streetscape image for the Opportunity Corridor.
- Protect and enhance the image of the downtown as seen from the highway and the river.

Proposed Plan Elements

- **Realigned I-93 and rail tracks** along the Central Opportunity Corridor (relocated an approximate distance of 100 feet from the water).
- **Depressed I-93 and rail corridor** along the Central Opportunity Corridor (up to an estimated depth of 10 to 12 feet for the highway, and 2 to 3 feet for the rail tracks).
- **New Loudon Road Bridge** over I-93 and rail corridor (designed to allow for a minimum clearance of 22 feet over the rail tracks).
- **New local street network and Storrs Street Boulevard** to serve as the armature for development and parcelization within the Opportunity Corridor.
- **Waterfront park** and recreational open space along the river, including a bike path, walking trails and opportunities for boating.
- **New civic open space** on Storrs Street at the foot of Pleasant Street as a “gateway” to the riverfront, and as a central civic focus for the Central Opportunity Corridor.
- **Multimodal transportation center** in the Central Opportunity Corridor area, providing pedestrian amenities and access to the waterfront by bridging over the highway and rail tracks with a series of landscaped rooftop terraces.
- **Mixed use redevelopment** providing opportunities for a variety of new businesses (retail, office, hospitality, and flexible use space) and the introduction of downtown residential uses.
- **New public parking** in the vicinity of Storrs Street and Loudon Road to replace the existing Legislative Garage, created in conjunction with the construction of the multimodal transportation center and joint public/private development initiatives.

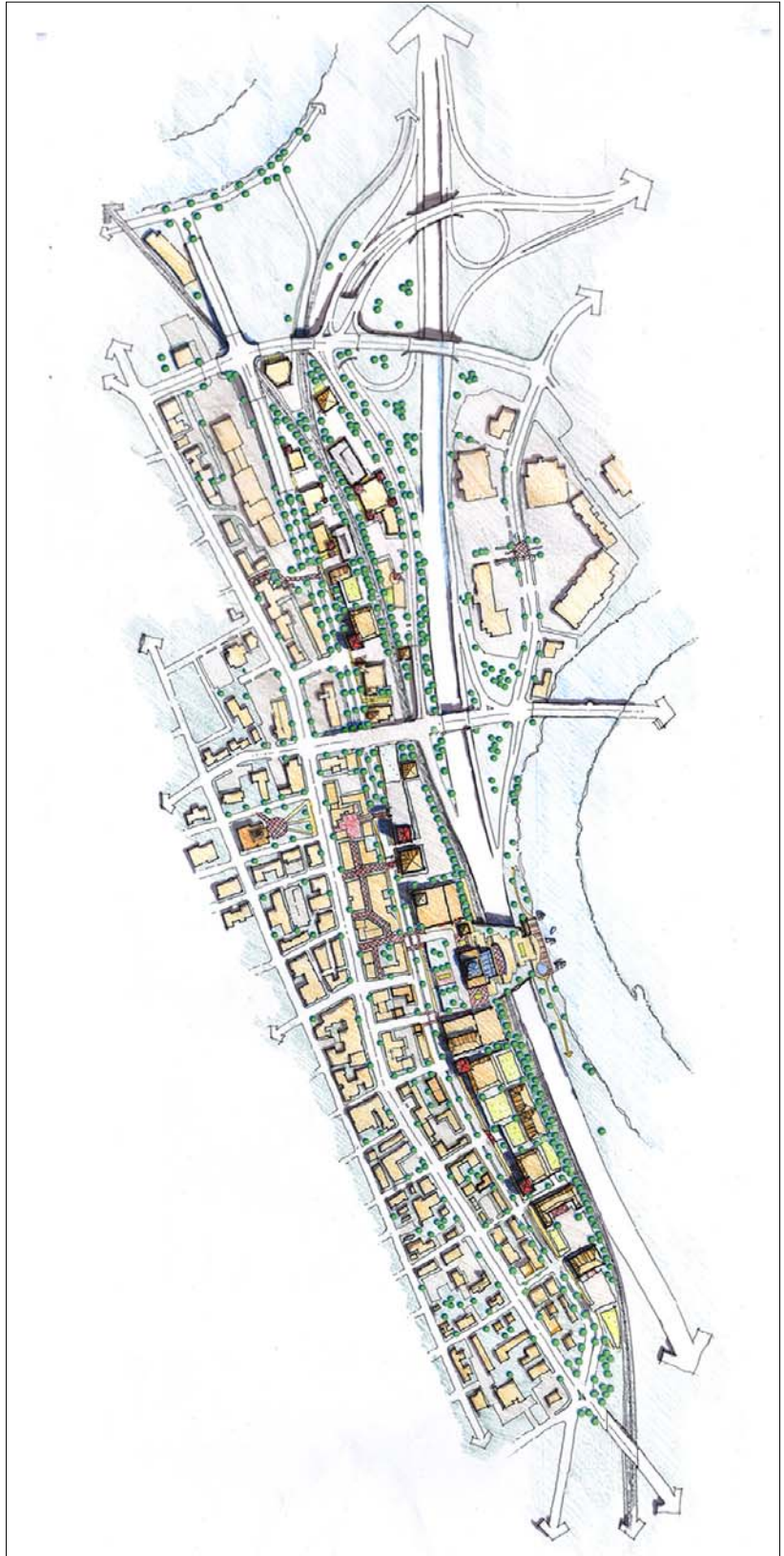


Figure 9. Illustrative Concept Plan for North and Central Areas

- **Pedestrian network** of landscaped **alleys** connecting North Main Street to **Storrs Street Boulevard**, new **through-block connections** and new **sidewalks** enhanced with trees, greenery and pedestrian amenities.
- **Design guidelines and standards** requiring buildings to face the streets and the waterfront, building heights not to obstruct views of the Capitol dome from vantage points (generally consistent with existing zoning).
- **New vantage points** to appreciate views of the historic downtown and the river (new Loudon Road bridge, pedestrian decks over the corridor, lookout tower).

5.2. Economic Development

Planning Recommendations

- Provide opportunities for new development in a variety of formats, parcel size and configuration that will be attractive to different types of developers
- Promote redevelopment of underutilized parcels that will increase real estate values, unlock development opportunities, or result in relative benefits to the public.
- Preserve/target opportunities for rail dependent uses and light industrial redevelopment compatible with adjacent uses in appropriate locations.
- Set priorities for investment in public amenities such as parks, scenic views, recreational and cultural activities that will act as catalysts for private development.
- Retain the presence of a mid-size grocery store and other existing retail uses in the Central Opportunity area.
- Leverage federal and state funding to achieve goals of public parking, transportation, open space, and the community's vision for the future.

Proposed Plan Elements

- **Diversity of parcel types** allowing for a variety of parcel layouts, size, character and use mix, depending on final zoning provisions and location within the corridor.
- **Redevelopment of public land** currently undervalued, and used for services that could be successfully relocated outside the corridor or incorporated into a joint public/private development initiative (i.e. DOT maintenance facilities, public parking lots along Storrs Street, vacant rail properties in the South End, etc.)
- **Rehabilitation of historic rail properties** in the South Opportunity Corridor for uses compatible with adjacent commercial and residential areas.

- **New public amenities** such as parks, trails, civic uses that will identify the Opportunity Corridor as a unique district to work, shop and live in.
- **Grocery store and neighborhood retail** serving the downtown in the Central Opportunity Corridor area.
- **Spin-off benefits** from transportation and environmental cleanup funding to areas where the results can be combined to simultaneously achieve multiple goals (such as a multimodal transportation center that provides access to the river, for example).

5.3. Transportation

Planning Recommendations

- Modify I-93 Exit 14 and 15 interchanges to improve roadway and district connectivity, and eliminate weaving hazards posed by the close proximity between the two exits.
- Create alternative routes along the Opportunity Corridor to facilitate north-south circulation at the local level.
- Improve east-west accessibility between the downtown, the Opportunity Corridor, and the neighborhoods to the east of the river.
- Provide roadway alternatives that will alleviate traffic congestion on Loudon Road, North Main Street and Fort Eddy Road
- Preserve and enhance a passenger rail right of way to and through Concord.
- Secure a preferred location for a future multimodal transportation center near the downtown.
- Improve integration of pedestrian, bicycle, transit and local vehicular circulation.

Proposed Plan Elements

- **New Exit 15 interchange** to improve transition from highway to local roads while easing highway-to-highway connections (proposed trumpet configuration).
- **New collector-distributor roadways** parallel to I-93 between Exits 14 and 15, in order to allow for the closure of the northbound on-ramp and southbound off-ramp at Exit 14, and the elimination of traffic weaving hazards on I-93.
- **Storrs Street extension** to provide a north-south spine and double-loaded development boulevard along the corridor, connecting the Horseshoe Pond area to the North and Central Opportunity Corridor districts.

- **New Fort Eddy Road east-west connector** to provide an alternative to Loudon Road, and reduce traffic congestion on Loudon Road, North Main Street and Fort Eddy Road.
- **Reduction of traffic signals on Loudon Road** to three, with improved spacing between signals.
- **Rail corridor alignment** that will accommodate freight and passenger rail service, minimizing at grade rail crossings, and maintaining adequate clearances and track curvature.
- **Multimodal transportation center** located in the Central Opportunity Corridor District, providing access to local and regional buses, public parking, and downtown passenger rail service.
- **Relocation of rail yard** out of the Central Area.
- **Accommodations for bicycles and pedestrians** along the existing and new transportation infrastructure networks.

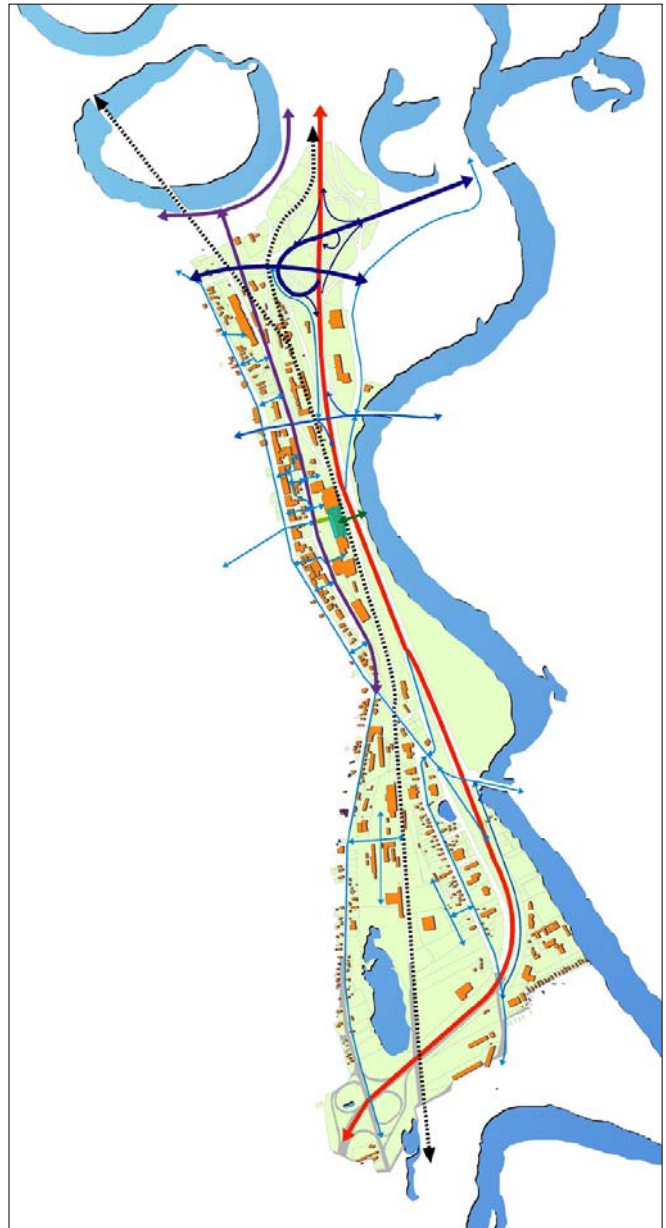


Figure 10. Proposed Roadway Concept Plan

6. LAND USE AND URBAN DESIGN RECOMMENDATIONS

The proposed land use and urban design recommendations are interdependent with the recommended transportation strategy, although some of the key ideas could be advanced even if the proposed roadway improvements are not in place. Some of the key premises for the preparation of this master plan are based on the recognized need for improvements to Interstate 93 and its connecting arterials as they move through the study area. Similarly, some of the key assumptions and steps for implementation take into consideration potential opportunities for redevelopment that may be unlocked by the need to expand, move or relocate part of the key roadway and rail rights-of-way.



Figure 11. Illustrative Concept Plan

That said, the proposed land use and urban design strategies are aimed at improving existing conditions for redevelopment along the corridor by taking advantage of new opportunities to create better access, visibility and public amenities. The purpose of these improvements will be to support and encourage new development that will contribute to the generation of new economic development and enhance the overall quality of living in the downtown.

6.1. North Opportunity Corridor

The North Opportunity Corridor Area is a district seemingly well located for future economic growth with excellent regional highway access from both Exits 14 and 15 along I-93, close proximity to the downtown and North Main Street, and just to the other side of I-93 from the Ft. Eddy Road regional shopping district. The North Area also hosts Concord's regional bus station.

In spite of these locational advantages, however, the district is, in fact, difficult to access locally. Mostly occupied by a bus station and large open storage and maintenance facilities, the district nowadays is isolated from North Main Street, is carved up and divided by local streets and rail lines with no access from one side of the tracks to the other, and is significantly underutilized economically.

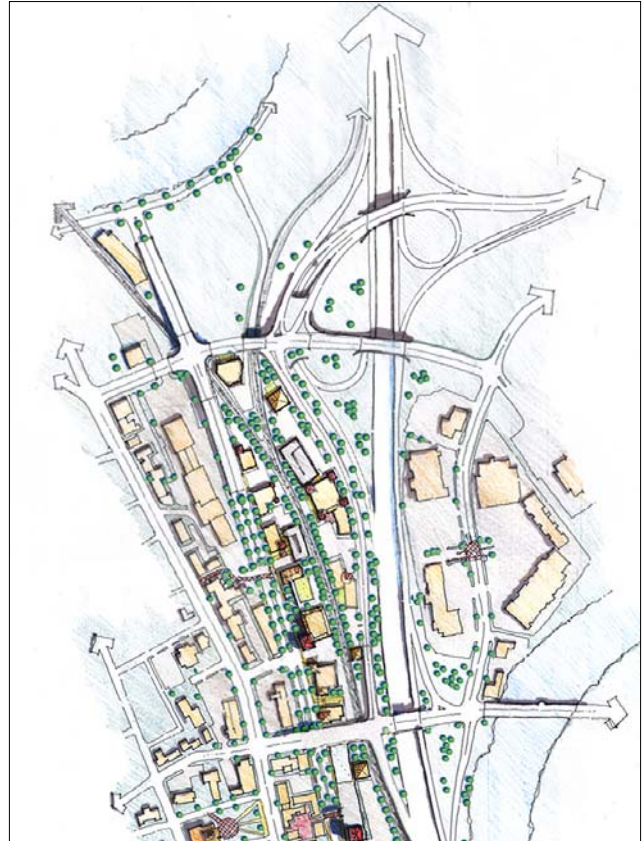


Figure 12. North Area Illustrative Concept Plan

Fortunately, however, this district is beginning to change. For example, the New Hampshire DOT is proceeding with plans to relocate their Highway Department Maintenance facility from this area. Also, the recommended reconfiguration of the Exit 15 interchange and alignment shift of I-93 will require both the relocation of the existing bus station and its large surface parking lot, and require the more rational realignment of streets and rail tracks through this area to provide a new armature of streets, roads, and development parcels. As a result, better access, more room for development, and better configured development parcels will become available.

Land Use and Development

Preferred Mix of Uses

The mix of uses likely to be most suitable for the North Area includes office space, some retail space, high density attached residential uses, and possibly, hotel space to support convention center events to the north at Horseshoe Pond.

Allowed Scale and Height

Buildings constructed in the North Area should not exceed the maximum height currently allowed by zoning (45 feet as-of-right, 80 feet by Conditional Use Permit). This suggested maximum height would be in scale with many existing North Main Street buildings and is quite appropriate for wide streets such as Storrs Street, which is of sufficient width so that it would not feel “walled in” or “canyonized” by buildings of this height. It would also be an appropriate height so as not to obscure views of the Capitol dome at the State House – seen from the highway as motorists approach the city on I-93 from the north.

Supporting Parking

New parking in this area required to support increased development density, will probably need to be provided in a combination of structured parking decks and surface lots.

Potential Redevelopment Sites

To accomplish the eventual redevelopment of the North Area after street and rail track realignments are accomplished, some existing uses will need to be relocated.

- **NHDOT Highway Maintenance Garage**
Presently, the New Hampshire DOT Maintenance Garage and Yards occupy a large and central portion of the North Area. The State currently intends to relocate this facility out of the North Area by the Year 2006. This relocation will allow road and rail track alignments to be more easily accomplished and will allow redevelopment of this site for new uses.
- **Bus Station**
The existing regional Bus Station and its large commuter surface parking lot will need to be relocated due to the proposed reconfiguration of the I-93 Exit 15 interchange.

Street Connections and Development Spines

By realigning two major north-south streets through the North Area to either side of the rail tracks that now split the district in two, two new north-south parallel development spines will be created. Storrs Street will become the new development spine to the west side of the tracks and Stickney Avenue will become the new development spine to the east side of the tracks.

These realigned streets and resulting development parcels will be configured so that only the rear side of development parcels will adjoin the rail tracks.

At this time, no street connection over the tracks is suggested to connect these two new redevelopment corridors due to the difficulty of creating either an at-grade crossing or an overhead crossing.

Storrs Street Extension

Storrs Street will extend under the Loudon Road Bridge from the Central Area, travel northward throughout the entire length of the North Area, and then rise to connect to Commercial Street and the new connector road to Fort Eddy Road. Therefore, Storrs Street will become the new primary north-south connector spine and frontage road for new development on both sides of the street for the new redevelopment area to the west side of the realigned rail line and split.

As Storrs Street extends to the northern edge of the North area and begins to rise or ramp up from grade level to connect to the Commercial Street 'flyover' viaduct, local curb-cut access will no longer be possible to adjacent development parcels to either side of the street in this ramp segment of road.

Stickney Avenue

Stickney Avenue will extend throughout the entire length of the North Area connecting Commercial Street in the north to Loudon Road in the south. Therefore, it will become the primary north-south connecting spine and frontage road for new development on the west side of the street for the new redevelopment area to the east side of the realigned rail line and split.

Highway Realignment

Horizontal Profile

The horizontal alignment of the highway is proposed to remain approximately where it now travels. However, Exit 15 will be entirely reconfigured and cause significant realignments of frontage roads, ramps and new connections between North Main Street and Fort Eddy Road.

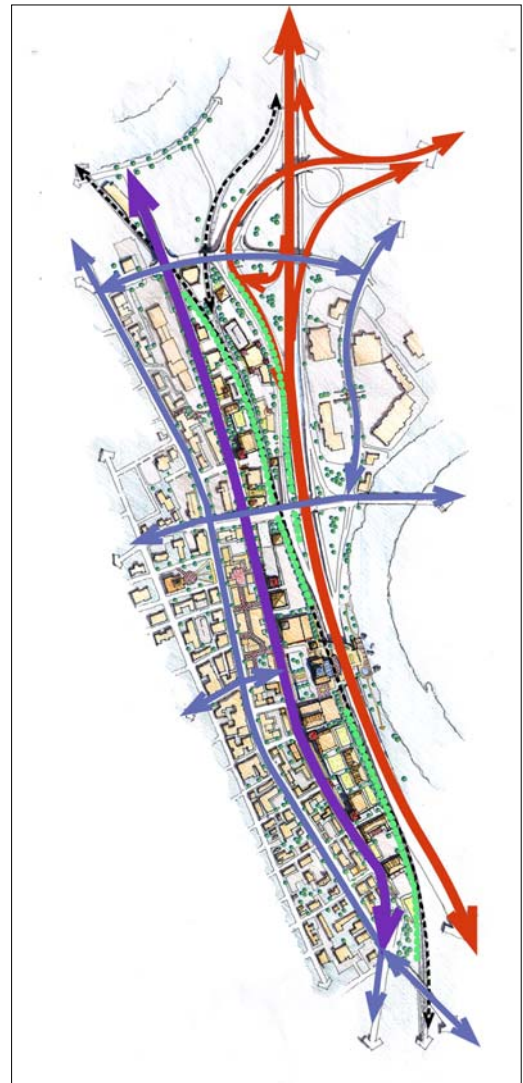


Figure 13. Roadway Concept Diagram

Vertical Profile

The I-93 highway as it passes by the North Area will emerge to grade in a transitional boat section from the more fully depressed highway section that travels through the Central Area to the south.

Rail Corridor Realignment

The realigned rail corridor through the North Area will largely be hidden from view because it will travel behind parcels of land located along both Storrs Street and Stickney Avenue. Nevertheless, this rail corridor should be planted to either side by rows of trees to visually screen the tracks from view from the rear side of development parcels.

6.2. Central Opportunity Corridor

The proposed recommendations for the Central Opportunity Corridor Area offer Concord's citizens the opportunity to finally create the long-sought downtown-to-riverfront connection, provide a new riverfront park and central downtown civic gathering place, show a new "front door" to downtown Concord as seen by motorists traveling along I-93, maintain the option to eventually construct a new downtown multimodal station at the foot of Pleasant Street, offer new mixed-use commercial, housing, retail and hotel development opportunities to either side of a rejuvenated Storrs Street boulevard while retaining a grocery store in the downtown area, and leverage federal transportation highway and transit funding to provide new development opportunities, a raised platform over the highway to connect the downtown to the river, land assembly, street and landscape improvements, and an expanded parking supply. The Flying Yankee Restoration Group has also expressed strong desire in using a portion of the re-aligned railroad tracks in the Central section of the Opportunity Corridor to site the Flying Yankee locomotive. All of this will take some time to complete, but with this plan in place, the first steps can be taken.



Figure 14. Land Use Concept Diagram

Land Use and Development

Preferred Mix of Uses

Over time, as the market allows, the mix of uses in the Central Area of the Opportunity Corridor should resemble and compliment the existing mix within the adjacent downtown and serve to extend the downtown as it grows toward the riverfront. The mix should include retail shops, entertainment and eating establishments, art galleries, office space, a hotel or inn, and high density attached dwellings in floors above commercial street-level storefronts. Opportunities for retaining a grocery store and other retail currently serving the downtown will be available in new or renovated buildings. All will be supported by sufficient parking, located either on surface lots or in structured parking decks.

Ideally, these varied uses should be combined into mixed-use buildings with publicly accessible commercial, eating, and entertainment establishments on the ground floor and private offices and/or residential uses above - especially along Storrs Street. The opportunity to provide housing on the upper floors of these mixed use buildings may be particularly appealing since they would offer views of the river and the agricultural lands on the east bank of the Merrimack River. Also, a special opportunity to provide entertainment and eating establishments may present itself since they could form the heart of a new waterfront entertainment district that would extend Main Street's appeal "down the hill". Business service establishments may also thrive here to support Main Street businesses and offices.

Because a wide variety of uses will be provided, there is opportunity to share parking spaces between various uses each with peak parking demand at different times of the day or days of the week.

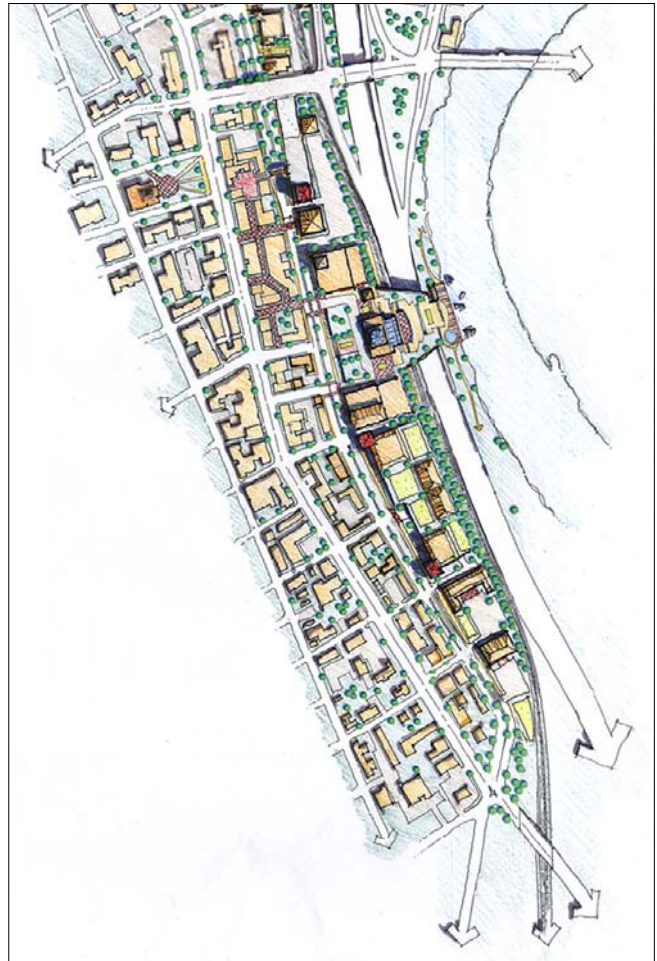


Figure 15. Central Area Illustrative Concept Plan

Allowed Scale and Height

Buildings constructed in the Central Area should not exceed 80 feet, as allowed by current zoning under Conditional Use Permit (CUP). This suggested maximum height would be in scale with many existing North Main Street downtown buildings and is quite appropriate for wide streets such as Storrs Street. It would also be an appropriate height so as not to obscure views of the Capitol dome at the State House – seen either from the Central Area itself or from the highway as motorists approach the city on I-93 from the south, since these new buildings, although similar in height to many buildings on Main Street, would actually sit lower at the bottom rather than the top of the river escarpment.

Infill Development Opportunities

Along the short-length cross-streets marching down the hill from North Main Street toward Storrs Street and the riverfront area, as well as along the west side of Storrs Street, and along small pedestrian alleyways and side streets, a number of infill opportunities present themselves where small parking lots now exist. If development were to occur on these undeveloped or undeveloped sites, parking could be built on the lower level of some these new buildings, with parking entrances along the side streets, by taking advantage of the natural downward slope of 20 feet from Main Street down to Storrs Street.

New Development Parcels

Because the horizontal highway alignment is recommended to be moved westward by approximately 100 feet from its present alignment, the depth of new development parcels between Storrs Street and the new rail/highway alignment will be approximately 250 to 300 feet in width. This width should be sufficient to support almost any new mix of uses with parking located either behind buildings or in structured parking facilities.

Supporting Parking

Any parking associated with new buildings constructed along Storrs Street should either be located behind buildings so as not to be directly visible from the street, or, if this should not prove feasible in all instances, may be built to the sides of new buildings. However, such sideyard parking lots should be screened from street view. In no circumstance should surface parking be built in front of buildings.

New streets or improved streets built in the Central Area, including Storrs Street, should all include new curbside public parallel parking in their designs. This alone will significantly add to the public parking supply in this new development precinct.

Potential Redevelopment Sites

To accomplish the redevelopment and infill development of the Central, some key takings and relocations will be required.

- Capital Shopping Plaza.

The Capital Shopping Plaza now sits in the epicenter of the Central Area. Its mix of retail stores serve the downtown and neighborhoods adjacent to the downtown.

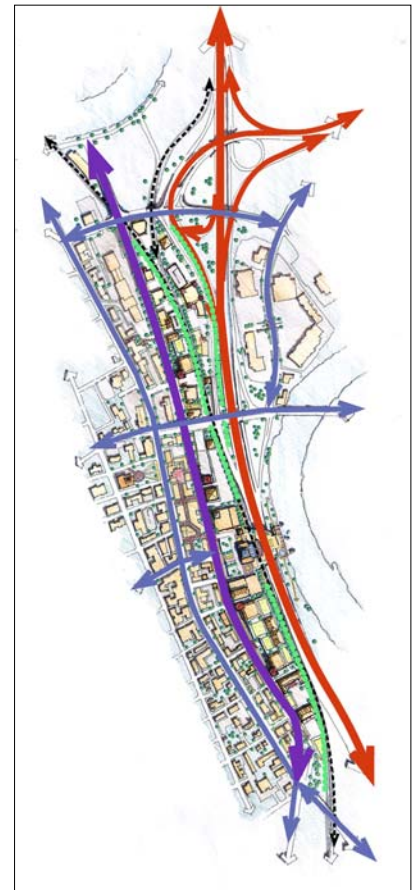
However, the shopping plaza is suburban in character, visually features large surface parking lots on Storrs Street, turns a blank rear wall to I-93 motorists, and obstructs the long sought-after connection between the downtown and the riverfront. In the long-run, the shopping plaza as it is currently configured is not the highest or best use for this future riverfront district.

When I-93 is expanded by New Hampshire DOT, as current planning calls for, it is likely that the reconstruction and realignment to the west of the I-93 highway will require the taking of all or part of this shopping plaza property. Some of the existing retail uses, however, such as the grocery store that serves an important segment of local population, should be retained in the downtown.

- Land for Replacement Garage.

The existing Legislative Garage spanning over Storrs Street is visually unattractive and acts as a blighting influence. It should be replaced and relocated to a new site adjoining Storrs Street. Much of the ground floor of the garage adjacent to Storrs Street should be lined with retail shops to support the vitality of the street.

Land along the east side of Storrs Street now used for surface parking will either have to be purchased or taken to accommodate this replacement garage. There is an opportunity to use the construction of this replacement parking structure, which may likely be funded, at least in part, with federal transportation funds, to develop shared parking so that this parking structure can also support new businesses, the Museum of New Hampshire History, and other new developments that will develop in this vicinity along Storrs Street. The Flying Yankee Restoration Group has also expressed strong desire in using a portion of the re-aligned railroad tracks in the Central section of the Opportunity Corridor to site the Flying Yankee locomotive. Discussions with the City and NHDOT show significant promise for this potential, particularly due to its proximity to both the Museum of NH History and the State House.



Street Connections and Development Spines

Storrs Street

An improved Storrs Street will become the primary north-south arterial spine through the Central Area and the primary urban boulevard hosting a new mix of uses on both sides of the street. It will be transformed from its present service role function of supporting Main Street businesses and become its own new prestigious waterfront boulevard and front door address for new shops, homes, offices,

and the Central Area's new public common, park or plaza at the foot of Pleasant Street.

Storrs Street will serve as the new street address for a variety of new commercial and residential buildings fronting directly on the new boulevard. Commercial, retail and restaurant uses will occupy the ground floor of new buildings and housing and office space will occupy upper floors. One or more parking decks, including a replacement for the Legislative garage, may line its sidewalks. However, if they do, the ground floor of these garages should be build out as commercial shops or restaurants.

Currently, Storrs Street, at its southern terminus, loops back to connect to North Main Street at Perley Street. Several years ago, provisions were made to allow for Storrs Street to extend farther southward into the South Area when the Water Street bridge was reconstructed so that Storrs Street could pass underneath that structure. It is recommended that Storrs Street be extended southward to connect to the South End. Options for achieving this connection are described below, as part of recommendations for the South Opportunity Corridor area.

Design of Storrs Street

Storrs Street should be designed as a new urban boulevard with a landscaped median down its center which can also serve as a traffic channel island to provide dedicated left-hand turn lanes at cross-street intersections. New sidewalks and historic street lights should be constructed to either side of the street. Public curbside parallel parking spaces should line both sides of the boulevard as well – thereby providing many new public parking spaces to support new businesses.



Pleasant Street

Pleasant Street will become the primary east-west axis linking the federal Courthouse, the State Office Park South hospital grounds, and Main Street down to the new Central Area riverfront district. At the intersection of Storrs Street and Pleasant Street (the “100% corner” of the new Central Area) special design features should be included to mark this key gateway intersection to the new riverfront district.

Secondary Street Pattern

As the Central Area is eventually redeveloped, Storrs Street will serve as the district's principal north-south spine and commercial “front door”. However, a network of new secondary streets must also be built to support and access new development. The pattern of these new streets will also define the available development parcels and city block sizes. This new pattern and dimensional scale of streets and blocks should resemble the pattern and scale of existing streets and blocks in the downtown so that the Central Area waterfront becomes a direct extension of the downtown, and not a separate development enclave, precinct, or mega-block.

Connector Street Extensions

Some of the smaller existing east-west connecting streets now linking North Main Street and Storrs Street should be directly extended east of Storrs Street into the new development blocks between Storrs Street and the realigned highway/rail corridor to extend the downtown's street grid and block pattern toward the waterfront.

Highway Realignment: A Catalyst for Redevelopment

I-93 as it passes by downtown and the Central Area will be widened and realigned by New Hampshire DOT in accordance with current planning and design initiatives. Its eventual reconfiguration will not only determine the functionality and safety of the highway facility itself and remove weave problems between Interchanges 14 and 15, but also shape and catalyze the future physical configuration of the entire Central Area from an urban design and redevelopment perspective.

Horizontal Profile

The widened highway is proposed to be horizontally moved to the west of its current alignment to allow for a new riverfront edge park of at least 100 feet width so that it is sufficiently wide to accommodate passive uses, trails, and other amenities.

Functionally, during construction, the proposed realignment westward will also allow the new highway to be constructed while the existing highway remains fully in operation. Then, when the new highway is completed, the existing highway can be removed to allow the construction of the new river edge park.

This realignment westward will require a full or partial taking of the Capital Shopping Plaza properties as well as other private properties to both the north and south of the shopping plaza. The highway realignment will also require a horizontal realignment westward of the adjacent Main Line rail track and the relocation of the existing railyard / spur tracks to a new location in the South End.

Once this realignment is completed, new development parcels between Storrs Street and the relocated highway / rail rights-of-way will be created and will be approximately 200 to 400 feet in depth.

Vertical Profile

The realigned highway is proposed to be lowered approximately 8 to 10 feet below its current elevation. The new lowered vertical highway profile will open new opportunities for the river to be seen once again from both Storrs Street and from Main Street located atop the river's escarpment. This lowered profile determines the height of the pedestrian platform which will cross over the highway since there must be a vertical clearance of at least 16'-5" between the highway roadbed and the lower side of any overhead structures – such as a bridge or deck.

The vertical highway profile is proposed to be lowered 8-10 feet below adjacent ground level in an open "boat section" from its present raised embankment elevation at about 3 to 5 feet above adjacent grade. In this new vertical profile, the highway roadbed and the

cars traveling along it will be below eye-level from observers along Storrs Street. As a result, the river and the far bank will become visible once again.

This new highway roadbed elevation and height of the overhead deck will also be significantly determined by the adjacent NH Main Line rail track elevation which will also be partially depressed. Since the rail track can be depressed only so far below ground in order to maintain required maximum approach incline grades, and since the rail tracks require vertical clearances of 22 feet from the top-of-rail to any overhead structures to allow for the passage of trains, the vertical elevation of the overhead pedestrian deck will probably be governed by the clearances required for the rail cars.

The top of the eastern (river side) retaining wall of the highway boat section will need to be constructed to a height of at least 230 feet (ACOE), or higher than the recorded 100 year storm flood elevation in this vicinity, so that this retaining wall, and the park embankment sloping up from the river, will act as a floodwall as well.

Views from the Highway

Once the highway is depressed in a boat section, I-93 motorists passing immediately adjacent to the Central Area will not be able to see new development there or the downtown in the distance. However, as they approach the Central Area and downtown from both the north and south, views of the State House dome and the downtown will come dramatically into view before they start their descent into the lowered boat section portion of the highway.

Main Line Track Realignment

As a result of the proposed highway realignment, the New Hampshire Main Line track would closely parallel and immediately adjoin the highway alignment throughout much of the Central Area and be partially depressed below grade as it passes behind the rear of the station where train platforms would be built.

In order to visually screen the track and passing trains from public view and in order to make this edge of the highway attractive, a thickly planted row of trees and other landscaping is proposed along the entire western edge of the rail right-of-way throughout the Central Area. This new landscape buffer will provide a green edge to the highway and tracks and help soften what otherwise would be a hard edge to the transportation corridor.

Downtown Multimodal Transportation Center

A major recommendation of this Plan is to construct a new multimodal downtown transit station along the Pleasant Street axis on the site now occupied by the Capital Shopping Plaza and near the site where the historic but now demolished train station once stood.

Although new intercity rail and commuter rail service for Concord are still years in the future, planning for these future services must be undertaken today when the highway corridor realignments are being planned. Regional bus lines now service Concord from a bus station on Stickney Avenue in the North Area; however, this station must relocate

when Interchange 15 is reconfigured, and a logical replacement site for this bus station is in the midst of the Central Area.

The new downtown transit station, two stories in height, would serve intercity and regional bus passengers, and eventually, intercity Amtrak rail passengers, and MBTA commuter rail passengers living in the vicinity of the downtown who are destined for Manchester and Boston to the south. A parking deck of approximately 600 cars is estimated to be required to support this multimodal station. However, the region's primary commuter rail station would be built south of the city, perhaps in Bow, and would host the region's larger commuter rail parking lot.

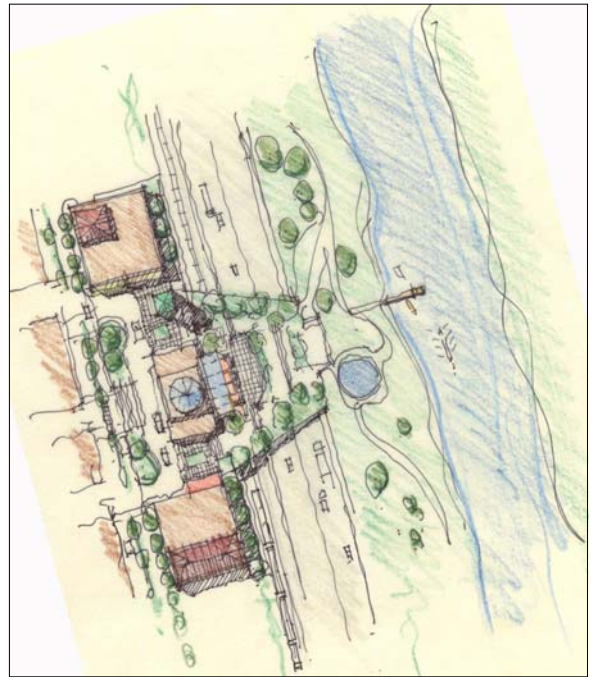


Figure 16. Multimodal Transportation Center

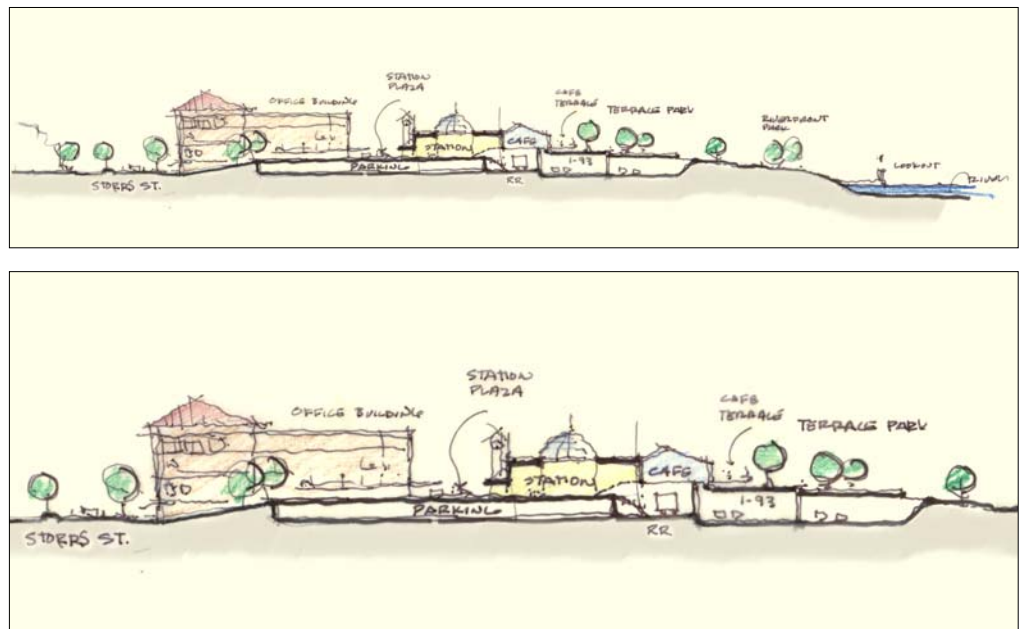


Figure 17. Multimodal Transportation Center – Section View and Detail

The new downtown station will include ticketing, platform, baggage, arrival and departure functions on the ground level, and passenger waiting areas and a restaurant or café on the upper level. From this upper level, views of the Merrimack River and the far

riverbank will be visible. A drop off and arrival vehicular drive would lead from Storrs Street to the Station in a loop drive that would also define the edges of the new public park or plaza at the front of the Station.

The construction of the station may provide the catalyst to build the pedestrian platform over the highway, which will adjoin the station's passenger waiting level. The processional journey along the Pleasant Street axis connecting downtown to the riverfront would travel through the Station, up escalators to the passenger waiting area, then out over the deck spanning the highway and then down to the new riverfront edge park.

Shared Parking Development Opportunities

As described earlier, a new parking structure should be constructed to support the new downtown transit station. The Central Area will eventually become too valuable for redevelopment to allow surface parking as now exists in the North Area to support the regional bus station on Stickney Avenue there.

A similar opportunity for constructing a shared public-private parking facility awaits itself, as in the case of the relocated Legislative Garage, when the transit station garage is constructed.

Urban Design: Riverfront Connections and Open Space

A primary and long-sought goal of Concord's citizens is to make a dramatic and direct visual and functional pedestrian connection between the downtown and the riverfront in the vicinity of the Capitol Shopping Plaza and on axis with Pleasant Street where the river bends closest to the heart of downtown and Main Street. Today, such a connection is not possible because the riverbank is cut-off from the downtown by the I-93 interstate highway, the rail track that parallels the highway, and the Capital Shopping Plaza. Even if the steeply sloping riverbank could be reached, the bank's width is very narrow and unusable.

The new proposal for redeveloping the Central Area illustrates this long-sought new direct connection to a new riverfront edge park on the river side of the realigned and depressed highway. Therefore, any long term planning for this area and for new highway and rail alignments must assume the eventual reconfiguration or relocation of the Capital Shopping Plaza in order to make this vital connection.

The new downtown to riverfront connection will primarily follow a processional sequence eastward along the Pleasant Street axis toward the riverfront and will feature a major public park or plaza at the foot of Storrs Street, eventually, a new multimodal transit station further east along the Pleasant Street axis adjacent or above the rail tracks, an elevated pedestrian platform over the depressed and realigned I-93 highway and rail corridor, and, as a final destination, a new riverfront edge park.

Connections to the River

The sequence of features along this new axis of open/civic spaces leading to the river includes:

1. Connection of North Main Street to the New Storrs Street Corridor and the Riverfront.

The first segment of the axial march to the riverfront will be along Pleasant Street between Main Street and Storrs Street where new street trees and improved sidewalks will be provided. The pedestrian alleyway system linking North Main to Storrs Street will also be improved as it feeds into Pleasant Street.

2. A Public Civic Gathering Centerpiece Along Storrs Street: A New Common, Plaza or Park.

As Pleasant Street marches toward the riverfront, a new public common, plaza or park will be constructed at the foot of Pleasant on the east side of Storrs to serve as the central public gathering place for the downtown and Central Area. It will also eventually serve as the forecourt and arrival plaza for a new multimodal Transit Station that will be built adjacent to and over the rail tracks along the Pleasant Street processional axis.

3. Vertical Marker to Terminate Axial View

Along the Pleasant Street axis, a vertical marker, clock tower, sculpture, or monument should be constructed in the new plaza/park to visually mark the terminus of the axial view toward the riverfront. Eventually, this vertical marker may also manifest itself as the dome, public clock, or cupola atop a new multimodal Transit Station or other “civic” building.

4. Raised Pedestrian Platform over Lowered Highway and Rail Alignment

As the processional axis extends further eastward, a raised platform will be constructed to span over the depressed highway and rail track boat sections to reach the river’s edge and new park located there. The pedestrian platform will serve as an observation platform to provide a scenic overview of the river, will provide seating areas, and possibly a restaurant or café. Eventually, once the multimodal Transit Station is constructed at this location, the second floor of the transit station will include the train waiting area and a restaurant, which will both be provided with an overlook of the river.

The platform should be landscaped with trees. Potentially, gardens hanging over the north and south edges of the deck should be investigated so that these “hanging gardens” are visible to I-93 motorists passing under the raised deck.

5. Steps and Ramps down to New Riverfront Park

As pedestrians walk over the deck, they will then gently descend, by stairs or ramps, to the new water’s edge park along the banks of the Merrimack River.

6. Pedestrian Bridge across Merrimack River (Future Option)

Eventually, the axial procession may be extended to the east bank of the Merrimack River via a dramatic pedestrian bridge arching over the Merrimack River to provide access to a potential new park and trail system on the east edge of the river.

Open Space: Riverfront Park

Riverfront Park will be a dramatic new waterfront park, approximately 100 feet wide, not only serving as the riverfront destination of the downtown-to-riverfront axis, but also as the centerpiece park linking a set of parks and trails running in a north-south direction along the west bank of the Merrimack River.



Connecting Regional Riverfront Trails

Riverfront Park will be a passive landscaped park along the river's edge. It will include passive grassy seating areas, pedestrian pathways, and shelters. A small craft dock and observation/fishing pier will extend from the bank of the riverfront edge park out into the Merrimack River. The pathways constructed in the park will become one link in a more extensive regional pathway, the New Hampshire Heritage Trail, and a bike trail running north-south along the banks of the Merrimack River.

Recreational and Programmed Activities

Commercial and recreational activities should be programmed by the City's Parks Department to attract visitors and users to the river's edge. Commercial pushcart food vendors should be licensed by the City to operate in the new park to provide food service.

Visibility and Safety

Because the park may be perceived as visually isolated from the rest of the Central Area on the west side of the highway, the riverfront edge park must be seen to be safe and secure if it is to successfully attract users and visitors. Lighting should be provided in the park for evening use. The park should be patrolled by the City's Police Department. Most importantly, however, the park should be naturally surveilled at all times by users of the Park. Push cart vendors can provide needed "eyes on the park" for much of the day during warm weather months. Also, the park can be observed from the raised observation platform built over the highway by users destined for the park and by operators and guests of a potential deck top restaurant or café.

Dealing with Flood Stage

Because the Merrimack River periodically rises and floods, although not nearly as often as it once did before dams were constructed upstream, much of the park must be designed to withstand rising waters, currents, and periodic submersion. Light fixtures in particular must be flood-proofed or their lamp pole bases installed above the 100-year storm flood elevation.

Visitor Parking and Accessibility

The new riverfront edge park will be accessible to pedestrians crossing to it along the processional axis by a series of ramps. However, the park will attract greater usage and better serve some people with mobility disabilities who will not easily be able to reach the park unless they can drive to it and park nearby. Therefore, a small visitor parking lot and accompanying vehicular access point to that parking lot should be identified and provide ADA accessibility.

6.3. South Opportunity Corridor

The South Opportunity Corridor represents a significant potential for redevelopment, which could include light industrial/flexible space uses in the short term, and mixed use residential and commercial uses in the long term, as the market strengthens over time.

Although primarily a light industrial district, the South End is actually a mix of various subdistricts. Those subdistricts include: 1) the South Main Street commercial gateway strip-development and residential corridor from I-93 into the South End neighborhood on the South End's western edge; 2) the Hall Street /Water Street mixed-use corridor of motels, homes and businesses on the district's eastern edge; 3) the light industrial / scrap yard / freight transfer yard district in the middle of the area on both sides of the rail tracks; 4) the historic rail buildings precinct near Gas Street and in the midst of the areas; and 5) the South End Marsh and wetlands to both sides of the track at the southern end of the district.

Uses in this district have traditionally been light industrial, freight transfer, scrap yard, and warehouses that located here because of the rail lines. Each subdistrict has its own distinct character and mix of uses and no unifying image of the area can be readily portrayed. The uses here are also unrelated to the downtown's mix of uses such as retail shops, restaurants, offices, and museums and galleries.

The South Area does not directly adjoin the Merrimack River and has little relationship to it as the river bends away from this area. Because the South Area district is physically divided in half by the NH Main Line rail track, no streets connect in an east-west direction across the district between South Main Street and Hall Street. Future east-west connections are highly unfeasible due to physical constraints, the need to preserve the rail right-of-way for future high-speed rail passenger service, and the South End neighborhood's desire to not be heavily impacted by traffic generated by large scale development.

Also the site drops down steeply in elevation from South Main Street along the river valley



escarpment. As a result, the South End rail yard industrial area is largely unseen or unnoticed from South Main Street because it is hidden from view behind South Main Street's businesses, homes, and a tree line that screens the area from view.

Land Use and Development

Preferred Mix of Uses

Moderate density residential uses together with offices, small retail and commercial uses represent opportunities for the future redevelopment of existing properties between South Main Street and the main rail line. Recent interest from developers on the vacant historic rail yard buildings south of Langdon Avenue underscore this potential. Remediation costs required for the rehabilitation of some of these parcels may pose a financial constraint that may be overcome if the City works together with the State and prospective developers to facilitate the implementation of financial mechanisms to support these options.

Light industrial and office, warehouse, light industrial/ flex space uses may continue to be the most appropriate uses for some parcels, particularly for those businesses that can continue to take advantage of freight rail service now available. Options for service uses should be left open, including neighborhood oriented retail and small offices that would benefit from access to South Main Street.

The easterly section of the South Opportunity Corridor (Hall Street corridor) should be planned for a long-term shift towards commercial use, including infill retail, offices, and highway-oriented services. Emphasis should be placed in phasing out heavy industrial uses through zoning and other planning initiatives.

Selected areas adjacent to the rail line may be reserved for the potential relocation of service spur rail tracks currently existing in the Central Opportunity Corridor area, which would be impacted by the proposed realignment of I-93 and may be needed for future rail operations. However, this type of rail services should preferably be relocated outside of the Opportunity Corridor in order to maximize the potential for development of best and highest uses.

Preservation of Historic Railroad Buildings

Several historic buildings along South Main Street and Gas Street have successfully been preserved and reused as small businesses. Several other historic rail buildings in the midst of the light industrial area near the Main Line tracks should ideally be preserved or converted to new uses when this area is redeveloped in the future.

Open Space

The South End Marsh in the southern third of the district is this precinct's primary natural open space. As a large meadow and wetland, it should continue to be protected and informally enjoyed by Concord's citizens



Figure 18. South Area Illustrative Concept Plan

Street Connections to the Local Network

South Main Street: Gateway to Concord and the South End

A new streetscape plan should be crafted for this important “gateway” and approach corridor to the downtown, including architectural, landscaping, and signage guidelines for commercial uses.

Storrs Street Extension

Provisions were made in the new bridge abutment and span design for the recently reconstructed Water Street Bridge to allow both an additional track and a future extension of Storrs Street southward into the South Area. This foresight will provide much flexibility in the future to make a better north-south roadway connection between the Central Area and the South Area, and this option should be left open for the future.

In the near- and mid-term, however, it is proposed that the southern terminus of Storrs Street merge with Main Street at the intersection of South Main and Water Street.

7. DEVELOPMENT FEASIBILITY

The following is a discussion of development opportunities that may prove feasible under the preferred plan. The proposed uses and recommendations summarize general market conditions, likely development formats, location preferences within the Corridor, and other related development issues.

7.1. Retail Use

The retail market offers strong near-term development potential in Concord, and the Opportunity Corridor can provide desirable sites for such development.

Development Character

Recommended retail formats for the Opportunity Corridor include ground level neighborhood retail services as part of multi-story mixed use buildings. Grocery stores, food specialty shops, small clothing stores, restaurants, cafes, bookstores, and other types of retail that would be compatible with the mixed use character of the district.

It should also be noted that the proposed realignment options for I-93 and the main rail line might result in the displacement of the existing Capital Plaza Shopping Center. Some of the retail tenants in this center – most notably the grocery store – provide important services to the nearby neighborhoods. If and when such displacement occurs, the grocery store and other tenants are likely to seek new locations, and should be accommodated in either the central or north area of the Corridor. They should be encouraged to stay in the central area.

Locations and Site Prerequisites

New retail locations should offer:

- Convenient access and visibility
- Ample off-street parking
- Proximity and convenient access (vehicular, visual, and pedestrian if possible) to other traffic generators such as downtown Concord, the Fort Eddy Road retail areas, and Horseshoe Pond)

In general, the North and Central areas offer potentially attractive locations for new retail uses. In the Central area, however, streetfront retail developments seeking to extend the overall downtown district could compete with Main Street. From a marketing point of view, it will be important that the City actively participates in the development review process, in order to ensure that the type and size of new retail venues is not in conflict with the success of existing uses along Main Street.

Opportunities in the Southern segment would either be limited to smaller neighborhood-convenience niches, or would emerge over a longer-term (e.g., 20-year) time frame.

Phasing and Implementation Issues

New retail developments could occur in the early phases of plan implementation. In the northern segment, however, major physical reconfigurations (transportation improvements, site acquisition and preparation) must occur before new retail developments can proceed. In order to accommodate a new grocery location, such reconfigurations should occur prior to the displacement of the Capital Plaza.

7.2. Office Use

The local office market currently maintains high vacancy rates, with an ample inventory of vacant space – as well as new planned space -- to be absorbed. Over time, however, ongoing growth in health care and professional business service employment will provide support for new office development in Concord and the Opportunity Corridor.

Development Character

Even after the office market achieves healthier occupancy rates, it will not offer sufficient depth to support the development of large-scale buildings featuring 100,000 square feet or more. More desirable office projects (for developers) will contain approximately 40,000 to 60,000 square feet. Given this approximate scale, some office buildings may be small, built of wood-frame construction. Buildings with vertically mixed uses – for example, where office uses are located above ground-floor retail space – should also prove viable and appropriate.

Tenants would most likely include health care providers, finance/insurance/real estate offices, law firms, government agencies, and other businesses engaged in services such as advertising, design, management, engineering, software, etc.

Locations and Site Prerequisites

The Corridor's north and central segments will provide the strongest sites for new office development. In either location, developments will target the market's high rent tiers, and will seek sites offering proximity to amenities (e.g., restaurants, parks, views) as well as enough land to accommodate employee parking needs. Developments incorporating other uses such as ground-floor retail space would be most appropriate in pedestrian-oriented settings, where retail components would be convenient to pedestrian (as well as vehicular) traffic and nearby office workers.

Phasing and Implementation Issues

Within a short-term time frame, multi-tenant office development does not offer strong market prospects. Such prospects, however, are likely to emerge over the next five to ten years.

7.3. Attached Residential

Concord's attached housing markets have been characterized by:

- Strong demand for one- and two-story townhouse and condominium products
- Lack of condominiums in multi-family apartment configurations
- Low rental vacancy rates
- Limited recent rental apartment construction, and no recent high-end construction

The market would most likely support additional development of various types of attached housing construction – including midrise multi-family products – and the Opportunity Corridor can provide desirable high-amenity sites.

Development Character

New developments would feature a range of formats. Townhouses as well as multi-family condominiums or rental apartments may be viable. Given somewhat limited depth in the market's highest tiers, however, most projects may be relatively small, with fewer than 60 or 80 dwelling units. Also, older properties in the Corridor may offer opportunities for conversions to loft rental or condominium units.

Locations and Site Prerequisites

Developers are likely to address the high end of the market. Accordingly, suitable development sites must offer amenities such as scenic views, adjacent park/recreational amenities, proximity to downtown, and protection from unsightly areas, railroad tracks, and noxious uses. Mixed-use projects, with dwelling units situated above commercial space should also prove feasible.

While new residential developments may prove viable in all segments of the Corridor, the Central segment, with its sloping views and access to the Merrimack River, may provide the most desirable location for high-end residential development.

As with all development types, parking (1 space per bedroom) must also be available. If necessary, however, parking for residential uses may include spaces shared with commercial uses in some cases.

Phasing and Implementation Issues

This type of development is likely to offer near-term as well as long-term development opportunities. Particularly for high-end for-sale products, however, supporting amenities such as parks should be completed prior to development wherever possible.

7.4. Lodging

The regional lodging industry has managed to maintain healthy performances despite falling office occupancy rates. The Opportunity Corridor can provide desirable sites for lodging facilities, and new facilities on such sites may outperform (or replace) existing facilities in poorer locations.

Development Character

The existing lodging supply focuses primarily on mid-price products. Full-service properties, suites and other lodging products may offer additional niche opportunities.

Locations and Site Prerequisites

The North and Central segments offer the strongest locations for new lodging development. Appropriate sites require good visual and vehicular access from I-93; and other desirable future site attributes include scenic views, proximity to key destinations (e.g., State Capitol, Concord Centre for the Arts) and direct proximity to public transit stations.

8. TRANSPORTATION STRATEGY

The proposed transportation strategy seeks to address identified deficiencies in the local and regional transportation system that serves the Concord Opportunity Corridor with a context sensitive approach that also addresses land use, urban design, open space, and economic feasibility considerations. The proposed improvements are illustrated in Figure 15, Illustrative Concept Plan, and are discussed in further detail below. The concept plan articulates an integrated, multimodal approach to address Concord's needs and inform on-going transportation planning and engineering studies including the development of Concord's Master Plan, NHDOT's planned improvements to I-93 between Bow and Concord, and the Boston to Montreal High-Speed Rail Planning and Feasibility Study. This approach will also provide a planning context for policy- and decision-making by the City of Concord for future local transportation improvements and land use changes in and near the Opportunity Corridor.

The location and function of the highway system, particularly its relationship to the local street network, plays a strong role in defining access to and mobility within the Opportunity Corridor. Four I-93 interchanges are located within three and one-half miles of each other; Exits 14 and 15 are less than one-half of a mile apart. Main Street provides the only continuous, local north-south corridor in the Opportunity Corridor, while Loudon Road is the only local east-west corridor. As a result, the regional highway system functions as an extension of the local street network for tripmaking within the downtown. Another consideration is the operation of the roadway network, particularly safety considerations related to short weaving distances on highway ramps and congestion on local streets like Loudon Road.

Non-auto access and mobility, which is important for future growth in the Opportunity Corridor and downtown Concord, plays a limited role in the existing transportation system that serves the area. The multimodal center on Stickney Avenue provides regional park-and-ride service to other New England cities, Boston and Logan Airport. The bus service is oriented toward trips with destinations outside Concord and not service to Concord. Freight rail service is active, but there is no passenger rail service to Concord. Local transit service passes through the Opportunity Corridor. Bicycle and pedestrian connections are limited by the location and function of the highway ramps and I-93.

8.1. Proposed Improvements

The Illustrative Concept Plan proposes an integrated set of improvements to the regional and local transportation systems that serve the Opportunity Corridor. Regional improvements include modifications to the Exit 14 and 15 interchanges; re-alignment of I-93 between Exits 13 and 15 to create riverfront open space opportunities; preservation of and enhancement to a passenger rail right of way through Concord; and the creation of an enhanced multimodal center near the downtown. Local transportation system improvements include a Storrs Street extension to provide a transportation spine for the corridor; a new Fort Eddy Road Connector; improvements to the operation of Loudon Road; and, improved integration of pedestrian, bicycle and local vehicular and transit circulation elements.

The local and regional improvements that form the proposed concept plan provide a balanced and integrated set of transportation strategies to improve access to and mobility within the Opportunity Corridor. This section describes the strategic approach and potential implementation strategy for these improvements.



Figure 19. Illustrative Concept Plan

Modifications to Exit 14 and Exit 15 Interchanges

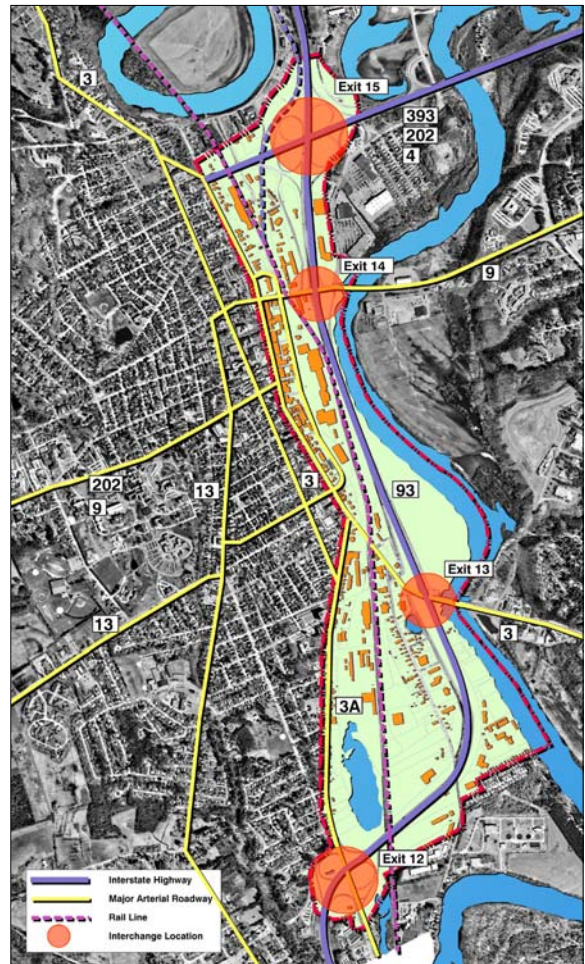
Interstate-93 Exits 14 and Exit 15 are closely spaced interchanges that provide redundant connections to the local street network. Exit 15 also provides highway-to-highway connections between I-93 and I-393 to the east. The Illustrative Concept Plan seeks to improve the relationship between highway and local streets by treating the two interchanges as an integrated system of local and regional connections. The proposed modifications to Exit 14 and 15 interchanges, which represent the most significant highway access changes, support the broader vehicular access needs, multimodal planning and land use goals for the Opportunity Corridor.

The proposed improvements in the concept plan will create a new trumpet interchange for interstate-to-interstate connection between I-93 and I-393; consolidate ramp connections; and, provide new collector-distributor roadways. Safety and operational improvements are achieved by separating ramp movements and moving weaving and merging movements from the interstate to collector-distributor roads. The realignment of the I-93 northbound to I-393 eastbound ramp will also create opportunities for new development parcels on Fort Eddy Road.

I-93 and I-393 Trumpet Interchange

The full cloverleaf design of the I-93/I-393 interchange (Exit 15) reflects previous highway planning for an extension of I-393 through Concord to meet I-89 on the west side of the city. However, this plan was not pursued and instead I-393 was terminated at North Main Street. As a result, beyond Exit 15 interchange, I-393 transitions from a four lane interstate highway to a five-to-six lane urban arterial, with traffic signals at I-393/Commercial Street and I-393/North Main Street/Bouton Street, where I-393 terminates. Highway safety and operations are a concern with the existing interchange. Traffic exiting I-393 westbound to travel southbound on I-93 must weave in a short distance on the I-93 Main Line with traffic traveling southbound on I-93 and exiting to travel westbound on I-393.

The proposed concept plan modifies the Exit 15 cloverleaf and creates a new trumpet interchange that provides highway-to-highway connections in the following manner:



- I-393 Westbound to I-93 Southbound. Traffic will pass over I-93 at the approximate elevation of the existing I-393; ramp down to pass (at grade) under the new Fort Eddy Road Connector; and, connect to I-93 southbound.
- I-393 Westbound to I-93 Northbound. This ramp will operate essentially as it does today.
- I-93 Southbound to I-393 Eastbound. Traffic will pass at grade under the Fort Eddy Road Connector; loop to the west and pass a second time under the new Fort Eddy Road Connector; and, ramp up to pass over I-93 at the approximate elevation of the existing I-393 to continue westbound as I-393.
- I-93 Northbound to I-393 Eastbound. Traffic will exit south of Loudon Road and use a new northbound collector-distributor roadway next to I-93. The ramp from the collector-distributor roadway to I-393 will provide a smoother transition than the existing ramp.

The trumpet interchange design in the proposed concept plan will provide direct and efficient interstate-to-interstate connections, eliminating weaving movements that now occur on the I-93 southbound Main Line and facilitating the improved integration of highway and local street connections as described in the sections that follow. The concept plan provides all movements within a two level interchange at the approximate height of the current full cloverleaf interchange. I-393 will pass over I-93 approximately 400 feet to the north of its current location to provide the appropriate vertical and horizontal roadway clearances. This also creates the opportunity for a new Fort Eddy Road Connector.

Ramp Connections

Exits 14 and 15 provide a full set of ramp connections from I-93 and I-393: Exit 14 is a diamond interchange with I-93 on- and off-ramps at Loudon Road; Exit 15 provides a full set of ramps to and from I-93 and I-393 as part of the cloverleaf interchange. Within the closely spaced interchanges, there are six on-ramps to I-93 and six off-ramps from I-93. The ramps in the two interchanges provide redundant connections for regional traffic and support the continued use of I-93 by local traffic seeking to bypass local streets. The short distance between the two interchanges creates short weaving distances on the I-93 Main Line that raise safety and operational concerns.

There are also concerns related to the interface between each interchange and the local street network. The Exit 14 ramps connect with Loudon Road at three closely-spaced signalized intersections, which is one of the contributing factors to congestion along Loudon Road. At Exit 15, the I-393 eastbound on-ramp and westbound off-ramp are designed as a highway Main Line rather than as highway on- and off-ramps. The southbound I-93 on-ramp at Exit 15 also provides local access to Stickney Avenue, which is an unusual connection from a highway on-ramp.

The concept plan addresses these design and operational concerns by treating the two interchanges as a single interchange system. This approach creates the following benefits:

- Eliminates weaves on I-93 between Exits 14 and 15 by replacing ramp connections with connections via new collector-distributor roadways.
- Improve traffic operations and signal coordination on Loudon Road by eliminating two intersections that accommodate Exit 14 ramp movements.
- Creates a new I-93 on- and off-ramp configuration at the Fort Eddy Road Connector to improve the transition between I-393 and local streets.

The proposed concept plan eliminates the weaving on I-93 north of Loudon Road by eliminating or relocating ramps in the two interchanges. The twelve existing I-93 ramp connections are consolidated into four ramps that connect with a new pair of collector-distributor roadways on either side of I-93 between Exits 14 and 15. In general, connections to and from the south are provided at Exit 14; connections to and from the north and to and from the east (I-393) are provided at Exit 15.

The modifications to the Exit 14 ramps create the opportunity to eliminate two of the five intersections on Loudon Road and provide 400-500 feet between the remaining intersections. This will improve traffic signal operations and coordination. The proposed concept plan will also improve the transition from the I-393 highway ramps to local streets. The westbound exit will be a standard right-hand exit from I-393 before it passes under the Fort Eddy Road Connector to connect with I-93 southbound. The ramp will join the southbound I-93 off-ramp and connect with the Fort Eddy Road Connector at a signalized intersection with Stickney Avenue Extension. The on-ramps to I-393 eastbound and I-93 northbound will also connect at this intersection.

Collector-Distributor Roadways

Between Exits 14 and 15, the collector-distributor roadway function is provided by Main Street, Loudon Road and Fort Eddy Road. There are few other local streets in the northern section of the Opportunity Corridor. For Example, Stickney Avenue only provides access to adjacent land uses and is not a “through” street. This gap in the local street network contributes to congestion on these corridors because regional traffic has limited paths to travel to and from the interstate highways. At the same time, regional traffic must compete with local traffic that uses the interstate highways for local-to-local connections.

The proposed concept plan improves the integration of Exits 14 and 15 by creating two new collector-distributor roadways between the two exits. These roadways support the proposed changes to ramps in the Exit 14 and 15 interchanges and provide the following benefits:

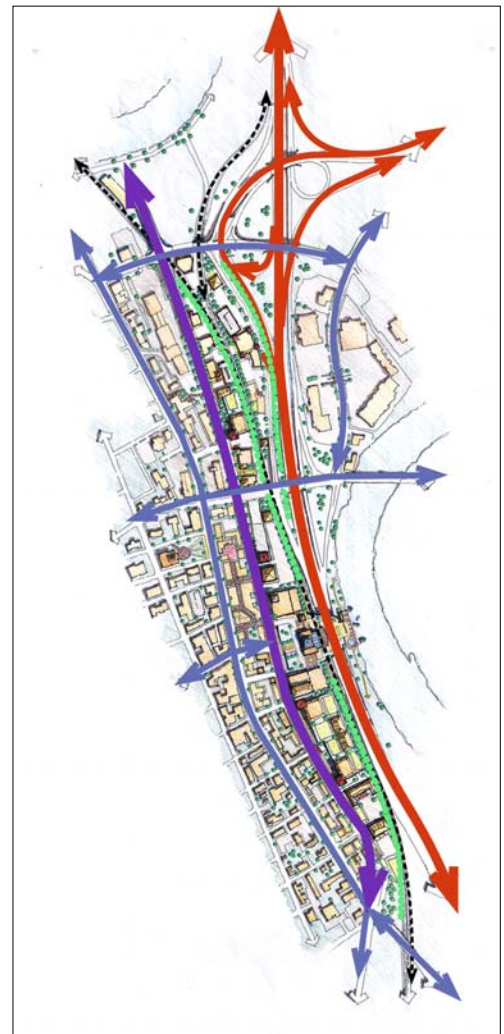
- Accommodate weaving and merging traffic movements on slower speed roadways that currently occur on the high-speed interstate highways.
- Improve the distribution of local traffic by creating more new connections and alternatives to streets like Main Street.
- Create the opportunity to improve traffic operations on Loudon Road in support of efforts to eliminate traffic signals between Fort Eddy Road and Main Street.

- Reduce the need for widening the I-93 Main Line north of Loudon Road by accommodating future local traffic volumes on slower speed roadways that are more consistent with overall planning goals for the Opportunity Corridor.
- Create traffic capacity for detour routes to support the construction of the proposed concept plan.

The proposed concept plan includes a one-way northbound collector-distributor road on the east side of I-93 that takes advantage of new right-of way near Loudon Road that will be created by the proposed realignment of I-93 to the west. The road begins with an exit from I-93 northbound south of Loudon Road and extends north to connect with I-93 north of the I-393 and the Exit 15 interchange. The I-93 northbound collector-distributor will be a limited access roadway (i.e., no local driveways or side street connections). Traffic exiting I-93 northbound will use the road to make local connections at Loudon Road and to travel to I-393 eastbound. Traffic from Loudon Road westbound will be able to connect with I-93 northbound and I-393 eastbound. Traffic from the Fort Eddy Road Connector and I-393 westbound will enter north of the exit to I-393 eastbound.

The concept plan creates a second collector-distributor road on the west side of I-93 by extending the two-way Stickney Avenue to meet the Fort Eddy Road Connector. This road will provide an alternative to North Main Street for traffic exiting I-93 southbound and I-393 westbound and traveling southbound to Loudon Road. At Loudon Road, the intersection of Stickney Avenue will be aligned to provide a smooth connection onto the I-93 southbound on-ramp. Traffic exiting the downtown via Loudon Road will make a left-turn and use the Stickney Avenue Extension to enter the I-93 northbound and I-393 eastbound on-ramps at the Fort Eddy Road Connector. The Stickney Avenue Extension will be different in character than the I-93 northbound collector-distributor, which is located next to I-93 and behind the businesses on Fort Eddy Road. The Stickney Avenue Extension will accommodate connections to and from the highway system and provide access to parcels located between the relocated rail line and I-93, function like an urban arterial roadway.

The concept plan proposes substantial reconstruction of I-93 north of Water Street and Exit 13. This includes a new I-93/I-393 interchange at Exit 15 and, at



Exit 14, depressing I-93 under Loudon Road. Loudon Road may need to be closed for a period of time. North-south collector-distributor roads provide opportunities to create additional traffic capacity and connections to accommodate detour traffic during different phases of the construction effort.

Fort Eddy Road Connector

Loudon Road and I-393 provide the east-west connections in the northern end of the Opportunity Corridor. Loudon Road experiences peak hour congestion that is anticipated to increase as future traffic volumes increase. The I-393 connection is circuitous and requires travel through the Exit 15 interchange. The concept plan creates the opportunity to link Main Street with Fort Eddy Road by shifting the I-393 to I-93 connection to the north of its current alignment. The highway and rail lines bisect the corridor and present impediments to east-west connectivity, particularly pedestrian and bicycle connections from the downtown to the river.

The proposed concept plan creates a two-way Fort Eddy Connector that will function as a city street with signalized intersections at Fort Eddy Road, the I-93/I-393 ramps, Commercial Street and the Storrs Street Extension. This roadway will provide an alternative to Loudon Road and will provide the following benefits:

- Provide a new east-west, local connection that links Main Street and Fort Eddy Road and provides an alternative to Loudon Road.
- Improve highway connections to and from the Opportunity Corridor, downtown Concord and Horseshoe Pond.
- Link the busy commercial and retail uses along Fort Eddy Road to the interstate highway system at the Exit 15 interchange.
- Create traffic capacity for detour routes to support the construction of the Loudon Road improvements.

The Fort Eddy Road Connector will provide improved traffic distribution in the north section of the Opportunity Corridor. The Connector will provide a convenient, east-west local connection that will create a new link to Fort Eddy Road and its connections to Loudon Road and Concord Heights. This will reduce traffic on the congested section of Loudon Road. As part of the Exit 15 ramp system in the concept plan, the Fort Eddy Road Connector will improve the transition between I-393 ramps and local streets and provide better regional traffic distribution than the current ramp system. Traffic exiting I-93 and I-393 will come to a signalized intersection and turn right to travel to Main Street, Commercial Street and Horseshoe Pond or Storrs Street Extension and the Opportunity Corridor; turn left to Fort Eddy Road; or travel straight onto Stickney Avenue Extension to Loudon Road.

The Fort Eddy Road Connector also has construction management benefits. The concept plan includes modifications to Loudon Road and I-93 that will shift I-93 to the west and have it pass under Loudon Road. The early construction of the Fort Eddy Road Connector will provide a detour alternative for Loudon Road, which may need to be closed for a period of time during this construction phase.

Loudon Road Improvements

Loudon Road passes under I-93 to connect downtown Concord with Fort Eddy Road and Concord Heights across the Merrimack River. Loudon Road has five closely spaced intersections with traffic signals in the quarter mile between Fort Eddy Road and North Main Street, including four signalized intersections within only 600 feet of each other. As a result, congestion is a regularly occurring problem on this section of the roadway, in spite of the excessive width of the roadway.

The proposed concept plan seeks to reduce congestion on Loudon Road and improve the urban character of the street as it passes through the Opportunity Corridor, particularly the pedestrian environment of the street and its connectivity to bicycle and pedestrian paths along the Merrimack River. The improvements to Loudon Road will provide the following benefits:

- Reduce congestion on Loudon Road by eliminating and consolidating intersections through the reconfiguration of the Exit 14 and 15 ramp systems and the creation of new collector-distributor roadways.
- Reduce traffic demand on Loudon Road by creating the Fort Eddy Road Connector to provide an alternative east-west connection.
- Improve the quality of Loudon Road for pedestrians and bicyclists by raising the street over I-93 in combination with relocating and lowering I-93.

The proposed concept plan reduces the number of intersections on Loudon Road between Main Street and Fort Eddy Road from five to three by eliminating and consolidating I-93 ramp connections. The reduction in the number of signals will provide sufficient spacing, approximately 400-500 feet between intersections, that will result in more effective and efficient signal coordination. The operation of the signal system will be further enhanced by the creation of the Fort Eddy Connector that will provide an alternative connection for east-west traffic volumes.

Fewer intersections will improve the opportunities for pedestrian and bicycle travel through the area, particularly in combination with relocating I-93 under Loudon Road. There will be fewer locations for turning traffic to conflict with pedestrians and bicyclists. The quality of the pedestrian environment will improve by relocating I-93 under the street. These improvements also present the opportunity to provide pedestrian and bicycle enhancements as part of the new design.

Storrs Street Extension

Main Street is the only continuous north-south street in the Opportunity Corridor. Storrs Street is located to the east of Main Street and provides a two-way connection from South Main Street at Perley Street to North Main Street north of Loudon Road. Existing traffic volumes on Storrs Street are light and mostly attributable to the commercial uses located in the Capital Shopping Center and along the street. There is some through traffic that uses the street to bypass Main Street.

The concept plan will create an alternative north-south corridor to Main Street by extending Storrs Street to meet Commercial Street at the Fort Eddy Road Connector to

the north and the South Main Street at Water Street to the south, with a potential to extend further south underneath the Water Street bridge to Langdon Avenue. The Storrs Street Extension will continue to pass under Loudon Road, although the current alignment will be adjusted to accommodate proposed parcelization as part of the proposed concept plan. The Storrs Street Extension will provide the following benefits:

- Create a unifying transportation corridor for access to and circulation through the Opportunity Corridor.
- Provide an alternative north-south corridor that will protect Main Street and create opportunities for enhancements to the Main Street corridor.
- Improve access to Horseshoe Pond with a connection to Commercial Street at its signalized intersection with the Fort Eddy Road Connector.
- Provide a vehicular gateway at the Fort Eddy Road Connector for Opportunity Corridor traffic from I-93 and I-393.
- Strengthen connections with the South Main Street corridor at the southern end of the Opportunity Corridor.
- Support corridor-wide uses by other modes such as local bus services, bicycles and pedestrians.
- Create traffic capacity for detour routes to support the construction of the Loudon Road improvements.

The Storrs Street Extension is envisioned as an urban boulevard that will serve the adjacent land uses along the corridor and traffic traveling to and through the downtown. The corridor will divert regional traffic (i.e., traveling between the Opportunity Corridor and I-93/I-393) off Loudon Road and Main Street. The Storrs Street Extension will also create an attractive option for regional traffic into the downtown with local connections at Pleasant Street and other intersecting streets. Non-auto modes will also benefit from the Storrs Street Extension, which will be designed to accommodate pedestrians and bicycles. Local transit services will be afforded new route options along the corridor.



At the northern end of the corridor the road will provide connections to the I-93 and I-393 ramps at the Fort Eddy Road Connector. Opportunity Corridor traffic will also be able to connect with Route 3 to the north from the Fort Eddy Road Connector without traveling on Main Street. The connection to Commercial Street at the Fort Eddy Road Connector will enhance access between the Opportunity Corridor and Horseshoe Pond and strengthen the relationship between these areas.

In the south, the Illustrative Concept Plan relocates the terminus of the corridor to the intersection with South Main Street and Water Street to provide an improved through connection to this corridor. Connections to I-93 at Exit 13 will be possible via Water Street, which was recently reconstructed by New Hampshire DOT. The proposed concept plan does not include the use of the underpass right of way that is available to pass under Water Street. This connection could be pursued at a later date should the development of a specific parcel warrant consideration.

Similar to the collector-distributor roads that are proposed improvements to Exit 14 and Exit 15, the Storrs Street Extension will provide new capacity for traffic that could also support construction detour traffic if the roadway is built as an early action item. This will create an alternate route for regional traffic avoiding construction activities on I-93, protecting Main Streets and other corridors in the downtown.

Rail Right of Way

The rail lines bisect the southern and northern sections of the Opportunity Corridor and are generally located adjacent to I-93 in the central section. A small rail yard is located in the central section and rail spurs, including active tracks to serve several area businesses are located in the southern section. The line passes under Loudon Road and splits into two branches. The state-owned Concord-Lincoln line runs north to Tilton and is used for freight service. A second line to west passes through Boscawen and runs to the west toward White River Junction in Vermont; this is the route that is under consideration for the proposed Boston to Montreal High Speed Rail service. There are public and private grade crossings within the Opportunity Corridor. As described in the Boston to Montreal High-Speed Rail Planning and Feasibility Study Phase I, there is a five degree curve in the Concord Yard.

The proposed concept plan will preserve a rail corridor through the Opportunity Corridor for freight and potential passenger rail service. A right-of-way has been identified that will provide the following benefits:

- Accommodate up to two tracks for future freight and passenger rail service through the corridor with the potential separation of passenger and freight traffic along a portion of the corridor.
- Reduce the number of at-grade crossings within the Opportunity Corridor.
- Provide adequate vertical clearances under Loudon Road and the Fort Eddy Road Connector.
- Maintain an appropriate track curvature through the Opportunity corridor to accommodate passenger rail service with a station in Concord.

The proposed concept plan will shift the rail alignment to the east in the north and central sections of the Opportunity Corridor. This alignment facilitates the development of a “double loaded” Storrs Street Extension north of Loudon Road (i.e., development on both sides of the street). As part of the proposed concept plan, the rail yard in the central section will be relocated to accommodate the multimodal station and development program for the Opportunity Corridor. One possible option is to locate the rail yard in the industrial section of the southern end of the Opportunity Corridor or shift the rail yard to a location outside of Concord. No other changes are anticipated in the southern section.

The concept plan proposes to eliminate all at-grade rail crossings within the Opportunity Corridor. However, it may be beneficial to maintain one or two crossings to accommodate local traffic vehicular circulation. This would include possible at-grade crossings in the northern and southern sections. Further study would be needed to address operational considerations on the passenger and freight services once locations for the crossings have been identified.

Multimodal Center

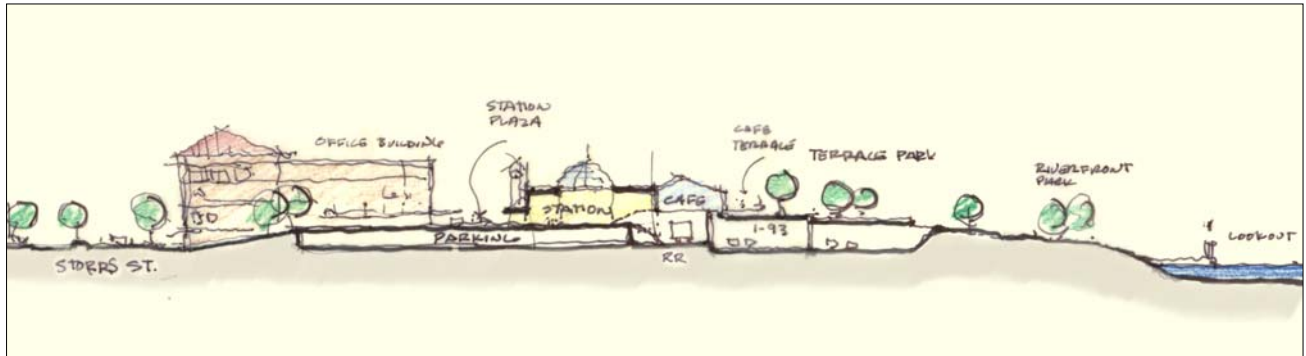
Concord Trailways provides inter-city and commuter bus service from the Concord Trailways Terminal on Stickney Avenue in the northern section of the Opportunity Corridor. The Concord Trailways Terminal provides approximately 270 free parking spaces, taxicab services and connections to the Concord Area Transit (CAT) system’s Manchester Street Route. Concord Trailways provides frequent bus service to Manchester, Boston and Logan International Airport.

The proposed concept plan will create a new multimodal center in the central section of the Opportunity Corridor at the foot of Pleasant Street, near the former Boston and Maine station in Concord. The multimodal center will provide the following benefits:

- Accommodate future passenger rail service to Concord, including potential intercity services like the proposed Boston to Montreal High Speed Rail service and commuter rail services.
- Provide a location for intercity and commuter bus services that can evolve to meet new demands as Concord attracts more inbound commuting trips in the future.
- Provide adequate parking to support transportation demands generated by the facility and create shared use parking opportunities for downtown and Opportunity Corridor businesses and attractions.
- Support and improve pedestrian and bicycle access by creating an active platform to cross I-93 and connect downtown and the Opportunity Corridor with the Merrimack River.

The proposed multimodal center will be a focal point in the Opportunity Corridor and downtown Concord for pedestrian activity. A connection will be provided over I-93 to connect with the increased and enhanced riverfront along the Merrimack River. This will provide an important and currently missing east-west pedestrian connection between the urban environment of the Opportunity Corridor and the system of

pathways along the riverfront. The multimodal center creates the opportunity to make this connection as part of a comprehensive set of multimodal improvements rather than a stand-alone and potentially less inviting pedestrian bridge connection.



The site will accommodate local and regional bus services and future rail services. A single platform is envisioned at the rail station. Specific details will be developed once a determination has been made to restore passenger rail service through the Opportunity Corridor. Up to 600 parking spaces will be provided on the site to accommodate transportation services at the multimodal center and to serve demands generated by nearby businesses and attractions. This level of parking is comparable to other multimodal centers in other New England cities.

Pedestrian and Bicycle Connections

The Opportunity Corridor is adjacent to the downtown and the South End, very close to the Merrimack River, and within one or two miles of other Concord villages such as Concord Heights, East Concord, and West Concord. However, the roadways that connect the Opportunity to the villages and the parks are mostly high volume, high speed roadways with poor pedestrian and bicycle accommodation. The parks and the Merrimack River are blocked from the Opportunity Corridor and from each other by I-93, the rail lines, and the major roadways.

Recent pedestrian and bicycle improvements have improved connections along Horseshoe Pond and to the new Grappone Conference Center. The proposed Salem to Concord Bikeway will link Concord to Manchester, Salem, and intermediate points, and provide a major transportation and recreation resource. However, the proposed Salem to Concord Bikeway corridor ends at the Concord line near the I-93/I-89 interchange. Paths along the Merrimack River are discontinuous in the downtown.

The proposed concept plan will create new pedestrian and bicycle connections that will link the Opportunity Corridor with downtown destinations, nearby villages within Concord, the Merrimack River and other parks, and existing and proposed trail systems. These improvements will provide the following benefits:

- Create a new pedestrian connection over I-93 to the Merrimack River and proposed riverfront improvements.
- Enhance pedestrian and bicycle connections along the Merrimack River as part of efforts to increase parkland by relocating I-93 to the west between Exits 13 and 14

and create opportunities for connections with planned improvements to the regional network of pedestrian and bicycle paths.

- Provide pedestrian and bicycle design elements in the Opportunity Corridor roadway improvements that support and enhance pedestrian and bicycle travel.
- Improve the pedestrian and bicycle environment on Loudon Road by raising the street over I-93 in combination, relocating and lowering I-93 under Loudon Road, and eliminating two intersections between Main Street and Fort Eddy Road.

The proposed concept plan will open connections along the river's edge and provide a new connection over I-93 as part of the proposed Multimodal center. This connection in combination with new paths in the expanded riverfront will open access to the Merrimack River from the Opportunity Corridor and the downtown. Design elements in the new Opportunity Corridor roadways such as wide sidewalks and bicycle accommodations in the travel way will improve access and mobility in the Opportunity Corridor by strengthening connections to and through the Opportunity Corridor for pedestrians and bicyclists. These improvements will further support and enhance planned improvements to expand the network of pedestrian and bicycle paths in and around Concord.

8.2. Assumptions to Estimate Future Traffic Volumes

The recommended roadway changes in the Concord Opportunity Corridor plan warrant further detailed analysis. It is recommended that these roadway changes be included as part of the New Hampshire Department of Transportation (NHDOT) *Bow-Concord I-93 Transportation Planning Study*. The NHDOT traffic model used in this study provides the appropriate mechanism for understanding the potential shifts in traffic volumes and the implications of traffic growth on the corridor. In anticipation of this effort, an assessment of the future traffic volumes that would use Fort Eddy Road Connector has been undertaken.

The assessment is based on traffic networks from the NHDOT study's Base Year 2000 Traffic Volume Networks provided by the City. The existing volumes were redistributed to the new network and increased to create a 20-year planning horizon using the assumptions that are described below. New traffic volumes from future Opportunity Corridor land uses were estimated using Institute of Transportation Engineers trip rates and available data from the 2000 U.S. Census.

Redistribution of Existing Traffic Volumes

Existing traffic volumes were distributed to the new network based on the following assumptions:

- At Exit 15, 30% of I-393 westbound traffic (including traffic from I-93 southbound) will divert to Stickney Avenue Extension; 30% of I-393 eastbound traffic (including traffic to I-93 northbound) will divert to Stickney Avenue Extension.
- At Exit 15, I-93 northbound traffic exiting to I-393 westbound will divert to Exit 14; 50% of the traffic will turn left to Loudon Road and 50% will continue on Fort Eddy Road and turn left on Fort Eddy Road Connector.

- At Exit 14, 75% of the traffic on the southbound off-ramp, which will be closed, will divert to Exit 15, where it will exit and continue straight on Stickney Avenue to Loudon Road. It is assumed that the remaining 25% of the traffic is local and will continue to use Fort Eddy Road Connector and Stickney Avenue Extension.
- At Exit 14, access from Loudon Road eastbound to the I-93 northbound on-ramp will be eliminated and the traffic will divert to Stickney Avenue Extension to access the ramps at Fort Eddy Road Connector.
- At the north end of Storrs Street, 75% of the traffic has origins/destinations to the east via I-393 or north via I-93 and 25% has origins/destinations to the north via Route 3.

Background Traffic Growth

Baseline traffic volumes were increased by two percent annually (compounded) over 20 years for a 50 percent increase in volumes as compared to the base network. The background traffic was evenly distributed over the network.

Future Opportunity Corridor Traffic

Additional traffic volumes were estimated for potential new development in the Opportunity Corridor. The new traffic was added into the network without subtracting existing traffic volumes to provide a conservative approach. U.S. Census data was used to guide the distribution of the traffic volumes.

Comparison of Existing and Future Traffic Volumes

Table 3 presents a comparison of the existing and future estimated traffic volumes on different sections of Fort Eddy Road Connector. In general, traffic volumes are below the estimated growth assumptions and several decreases have been identified. During the morning peak hour, traffic volumes will increase 4-16% except the westbound volumes between Storrs Street Extension and Main Street, which decrease by 24%. During the afternoon peak hour, two-way traffic volumes decrease by 8-11% between Main Street and Storrs Street Extension and increase by 3-13% between Storrs Street Extension and Stickney Avenue Extension.

Table 3 - Existing and Future Traffic Volumes on I-393 vs. the Fort Eddy Road Connector

Roadway Link	Direction	Morning Peak Hour		Afternoon Peak Hour	
		Existing ¹ I-393	Future ² Fort Eddy Road Connector	Existing ¹ I-393	Future ² Fort Eddy Road Connector
Stickney Avenue Extension to Storrs Street Extension	Eastbound	1,365	1,480	2,685	3,035
	Westbound	1,420	1,650	1,905	1,960
Storrs Street Extension to Main Street	Eastbound	1,365	1,420	2,685	2,385
	Westbound	1,420	1,075	1,905	1,750

- Notes:
1. June 2004 Base Year 2000 Traffic Volumes from the NHDOT Bow-Concord I-93 Transportation Planning Study
 2. Traffic volumes for a 20-year planning horizon redistributed over the recommended roadway plan.

In general, future conditions reflect the role of Stickney Avenue Extension and Storrs Street Extension. These corridors will accommodate the increases in future traffic volumes and provide attractive alternatives to Main Street, which is the current route for all traffic using Exit 15 and traveling to the downtown. Traffic will be able to travel to and from Storrs Street without using Main Street. For example, traffic traveling from Exit 15 to Centre Street via Stickney Avenue Extension will travel through two fewer intersections than traffic traveling via Main Street.

Connecting Loudon Road to Fort Eddy Road Connector via Stickney Avenue will add traffic volumes to Loudon Road. However, eliminating the Exit 14 southbound off-ramp and eliminating Loudon Road eastbound access to I-93 northbound will tend to reduce traffic on Loudon Road. In addition, the recommended plan will improve Loudon Road by eliminating two traffic signals and improving lane balance along the corridor, which will provide additional capacity to accommodate traffic volume increases.

Roadway Design Implications

The estimated traffic on Fort Eddy Road Connector provides a conservative assessment of future conditions. This analysis provides a reasonable starting point to identify an appropriate number of lanes that will be needed to accommodate the projected traffic volumes. The *Bow-Concord I-93 Transportation Planning Study*, which includes a comprehensive regional traffic model, will provide the opportunity for a more detailed evaluation of the design needs and operational considerations of the recommended plan for the Opportunity Corridor.

The estimates that are described in Table 3 indicate that the afternoon peak hour is the critical time period. In general, these traffic volumes are indicative of three travel lanes in each direction. On the westbound approach to Storrs Street Extension one of the three lanes could be a designated left-turn lane. The high concentration of traffic at the intersection of Fort Eddy Road Connector, Stickney Avenue Extension and the I-393 eastbound/I-93 northbound ramps will require an additional eastbound lane, for a total of four lanes: two left-turn lanes from Fort Eddy Road Connector eastbound to the northbound on-ramp, a through-lane, and a through-right turn lane. Traffic volumes will drop east of Stickney Avenue Extension, so two lanes in each direction should accommodate projected traffic volumes.

Another consideration is the number of lanes on the side streets that intersect with Fort Eddy Road Connector. An appropriate number of lanes is needed on Storrs Street Extension, Commercial Street, Stickney Avenue Extension and the I-393/I-93 ramps to address the operational needs of the corridor. These streets do not need the same number of approach lanes (to the intersection) and departure lanes (from the intersection). For example, Storrs Street Extension and Commercial Street should have two approach lanes, but may only need one departure lane from the intersection. Stickney Avenue Extension should have two lanes in each direction. The I-393 eastbound/I-93 northbound off-ramp will need four lanes, including two right-turn lanes. The on-ramp should have two lanes to accommodate traffic from Fort Eddy Road Connector (dual left-turn lanes) and Stickney Avenue Extension. Highway operations may require tapering these two lanes to a single lane.

Conclusion

This analysis indicates that the new roadway elements of the recommended roadway plan for the Opportunity Corridor provide the opportunity to reduce traffic volumes on Fort Eddy Road Connector. This is particularly beneficial since Storrs Street Extension and Stickney Avenue Extension will introduce new signalized intersections for traffic traveling to and from the I-393/I-93 ramp at Exit 15. The analysis identified the number of lanes that would be appropriate to accommodate the estimated traffic volumes on the corridor. However, this analysis also recognizes that these recommendations are preliminary in nature and should be refined through more detailed analysis using a regional traffic model and detailed intersection analysis.

Further analysis may require refinements to accommodate future traffic volumes. Potential refinements should maintain and support the overall integrity of the recommended plan for the Opportunity Corridor. In particular, the operation of the intersection of Fort Eddy Road Connector, Stickney Avenue Extension and the I-393/I-93 ramps may require evaluation of alternatives to address operational considerations, including as necessary: eliminating southbound (I-393 westbound/I-93 southbound ramp) and northbound (Stickney Road Extension) left turns; providing an alternative connection for I-93 southbound to Fort Eddy Road eastbound; and, making Fort Eddy Road Connector one-way eastbound from Stickney Avenue Extension to Fort Eddy Road to eliminate a phase from the signal operation at the intersection. Other regional options to reduce traffic volumes, such as creating a new I-93 interchange at Sewalls Falls Road would also help to reduce traffic flows through the intersection.

If the results of future traffic analysis indicate that the design of the recommended roadway plan for the Opportunity Corridor needs to be changed in order to accommodate future traffic needs, the City and NHDOT should work together to ensure that the fundamental goals and objectives established the Opportunity Corridor Master Plan are met.

8.3. Transportation Benefits

The Illustrative Concept Plan (page 72) addresses the identified deficiencies of the transportation system in a context-sensitive fashion that supports the broader initiatives for the Opportunity Corridor. Through this approach, the proposed concept plan provides the following key transportation benefits:

- **Protects Main Street** from increased traffic volumes by providing alternative north-south local street connections within the Opportunity Corridor. This is achieved through the creation of new north-south collector-distributor roadways and the extension of Storrs Street to meet Commercial Street.
- Creates a **corridor-wide north-south street** that unifies the Opportunity Corridor and improves traffic distribution to and through the corridor. This is achieved by extending Storrs Street to meet Commercial Street to the north and tying Storrs Street directly into South Main Street in the south.

- Improves connections **between Fort Eddy Road and Main Street**. This is achieved by creating a new Fort Eddy Road Connector that links Fort Eddy Road and Main Street as part of improvements to the I-93/I-393 interchange.
- Improves the **operation of Loudon Road**. This is achieved by reducing the number of intersections and providing an alternative east-west connection through the creation of the Fort Eddy Road Connector.
- Improves the transition **between I-393 and local streets**. This is achieved by creating a new trumpet interchange design at Exit 15 with connections to the collector-distributor roadway system between Exits 14 and 15.
- Improves **traffic safety and operations on the interstate highway system**. This is achieved by eliminating weaving conditions or relocating weaving and merging to collector-distributor roads next to the highway as part of a design that unifies the Exit 14 and 15 interchanges.
- Protects the **passenger rail right of way** for potential future use as part of the potential creation of a Boston to Montreal high-speed rail service and/or commuter rail service. This is achieved by defining a rail alignment through the Opportunity Corridor that eliminates at-grade rail crossings and reduces the curvature of the track.
- Identifies an **appropriate location for an enhanced multimodal center** that can be implemented over time as demand warrants and funding becomes available. This is achieved by locating the station in the central section of the Opportunity Corridor where it will support commuters leaving the area in the near term, but in the long-run can serve as a destination station.
- Improves the integration of transportation infrastructure with **existing and planned pedestrian and bicycle networks**. This is achieved by opening connections along the river's edge and making accommodations for bicycle and pedestrian facilities and connections as part of the design of new transportation infrastructure.

The proposed concept plan creates a context for policy- and decision-making by the City of Concord for future local transportation improvements and land use changes in and near the Opportunity Corridor. The strategy acknowledges the need for further technical analysis as part of NHDOT's planned improvements to I-93 between Bow and Concord and the Boston to Montreal High-Speed Rail Planning and Feasibility Study. Within this context, the concept plan provides the City of Concord with an opportunity to proactively engage these projects and begin the effort to secure support for State and federal funding for potential improvements.

9. IMPLEMENTATION

This section covers proposed concepts and recommendations for implementing the Opportunity Corridor Master Plan. The following topics are addressed: phasing, next steps, the redevelopment process, creation of a redevelopment authority, zoning considerations, brownfields cleanup and remediation, and action plan.

9.1. Phasing and Next Steps

Transportation Elements

The Illustrative Concept Plan seeks to inform on-going transportation planning and engineering studies in Concord and promote an integrated, multi-modal approach to improving conditions and addressing Concord's needs. The two most significant of these efforts are NHDOT's planned improvements to I-93 between Bow and Concord and the *Boston to Montreal High-Speed Rail Planning and Feasibility Study*. These studies, particularly the NHDOT I-93 study, also provide the opportunity to evaluate further and refine the proposed improvements in the concept plan. Aspects of the proposed plan elements that require further study during future planning steps include more detailed traffic analysis, rail passenger forecasts, transit service planning, roadway and rail design, right-of-way issues, construction staging, and phasing considerations.

Traffic Operations

The NHDOT provides an appropriate mechanism to evaluate and refine the proposed concept plan. The concept plan will substantially improve traffic distribution within the Opportunity Corridor by creating and enhancing east-west connections and providing new north-south capacity on collector-distributor roads that relieve local streets and eliminate weaving conditions on the I-93 Main Line. The traffic operation of the concept plan should be evaluated to understand the potential benefits of the proposed changes and to identify the need for further refinements to the alternative. The analysis would include level of service analysis for local intersections and regional highway connections with future design year traffic volumes. Considerations include:

- The operation of Loudon Road, Fort Eddy Road, Storrs Street Extension and the new collector-distributor roadways.
- Changes in traffic volumes and level of service on Main Street and other nearby local corridors.
- Highway and ramp operations.

The proposed concept plan developed its set of improvements to a concept level, and further design development of the alternative may be beneficial before conducting a detailed environmental analysis. For example, the operations that result from combination of traffic exiting from I-93 southbound and I-393 westbound to the Fort Eddy Road Connector may warrant further exploration of design options. This type of evaluation should consider the specific operational issues, but also address the changes within the broader planning context that is provided by the concept plan.

Roadway and Rail Design

The proposed concept plan presents roadway and rail improvements at a conceptual level. Further detailed design efforts are needed to develop plans suitable for construction. The NHDOT I-93 study is an appropriate mechanism to address many of these design issues including a determination of the rail alignment through the corridor. One area for further exploration by the City of Concord is the design of the proposed realignment of Storrs Street to meet the intersection of South Main Street and Water Street. The City should be in charge of developing the details of the intersection, including the vertical and horizontal profiles of the Storrs Street approach and the layout of the intersection to accommodate projected traffic volumes.

Construction Phasing

The proposed concept plan includes several complex construction elements: the realignment of I-93 between Exit 13 and Exit 15; the reconfiguration and integration of Exits 14 and 15; and, the construction of a new Loudon Road between Fort Eddy Road and Main Street essentially within the same corridor as the exiting roadway. The realignment of I-93 may require temporary connections and the Loudon Road improvements may result in closures to Loudon Road east of Fort Eddy Road. In addition, the rail corridor will be realigned and the existing rail yard will be relocated to accommodate the creation of new development parcels within the Opportunity Corridor. A new multimodal center will be constructed to replace the existing bus station on Stickney Avenue.

The construction of these improvements will require the development of a detailed construction phasing plan that addresses the construction challenges and responds to the traffic maintenance needs of the area including the movement of freight by rail through the corridor. In general, the highway improvements and rail relocation will likely happen first and from north (Exit 15 area) to south. The improvements to Exit 15 will be needed to create the Fort Eddy Road Connector, which will be a beneficial connection during construction. The Storrs Street Extension is another potential early construction element that will support maintenance of traffic plans for the realignment of I-93 and the Loudon Road improvements. Other early actions include the relocation of the Concord Trailways Terminal and the rail yard in the central section of the Opportunity Corridor to create new roadway connections and staging areas.

Multimodal Center

The proposed multimodal center will be implemented in phases. Local and intercity bus services are likely to be the first elements that will be implemented by relocating the Concord Trailways Terminal from Stickney Avenue to Storrs Street, a change that will be coordinated with any future I-93 construction north of Loudon Road. The proposed pedestrian crossing over I-93 should also be included as part of the first phase of the multimodal center to capture the benefits of the expanded open space along the Merrimack River. Rail service and a new station will be provided once the determination has been made to restore passenger rail service to Concord.

Parking demands for regional transportation services will increase over time and may require relocation regional commuter services. For example, regional bus services could be moved from the multimodal center to a highway oriented site to relieve regional

parking and traffic demands at the site. Parking at the multimodal center would then serve demand from a smaller catchment area within Concord instead of the larger catchment area that is attracted by these services on the regional highway system. This would be more consistent with using the parking as a source to meet the local parking needs of the downtown and the Opportunity Corridor as part of a shared parking approach.

Land Use and Redevelopment

Because the market for various new uses is likely to only gradually absorb new development in the Opportunity Corridor, given Concord's growth rate and availability of other "greenfield" development sites throughout the city and its surroundings, development phasing must be carefully thought through and interim uses put in place until full development build-out can be achieved.

Development Time Frame

Significant new development will probably not occur in the North and Central Area for another seven to ten years – the time expected before the realigned and expanded I-93 highway is actually constructed, although infill development may likely occur before then on the west side of Storrs Street. At that time, the realigned highway and its realigned supporting ramps and feeder streets will cause property relocations and possible takings to occur – thereby opening up new development parcels and preparing the way for redevelopment. Earlier, however, once funding for the expanded highway is announced by NHDOT, land transactions are likely to begin as landowners position themselves for the opportunities to come.

Supporting Parking

Once development begins, the market will still only be able to support a certain amount of new development each year. It is likely that the first development projects may only be able to financially support surface parking. Eventually, as development continues, these surface lots will prove not to be the highest use for the land and parking structures will begin to be built to support new development and to provide new land for new development sites. Until that occurs, however, surface parking lots may prove a significant interim use of part of the land.

As the proposed multimodal transportation center is built, the parking structure needed to support the station can be built to accommodate parking requirements for surrounding private development as well, thereby allowing some development to begin immediately without requiring interim surface parking.

9.2. The Redevelopment Process

From a real estate development perspective, implementation strategies should focus on those steps that will most efficiently leverage private investment in the Corridor. The following discussion first identifies high-priority projects for the City and then presents directives toward the implementation thereof.

Project Priorities

For the most part, in an area as large as the Opportunity Corridor, most of the envisioned investments in private redevelopment must occur within the framework of the market's mechanisms. In seeking to leverage private investment, however, the City must assume a leadership role in stimulating "catalyst" projects that can (1) demonstrate the viability of certain types of projects; (2) create new amenities that will in turn generate new interest in new projects; and/or (3) inject new vitality to the area.

The following "catalyst" projects should hold the highest priorities in the Opportunity Corridor:

- Highway Realignments: these will enable the creation of critical components such as a riverfront park as well as new development sites in the northern segment.
- Public/private facility located on bridge to riverfront park: Assuming that the riverfront park is well conceived, this facility must contain an array of destination uses (e.g., restaurant/retail, entertainment, civic), and must feature a design that invites pedestrian traffic while integrating the river with the downtown core. The success of this project – which will comprise perhaps the most visible site in the City – will attract interest from developers, visitors, shoppers, businesses and residents.
- Conversions of small-scale aging properties to new uses: Like the preceding project, successful conversion of aging properties generates interest and vitality. Unlike the preceding facility, the successful conversion of small-scale properties to new uses provide:
 1. Opportunities for smaller-scale investments that fall within the capabilities of a wide range of players in the local development community. In contrast, the larger-scale "bridge" facility would appeal to developers offering deeper resources and a relatively high-profile stature.
 2. Replicable events, which could spawn imitations, variations and evolving concepts throughout the corridor.
 3. A broad influence, potentially extending geographically throughout the Corridor, and conceptually to several types of residential, retail and even office uses.
- Parking: While some new developments will have to provide their own parking facilities, retail as well as office uses in downtown Concord rely on the availability of public parking. In seeking to create new public parking, the City should:
 1. Provide facilities in different portions of the Corridor: Rather than creating one major facility, facilities should be spaced to cover as much of the central and northern segments as possible.
 2. Promulgate flexible regulations or exceptions that enable shared parking arrangements between residential and commercial uses.

3. Use publicly owned land as temporary surface parking lots during interim periods pending subsequent development.

Other High-Priority Projects

- Grocery site: In cities throughout the nation, the absence of a downtown grocery store presents a formidable challenge to urban revitalization efforts. Concord's downtown grocery store comprises an important, rare, and difficult-to-replace asset for downtown revitalization. Plans for the redevelopment of the Capital Plaza Shopping Center should not proceed until the City has identified and secured a suitable new site for this or another store to replace the existing store.
- Recreational linkages: in seeking to promote market-rate residential development, the City must provide the development community with as many "selling points" as possible. Such points will include proximity to highways and downtown; recreational amenities will add a substantial item.

Directives

In targeting the above priorities, necessary steps include land assembly and developer solicitation. The creation of a Concord Redevelopment Authority with powers to acquire and dispose of land for public benefit purposes has been considered before and could be a decisive tool in allowing for the redevelopment of the Opportunity Corridor.

9.3. Creation of a Redevelopment Authority

In 2002, the City of Concord, in conjunction with the Greater Concord Chamber of Commerce, appointed a task force to investigate issues regarding the suitability of a new Redevelopment Authority as an entity to assist in the implementation of Concord's economic development endeavors. At the conclusion of this process in 2003, the task force recommended the creation of such Redevelopment Authority.

This entity, overseen by board of 5-7 members, would be authorized (in relevant part) to:

- hire staff,
- exercise the City's right of eminent domain;
- purchase, lease, option and hold property or property rights;
- borrow funds and issue bonds;
- apply for and administer grants; and
- enter into partnerships.

The creation of a redevelopment authority will allow the City to be more effective in implementing the plan recommendations. This redevelopment plan envisions sweeping changes for large land areas over a long-term time frame. As discussed herein, the implementation of such changes will require public assistance in assembling and holding land for key projects. While Concord's City staff has filled this role effectively in the City's past redevelopment endeavors, the long-term, complex nature of potential catalyst projects in the Opportunity Corridor raise unique requirements for swift action and patience over long time frames, for which an autonomous Redevelopment Authority

would possess advantages over City staff. The Redevelopment Authority's advantages could be summarized as follows:

- **Speed:** With no need for City Council approval of its actions, the Redevelopment Authority would be able to move quickly to capitalize on emerging opportunities. In contrast, City staff must obtain public approvals to purchase properties that become available; this delay may in some cases cause the City to miss out on the opportunity.
- **Time Frame:** The long-term time frame for implementation necessitates an entity than can operate independent of short-term political moods.
- **Timing/Patience:** The Opportunity Corridor Plan is likely to plan for highway reconfigurations that would require state and/or federal purchases of private property. Such purchases would target parcels for highway alignments, but ample excess property would also be involved. The Redevelopment Authority would be able to hold – or “land bank” such properties (and assemble contiguous parcels), insulated from political pressures, until such time as development conditions ripen.

In creating this Redevelopment Authority, the City should recognize the following issues:

- Initial funding must be sufficient to purchase significant properties. If not, then authority over redevelopment procedures simply reverts to the City Council and City staff, and the City will derive little benefit from its decision to create the Authority.
- Whereas the Redevelopment Authority shall remain subject to the City's zoning ordinances, the City must be sure that such ordinances are consistent with the plans promulgated in the Opportunity Corridor Plan. If the Authority must undergo rezoning procedures, it has failed to gain true autonomy from shifting political contexts and City Council processes.

9.4. Zoning Considerations

Overview

Although the Opportunity Corridor Study Area falls under the legal jurisdiction of several different zoning districts, the vast majority of the Opportunity Corridor is governed by the Opportunity Corridor Performance (OCP) District. This OCP District is designed to encourage economic redevelopment of the many underutilized properties between North Main Street and I-93 in this brownfield corridor. Uses are intended to reinforce rather than unduly compete with the downtown.

Major Site Plan Review Requirement

Any development within a “performance district”, such as the OCP, is subject to Major Site Plan Review [Section 28-9-4(b) of the Ordinance].

Allowed Uses

A wide range of permissible uses is allowed, particularly in the Central Area. In the Central Area, multi-story mixed use buildings are encouraged with housing above ground floor commercial uses. However, the range of permissible uses is more restrictive in both the North Area and South Area. For example, multi-family housing is permitted *only* on tracts adjoining the adjacent Central Business Performance (CBP) District. Consequently, multi-family housing is *not* permitted in the North Area or South Area. Similarly, retail trade uses are permitted *only* on tracts of land in that portion of the OCP District easterly of Storrs Street between Loudon Road and Water Street (the Central Area). Therefore, retail trade uses are *not allowed* in either the North Area or South Area. Manufacturing and biotechnology uses are not allowed anywhere in the OCP District.

Dimensional standards

Dimensional standards are generally compatible with the scale of development in the adjacent downtown. 45 ft. is the maximum height allowed. Maximum heights may exceed 45 ft. subject to a development receiving a Conditional Use Permit, but in no case higher than 80 ft. maximum.

A 15 ft. minimum front yard setback is required.

FAR

A *minimum* Floor Area Ratio (FAR) of 0.3 is required for all uses in the OCP. Multi-family dwellings in the OCP District are not to exceed 2.5 FAR.

Parking requirements

Parking ratios for various uses appear reasonable, and consistent with commonly applied standards for similar types of urban settings. Non-residential street level uses are encouraged within parking structures adjacent to Main Street and Storrs Street. In Section 28-7-11, *Alternative Parking Arrangements* are specified to allow greater flexibility. For example, these alternative arrangements allow both off-site and shared parking solutions.

Recommendations:

- The Major Site Plan Review requirement that applies to new development in the OCP District should be enforced throughout the plan implementation process, and enhanced with special design guidelines oriented to achieve the desired outcome and vision for the corridor.
- The minimum required front set back of 15 ft. should be made consistent along Storrs Street, Commercial Street, and Stickney Avenue. Side streets connecting North Main to Storrs Street should retain the current zero-setback requirement.
- FAR limits may need to be reexamined as a result of the proposed master plan in order to ensure that economic development objectives are met; ideally FAR should be flexible enough to allow for the highest redevelopment potential as long as other

dimensional requirements such as maximum building height, setbacks, and parking ratios are met.

North Opportunity Corridor Area

Existing Zoning Districts Governing the North Area

The North Opportunity Corridor Area is largely governed by the OCP District. However, some buildings on the east side of North Main Street are located within the Urban Commercial (CU) District. Portions of the North Area may also be within the Flood Hazard Overlay (FH) District. Below are the two basic districts that govern development within the North Area:

- OCP District – Opportunity Corridor Performance District
This district is established to encourage economic redevelopment of underutilized brownfield properties between the CBP district and I-93. The range of permissible uses is intended to reinforce but not compete with the adjacent downtown.
- CU District – Urban Commercial District
This District covers parcels to both sides of North Main Street adjacent to the North Opportunity Corridor. This district is established to recognize areas adjacent to the downtown as well as nearby Downtown Residential Districts.

OCP District / Allowed Uses

The range of allowed uses include educational, entertainment, lodging, governmental (incl. public works facilities), and office uses.

Multi-family housing is *not* allowed within the North Opportunity Corridor. Retail trade uses are *not allowed* in the North Opportunity Corridor District either since such uses are permitted *only* on tracts of land in that portion of the OCP District easterly of Storrs Street between Loudon Road and Water Street (the Central Area) according to the section of the zoning code entitled, *Certain Uses in the OCP District*.

Recommendations:

- The prohibition of residential and retail uses in the North Area will need to be reexamined as a result of the master plan recommendations, particularly for the proposed mixed use options.

Central Opportunity Corridor Area

Existing Zoning Districts Governing the Central Area

The Central Area primarily lies within the jurisdiction of the OCP District, but also includes two other base districts. Portions of the Central Opportunity Corridor may also lie within the Flood Hazard Overlay (FH) District. Below are the three base districts that govern development within the Central Area:

- **OCP District – Opportunity Corridor Performance District**
This district covers the majority of the Central Opportunity Corridor from Storrs Street to the riverfront. This district is established to encourage economic redevelopment of underutilized brownfield properties between the CBP district and I-93. The range of permissible uses is intended to reinforce but not compete with the adjacent downtown.
- **CBP District – Central Business Performance District**
This District covers State Street to Storrs Street and from Centre Street to Fayette Street in the downtown. This district is established to encompass the traditional downtown as a mixture of retail, restaurant, service, entertainment, cultural, lodging, office, government and high-density residential uses.
- **CU District – Urban Commercial District**
This District covers State Street to Storrs St, and from Fayette to Thorndike and Perley. This district is established to recognize areas adjacent to the downtown as well as nearby Downtown Residential Districts.

OCP District / Allowed Uses

The range of allowed uses in the Central Area are quite broad and extensive – including multi-family housing, retail, educational, entertainment, lodging, governmental (incl. public works facilities), and offices - thereby allowing much flexibility. Although retail uses of 5,000 to 75,000 sq. ft. are allowed, there is a prohibition against retail trade in excess of 75,000 sq. ft. – to discourage “big box” retailers and to avoid retail competition with the downtown. Multi-family housing is allowed in the OCP provided that such dwellings are located on or above the second story of a building. Also, buildings containing multi-family dwellings are permitted *only* on tracts that directly adjoin the CBP – Central Business Performance District. Manufacturing and biotechnology uses are not allowed in the OCP District.

Recommendations:

- Similar considerations to the ones made above regarding setbacks and FAR ratios are applicable to the Central Opportunity Corridor.
- High density attached residential units should be allowed throughout the entire Central Area.

South Opportunity Corridor Area

Existing Zoning Districts Governing the South Area

The South Opportunity Corridor Area is governed by several zoning districts. However, the OCP District to the west side of the rail corridor and the Gateway Performance District (GWP) to the east side of the rail corridor along Water Street and Hall Street are by far the predominant ones. Portions of the Opportunity Corridor are also within the Flood Hazard Overlay (FH) District. Below are the governing base districts within the South Opportunity Corridor:

- **OCP District – Opportunity Corridor Performance District**
This district covers the west side of the South Opportunity Corridor from the northern edge of the District to the South End Marsh. This district is established to encourage economic redevelopment of underutilized brownfield properties.
- **GWP District – Gateway Performance District**
This district covers an area in the South Opportunity Corridor at Exit 13 surrounding Hall Street and Water Street, and is intended to provide for well designed large-scaled commercial development along arterials at entrances to the City, such as along Water Street. Permitted uses may include retail, restaurant, service and office uses. This district is fully served by municipal utilities. Uses developed here are expected to adhere to high standards for appearance in order to insure that gateways to the City are attractive.
- **UT District – Urban Transition District**
This district covers properties immediately adjoining the east side of South Main St in the South Opportunity Corridor. This district is established to recognize areas of mixed use between established residential neighborhoods and existing commercial development.
- **RO District – Open Space Residential District**
This district surrounds the South End Marsh to the west of the rail corridor and some adjacent land to the east of the rail corridor. This district is designed to accommodate single-family dwellings at densities not to exceed one dwelling unit per two acres as well as cluster developments, agriculture, forestry, and low-impact recreational uses in environmentally sensitive areas where municipal utilities are generally not present or anticipated.

OCP District / Allowed Uses

The range of allowed uses are designed to reinforce but not compete with the CBP District and include educational, entertainment, lodging, governmental (incl. public works facilities), and offices. Multi-family housing, retail trade, manufacturing and biotechnology uses are *not* allowed in the South Area of the OCP District.

Recommendations:

- The prohibition of multi-family residential uses may need to be reexamined as a result of the master plan recommendations, particularly for the proposed mixed use options in the South Opportunity Corridor.

9.5. Brownfields Cleanup and Remediation

Site remediation testing, assessments and remediation strategies must be devised for redevelopment areas suspected of contamination. According to a Level I assessment of properties on the Opportunity Corridor, commissioned by the City in 1996, there are no properties with high-risk level of contamination or Superfund-type hazardous material sites. These are good news from a redevelopment point of view, since cleanup efforts for target redevelopment properties may be achievable without significant public investment.

The New Hampshire Department of Environmental Services (NHDES) administers the New Hampshire Brownfields Program, established to encourage voluntary cleanup and redevelopment of contaminated sites. The program includes financial and legal assistance tools to help property owners and municipalities through the process of site assessment and cleanup. Some of these tools are the following:

- The Brownfields Assessment Grants Program helps municipalities by using funding from the U.S.A. Environmental Protection Agency (EPA) and contract consultants to provide site assessment and cleanup planning services at contaminated sites.
- The Brownfields Cleanup Revolving Loan Fund (BCRLF) provides short- to medium-term low interest loans to property owners, developers, and municipalities to fund the remediation of contaminated properties.
- The Brownfields Covenant Program provides incentives in the form of liability protections for the investigation, cleanup and redevelopment of contaminated properties by persons who did not cause or contribute to the contamination.

The City of Concord should remain faithful to its long-term goal to clean up and redevelop the entire Opportunity Corridor by working together with NHDES and private developers to promote and support the use of these tools. Successful examples of past initiatives include the Corporate Park development at Horseshoe Pond.

The Opportunity Corridor also has the advantage of being one of several nationally designated demonstration areas for a Brownfields Tax Incentive Program made available in 1997. As part of the program, the costs of environmental cleanup processes are fully deductible in the year in which they are incurred, rather than having to be capitalized over several years.

9.6. Action Plan

It is difficult at this point to establish a definite timeline for implementation, since the basic interventions proposed by this plan are contingent upon the adoption and further development of the proposed transportation elements by the NHDOT I-93 improvement study. However, the following table of Proposed Actions is outlined as an initial approach to the sequence of actions and events that will lead to accomplishment of the plan recommendations. Tasks are organized by timing and priority. The proposed timeline is tentative, and will need to be adjusted as the process moves ahead.

Table 4 – Proposed Actions

SHORT TERM ACTIONS			
Planning		Timeline	Responsibility
1.	Enact Opportunity Corridor Master Plan.	2005-2006	City
2.	Coordinate next steps with NHDOT.	2005-2006	City
3.	Revise zoning to support plan goals, vision and recommendations.	2005-2006	City
4.	Develop design guidelines for new development.	2005-2007	City
5.	Coordinate with NHDOT the relocation of its service facility outside of the study area.	2005-2007	City
6.	Create a Concord Redevelopment Authority.	2005-2007	City
7.	Prepare a strategic plan for the long-term development of public parking.	2005-2008	City
8.	Coordinate next steps with owners of rail right-of-ways (Guilford, Amtrak, NHDOT, etc.)	2005-2008	City and NHDOT
9.	Pursue right-of-way acquisition of northerly Storrs Street Extension	2005-2008	City
10.	Advance analysis and design of conceptual transportation elements.	2005-2008	City and NHDOT
11.	Actively participate in the analysis of I-93 design alternatives.	2005-2008	City
MID TERM ACTIONS			
Planning		Timeline	Responsibility
12.	Strategically market the NHDOT service facility site for a signature type of development.	2005-2010	City and NHDOT
13.	Continue working with NHDOT and rail owners to see that the final planning solution and detailed construction plans responds to the plan's vision.	2005-2010	City
14.	Establish the legal foundation for assembly and disposition of land for redevelopment (in conjunction with #6).	2005-2010	City and NHDOT
15.	Create mechanisms for joint public/private development of parking facilities.	2005-2010	City and NHDOT
16.	Revise on-street city parking regulations and parking meter fees to coordinate with overall parking strategy (in conjunction with #15).	2005-2010	City
17.	Study and implement long-term incremental improvements to local transit along the corridor.	2005-2010	City
18.	Initiate environmental permitting process for new parks, local roads and roadway realignments.	2007-2010	City and NHDOT
19.	Initiate long-term plans for the creation of a regional transportation center outside the study area (possibly at Bow).	2007-2010	City and NHDOT
20.	Work with electric utilities company to relocate high-voltage lines impacted by realignments.	2008-2012	City and NHDOT
21.	Facilitate the relocation of the existing rail yard/spur tracks from the Central Area.	2008-2012	City and NHDOT
22.	Obtain permits and approvals for construction of the new riverfront park.	2008-2012	City and NHDOT

MID TERM ACTIONS			
Design		Timeline	Responsibility
23.	Prepare construction documents for highway, associated roadway, and rail improvements.	2008-2012	NHDOT
24.	Advance detailed construction phasing for highway improvements and traffic maintenance.	2008-2012	City and NHDOT
25.	Advance the design of parks, streetscape and bike path connections.	2008-2012	City
26.	Design the proposed Storrs Street extension and intersection with South Main/ Water Street.	2008-2012	City
27.	Advance planning and design for upgrading of utilities.	2008-2012	City and providers
Funding		Timeline	Responsibility
28.	Prepare an infrastructure and relocation capital funding plan.	2007-2010	City
29.	Identify funding sources for new streets, sidewalks, and streetscape improvements.	2007-2010	City
30.	Identify and secure funding for new public and private utilities.	2008-2012	City
31.	Identify and secure funding for new operating budgets (e.g., riverfront park and green areas).	2008-2012	City
Acquisition		Timeline	Responsibility
32.	Coordinate with NHDOT acquisition/transfer of development rights of excess land impacted by the realignment of I-93 and the rail line.	2007-2010	City and NHDOT
33.	Secure site for multimodal transportation center and public amenities.	2008-2012	City and NHDOT
34.	Secure land for the creation of a riverfront park.	2008-2012	City and NHDOT
35.	Secure land for the creation of a park/green space at the foot of Pleasant Street.	2008-2012	City
36.	Acquire land for necessary easements, rights of way and redevelopment parcels.	2010-2012	City
37.	Acquire/secure site for replacement grocery store in the Central Area.	2010-2012	City
38.	Acquire/secure site for the relocation of the Legislative Garage parking.	2010-2012	City and NHDOT
LONG TERM ACTIONS			
Planning		Timeline	Responsibility
39.	Continue working with NHDES and private developers to support environmental cleanup and brownfields redevelopment.	2005-2020	City
40.	Promote redevelopment of historic rail properties on the South Opportunity Corridor Area (compatible with residential uses nearby).	2005-2020	City
41.	Preserve the right-of-way for high-speed passenger rail service (and “lobby” for its provision).	2005-2020	City and NHDOT

LONG TERM ACTIONS		
Construction	Timeline	Responsibility
42. Initiate highway and rail reconstruction process.	2012-2015	NHDOT
43. Relocate Legislative Garage parking to a nearby site, and demolish old structure.	2012-2015	City and NHDOT
44. Construct the proposed Storrs Street extension and/or intersection with South Main Street.	2012-2018	City and NHDOT
45. Construct riverfront park and related links to existing roadways and open space.	2012-2018	City
46. Construct multimodal transit station, associated parking, and related public amenities.	2015-2018	City and NHDOT
47. Construct “green” at the foot of Pleasant Street and streetscape improvements.	2015-2018	City and NHDOT
Development	Timeline	Responsibility
48. Issue Request-for-Proposals to private developers for the redevelopment of selected parcels.	2012-2018	City
49. Designate developers and negotiate land disposition agreements.	2012-2018	City
50. Initiate design review and approval processes.	2012-2018	City
51. Issue building occupancy permits.	2015-2020	City

A. APPENDIX – EXISTING CONDITIONS

A.1. LAND USE AND URBAN DESIGN

A.1.1. The Opportunity Corridor

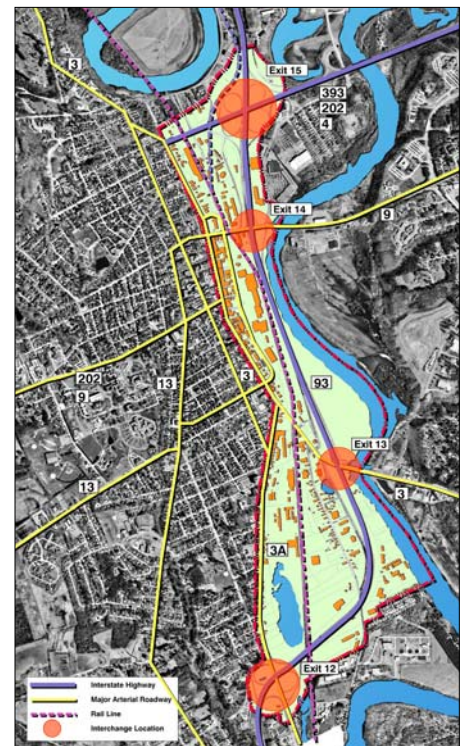
The Opportunity Corridor has long been a rail transportation spine and industrial district that ran along the low-lying Merrimack River floodplain beneath Main Street escarpment or bluff. Because the Corridor has long been a transportation spine, the district has historically severed the downtown from the nearby river and turned its own back to the river's edge. In the 1950s, the construction of the I-93 interstate highway hard against the river's edge in the vicinity of the downtown placed still another physical barrier between the downtown and the river. That highway construction also severely diminished the width of riverfront open space so that only a narrow band of embankment remains which is neither accessible nor useful.

Over the years, industries grew and evolved around the rail lines and yards that traveled through the area. Today, that legacy remains, and rail lines and industrial facilities still occupy much of the land – particularly in the North and South portions of the Opportunity Corridor - although both rail use and industrial businesses have declined over the years.

Still later, the Central Opportunity Corridor - the precinct closest to the downtown - began to evolve more as a low-density, single-story commercial precinct with the construction of the Capital Shopping Center, the State Liquor Store, and Fleet Bank. Even though the Central Opportunity Corridor, in particular, is immediately adjacent to downtown, because of the corridor's transportation and industrial legacy and because of the steep topographical decline from Main Street to Storrs Street at the foot of the bluff, the corridor has developed its own identity, separate and seemingly remote from nearby North Main Street and the downtown commercial spine. Furthermore, the downtown and the district remain cut-off from the nearby river – both by the district's transportation corridors and later by the construction of the Capital Shopping Center.

Today, the Opportunity Corridor should be viewed as three adjoining but distinct subdistricts:

- The North Opportunity Corridor, between Loudon Rd./Exit 14 and I-393 Extension/Exit 15, remains primarily a transportation and industrial corridor with rail lines, maintenance yards, and the city's regional and intercity bus depot, although access is difficult.
- The Central Opportunity Corridor, between Loudon Rd./Exit 14 and Water Street/Exit 13, remains a suburban-like low-density commercial shopping area largely filled with one-story strip-mall retail buildings and large surface parking lots, in spite of good access and proximity to downtown.



- The South Opportunity Corridor, between Water Street/Exit 13 and I-93 Exit 12, remains largely industrial, includes a large marshland area, and has limited access, although commercial uses have evolved along Hall Street.

Along the river's embankment, regional recreational trail systems have been long discussed and planned. However, due to poor access, the embankment's very narrow width adjacent to the Central Opportunity Corridor, and the flood-prone nature of the much wider flat embankment and open space areas to the north and south, these recreational opportunities have not yet been developed.

Although things have only slowly changed in the Corridor over recent years, the pace of that change is likely to accelerate in the future once major planned public investments are actually implemented. For example, NHDOT plans to widen and possibly realign the I-93 highway corridor to expand capacity and remove dangerous weaves between the closely spaced Interchanges 14 and 15. Also, the NHDOT Maintenance facility plans to relocate elsewhere by the end of this year, thereby making available a key redevelopment site; and, options must be maintained to provide for future high-speed rail service and/or commuter rail extension service from Boston. All of these projects – and the highway and rail corridor realignments they may require, offer opportunities for change and redevelopment.

A.1.2. North Opportunity Corridor

General Description

The North Opportunity Corridor is bounded by the I-393 extension at I-93 Exit 15 on the north, Loudon Rd. at the I-93 Exit 14 to the south, the I-93 highway corridor to the east, and North Main Street to the west. The North Opportunity Corridor is largely a vehicular maintenance, outdoor storage, and transportation facility site with some office space adjacent to North Main Street and accessed from Ferry Street. Clearly, the site adjoins excellent regional access.

The site itself is flat and lies partly within the historic Merrimack River floodplain below the North Main Street escarpment or bluff. At the district's external boundaries, on all sides, the bounding roads and highways are at a higher elevation than the district's land, thereby perceptually placing the district within a low-lying "bowl" which visually isolates this precinct from its surroundings.

Historically, the site was used as a north/south rail corridor, railyards, and an industrial area. Much of the site is still used for these and similar purposes today – freight rail corridors, the NHDOT's vehicle maintenance facility, a U-Haul vehicle storage site, the city's intercity and regional bus terminal, and various office spaces at the back of North Main Street. There are no open spaces or recreation sites within the district. Although the district is proximate to excellent interstate highway access, adjacent to downtown Concord and the State Capitol District,



and adjacent to the Convention Center to its north, it clearly has not yet been able to capture new development opportunities that these proximities appear to offer.

Internally within the North Opportunity Corridor, the district is sliced into different sub-districts by the north/south New Hampshire Main Line rail corridor (NH Main Line), which then branches into two rail lines – the Concord-Lincoln Line heading north and the Northern Line heading northwest through Horseshoe Pond. The Northern Line needs to be preserved - either in its current alignment or an altered one - to preserve the opportunity in the future for planned high-speed inter-city rail service to Boston and Montreal. The Concord-Lincoln Line is still in use. The NH Main Line is currently used for freight service several times a week.



Surrounding Context

Contextually, to the north of the North Opportunity Corridor to the other side of the I-393 Extension, is the Horseshoe Pond area which has been the site of recent and successful development including the Convention Center, a Courtyard by Marriott Hotel, office buildings, and a restaurant. To the immediate east of the I-93 corridor, which bounds the district, is the Ft. Eddy Road shopping center area which includes an LL Bean outlet, Borders, and Uno's restaurant. Although this shopping area is just to the east of the North Opportunity Corridor, it is used and perceived as an entirely different precinct since the I-93 corridor separates the two districts. To the immediate west, the back sides of commercial buildings on North Main Street, including a Holiday Inn, sit atop the Main Street escarpment; and, to the south of Loudon Rd. lies the Central Opportunity Corridor – a mix of commercial, retail, and small office buildings and large parking lots.

Land Uses

Several major land uses predominate within the district:

- 1) The New Hampshire DOT Maintenance and Research facility occupies the central portion of the site. This facility includes an office/testing building, vehicle garages, and a maintenance yard. There are plans by NHDOT to relocate their facility to a new site on Route 106 by October of 2005, thereby freeing this site for potential reuse and redevelopment;
- 2) an inter-city and regional central bus terminal and commuter parking lot occupies the eastern side of the site adjacent to the I-93 corridor embankment. This terminal is served by several bus companies, including Concord Trailways, Peter Pan, Bonanza, and other regional providers;

- 3) another significant portion of the site is occupied by a U-Haul vehicle storage area;
- 4) a handful of residential properties remain along Herbert Street and Higgins Place;
- 5) office space within converted buildings occupy the northwest portion of the district between the back side of buildings along North Main Street and the freight rail line branch, which are accessed from South Commercial Street off of the I-393 extension.

Because the site has historically been used as a rail corridor, rail yards, and an industrial area, land parcels are irregularly configured and they sometimes lack good local road access across rail lines. Additionally, some portions of the district contain soils contamination

Redevelopment Potential Advantages

The North Opportunity Corridor possesses several advantages for redevelopment opportunities in the future. First and foremost, it lies directly between two I-93 highway interchanges – thereby offering excellent regional access and visibility. Additionally, a large portion of the site – the NHDOT Maintenance facility – is scheduled to be relocated, thereby freeing this portion of the site for redevelopment.

In addition, there exists an opportunity to directly connect the North Opportunity Corridor located on the west side of the I-93 embankment with the Ft. Eddy shopping center area to the east side of the embankment, simply by bridging over I-93 and connecting the two now isolated districts with one another by a short connecting road.

Also, the district adjoins both the North Main Street commercial corridor, and perhaps even more significantly, the successful redevelopment precinct to the north around Horseshoe Pond. If improved access connections from both North Main Street and the Horseshoe Pond redevelopment area can be provided into the district, the North Opportunity Corridor could benefit from the commercial life of these adjoining precincts, and, in turn, reinforce them.

Redevelopment Potential Disadvantages

The potential for redevelopment of the North Opportunity Corridor also must overcome some disadvantages. For example, access must be improved and means to pass over or under the district's two rail branches must be found. Additionally, improved access from North Main Street needs to be provided.



Parcelization within the district must also be better configured and sized to encourage redevelopment. The district's current road pattern and rail corridor alignments do not now define well shaped or sized development parcels. Therefore road and rail realignments may be required to better define suitable development parcels.

And finally, the severity of soils contamination must be explored further to better determine the cost premiums associated with the redevelopment of sites.

Existing Zoning

The North Opportunity Corridor is largely governed by the Opportunity Corridor Performance District (OCP District), although buildings along the east side of North Main Street are within the Urban Commercial District (CU). Portions of the North Opportunity Corridor are within the Flood Hazard Overlay District (FH). Below are the primary requirements of this predominant OCP District within the North Opportunity Corridor.

OCP District – Opportunity Corridor Performance District

This district was established to encourage economic redevelopment of underutilized properties between North Main Street and I-93 on brownfields sites. The range of permissible uses are intended to reinforce but not compete with the downtown. Any development within a “performance district” such as the OCP is subject to Major Site Plan Review [Section 28-9-4(b) of the Ordinance].

OCP Allowed Uses

The range of allowed uses are designed to reinforce but not compete with the CBP District and include educational, entertainment, lodging, governmental (incl. public works facilities), and office uses. Although multi-family and retail trade uses are allowed elsewhere within the OCP District as a whole, they are prohibited within the North Opportunity Corridor by certain restrictive clauses of the Code. [See citations below.]

Multi-family housing is *generally* allowed in the OCP *provided that* such dwellings are located on or above the second story of a building. However, buildings containing multi-family dwellings are permitted *only* on tracts that directly adjoin the CBP – Central Business Performance District. Therefore, multi-family housing is, in fact, *not* allowed within the North Opportunity Corridor.

Manufacturing and biotechnology uses are not allowed in the OCP District.

OCP Development Design Standards / Dimensional

The dimensional requirements in the OCP District are not overly restrictive. 45 ft. is the maximum height allowed. Maximum heights may exceed 45 ft. subject to a development receiving a Conditional Use Permit, but in no case higher than 80 ft. maximum. A 15 ft. minimum front yard setback is required.

OCP Development Design Standards / FAR

A *minimum* (0.3) Floor Area Ratio (FAR) is required for all uses in the OCP. Multi-family dwellings in the OCP District shall not exceed 2.5 FAR. [However, Multi-family housing is not allowed in the North Opportunity Corridor as pointed before].

Zoning Parking Requirements

Parking requirements ratios for various uses appear reasonable. Non-residential street level uses are encouraged within parking structures adjacent to Main Street and Storrs Street. In Section 28-7-11, *Alternative Parking Arrangements* are specified to allow greater flexibility. For example, these alternative arrangements allow both off-site and shared parking.

Supplemental Standards (Article 28-5)

28-5-17 Certain Uses in the OCP District: Retail trade uses are permitted *only* on tracts of land in that portion of the OCP District easterly of Storrs Street between Loudon Rd. and Water Street. Therefore, retail trade uses are *not allowed* in the North Opportunity Corridor District.

CU District – Urban Commercial District

This District covers parcels to both sides of North Main Street adjacent to the North Opportunity Corridor. This district is established to recognize areas adjacent to the downtown as well as nearby Downtown Residential Districts.

Urban Design, Opportunities and Constraints

A number of existing urban design and open space conditions now govern the character of the district, which, if modified, could dramatically improve that character.

Difficult Local Access

Vehicular access to the site is limited and no internal streets cross the rail lines or interconnect, thereby isolating one subdistrict from another. At present, major access is available from Stickney Avenue which extends from the southbound I-93 on-ramp at Exit 15 (one-way southbound) to Loudon Rd. to the south.

Access from North Main Street to the portion of the district between North Main Street and the freight rail line is limited to one short access road - Ferry Street. Storrs Street, which travels north-south primarily through the Central Opportunity Corridor, extends northward from the Central Opportunity Corridor under Loudon Road into the North Opportunity Corridor for a bit and then loops west to connect to North Main Street just to the north of the Holiday Inn located at the corner of North Main Street and Loudon Road.



At the north side of the district, South Commercial Street, off of the I-393 extension, provides access to an isolated pocket of buildings located in a triangular wedge between the I-393 extension and the split between the district's two rail lines.

In the future, if vehicular access is to be improved and sub-districts connected, then means must be found to cross over or under the two rail lines. At-grade crossings of the

NH Main Line may be difficult to achieve since this rail corridor may be converted to high-speed inter-city rail service in the future. In addition, opportunities to directly connect the North Opportunity Corridor located on the west side of the I-93 embankment with the Ft. Eddy shopping center area to the east side of the embankment may be created by bridging over I-93 and constructing a short surface connecting road.

Multi-modal Transportation Hub Potential

An opportunity exists to construct an inter-city and regional rail and bus terminal, together with its required parking, in the North Opportunity Corridor adjacent to the NH Main Line to serve both high-speed intercity rail, commuter rail extended from Boston, and regional and inter-city bus carriers. Such facility would have good highway access from the two adjacent interchanges and would be proximate to the conference center to the north at Horseshoe Pond.



Visibility of District from Adjoining Roads

The district, which immediately adjoins the I-93 highway corridor, is highly visible from the highway since the highway sits on top of an elevated embankment that overlooks the site. However, the district is all but invisible from North Main Street since buildings there, atop the escarpment, block views to the district below.

Development Opportunities

The existing NHDOT Maintenance facility will be relocated off-site in the near future. When this occurs, a large portion of the site will become newly available for redevelopment. Also, the district adjoins both the North Main Street commercial corridor, and perhaps even more significantly, the successful redevelopment precinct to the north around Horseshoe Pond. If improved access connections from both North Main Street and the Horseshoe Pond redevelopment area can be provided, the district could benefit from the commercial life of these adjoining precincts, and, in turn, reinforce them.

Parcelization Constraints

The district's current road pattern and rail corridor alignments do not now define well-shaped or sized development parcels suitable for new development uses. As a result, many parcels are now irregularly-shaped and configured. Therefore parcel shapes and sizes must be better defined to attract redevelopment and new road and rail realignments may be required to better define these suitable development parcels.

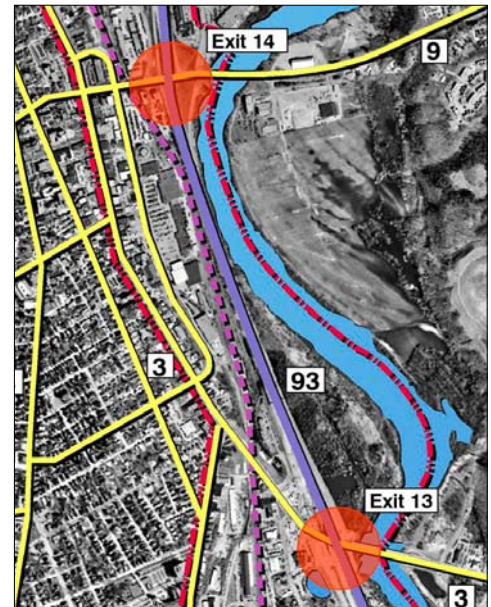
A.1.3. Central Opportunity Corridor

General Description

The Central Opportunity Corridor, bounded by Loudon Rd./ I-93 Exit 14 to the north, the recently reconstructed Water Street bridge / Exit 13 to the south, the I-93 highway corridor and the Merrimack River to the immediate east, and downtown's main commercial corridor - North Main Street - to the west, is immediately adjacent to the downtown and is located at the point where the Merrimack River bends in an arc closest to the downtown.

Storrs Street is the primary road running in a north-south direction through the district along which most properties in the district front. Access to this district is plentiful from the downtown along many small side streets running in an east to west direction - including Pleasant, Depot, DuBois, Phenix, Theater, Hills, and Freight - which connect North Main Street down the hill to Storrs Street. Pleasant Street is the primary east-west street corridor through the city that connects downtown to this district.

The site is almost flat and gently slopes down from Storrs Street eastward toward the I-93 embankment and the Merrimack River immediately beyond. Portions of the site lie within the Merrimack River floodplain below the North Main Street escarpment or bluff. North Main Street, atop the escarpment, is over 20 feet higher than Storrs Street at the escarpment's base.



Historically, the site was used as a north/south rail corridor, rail yards, and an industrial area adjacent to the Merrimack River before the I-93 highway was constructed. Concord's old passenger railroad depot was once located at the foot of Pleasant St along Storrs, but that station no longer exists. Today, the district is primarily used for suburban-styled strip retail uses - such as the Capital Shopping Center - although a portion of the district is still used for railroad and industrial purposes, and office space is located in renovated mill space at the Ralph Pill Marketplace.

Surrounding Context

To the north of the Central Opportunity Corridor is the North Opportunity Corridor described above. To the immediate east is the I-93 highway corridor, which sits on a raised embankment about, 5 feet higher than the district. [Plans are now underway by NHDOT to widen and/or realign this highway, improve interchanges 14 and 15, and eliminate the short weaves that now exist between these two closely-spaced interchanges.] To the immediate east of the highway is the Merrimack River and a very narrow band of scrub landscaped embankment. The highway surface roadway is set higher than the 100-year flood plain elevation although the highway embankment itself

serves as a dike or flood wall protecting portions of the low-lying district. To the west is North Main Street, which is the commercial heart of the downtown; and, to the south are the South Opportunity Corridor and South End residential neighborhood.

Land Uses

Several major commercial and parking land uses predominate within the low-lying district:

- 1) the largest portion of the district to the east side of Storrs Street is the Capital Shopping Center which is a large outdoor strip-style shopping plaza with a large parking lot in front. It includes several anchor stores, including a Market Basket supermarket;
- 2) a NH State Liquor Store and warehouse to the immediate south of the Capital Plaza;
- 3) a Fleet Bank to the north of the Capital Plaza;
- 4) The Granite Group – a plumbing supply and warehouse distribution facility south of the State Liquor Store which is serviced by a railroad spur; and
- 5) the Ralph Pill Marketplace offices in several older mill buildings located immediately adjacent to the Loudon Street bridge overpass.

A large and unattractive parking garage, located in air rights above Storrs Street, is used by state legislators and state office employees. A surface parking lot used by the Museum of New Hampshire History in Eagle Square is located on the east side of Storrs Street across from the back side of Eagle Square.

Between the rear of the Capital Shopping Center and the highway embankment runs the NH Main Line rail corridor, which is currently in use and in the future may be used for both new inter-city high-speed rail service as well as commuter rail service by the MBTA from Boston. Adjoining the rail corridor is a small railyard used to store train cars.

The small commercial blocks between Storrs Street and North Main Street, which comprise a significant portion of the downtown on the east side of North Main Street, include a variety of one, two, three, and four-story commercial buildings with retail and restaurant establishments often located on the ground floor and small office spaces in the upper floors above. The upper floors of some buildings, such as the Phenix Building on the east side of North Main Street are underutilized. However, the lack of sufficient supporting parking is often cited as a primary reason these buildings have not been renovated. Some lots within these blocks are used for small surface parking lots to support these commercial buildings; however, they do not provide sufficient parking to support all the commercial space that may be available.

An intimately scaled alley system, focused along Low Avenue, weaves its way through these blocks connecting Eagle Square to Depot Street. Some commercial establishments and restaurants have provided entrances along this alleyway, which has the potential to become a pedestrian way similar to those on the west side of North Main Street.

Public pedestrian access, or access of any kind for that matter, between the downtown, the Central Opportunity Corridor District and the river is not possible since the I-93 embankment and the NH Main Line and rail storage tracks cut such access off. Furthermore, no public ways extend eastward toward the river from Storrs Street, thereby precluding public access across private property.

At the river's edge itself, there is a steep but narrow embankment that has little width for either access or recreational use, even if this embankment could be readily accessed.

Redevelopment Potential Advantages

The Central Opportunity Corridor possesses several advantages for redevelopment opportunities. First, it immediately adjoins the I-93/Loudon Street/Exit 14 highway interchange, which is the most direct access into the downtown and capital government district from the interstate highway. Furthermore, the Central Opportunity Corridor adjoins the downtown commercial district to its immediate west.

Also, because the I-93 alignment is likely to be relocated - perhaps both in the horizontal and vertical directions – in order to reduce dangerous weaves between Exits 14 and 15, there is an opportunity to piggyback on this highway project to realign other transportation infrastructure within the district (i.e. access ramps, the NH Main Line, and local streets) to accommodate this highway realignment. Such realignments may also provide the opportunity to create more riverbank area along the Merrimack River.



Redevelopment Potential Disadvantages

The redevelopment of the Central Opportunity Corridor to higher and better uses must also overcome some obstacles. For example, certain existing uses – such as the Capital Shopping Center – have indicated no desire to relocate. Also, certain blighting influences – such as the state garage in air rights space above Storrs Street, will need to be removed and replaced if a quality environment is to be established along Storrs St – the district's main spine. Also, if public access is to be provided to the riverfront across the district, means must be identified to cross over and/or under the rail lines and I-93 highway corridor.

Existing Zoning

The Central Opportunity Corridor primarily lies within the jurisdiction of the Opportunity Corridor Performance District (OCP District), but also includes two other base districts. Portions of the Central Opportunity Corridor lie within the Flood Hazard (FH) Overlay District. Below is a description:

OCP District – Opportunity Corridor Performance District

This district covers the majority of the Central Opportunity Corridor from Storrs Street to the riverfront. This district is established to encourage economic redevelopment of underutilized brownfield properties between the CBP district and I-93. The range of permissible uses are intended to reinforce but not compete with the downtown. Any development within a “performance district” such as the OCP is subject to Major Site Plan Review [Section 28-9-4(b) of the Ordinance].

OCP Allowed Uses

The range of allowed uses are designed to reinforce but not compete with the CBP District and are quite broad and extensive – including multi-family housing, retail, educational, entertainment, lodging, governmental (incl. public works facilities), and offices - thereby allowing much flexibility.

Although retail uses of 5,000 to 75,000 sq. ft. are allowed, there is a prohibition against retail trade in excess of 75,000 sq. ft. – to discourage “big box” retailers and to avoid retail competition with the downtown. Also, retail trade uses are permitted *only* on tracts of land in that portion of the OCP District easterly of Storrs Street between Loudon Rd. and Water Street

Multi-family housing is allowed in the OCP provided that such dwellings are located on or above the second story of a building. Also, buildings containing multi-family dwellings are permitted *only* on tracts that directly adjoin the CBP – Central Business Performance District.

Manufacturing and biotechnology uses are not allowed in the OCP District.

OCP Development Design Standards / Dimensional

The dimensional requirements in the OCP District are not overly restrictive. 45 ft. is the maximum height allowed. Maximum heights may exceed 45 ft. subject to a development receiving a Conditional Use Permit, but in no case higher than 80 ft. maximum. A 15 ft. minimum front yard setback is required.

OCP Development Design Standards / FAR

A *minimum* (0.3) Floor Area Ratio (FAR) is required for all uses in the OCP. Multi-family dwellings in the OCP District are not to exceed 2.5 FAR.

Parking Requirements

Parking requirements ratios for various uses appear reasonable. Non-residential street level uses are encouraged within parking structures adjacent to Main Street, Pleasant Street, and Storrs Street. In Section 28-7-11, *Alternative Parking Arrangements* are specified to allow greater flexibility. For example, these alternative arrangements allow both off-site and shared parking.

CBP District – Central Business Performance District

The Central Business Performance District covers from State Street to Storrs Street and from Centre Street to Fayette Street in the downtown. This district is established to encompass the traditional downtown as a mixture of retail, restaurant, service, entertainment, cultural, lodging, office, government and high density residential uses.

CU District – Urban Commercial District

The Urban Commercial District covers from State Street to Storrs Street, and from Fayette to Thorndike and Perley. This district is established to recognize areas adjacent to the downtown as well as nearby Downtown Residential Districts.

Urban Design, Opportunities and Constraints

A number of existing urban design and open space conditions now govern the character of the district, which, if modified, could dramatically improve that character.

Views of the City from the Highway

First and foremost, this district and the downtown just beyond would at first appear to be highly visible to passing motorists traveling on I-93 as they speed past the city. Unfortunately, however, many potential views or glimpses of the downtown as seen from this highway are obscured by brush, trees, and the back of buildings in the Capital Shopping Plaza. Even when glimpses of the City are captured, they often are of the backs of buildings along North Main Street. As a result, a positive image of the city is not well conveyed, and to some motorists, the fact that Concord exists at all is barely evident. And so, even though at least three highway interchanges provide access to the downtown and the Opportunity Corridor District, none offer an appealing gateway image or view.



Poor Highway Gateway Image

The current I-93 Interchange 14 at Loudon Street is the primary and most direct “gateway” into the downtown and Capitol Government District. Unfortunately, once motorists take the exit ramps and enter the city along Loudon Street beneath the highway overpass, their view and first impression of entering the city is one of highway ramps and strip shopping along Ft. Eddy Rd. The charm and proximity of the nearby City and the beautiful Capitol precinct is entirely missed.

Downtown to Riverfront Connections

Making a visual and actual pedestrian connection between the downtown and the river, a long sought objective, is now stymied. Public pedestrian access, or access of any kind for that matter, between the downtown, the Central Opportunity Corridor, and the river is not possible since the I-93 embankment, the NH Main Line and rail storage tracks, and the Capital Shopping Center cut the potential for such access off at the very place the river is closest to downtown. Furthermore, no public ways or streets extend

eastward toward the river from Storrs Street, thereby precluding public access across private property. If the highway could be vertically depressed in a boat section, for example, views from the downtown and the district to the river and the eastern bank could be opened up and a large visual barrier removed.

Riverfront Open Space

Even if physical access to the river were made possible, there is very little width to the river embankment there to arrive at and make use of. However, if the I-93 corridor could be horizontally realigned to the west, more riverfront land could be created and used for recreational enjoyment and regional riverfront trails. Perhaps, in addition, an open space deck overlooking the river could be provided which spans across the I-93 highway corridor

Lack of A Central Riverfront Public Gathering Place

There is no civic or public gathering place, such as a “green” or plaza, in the Corridor where the downtown comes closest to the river’s edge. Many citizens, in hoping to make a downtown-to-riverfront connection, have suggested in past studies over recent years that such a civic gathering place be constructed at the foot of Pleasant Street to the east side of Storrs Street

Storrs Street Mixed Use Potential

Storrs Street is a potential boulevard or spine for new mixed use development that could become the central boulevard of the Central Opportunity Corridor. Now, however, it functions as a wide service street for the Capital Shopping Center and the buildings on the east side of Main Street. For much of its length, Storrs Street is now lined by surface parking lots and the backs of buildings.

Storrs Street / Legislative Garage Eyesore

The unappealing looks of the legislative garage over Storrs Street detract from a positive image of the district as a whole, and Storrs Street in particular.

Low Avenue Pedestrian Alleyway System

The existing small-scaled alley system along Low Avenue, which connects Eagle Square with Pleasant Street, could be revitalized as an intimately scaled pedestrian walkway system onto which stores and restaurants could open. Today, several commercial establishments have already turned to face the Low Avenue alley.



Transportation Infrastructure Realignment Potentials

Because NHDOT plans to widen and perhaps realign the I-93 corridor- perhaps both in the horizontal and vertical directions – in order to reduce dangerous weaves between Exits 14 and 15 and divert locally-destined traffic from this highway link, there is an

opportunity to piggyback onto this highway project the realignment of other transportation infrastructure within the district (i.e. access ramps, the NH Main Line, and local streets) to accommodate this highway realignment. Such realignments may provide the opportunity to create more riverbank area along the Merrimack River and more rational development parcel sizes and shapes.

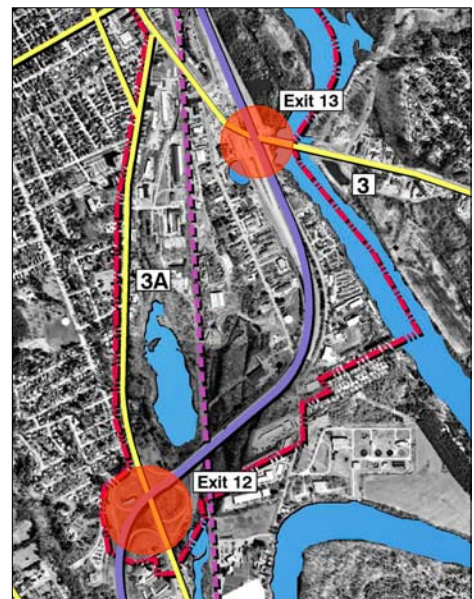
Multi-modal Transportation Hub Potential

An opportunity exists to construct an inter-city and regional rail and bus terminal, together with its required commuter parking, in the Central Opportunity Corridor adjacent to the NH Main Line and near the foot of Pleasant Street, dedicated to serve both high-speed intercity rail, commuter rail extended from Boston, and regional and inter-city bus carriers. Ironically, this location is approximately where Concord's historic and handsome railroad depot once stood. Such facility would have good highway access from the Loudon Road interchange and potential for significant walk in patronage from downtown origins and destinations. Any commuter garage associated with the station could serve a dual purpose to support evening and weekend patronage for commercial, restaurant, and performing arts activities within the district and in the immediately adjacent downtown. Additionally, a transportation hub in this location could serve as a catalyst to attract new higher density commercial and residential development to this vicinity.

A.1.4. South Opportunity Corridor

General Description

The South Opportunity Corridor is a triangular shaped mixed-use commercial and industrial set of subdistricts without visibility or strong identification to motorists passing by either on South Main Street or on I-93. The district is split down the middle by the NH Main Line rail track and is bounded by the recently reconstructed Water Street bridge and I-93 Interchange 13 on the north, the I-93 highway corridor on the east, the I-93 highway corridor and Interchange 12 to the south, and South Main Street to the west. The South Main Street corridor and its interchange with I-93 are regarded as the gateway into the city from the south and into the South End neighborhood.



The district is flat and lies primarily within the Merrimack River floodplain below the South Main Street escarpment or bluff. A large protected marsh occupies much of the southwest quadrant of the district, and serves as a potentially valuable natural open space and conservation area.

Historically, the site was used as a north/south rail corridor, rail yards, and an industrial area adjacent to the Merrimack River before the I-93 highway was constructed. Much of the site is still used for these and similar purposes today although there are several

distinct sub-districts – each with its own characteristics and largely unconnected to one another because the NH Main Line track inhibits street interconnections.

Internally within the South Opportunity Corridor, the district is divided into several distinct sub-districts by streets, the NH Main Line track, and spur tracks:

- 1) Along Hall Street there is a mix of commercial, restaurant and lodging uses where there was once primarily residential uses;
- 2) along South Main Street at the top of the bluff is a mix of automobile-oriented low-density strip retail and commercial uses;
- 3) at the southwest corner of the site below the escarpment are protected marshes and wetlands; and
- 4) along the NH Main line at the center of the district are rail spurs and industrial businesses that now or in the past utilized the freight rail service available to this area. This sub-district also includes several unused or underutilized historic railroad buildings along Gas Street and along the track that many hope to preserve.

The NH Main Line rail corridor through this entire district must be retained for planned high-speed inter-city rail service to Montreal. Freight rail service is still in use and services several companies with freight deliveries several times a week.



Vehicular access to the South Opportunity Corridor is limited since there are no street crossings of the NH Main Line rail corridor. Therefore, the district is divided into sub-districts – each with its own limited access. From South Main Street, there are only two access streets – Gas Street at the north end of the district and Langdon Avenue toward the middle of the district. Neither street crosses the rail corridor. On the east side of the corridor, Hall Street travels in a north-south direction and provides access to the commercial establishments located along its length.

In the past, the City has discussed plans for extending Storrs Street south from the Central Opportunity Corridor beneath the Water Street overpass into the South Opportunity Corridor. [The newly reconstructed Water Street bridge overpass was designed to allow the Storrs Street extension through one of its bays and the rail line through another.] Storrs Street would then connect into Langdon Avenue, which would provide access back to South Main Street. There has also been discussion of extending Langdon Avenue across the rail corridor to Hall Street. However, it is unlikely that a grade crossing would be allowed to achieve this end since the rail corridor is designated as a high-speed rail corridor in the future.

Surrounding Context

To the west of the district are residential neighborhoods of the South End. To the south is Interchange 12 of I-93 to South Main Street, which many regard as the “gateway” to the South End and the downtown to the north. To the east is the Merrimack River. To the north is the Central Opportunity Corridor described above.

Land Uses

As mentioned above, there are several distinct sub-districts within the South Opportunity Corridor – each with a different mix of uses:

- 1) Hall Street is lined with commercial, lodging and restaurant uses;
- 2) South Main Street is lined with low-density strip-like commercial and retail uses;
- 3) the central portion of the district, located around the rail corridor, is occupied by industrial uses including a scrap metal recycling business which utilizes the available freight rail service, a truck-to-rail transfer facility, and several vacant or underutilized historic railroad buildings along Gas Street and the rail line; and
- 4) the South End marsh, which is an environmentally protected natural feature.



Redevelopment Potential Advantages

There is plenty of underutilized land within this district to allow redevelopment to higher and better uses with nearby regional highway access from both I-93 Interchanges 12 and 13. Certain existing historic railroad buildings within the district have a distinctive architectural character that may be attractive to potential redevelopers.

Redevelopment Potential Disadvantages

Much of the district is within the Merrimack River 100-year flood plain – thereby requiring compensatory flood storage and/or flood proofing of any buildings within the district. Improved local road access may be required to better access portions of the site.

Also, certain portions of the district may contain contaminated soils. High costs may be required to remediate the site and make it suitable for redevelopment – particularly if housing uses were contemplated.

Existing Zoning

The South Opportunity Corridor is governed by several zoning districts. However, the Opportunity Corridor Performance District (OCP District) to the west side of the rail corridor and the Gateway Performance District (GWP District) to the east side of the rail corridor along Water Street and Hall Street are by far the predominant ones. Portions of the Opportunity Corridor are also within the Flood Hazard Overlay District (FH). Below are the governing base districts within the South Opportunity Corridor:

OCP District – Opportunity Corridor Performance District

This district covers the west side of the South Opportunity Corridor from the northern edge of the district to the South End Marsh. This district is established to encourage economic redevelopment of underutilized brownfield properties. The range of permissible uses are intended to reinforce but not compete with the downtown. Any development within a “performance district” such as the OCP is subject to Major Site Plan Review [Section 28-9-4(b) of the Ordinance].

OCP Allowed Uses

The range of allowed uses are designed to reinforce but not compete with the CBP District and are quite broad and extensive – including educational, entertainment, lodging, governmental (incl. public works facilities), and offices.

Manufacturing and biotechnology uses are not allowed in the OCP District.

OCP Development Design Standards / Dimensional

The dimensional requirements in the OCP District are not overly restrictive. 45 ft. is the maximum height allowed. Maximum heights may exceed 45 ft. subject to a development receiving a Conditional Use Permit, but in no case higher than 80 ft. maximum. A 15 ft. minimum front yard setback is required.

OCP Development Design Standards / FAR

A minimum (0.3) Floor Area Ratio (FAR) is required for all uses in the OCP.

Parking Requirements

Parking requirements ratios for various uses appear reasonable. In Section 28-7-11, *Alternative Parking Arrangements* are specified to allow greater flexibility. For example, these alternative arrangements allow both off-site and shared parking.

GWP District – Gateway Performance District

This district covers an area in the South Opportunity Corridor at Exit 13 surrounding Hall Street and Water Street and is intended to provide for well-designed large-scaled commercial development along arterials at entrances to the City, such as along Water Street. Permitted uses may include retail, restaurant, service and office uses. This district is fully served by municipal utilities. Uses developed here are expected to adhere to high standards for appearance in order to insure that gateways to the City are attractive.

UT District – Urban Transition District

This district covers properties on the east side of South Main St in the South Opportunity Corridor. This district is established to recognize areas of mixed use between established residential neighborhoods and existing commercial development.

RO District – Open Space Residential District

This district surrounds the South End Marsh to the west of the rail corridor and some adjacent land to the east of the rail corridor. This district is designed to accommodate single-family dwellings at densities not to exceed one dwelling unit per two acres as well as cluster developments, agriculture, forestry, and low-impact recreational uses in environmentally sensitive areas where municipal utilities are generally not present or anticipated.

Urban Design, Opportunities and Constraints

A number of existing urban design and open space conditions now govern the character of the district:

Access and Interconnections

Local vehicular access to much of the South Opportunity Corridor is limited and circuitous. From South Main Street, there are only two access streets – Gas Street at the north end of the district and Langdon Avenue toward the middle of the district, which do not interconnect with other streets to form any kind of circulation network. Neither street crosses the rail corridor. On the east side of the corridor, Hall Street travels in a north-south direction and provides access to the commercial establishments located along its length. However, Hall Street does not link with other portions of the district.



In the past, the City has discussed plans for extending Storrs Street south from its current termination in the Central Opportunity Corridor beneath the Water Street overpass into the South Opportunity Corridor. [The newly reconstructed Water Street overpass was designed to allow the Storrs Street extension through one of its bays and the rail line through another.] Storrs Street would then possibly connect into Langdon Avenue, which would in turn provide access back to South Main Street. There has also been discussion of extending Langdon Avenue across the rail corridor to Hall Street. However, it is unlikely that a grade crossing would be allowed to achieve this end since the rail corridor is designated as a high-speed rail corridor in the future.

Although local access is limited and confusing, nearby regional highway access from both I-93 Interchanges 12 and 13 is superb.

Lack of District Visibility from Passersby

Much of the South Opportunity Corridor is practically invisible from surrounding highway and street corridors. The rail and industrial portions of the district are invisible from South Main Street because it lies below the Main Street bluff and because it is obscured by the homes and businesses which align the east side of the street. Therefore, there is little awareness of the district's presence by passersby. From the I-93 corridor, the businesses and motels along Hall Street are visible but not the low-lying rail and industrial corridor beyond.

Historic Building Resources

Certain existing historic railroad buildings within the district have a distinctive architectural character that may be attractive to potential redevelopers. They are located on Gas Street and adjacent to the NH Main Line.

Merrimack River 100 Year Flood Plain

Much of the district lies within the low-lying 100-year flood plain, thereby requiring compensatory flood storage and/or flood proofing of any new buildings proposed within the district.

Inadequacy of Municipal Utility Services

Much of the industrial and rail portions of the district are not well served by municipal utilities.

South Main Street Corridor

The South Main Street corridor from the I-93 Interchange 12 to the Capitol Center for the Arts immediately south of downtown is regarded as the gateway corridor into the city and into the South End neighborhood from points south. The corridor is lined with residences and a mix of strip-style small commercial and business uses. Often commercial buildings are sited in the middle or back of their sites with parking lots located along the street edge. The image presented is not attractive and serves as a less-than-inspiring gateway entrance and approach corridor to the city and downtown to the north.

Hall Street Corridor

The Hall Street corridor is a mixture of older residential units and a newer mix of commercial, retail, restaurant, and hospitality uses that offer a mixed and somewhat incongruent visual image of differing building scales, sizes, and street setbacks. The resulting image is a confusing semi-urban, semi-suburban strip development.



A. APPENDIX – EXISTING CONDITIONS

A.2. NATURAL AND HISTORIC RESOURCES

The Opportunity Corridor area has been changed and altered so much through the years that few natural resources remain untouched. The most prominent of course is the Merrimack River, even if its banks have been substantially modified with the construction of I-93. The other most significant natural resource is the South End marsh, an area of wetlands and poorly drained soils that remains undeveloped and naturally vegetated. In contrast, important historical resources remain from the corridor's past as a major rail connection and rail yard service facility, particularly represented by historical rail service buildings in the South End.

A.2.1. Natural Resources

The South End marsh is protected by state and local regulations as a prime wetland area. It is an important component of the Merrimack River open space corridor, and as such it is a habitat for native species of flora and fauna. The Concord area is also situated within an avian migratory artery – the Atlantic Flyway – and many migratory birds use it as a stopover.

It is important that this resource remains protected and largely untouched in the future as a natural reserve area.

The Merrimack River open space corridor includes a full range of open space uses and opportunities, including recreation, public services, resource production and environmental protection. The Merrimack River valley has been designated as the location for “The New Hampshire Heritage Trail” and, as such, it will be equipped with pedestrian and bicycle trails between Nashua and Franklin.



The fact that I-93 runs adjacent to the river along most of the Opportunity Corridor's length precludes the possibility of bringing some of these trails along the western bank of the river, unless changes are made to the way the highway and the river's edge are placed in relation to each other. The ongoing studies to improve, and possibly widen I-93 along the downtown offer the possibility to consider alternatives that would contribute to the creation of an accessible riverfront.

There is one area where the river meanders away from the highway, at Healey Park. This area, a portion of which was used as a landfill in the past, is in a process of natural reforestation. Public trail access is available within the park, but difficult, since it is mostly bisected from the rest of the city by the highway. However, the potential exists to integrate it into a more extensive public system of parks and trails if waterfront access can be expanded along the western bank of the river.

A.2.2. Historical Resources

Several historic districts and buildings of historical significance exist in the study area, although most of the grand railroad facilities that were testimony of nineteenth century rail expansion have disappeared. Among them, the main depot or railroad station, which stood at the foot of Pleasant Street well into the mid 20th century, and was sadly demolished in the early 1960s.



Concord's Boston & Maine Railroad Station

Part of the study area is contained in the Eagle Square Historic District, including the blocks between North and South Main Streets, Storrs Street, Loudon Road/Centre Street, and Hills Avenue. These include many contributing and non-contributing buildings. Other important historic districts in the downtown, including parts of North Main Street where the oldest remaining Concord homes are located, are adjacent to the Opportunity Corridor but are not included in the study area.

Several buildings in the South Opportunity Corridor are eligible for listing in the National Registry of Historic Places, including the Concord Gas-Light Company, which retains many of the structures that were in operation since its beginnings in 1850, and the adjacent Holt Brothers complex, a carriage works industry that was one of the most successful local businesses in the early 1900s. These are located along South Main Street and Gas Street in the northern portion of the South Opportunity Corridor area.

The Boston & Maine Railroad South Concord Shops Complex is the other important historical resource located in the South End. It was built in 1896 and was one of the two main railroad car construction and maintenance facilities in the Boston & Maine Railroad. There are up to 13 structures that remain, including an erecting/machine shop, a coal bin, a streetcar barn, a washhouse, offices/storage, freight houses, planning mills, and shops. Some of them have been kept and renovated through the years, although their current use is not necessarily rail-oriented. Others, such as the paint shops are vacant and in highly deteriorated condition.



Perhaps the most impressive of the vacant structures still standing is the Repair Shop located in the southeast corner of the complex, between the rail line and Hall Street. It is boarded up and vacant, but its solid brick walls remain in fair condition. A huge locomotive turntable located in front of the building is covered with a layer of earth and debris. Both are located on the property of Advanced Recycling, a scrap metal yard.

Preserving and restoring some of these buildings as part of a heritage that is a fundamental part of Concord's history is an important goal for many members of the community, and one of the plan's recommendations. However, there are real economic constraints for an actual restoration or adaptive reuse of the vacant structures given their advanced degree of deterioration.

A. APPENDIX – EXISTING CONDITIONS

A.3. ENVIRONMENTAL ASSESSMENT

A Level I Environmental Site Assessment (ESA) of the Opportunity Corridor was completed in September 1997 by the firm Nobis Engineering, Inc. for the City of Concord and Woodward Planning Consultants. The objective of the study was to conduct a preliminary assessment of environmental conditions for the presence of oil and/or hazardous materials.

The study area has had a long and diverse history of railroad, industrial and commercial uses, and contaminants have been identified historically in soil and groundwater. Some of the contaminants found include volatile organic compounds (VOCs), total petroleum hydrocarbons (TPH), polynuclear aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs) and various metals such as arsenic, lead, mercury and others.

The effects and potential risks to human health associated with these contaminants were evaluated and a concern rating was assigned to each property within the Opportunity Corridor. The ESA study concluded that there are no high-risk sites in the corridor. However, a large majority of properties are considered to be of moderate levels of concern. This will likely result in remediation cost premiums affecting the redevelopment potential of many parcels.

The results of the environmental site assessment are illustrated on Figure 20, Environmental Conditions, and indicate that most of the Central and South Opportunity Corridor areas include sites rated as Moderate – High Risk areas. These are defined as properties with long-term historical oil and/or hazardous materials-related activities, but with no, little, or poorly updated soil or groundwater quality data, or properties with high documented exceedances of NHDES soil cleanup criteria that are undergoing current investigation or remediation.

Most of the sites located in the North Opportunity Corridor have been rated as Moderate – Low Risk areas. These are defined as State Hazardous Waste and Licensed Underground Storage Tank sites, properties undergoing current environmental investigations, or monitoring through a Groundwater Management Permit, that are in compliance with NHDES investigation requirements; closed sites where documented on-site soil quality exceeds current NHDES cleanup criteria; or where current on-site activities possibly involving oil and/or hazardous materials were noted during field reconnaissance but no documentation of site activities was found in the State records.

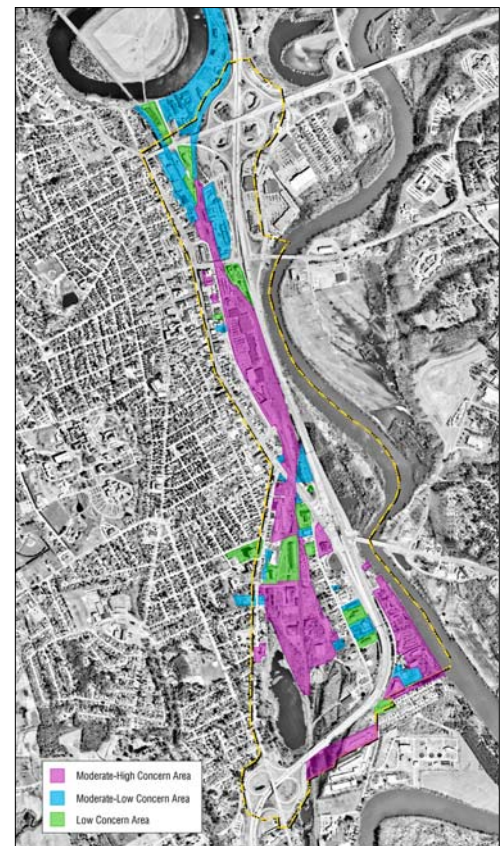


Figure 20. Environmental Conditions

The actual level of contamination present in this areas may not be known until Level II Assessments are carried on, which will accurately determine the specific type and location of contaminants present in the soil and groundwater. This, in turn, will provide the information needed to prepare a detailed remediation plan.

Both the State of New Hampshire and the Federal Government have assistance programs available to help public entities and private owners in financing and implementing brownfields' environmental assessments, cleanup and remediation.

A.3.1. Brownfields Programs

The New Hampshire Department of Environmental Services (NHDES) has several programs to encourage and support cleanup and redevelopment of brownfield sites, which are and have been a valuable resource to help financing and facilitating cleanup processes:

Brownfields Cleanup Revolving Loan Fund (BCRLF)

Established in 1996, it encourages voluntary cleanup and redevelopment of contaminated sites, by providing “short to medium term” low interest loans to property owners, developers and/or municipalities. Loans typically range from \$50,000 to \$200,000 but there is no set maximum.

Brownfields Assessment Grants Program

Established in 1998, this program helps municipalities to clean up and redevelop properties that are underutilized or abandoned due to concerns about contamination. NHDES utilizes its own contract consultants to provide site assessment and cleanup planning services at these sites. The program also uses funding from the U.S. Environmental Protection Agency (EPA).

New Hampshire Brownfields Covenant Program

Frequently, prospective new purchasers and developers, banks and other financing agencies, and municipalities tend to avoid working with brownfield properties due to the potential for liability for existing contamination that has typically been generated by previous owners or users. This program is designed to provide incentives to redevelopers in the form of liability protections for the investigation, cleanup and remediation of contaminated properties to persons that did not cause or contributed to the contamination, as long as those actions are carried out according to NHDES cleanup requirements.

Brownfields Tax Incentive

A Brownfields Tax Incentive has been made available in 1997 to national demonstration areas including the Opportunity Corridor, under which environmental cleanup costs are fully deductible in the year when they are incurred rather than having to be capitalized.

The City of Concord should continue working with NHDES, the New Hampshire Office of Energy and Planning, the New Hampshire Department of Resources and Economic Development, and other entities to provide financial and technical support to the cleanup and redevelopment of brownfields, particularly within the Opportunity Corridor area.

A. APPENDIX – EXISTING CONDITIONS

A.4. ECONOMIC DEVELOPMENT POTENTIAL

A.4.1. Economic Findings

The following points summarize the key findings regarding market conditions, potential development programs, and the study area's general prospects for revitalization:

1. Positive Demographic and Economic Growth

Concord offers moderate but steady demographic growth prospects, and a relatively upscale demographic profile. Economic growth has continued despite the recent economic downturn. Ongoing economic growth will continue to feature gains in the area's professional employment, along with a continued decline in manufacturing-related activity.

2. Development Opportunities

Short-term development opportunities in the Opportunity Corridor include potential retail developments as well as high-end attached housing (both rental and for-sale) formats. Over a longer-term time frame (e.g. five to ten years), lodging and office development – despite current weakness in this market – should also offer potential (if somewhat limited) opportunities.

a. Retail Market

Well-situated sites with good highway access and visibility would be likely to support additional retail development. Support for new retail development, however, would be contingent upon the implementation of physical improvements that would provide convenient access and visibility from I-93, connections to retail “anchors” along Fort Eddy Road, and other site amenities.

The north and central areas offer the strongest locations for new retail development, but strategic locations in the south area may also offer attractive sites for smaller-scale developments. In the north area, potential retail sites would derive strong benefits from improved connections to retail centers on Fort Eddy Road, which would enable the existing retail concentrations to serve as “anchors” for additional retail development in the Opportunity Corridor;

The most attractive formats would probably not include grocery-anchored shopping centers (given the area's close proximity to four existing grocery stores) or regional malls, but might feature mixed-use formats and/or open-air pedestrian-friendly orientations.

b. Office Market

While the Concord office market will offer limited depth, over time the Opportunity Corridor can provide suitable locations for future office growth. Upper-story locations oriented toward the Merrimack River, the downtown core or other amenities would offer attractive locations. Most buildings would feature midrise configurations, with less than 60,000 or 80,000 square feet.

c. Residential Market

The Opportunity Corridor offers potential opportunities for market-rate attached residential development.

Renovated properties close to major retail centers, downtown amenities, employment locations, and riverfront amenities would offer a unique combination of advantages for midrise condominium units. Strategically situated sites in the Opportunity Corridor may be able to support projects of limited size.

The preferred format for new market-rate housing should emphasize smaller scale (e.g., less than 20 units) redevelopment projects offering configurations and amenities that are unique to the project. As compared to larger (e.g., 60-100 unit) standardized products, such projects (1) enjoy market protection in that they are not easily replicated in less expensive, suburban settings, (2) carry lower levels of market risk, and (3) demonstrate the potential viability for other small-scale renovations in the Project Area.

d. Lodging Market

Over time, locations in the Opportunity Corridor can offer desirable sites. Given convenient visual and vehicular access to I-93 and I-393, such sites would be able to support the development of one or two new lodging properties. To a certain extent, however, such developments may succeed at the expense of existing properties in the Concord area.

3. Physical Context and Planning Challenges

The study area offers the potential to provide strategically situated development sites in a central location. In order to maximize the strength of potential development opportunities, planning efforts should seek to provide:

- Efficient access (visual and vehicular) to I-93 and I-393;
- Improved access to retail centers on Fort Eddy Road, thereby enabling existing anchor tenants at such centers to act as “anchors” for additional retail development in the north end of the Opportunity Corridor;
- Convenient pedestrian and vehicular access to downtown Concord; and
- Convenient pedestrian, vehicular and visual access to the Merrimack River and new riverfront recreational amenities. Such amenities would enhance competitive site attributes, particularly for prospective high-end residential development.

4. Site Amenities

All of the above opportunities would benefit from convenient pedestrian and vehicular access to downtown Concord as well as the Merrimack River and new riverfront recreational amenities. Such amenities would enhance competitive site attributes, particularly for prospective high-end residential development.

A.4.2. Market Context

The discussions in this section present a general overview of local demographic trends and economic conditions that frame the general outlook for prospective developments in the study area.

A. Demographic Growth Context

1. Population and Household Trends and Projections

In recent years, Concord has achieved moderate demographic growth. Since 1990, the City's population has increased at an average rate of 1.3 percent per year; households have increased by 1.6 percent per year. These rates have increased; over the last three years, population and households have increased at average rates of 1.7 percent and 2.1 percent, respectively.

Over the next five years, average annual population growth is anticipated at rates of 1.5 percent, with household growth continuing at an average rate of 1.9 percent. In general, past and anticipated growth rates are similar to those in Merrimack County, and slightly higher than those for the overall state of New Hampshire.

Table 5 – Demographic Growth Trends and Projections: 1990-2003

	1990	2000	2003	Avg. 3-Yr. Change		Avg. 13-Yr. Change		2008	Avg. Projected Change	
				#	Ann. %	#	Ann. %		#	Ann. %
Concord										
Population	36,006	40,687	42,810	708	1.7%	523	1.3%	46,162	670	1.5%
Households	14,181	16,281	17,340	353	2.1%	243	1.6%	19,063	345	1.9%
Merrimack Co.										
Population	120,005	136,225	143,198	2,324	1.7%	1,784	1.4%	154,251	2,211	1.5%
Households	44,471	51,843	55,204	1,120	2.1%	826	1.7%	60,734	1,106	1.9%
New Hampshire										
Population	1,109,252	1,235,786	1,287,879	17,364	1.4%	13,741	1.2%	1,372,507	16,926	1.3%
Households	411,186	474,606	500,527	8,640	1.8%	6,872	1.5%	544,004	8,695	1.7%

Source: Claritas, Inc.

2. Profiles

Concord and Merrimack County feature professional, primarily white-collar profiles. These are manifested most clearly in (1) relatively high levels of educational attainment, with 30 percent of the work force having earned bachelors' degrees or higher, and (2) high incidences of professional occupation, with roughly 80 percent of the work force engaged in white-collar occupations.

These general characteristics are typical of other southern New Hampshire communities, as shown in Table 6. In comparing these various communities, distinctions include the following:

- Despite their qualitative similarities, Merrimack County's labor force is approximately one-half the size of Rockingham County's, and just over one-third

the size of Hillsborough County's; southern New Hampshire locations in Hillsborough and Rockingham Counties offer deeper labor pools than locations in Merrimack County.

- The City of Manchester, with a labor force of 84,000, features comparatively low levels of educational attainment, low incidences of professional management-level workers, and low-income levels. These indicate that Manchester would most likely offer the region's strongest resources for blue-collar industrial labor.

Table 6 – Comparative Labor Force Profiles: 2000

	<u>Concord</u>	<u>Merrimack County</u>	<u>New Hampshire</u>	<u>Manchester</u>	<u>Nashua</u>	<u>Hillsborough County</u>	<u>Portsmouth</u>	<u>Rockingham County</u>
Total Population	40,687	136,225	1,235,786	107,006	86,605	380,841	20,784	277,359
Median Age	37.0	37.7	37.1	34.9	40.1	35.9	42.1	37.2
% 25-34	15.2%	12.4%	13.0%	16.9%	15.9%	14.3%	19.3%	13.1%
% 35-44	17.8%	18.2%	17.9%	16.5%	17.6%	18.4%	17.0%	19.7%
% 45-54	14.3%	15.3%	14.9%	12.9%	13.6%	14.4%	14.2%	15.6%
% 55-64	7.7%	8.7%	8.9%	7.6%	8.5%	8.2%	9.0%	8.8%
Population Age 16+	32,362	106,078	960,498	84,151	67,342	290,803	17,592	211,780
In Civilian Labor Force	21,118	74,056	676,371	58,039	47,723	209,503	12,235	155,473
Participation Rate	65.3%	69.8%	70.4%	69.0%	70.9%	72.0%	69.5%	73.4%
Age 25+ w/Bach. Degree or higher	30.7%	29.1%	28.7%	22.3%	31.5%	30.1%	41.9%	31.7%
<u>Occupations</u>								
Management/Professional	39.4%	36.0%	35.8%	29.8%	39.6%	37.8%	43.4%	38.4%
Service	14.0%	12.7%	13.0%	14.5%	11.9%	11.9%	13.9%	11.5%
Sales/Office	28.0%	27.9%	26.6%	28.6%	26.2%	26.9%	27.5%	27.4%
Median Household Income	\$42,447	\$48,522	\$49,467	\$40,774	\$51,969	\$53,384	\$45,195	\$58,150

Source: U.S. Census

3. Growth Potential

Despite low unemployment, the Concord area labor market offers the potential for growth. In addition to the growth trends shown in Table 5, county-to-county migration patterns show that Concord has consistently drawn in-migration during various phases of recent economic cycles. As shown in Table 7, migration has consistently generated net inflows in every year since 1997. These inflows have ranged from 258 tax filers in 1997-98 to 741 in 2001-02.

Table 7 also shows that in-migration has come from the southerly, urban counties such as Hillsborough and Rockingham; Massachusetts counties have also contributed consistent in-migration to Merrimack County.

Table 7 – Merrimack County Migration Inflows/Outflows by Selected Originations and Destinations, 1997-2002

	<u>1997-98</u>	<u>1998-99</u>	<u>1999-2000</u>	<u>2000-01</u>	<u>2001-02</u>
Total US & Foreign	258	513	480	602	741
<u>Major counties of origin/destination</u>					
Hillsborough NH	260	318	249	459	532
Belknap NH	(43)	(37)	(9)	(89)	(114)
Rockingham NH	13	105	87	153	156
Grafton NH	27	35	2	46	(17)
Sullivan NH	17	13	32	6	16
<u>Strafford NH</u>	<u>1</u>	<u>(5)</u>	<u>(16)</u>	<u>(9)</u>	<u>17</u>
Subtotal	275	429	345	566	590
Selected MA Counties ¹	38	108	79	42	143

¹ Counties of Middlesex, Essex, Suffolk, Norfolk, Plymouth, Barnstable, Worcester, Bristol and Hampden.

Source: Internal Revenue Service

Additional data show that immigrants to Merrimack County have consistently possessed higher (gross adjusted) incomes than out-migrants. This disparity may reflect a variety of factors, possibly including (1) Merrimack County growth in high-compensation jobs in industries such as health services, (2) an out-migration of younger, lower-paid workers, or (3) the availability of lower-cost housing in other locations. In any event, these statistics demonstrate Concord's ability to attract increasingly high-wage labor.

Table 8 – Median Gross Adjusted Income of Migrants to and from Merrimack County

<u>Year</u>	<u>In-Migrating</u>	<u>Out-Migrating</u>
2001-2002	\$28,855	\$24,138
2000-2001	\$27,161	\$24,447
1999-2000	\$25,823	\$23,061
1998-1999	\$24,900	\$22,524
1997-1998	\$22,980	\$21,066

Source: Internal Revenue Service.

B. Economic Base Analysis

Table 9 shows Merrimack County employment by major industry sectors over the last 20 years. The table shows employment for the major industry sectors; additional subsectors are shown to highlight areas of significant concentration or recent growth or decline.

The table offers the following findings:

- Employment has increased at annual rates of roughly 2.5 percent over the last 10 and 20 years; over the last three years -- a period of national economic decline -- employment growth has remained positive at 1.27 percent per year.
- Government comprises the largest source of employment in Merrimack County. Within the overall government sector, state government represents the fastest-growing sector, currently employing nearly 4,600 workers.
- Education and health care services represents the largest private sector component of the economy. This sector has shown relatively high growth rates -- approximately four to five percent -- for each of the three-, thirteen- and twenty-year periods shown.
- Other professional services industries, such as financial activities and professional/business services, comprise substantial sectors of the economy, and both have grown at annual rates of 5 to 6 percent over the last 20 years.
- Manufacturing, which provided the largest source of employment in 1983, has declined consistently over the last twenty years. Manufacturing employment losses accelerated over the last three years, to a rate of 4.6 percent annually.
- Leisure and retail trade represent increasingly important components of the local economy. Leisure services include the lodging, entertainment and food service sectors that are often oriented to visitors; retail trade growth reflects Concord's growing prominence as a regional commercial center (as discussed below).

Table 9 – Merrimack County Employment Growth (in 000s) by Industry Sector: 1983-2003

	<u>1983</u>	<u>1990</u>	<u>2000</u>	<u>2003</u>	Avg. Annual Growth		
					<u>20-Yr.</u>	<u>13-Yr.</u>	<u>3-Yr.</u>
Natural Resources & Mining	0.03	0.08	0.02	0.02	-2.77%	-14.00%	-6.13%
Construction	0.97	2.13	2.60	3.22	6.16%	4.22%	7.42%
Manufacturing	10.19	8.74	8.38	7.27	-1.68%	-1.82%	-4.62%
Wholesale Trade	2.75	3.71	2.86	3.78	1.60%	0.20%	9.76%
Retail Trade	4.38	6.17	9.21	9.30	3.83%	4.20%	0.34%
Transportation, Warehousing, & Utilities	0.76	0.94	1.68	1.53	3.56%	5.06%	-2.98%
Information	0.34	0.78	1.26	1.24	6.69%	4.75%	-0.65%
Financial Activities	1.94	2.98	5.18	6.59	6.30%	8.26%	8.36%
Finance and Insurance	1.70	1.78	4.14	5.47	6.01%	11.85%	9.73%
Professional & Business Services	1.86	3.63	5.02	5.29	5.36%	3.85%	1.74%
Education & Health Services	5.96	7.79	9.81	11.08	3.15%	3.58%	4.15%
Educational Services	2.39	2.31	2.85	3.05	1.22%	2.79%	2.24%
Health Care and Social Assistance	3.56	5.48	6.96	8.03	4.15%	3.90%	4.91%
Leisure & Hospitality	2.61	3.02	5.13	6.37	4.56%	7.75%	7.48%
Arts, Entertainment, and Recreation	0.27	0.48	1.15	1.48	8.83%	11.95%	8.59%
Accommodation and Food Services	2.34	2.54	3.97	4.89	3.76%	6.76%	7.15%
Other Services (except Public Administration)	2.06	3.20	3.57	3.26	2.33%	0.19%	-2.94%
Government	10.72	13.94	15.48	13.94	1.32%	0.00%	-3.43%
Total State Government	0.37	0.80	2.21	4.57	13.40%	19.04%	27.36%
TOTAL	44.59	57.09	70.19	72.89	2.49%	2.47%	1.27%

Source: *economy.com; Bureau of Labor Statistics; Bonz and Company, Inc.*

A.4.3. Market Sector Analysis

The following is an overview of market conditions among the major property types that might prove suitable for redevelopment in the Opportunity Corridor.

A. Retail market

The retail market offers potential development opportunities in the Opportunity Corridor. This opportunity rests on (1) the strength of the overall Concord market, and (2) the Opportunity Corridor's potentially competitive position within this market. These market findings are presented in the following discussion.

1. Concord Retail Market

a. Strategic Location

Retail growth in Concord has been driven by a combination of the following factors:

- Local market growth: Concord ranks as the third-largest City in New Hampshire, behind Manchester and Nashua, both located to the south in Hillsborough County. While Concord's demographic growth appears moderate at less than 2 percent per year (see Table 5), this growth rate exceeds state averages.
- Concord's strategic location to the north of Manchester at the intersection of interstate highways 89 and 93: Most of the communities to the north of Manchester do not offer demographic concentrations sufficient to attract national large-format retailers. Such retailers target Concord as a strategic location from which to capture more remote markets extending from Concord well into Vermont along I-89 and as far as the Canadian border along I-93.
- Critical Mass: Concord has gained a critical mass of retail activity that faces very limited competition to the east, north or west.¹ This provides an additional market advantage for Concord locations.

b. Retail Hub: Inflow/Outflow

Statistics confirm Concord's status as a regional retail hub that draws substantial retail spending from well beyond its local market.

The following series of tables presents an "inflow/outflow" analysis that seeks to identify market capacities and potential opportunities. This analysis measures local residents' retail spending against the sales captured by local retailers. Where the former (local spending) exceeds the latter (sales at local stores), this indicates that local residents spend more of their money outside the market area than the area's stores draw from non-local households; i.e., there is a net outflow of retail spending. Conversely, where local spending falls below local sales, this indicates that the area attracts a net inflow of spending from outside the local market.

Table 10 shows the overall comparison of non-automotive retail sales and spending in Concord and Merrimack County. As shown, Concord retailers collectively capture 288 percent of Concord residents' retail spending. This indicates that Concord serves as a major retail destination serving a region well beyond its borders. In Merrimack County, market capture remains in excess of 100 percent of its residents' spending. This excess, however, is attributable primarily to Concord, for spending is roughly equivalent to sales in the portions of Merrimack County outside of Concord.

¹ The Lakes Region Factory Stores outlet center in Tilton offers competition, particularly in the apparel categories, but these types of centers typically seek separation from the retailers seeking to sell manufacturers' goods at retail mark-up prices.

Table 10 – Resident Non-Auto Retail Spending vs. Sales (\$ Millions)

	Concord <u>City</u>	Merrimack <u>County</u>	Merrimack Co. <u>Excl. Concord</u>
Local Resident Retail Spending	\$258.2	\$898.0	\$639.8
Local Retail Sales	\$744.1	\$1,380.6	\$636.5
Market Capture	288.2%	153.7%	99.5%

Source: Geovue, Inc.; Bonz and Company, Inc.

Grocery inflow/outflow statistics provide an alternative view of Concord's retail dynamics. Most households purchase nearly 100 percent of their food and grocery items at the locations most convenient to their homes. In Concord, however, Table 11 shows that the City's grocery stores serve a more broadly defined market. This is not surprising, given the concentration of grocery stores in the areas around Exit 14 (Fort Eddy, Storrs Street) and the Steeplegate Mall areas.

Table 11 – Grocery Retail Spending vs. Sales (\$ Millions)

	Concord <u>City</u>	Merrimack <u>County</u>
Local Spending at Food/Grocery Stores	\$77	\$268
Sales at Food/Grocery Stores	\$147.6	\$310.6
Market Capture	191.5%	116.0%

Source: Claritas, Inc.; Geovue, Inc.; Bonz and Company, Inc.

Table 12 shows market capture rates for the other major retail industry categories. In general, Concord achieves high capture rates in all other categories except apparel (this may be due to the presence of the Factory Outlet Stores in Tilton). Thus, while Concord does not attract the tourist spending captured in northern New Hampshire, it nonetheless serves as a regional destination for virtually all other retail categories.

Table 12 – Market Capture Rates for Major Retail Categories

	Concord <u>City</u>	Merrimack <u>County</u>	Merrimack Co. <u>Excl. Concord</u>
General Merchandise	276.5%	105.6%	36.6%
Apparel	95.6%	36.5%	12.6%
Home Improvement	645.9%	352.8%	234.9%
Home Furnishings	483.3%	273.4%	189.2%
Eating & Drinking	252.9%	144.4%	100.8%
Miscellaneous	386.0%	222.8%	156.8%

Source: Claritas, Inc.; Geovue, Inc.; Bonz and Company, Inc.

2. Opportunity Corridor Conditions

In general, the market in the retail areas in and around the Opportunity Corridor is characterized by consistently healthy occupancies. With the prospective commitments of the Burlington Coat Factory and Lowe's Home Improvement to occupy large vacant spaces, virtually all subareas in and around the study area maintain high occupancies. In addition, property managers report consistent interest from additional tenants, which include locally- as well as nationally based businesses. Most properties have maintained consistently high occupancies through recent fluctuations in economic conditions.

The following present brief discussions of general conditions in the various retail subareas in and around the Opportunity Corridor.

a. Central Business District/Main Street Market

According to the City's current Master Plan, downtown Concord contains 300,000 square feet of retail space. Most of the higher-quality space is located on or within one block of Main Street. While most national franchise retailers seek space in Steeplegate Mall or other anchored shopping centers, Main Street maintains generally high occupancy rates – estimated at well above 90 percent by most brokers -- with lease rates ranging from \$14 to \$22 per square foot on a gross-equivalent basis.

Main Street Concord identifies a trade area for downtown that extends well beyond the City, approximately 20 miles to the north and northeast, and serving communities such as Bow to the south and Pittsfield to the east.

Tenants include regional or national businesses. Most, however, are independent retailers managed by local entrepreneurs, with an average of 2.6 full-time and 3.7 part-time employees (Downtown Concord). While only 6.4 percent of surveyed stores reporting operating after 6:00 p.m., most report healthy revenue streams. Despite the generally higher credit-worthiness of national franchises, Main Street Concord estimates

downtown retail turnover at 10 percent, which is consistent with typical Main Street districts.

Overall, like many traditional downtown districts, Concord faces constant challenges from an evolving market environment in which large-format, highway-oriented stores and centers capture increasingly dominant positions. Despite these challenges, downtown maintains a strong position in serving downtown workers and a mix of local and regional shoppers, and has demonstrated its ability to maintain healthy performances.

b. Capital Plaza

Located one block east of Main Street, the Capital Plaza Shopping Center features 180,000 square feet, anchored by Marshall's and Market Basket. A third anchor, the Burlington Coat Factory, has recently opened, bringing this center's occupancy to 100 percent. Lease rates range from \$17 to \$20 on a gross basis. Non-anchor tenants include national chains such as Fashion Bug, Hallmark, Payless Shoe Store, Jo-Ann Fabrics, Blockbuster Video and others.

c. Fort Eddy Road Properties

The Fort Eddy Road area, located on the east side of I-93 between Exits 14 and 15, contains several shopping centers. The largest of these is the Fort Eddy Plaza, which contains approximately 175,000 square feet, anchored by Shaw's (groceries) and national retailers such as Borders Books, Staples and Eastern Mountain Sports. This center maintains full occupancy and management reports minimal turnover and continued strong interest from additional retailers. Gross lease rates range from \$20 to \$25 per square foot.

The Market Basket Plaza, containing 75,000 square feet, is anchored by Market Basket and maintains full occupancy. This center does not offer immediate access or visibility from I-93, and its tenants (Dollar Tree, Cardsmart, Movie Gallery, New Hampshire liquor store, a dry cleaner, Radio Shack, Family Buffet) fit a somewhat lower profile than some of the Fort Eddy Plaza retailers. Lowe's Home Improvement has recently applied for permits and approvals to occupy the adjacent site that formerly contained a Bradlee's department store.

Other smaller retail centers in the Fort Eddy Road area maintain similarly high occupancy rates. Tenants in these centers include a third grocery store (Hannaford's), national retailers (LL Bean, AutoZone, Verizon), eating and drinking establishments (Pizzeria Uno, Einstein Bagels, Boston Market, Panera Bread), and miscellaneous businesses such as Planet Fitness, Party Favors, a mattress store, etc.

d. Other Retail Locations

The Steeplegate Mall and its surroundings comprise the dominant retail submarket in Concord. Opened in 1990, the Mall itself is Concord's largest single retail center, containing a total of 600,000 gross square feet. Owned and operated by General Growth Properties, Steeplegate Mall is anchored by Sears, JC Penney and The Bon Ton, and most tenants are national franchises. While management has not provided hard data, occupancies have been consistently high, and currently appear to exceed 95 percent.

Large-format retailers surrounding the Steeplegate Mall include WalMart, Sam's Club, Target, Home Depot, Best Buy, Linens'n Things, Michael's, Toys'R Us, and a 10-screen cinema.

Ongoing development in this area features plans for two new retail centers in various planning phases, including a 240,000 square foot center and an 84,000 square foot center located on Loudon Road near the Steeplegate Mall.

3. Market Opportunities and Constraints

In general, despite the dominant position of the Steeplegate Mall area, consistently strong performances in downtown Concord and at centers such as Fort Eddy Plaza indicate that well situated sites with good highway access and visibility would be likely to support additional retail development. Support for new retail development would rest on:

- Local growth, which has proceeded at steady rates;
- Concord's strategic position as the largest community to the north of Manchester, situated at the junction of Interstate highways 89 and 93.
- Concord's emerging critical mass, which positions Concord to attract additional retail development as growth continues and as additional retailers in various categories seek to cultivate additional New England markets.
- Physical improvements that would provide convenient access and visibility from I-93, connections to retail "anchors" along Fort Eddy Road, and other site amenities.
- Development formats would probably not include grocery-anchored shopping centers (given the area's close proximity to four existing grocery stores) or regional malls, but might feature mixed-use formats and/or pedestrian-friendly orientations.

B. Office Market

While the office market does not offer short-term development opportunities in Concord, over a long-term time frame the Opportunity Corridor can provide an attractive location for office development.

1. General Overview

Concord's office market comprises a total of 4.6 million square feet of gross building space, including medical and publicly owned office buildings. Most of these buildings contain 20,000 square feet or less; only 17 buildings contain more than 40,000 square feet.² Tenants fit a similar pattern: most seek 5,000 to 10,000 square feet of space; a limited number of tenants occupy 20,000 square foot spaces.

² Excluding three State of New Hampshire buildings on Hazen Drive containing a combined total of approximately 500,000 square feet.

Table 13 – Concord Office Space Inventory

Office Bldg	3,112,194
Professional Bldg	634,911
Office Condominium	248,126
Financial Institution	157,767
Insurance Co. Regional Office	380,027
Branch Bank	43,233
<u>R & D/Lab</u>	<u>37,366</u>
TOTAL	4,613,624

In general, this inventory is characterized by:

- High vacancy rates: Local realtors estimate that owner-occupied space comprises roughly one-half of the total inventory. Of the leased inventory, realtors estimate that 15 to 20 percent of the inventory is vacant and unleased, with 20 to 25 percent of the inventory available either for direct lease or sublease.
- Local tenant base: Interviews indicate that most of Concord's office and industrial tenants come from within the existing local market, seeking new space as their businesses grow or contract. Most of these direct their property searches to Concord locations. This is especially true for law firms and professional service companies that either maintain local client bases or seek proximity to state offices. Many of these tenants occupy office spaces in downtown Concord.

Other businesses, however, maintain more tenuous attachments to the local market. Growing firms involved in high technology goods and services or serving regional or national market clientele may consider space in other areas; Manchester presents a favorable alternative for such businesses.

2. Opportunity Corridor Market Conditions

Downtown Concord and the Horseshoe Pond business park are located adjacent to the Opportunity Corridor and comprise Concord's primary concentrations of office space.

a. Horseshoe Pond

Horseshoe Pond is the newest office development in the City. The Park comprises five sites. Of the four completed buildings, two buildings comprising 101,000 square feet are occupied by Delta Dental Associates. Avid Thermalloy occupies its own 33,000 square-foot building. A fourth building containing 54,000 square feet is a multi-tenant building with tenants including government agencies, property management, accounting, and other professional service firms. Lease rates at this building generally range from \$22 to \$25 on a gross-equivalent basis. This includes approximately \$6 in operating expense costs and covers on-site surface parking.

The park's fifth and final building has just completed construction, which is a joint venture involving Concord Hospital and Harvard Pilgrim Health Care, and will accommodate primarily medical-related office uses in 51,000 square feet. Lease rates are anticipated within a range of roughly \$18 to \$23 per square foot on a triple net basis,

with three spaces (for surgical/endoscopy and imaging uses) expected to approach \$30 per square foot; expenses are estimated at \$5 per square foot. At gross-equivalent rents of \$23 to \$35 per square-foot, this new space will occupy the highest rent tier in the City.

b. Downtown Concord

Downtown office space consists primarily of the upper floors of buildings along Main Street. Within this market, the 40,000 square-foot Stewart Nelson Plaza is unique in that it provides on-site parking. Lease rates approximate \$22 per square foot on a gross basis, inclusive of expenses for parking.

Among other addresses, the Capital Plaza contains the largest inventory, with 87,000 square feet (including its ground-floor retail areas). While public parking is directly adjacent to this building, gross lease rates of \$19 per square foot do not provide for tenant parking costs. Other Main Street properties that approach this general market tier include the Chase Block, Eagle Hotel and the Sheraton Building. In addition, 6 Loudon Road, a 65,000 square foot midrise office building located just east of Exit 15, maintains an occupancy rate of 95 to 100 percent, with gross lease rates of \$18 per square foot.

Typical downtown office tenants are concentrated in the legal and financial service sectors, along with other professional service businesses such as insurance providers and various public or non-profit agencies.

c. Prospective Projects

In addition to the existing downtown and Horseshoe Pond properties, two office projects are actively pre-marketing high-end space in the study area:

- Sears Block: Located in the downtown core on South Main Street, the site of the former Sears Building is planned for redevelopment as a 100,000 square foot building with ground-floor retail space, top-floor restaurant, below-grade cinema, attached public parking garage and three floors – roughly 33,000 square feet of office space. The marketing agent reports that two of the building's three floors are under agreement. The project is envisioned as a high-end property, seeking triple net leases of \$21 per square foot (approximately \$26 to \$28 on a gross-equivalent basis).
- Blue Cross/Blue Shield: The former Blue Cross Blue Shield building on South Main Street represents another office property that offers insight into the study area's office market. This 120,000 square foot building has stood vacant for many years. At this time, the building will require substantial investment, and while current preleasing commitments would account for roughly 50,000 square feet of the building, such commitments remain insufficient to support loan financing. Lease rates for prospective space range from \$10 to \$13 per square foot on a triple net basis, which would amount to roughly \$16 to \$20 on a gross-equivalent basis. Despite its comparatively low asking rent rates, this project is envisioned as a Class-A, high-amenity project; the project's experience illustrates the current weakness in the office market, as well as the scarcity of larger (20,000 square feet or more) tenants.

3. Regional Orientation

Notwithstanding the prevailing weakness, over time office markets in Concord and southern New Hampshire's I-93 corridor should recover and eventually offer prospects for new office development. CB Richard Ellis reports that while this region's economic fluctuations typically correspond to those in the northern Boston metropolitan area, this market will benefit from: (1) New Hampshire economic growth, which is forecasted to exceed growth in other New England states; (2) New Hampshire's position as a low-cost, quality-of-life alternative to Massachusetts, and (3) ongoing growth of the Manchester Airport.

The Concord market lies at the northern fringe of this region. Office occupancies in Concord contain relatively high concentrations of law firms, health service-related businesses, government agencies, nonprofit agencies, and financial services businesses. Concord's status as the State Capital and an important federal and state court location helps it attract law firms. In addition, the presence of the legislature and State agencies helps attract nonprofit corporations seeking to promote various issues and agendas. In addition to these advantages, Concord's location – in closest proximity to the northern half of New Hampshire as well as northern Vermont – can enable it to serve as a preferred location for small, growing firms in these regions that may seek new locations close to additional business resources (labor, capital, physical infrastructure).

4. Market Opportunities and Constraints

A summary of the study area's prospects for office development is as follows.

- The Concord office market currently features high vacancy rates.
- Even under more favorable conditions, the local market offers limited depth, drawing on a primarily local tenant base; office developments featuring more than 50,000 square feet would pose difficult absorption challenges.
- Notwithstanding these limitations, Concord's ongoing employment growth in professional, office-oriented sectors may support additional office space over a longer-term time frame.
- The Opportunity Corridor can provide suitable locations for future office growth. Upper-story locations oriented toward the Merrimack River, the downtown core or other amenities would offer attractive locations. Most buildings would feature midrise configurations, with less than 60,000 or 80,000 square feet.

C. Attached Residential Development

The market for attached residential development in Concord offers potential opportunities in the study area. This is based on Concord's strong markets for both apartments and condominiums, on demographic growth issues, and on the potential to create attractive residential amenities within the study area.

1. Demographic Patterns

Demographic growth and change underlie potential residential development opportunities. As discussed previously, Concord is expected to maintain a pattern of steady demographic growth. In addition, as shown in Table 14, this growth will occur most rapidly among higher-income cohorts, particularly in the 45-to-54 and 55-to-64 “empty nester” segments. These demographic groups are those most likely to seek (and maintain the wherewithal to afford) new attached housing forms. Anticipated high growth in these groups offers support for new residential development potential at high-amenity locations in the Opportunity Corridor.

Table 14 -- Concord Household Growth by Age and Income, 2003-2008

Age Group	2003	2008	Change	
			Avg. #	Ann. %
15 - 24	833	911	78	1.8%
< \$35,000	494	468	-26	-1.1%
\$35,000 - \$74,999	310	377	67	4.0%
\$75,000 - \$99,999	12	39	27	26.6%
\$100,000+	17	27	10	9.7%
25 - 34	2,988	2,875	-113	-0.8%
< \$35,000	1,133	948	-185	-3.5%
\$35,000 - \$74,999	1,332	1,218	-114	-1.8%
\$75,000 - \$99,999	291	356	65	4.1%
\$100,000+	232	353	121	8.8%
35 - 44	3,878	3,876	-2	0.0%
< \$35,000	978	944	-34	-0.7%
\$35,000 - \$74,999	1,805	1,681	-124	-1.4%
\$75,000 - \$99,999	580	579	-1	0.0%
\$100,000+	515	672	157	5.5%
45 - 54	3,835	4,453	618	3.0%
< \$35,000	883	940	57	1.3%
\$35,000 - \$74,999	1,621	1,741	120	1.4%
\$75,000 - \$99,999	602	707	105	3.3%
\$100,000+	729	1,065	336	7.9%
55 - 64	2,384	3,297	913	6.7%
< \$35,000	739	840	101	2.6%
\$35,000 - \$74,999	913	1,265	352	6.7%
\$75,000 - \$99,999	372	486	114	5.5%
\$100,000+	360	706	346	14.4%
65 - 74	1,460	1,723	263	3.4%
< \$35,000	772	818	46	1.2%
\$35,000 - \$74,999	492	611	119	4.4%
\$75,000 - \$99,999	94	147	53	9.4%
\$100,000+	102	147	45	7.6%
75+	1,962	1,928	-34	-0.3%
< \$35,000	1,154	1,050	-104	-1.9%
\$35,000 - \$74,999	555	599	44	1.5%
\$75,000 - \$99,999	109	112	3	0.5%
\$100,000+	144	167	23	3.0%

Source: Claritas, Inc.

2. Concord Rental Apartment Market

The apartment market in Concord has delivered consistently strong performances in recent years. In general, the apartment market is characterized by:

- Low vacancy rates: Vacancy rates have been reported well below the 5 to 7 percent thresholds generally accepted as indicators of market equilibrium. The 2000 U.S. Census showed a vacancy rate of 2.9 percent among rental units in Concord; New Hampshire Housing Finance Authority (NHHFA) surveys show recent vacancy rates below one percent. In comparison, the 1990 Census recorded a vacancy rate of 12.8 percent; NHHFA estimated a 10.9 percent vacancy rate in 1990. Since 1997, NHHFA has consistently reported vacancy rates at or below 1 percent.

Table 15 – Rental Housing Market Trends, City of Concord, 1990-2003

	1990	1993	1995	1997	1999	2000	2001	2003	Avg. Ann. Change	
									10-yr.	3-yr.
<u>Median Gross Rent</u>										
1 BR	\$602	\$458	\$481	\$579	\$521	\$656	\$668	\$723	4.7%	3.3%
2 BR	\$748	\$723	\$653	\$710	\$790	\$830	\$873	\$919	2.4%	3.5%
All units										
All units (Census)	\$485	--	--	--		\$647		\$869	--	10.3%
Vacancy	10.9%	4.1%	2.3%	1.0%	0.8%	0.3%	0.4%	1.0%		
Vacancy (Census)	12.8%	--	--	--		2.9%		--		

Source: New Hampshire Housing Finance Authority; US Census Bureau.

- Rents and Rent Increases: Property managers at apartment complexes report net rents³ for newer, high-quality apartments within approximate ranges of: \$650 to \$900 for one-bedroom units and \$800 to \$1,000 for two-bedroom units. Property managers report the market's highest rents at approximately \$1,200 (excluding utilities) for large two-bedroom units, NHHFA surveys, however, show gross rents as high as roughly \$1,400 and \$1,600 (including all utilities) for one- and two-bedroom units,⁴ respectively. Despite the tight market for apartments, most managers have raised rents at relatively modest rates. NHHFA figures show that gross median rents have increased by 3.3 to 3.5 percent per year in the last three years, and by 2 to 5 percent per year over the last 10 years.
- Limited new construction: No new apartments have been constructed in Opportunity Corridor in the last ten years. In the entire city, new apartment development over the last five years comprises the 150-unit Penacook Village complex on Fisherville Road, 72 units on Cherry Street, and 60 units recently completed at the Centerstone Apartments on Loudon Road. The following table shows how new housing construction – and rental housing construction in

³ Excluding major utilities.

⁴ These may include rented townhouse condominium units, as opposed to apartment complexes.

particular – has lagged behind overall household growth in the City of Concord since 1990.

Table 16 – Concord Households vs. Dwelling Units, 1990-2000

	<u>1990</u>	<u>2000</u>	Change	
			#	%
Households	14,222	16,281	2,059	14.5%
Dwelling Units	15,697	16,881	1,184	7.5%
Rental Dwelling Units	7,775	8,145	370	4.8%
Rental Unit Vacancy	12.8%	2.9%		

Source: New Hampshire Housing Finance Authority

- No luxury product: The Concord area currently offers no luxury apartments within the emerging “lifestyle” or “renter by choice” niche. This product niche seeks to attract relatively high-income householders who – while capable of purchasing high-end homes – prefer the amenities and convenience of luxury rental living alternatives. This niche has emerged in larger urban areas and in the neighboring Manchester market. Standard features in such developments include in-unit washer/dryers, high (9-foot) ceilings, broadband connections, covered parking, walk-in closets and community amenities such as fitness centers, club rooms, business work/meeting facilities, and swimming pools. Rents at such properties typically occupy the top tiers in the market – approaching \$2,000 per month -- and apartments in this niche have gained market acceptance in the Manchester suburb of Bedford.

Most of the rental units closest to the Opportunity Corridor are located in and around the downtown Concord. Most downtown rental units are located on the upper stories of Concord’s older structures. Most of these have not been substantially remodeled in recent years and as such offer few amenities and no reserved parking arrangements. Units rent at relatively affordable monthly⁵ rates ranging from \$400 up to \$650 for one-bedroom units and \$600 to \$750 for two-bedroom units. In most cases, downtown landlords report that these buildings generally maintain high occupancy rates.

Landlords managing properties near the outskirts of the Subject Area report that the areas near the Franklin Pierce Law School draw a substantial student market, with single-family homes renting at gross rates of \$700 to \$775 for one-bedroom and \$950 to \$975 for two-bedroom units. Elsewhere, in the southern parts of the study area, individual owners of two-family and three-family properties report rents of \$750 for one-bedroom units, and in excess of \$900 for two-bedroom units.

⁵ Includes major utilities such as heat and hot water.

2. Concord Condominium Market

The condominium market in Concord is composed primarily of existing townhouse developments – typically opened prior to 1990 -- located in the outlying parts of the City. The following points characterize the city's condominium market:

- Low-Rise Configurations: The majority of attached condominium developments feature townhouse formats. The Oak Ridge apartment complex on Fisherville Road comprised on exception to this pattern. Built in the late 1980s, this property offered condominium units in 3-story multi-family buildings, with covered parking in some buildings. This project, however, was converted to a rental property in the late 1980s when the market failed to absorb its units.
- Increasing Sale Prices: Table 17 shows that the number of condominium sales has increased steadily over the last ten years. Median sales prices have increased rapidly during this period, by an average of 12.5 percent per year (from \$40,000 in 1994 to \$130,000 in 2003).

Table 17 -- Concord Condominium Sales, 1994-2004

<u>Year</u>	<u># Sales</u>	<u>Median Sales Price</u>
2004*	41	\$129,000
2003	241	\$130,000
2002	199	\$100,000
2001	198	\$82,400
2000	210	\$69,700
1999	198	\$60,000
1998	186	\$52,500
1997	119	\$44,900
1996	116	\$52,000
1995	112	\$44,000
1994	113	\$40,000
* Through March, 2004		
Source: Real Data Corp.		

Anecdotal examples show that some home prices have increased even more rapidly. For example, sales at McKenna's Purchase, one of the city's higher-end condominium properties, illustrate the increasing popularity of townhouse units. This project includes 148 dwelling units in a wooded setting close to the Steeplegate Mall on Branch Turnpike. Two different unit models contain 800 to 900 and 1,200 to 1,300 square feet. Units feature full basements and garages; community amenities include an indoor pool and tennis courts. Management reports that residents include primarily young families (including some with children) and retirees. Initially started in the mid-1980s, a second phase of development began in the mid-1990s. As shown in the table below,

prices have increased by as much as 17 and 18 percent per year in recent years.⁶ Property management reports that the Project's units, amenities and relatively convenient location (close to Steeplegate Mall) drive the its popularity.

Other condominiums have achieved similar price increases, and it should be noted that a "paired sale" at River Hill, the city's most recent attached condominium project⁷ (which features no basements or garages and is not situated convenient to retail amenities) achieved a one-year increase from \$155,000 to \$170,000.

Table 18 – Selected Paired/Sequential Condominium Sales

<u>Unit</u>	<u>1996</u>	<u>1997</u>	<u>1998</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>	<u>2002</u>	<u>2003</u>	<u>2004</u>	<u>Yrs.</u>	<u>Avg. Ann. Increase</u>
Capital Place #17				\$53,000	\$67,000	\$91,000	\$104,000			3	25.2%
Capital Place #13 & 15				\$119,000			\$142,000			3	6.1%
Hills Court #1		\$67,000						\$100,000		6	6.9%
McKenna's Purchase #7	\$93,000						\$142,000			6	7.3%
McKenna's Purchase #28				\$92,533			\$148,000			3	16.9%
McKenna's Purchase #65					\$108,000			\$180,000		3	18.6%
River Hill #1								\$155,000	\$170,000	1	9.7%

Source: Real Data Corp.; Bonz and Company, Inc.

The Opportunity Corridor itself contains just four condominium buildings:

- A property on Hills Avenue, converted to residential condominiums in the 1980s, features six loft units with garage space. Sales prices vary widely; since late 2001, two units have sold at prices of \$65,000 and \$100,000.
- Located on Warren Street, the historic Cooper Stevens Mansion features four condominium units. Units feature roughly 2,000 square feet. Over a seven-month period beginning in July 2003, three of the building's four units have sold at prices ranging from \$250,000 to \$264,000.
- Capitol Place features 25 two-story townhouse units with garages. Built in the 1980s, sale prices ranged from roughly \$50,000 to \$60,000 in the 1990s; more recently, these have risen into the range of \$70,000 to low \$100,000s.
- The Cornerstone Building, located at the corner of Franklin and North State Street, contains three units. Recent sales include the sale of a two-bedroom, 1,300 square-foot unit that sold for \$105,000 in September of 2003; and a larger, three-bedroom unit that sold for \$155,000 in June of 2003.

⁶ Among the paired sales shown, the latter sales occurred from 2001 to early 2003. Anecdotal evidence indicates that prices have continued to rise; at McKenna's Purchase, one end unit sold recently for \$180,000, and current asking prices exceed this figure.

⁷ One other new condominium project, Cardinal Ridge, features detached units.

Overall, brokers report that in the limited history of condominium sales in the Opportunity Corridor, buyers have included singles and couples with a slight emphasis on older empty nesters seeking greater convenience and proximity to downtown destinations.

With the exception of the Cornerstone building, however, these projects have all encountered difficulties. Brokers report that the Cooper Stevens, Capitol Place and Hills Avenue project all involved developer bankruptcies, and were ultimately sold at distressed prices.

3. Market Opportunities and Constraints

Based on the foregoing, the Opportunity Corridor offers potential opportunities for market-rate attached residential development. Market factors supporting this conclusion include the following:

The Concord apartment market maintains very low vacancy rates, and some of its townhouse condominium units command monthly rents exceeding \$1,200, which approaches the rent levels required for new high-end construction;

Midrise condominium units have encountered substantial difficulties and would thus entail substantial risks. Nonetheless, reconfigured properties close to major retail centers, downtown amenities, employment locations, and riverfront amenities would offer a unique combination of advantages. Strategically situated sites in the Opportunity Corridor may be able to support projects of limited size.

D. Lodging

Over time, lodging may offer a limited number of development opportunities in the Opportunity Corridor. Such opportunities would be based upon continued growth in Concord's office market and the strength of new sites in the Opportunity Corridor, which should enable new properties to outperform existing properties. This section presents a brief discussion of prevailing market trends and potential opportunities.

1. General Market Conditions

Concord does not currently constitute a major destination for any of the principal sources of lodging demand (business, leisure, group). At the same time, Concord's travel destinations include both business destinations (e.g., State Capitol, government agencies, for-profit and nonprofit business headquarters) as well as leisure destinations (e.g., museums, the Capital Center for the Arts, Loudon International Speedway, retail concentrations); collectively, these have enabled the Concord market to achieve consistently strong performances.

The Concord lodging market is concentrated primarily in the Opportunity Corridor (with the lone exception of the Centennial Inn). The total inventory currently comprises the following properties:

Table 19 -- Concord Lodging Facilities

Best Western Concord Inn & Suites	66
Capitol Inn	40
Centennial Inn	32
Comfort Inn	100
Courtyard	90
Fairfield Inn	105
<u>Holiday Inn</u>	<u>122</u>
Total	555
* Excludes Hampton Inn (Bow) and Red Roof Inn (Loudon).	
Source: Smith Travel Research.	

Among these, four (Courtyard, Best Western, Centennial Inn and Fairfield Inn) properties accounting for 293 rooms – more than 50 percent of the total inventory -- have opened since 1997.

Despite this substantial addition to the local supply – and despite recent periods of adverse conditions for the travel and lodging industries -- the market has maintained consistently healthy performance. Table 20 below shows performance indicators for a representative sample of the market⁸. As shown, over the last five years these properties consistently maintained healthy occupancy rates of roughly 67 to 72 percent, while increasing average daily rates (ADR) and revenues-per-available room (REVPAR) by approximately 3 percent annually. Essentially, despite a rapid increase in room supply, room demand has kept pace, growing by 7.6 percent per year.

Table 20 -- Concord Lodging Indicators: 1998-2003

<u>Year</u>	<u>Occupancy</u>	<u>ADR</u>	<u>RevPar</u>	<u>Rm Supply</u>	<u>Rm Demand</u>	<u>Revenue</u>
1998	67.6	73.10	49.44	152,378	103,055	7,533,197
1999	69.2	73.49	50.89	164,250	113,742	8,358,394
2000	69.8	78.18	54.57	191,400	133,605	10,445,338
2001	70.6	75.95	53.63	221,190	156,190	11,863,251
2002	72.0	80.74	58.14	221,190	159,276	12,859,993
2003	67.2	84.87	57.06	221,190	148,712	12,621,317
Avg. Ann. %	-0.1%	3.0%	2.9%	7.7%	7.6%	10.9%
Source: Smith Travel Research.						

For the most part, the Concord lodging market features mid-price properties. One operator identifies a lack of demand for higher-priced properties, citing price resistance when rates approach approximately \$100/night. Guests appear to include a mix of business as well as leisure travelers: while Smith Travel Research data shows that the

⁸ Sample includes the Best Western, Capitol Inn, Comfort Inn, Courtyard, Fairfield Inn and Holiday Inn, which are the only properties reporting results to Smith Travel Research.

market achieves its highest occupancies on weekend nights (80 percent on Saturday nights), mid-week occupancies also approach 75 percent.

2. Opportunities and Constraints

The prospects for lodging market growth is derived from growth in business, leisure and/or group travel markets. Among these demand sources, business travel will grow in sequence with general economic – and office market – growth; leisure growth will grow in accordance with growth in Concord’s regional visitor markets as well as increases in Concord’s attractions. While neither of these offer support for short-term development, over time they are likely to support higher business and leisure travel to Concord.

The potential availability of desirable sites offers a second factor supporting potential lodging development in the Opportunity Corridor. Many of Concord’s existing lodging facilities offer suboptimal visual and/or vehicular access to I-93. Realigned properties in the Opportunity Corridor may be able to offer convenient highway access as well as direct proximity to amenities such as restaurants, downtown business locations and waterfront amenities. Such properties – particularly in the north end of the study area – can provide competitive locations that can either claim new niches in the market (e.g., high-end, suites), or compete successfully with older properties in existing niches. Given the relatively strong performances in the overall market, as economic growth continues in the Concord area, it is likely that the Opportunity Corridor will be able to support one or two additional lodging facilities.

A. APPENDIX – EXISTING CONDITIONS

A.5. TRANSPORTATION AND INFRASTRUCTURE

This section summarizes findings from research into the existing transportation conditions for the Concord Opportunity Corridor, including the review of available reports and documents that were provided by the City of Concord and the results of field visits of the site. One working committee meeting, two meetings with City staff and New Hampshire Department of Transportation (NHDOT) staff, and one public workshop were attended. The results of these investigations are summarized below.

The Concord Opportunity Corridor extends from I-93 Exit 12 in the south to Exit 15 in the north and is generally bounded by (South/North) Main Street on the west and the Merrimack River on the east. Transportation elements dominate and, in many ways, define the corridor. The Opportunity Corridor has three sub-districts, which are located between the four I-93 highway interchanges. The interstate highway and its ramps playing a dominant role in providing vehicular access and, at the same time, imposing constraints on mobility within the corridor.

The highway and rail lines bisect the corridor and present impediments to east-west connectivity, particularly pedestrian and bicycle connections from the downtown to the river. With the absence of a continuous local arterial through the Opportunity Corridor, I-93 also serves as a local collector-distributor roadway. These highway connections provide important traffic relief to North Main Street / South Main Street, which traverses the western edge of the Opportunity Corridor and passes through residential neighborhoods, primarily to the south, and local commercial/retail uses in the downtown.

This section describes the various transportation elements within the Opportunity Corridor, noting issues and constraints that have been identified as part of previous studies. Planned improvements and planning efforts are also reviewed within this context. These projects, which include NHDOT's I-93 project and the proposed Boston-Montreal high-speed rail project, provide future challenges and opportunities in the mission to create a more cohesive, multimodal transportation system in the Opportunity Corridor.

A.5.1. Roadway Network

The roadway network in the Opportunity Corridor includes I-93 and several major arterial corridors that provide east-west connections or north-south connections along the edge of the corridor. Vehicular gateways are generally defined by the highway connections to these arterial roadways at South Main Street (Route 3A) at Exit 12, Manchester Street (U.S. 3) at Exit 13, and Loudon Road (Route 9) at Exit 14 and to I-393/U.S. 4/U.S. 202 at Exit 15.

The interstate highways and these major arterial roadways define the gateways for access into the corridor from the east across the Merrimack River and from the south and north. Traffic signals are in operation at Exit 13 and 14. Bouton Street (Route 3) from the north creates an additional gateway location at its signalized intersection with North Main Street and the I-393 ramps. The signalized intersection of Pleasant Street (Route 9) / North Main Street provides the principal vehicular gateway for traffic from the west, although there are other minor gateways from the west.

Interstate Highways

There are two interstate highways that serve the Opportunity Corridor: I-93 and I-393. Both roadways are limited access, median-divided highways. In Concord, I-393 also shares designation as U.S. 4 and U.S. 202. Other state and New Hampshire designated highways also serve the Opportunity corridor and are described below under the arterial corridor section.

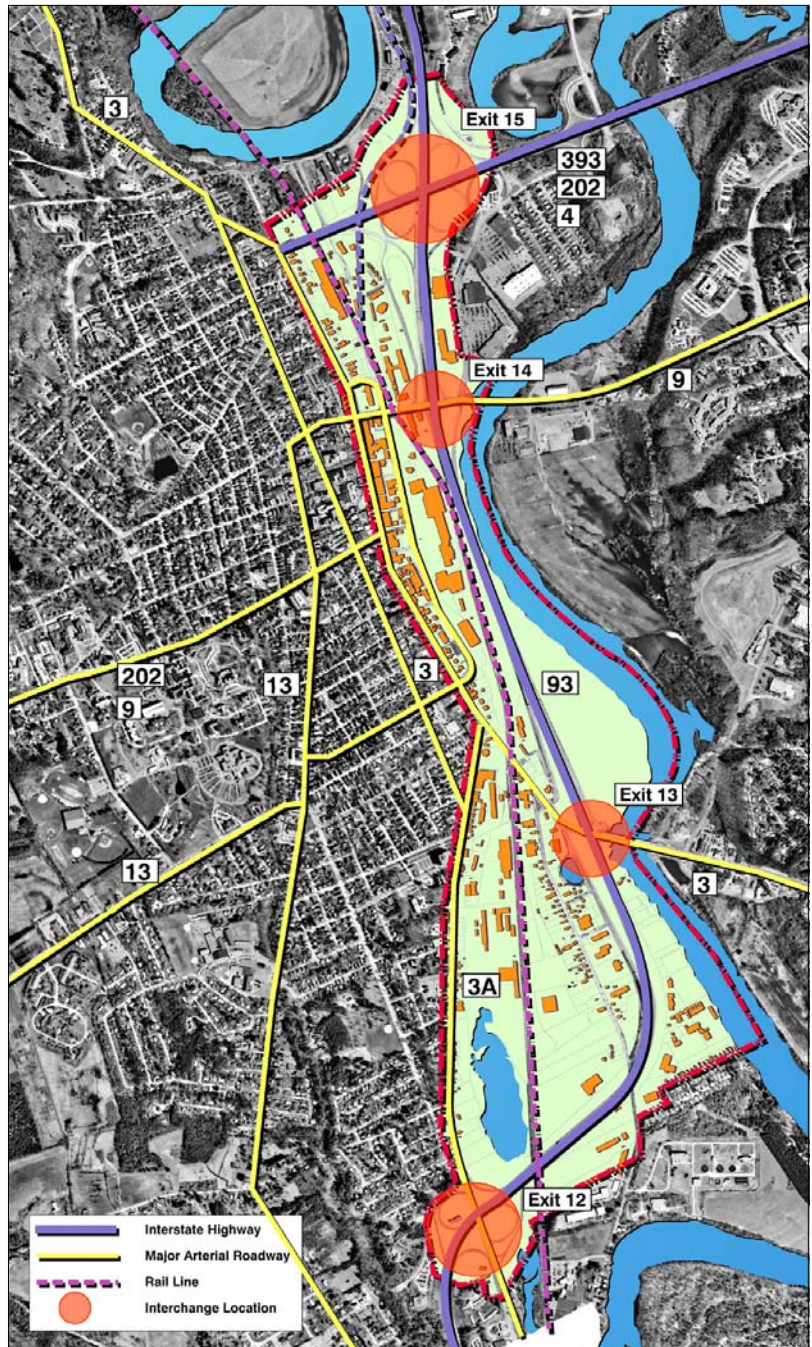


Figure 21. Existing Roadways

Interstate 93

I-93 is a major interstate highway that provides north-south access through New Hampshire from the I-93/Route 128 corridor in Massachusetts to the Vermont border. Between Manchester and Interstate 89 at Exit 11 (just south of Concord in Bow), I-93 has three lanes in each direction. North of I-89 and through Concord, I-93 is two lanes in each direction with shoulders. As noted above, I-93 serves as important collector-distributor roadway for origins and destinations within the Opportunity Corridor, as well as within downtown Concord. These connections are facilitated by I-93's many interchanges within the Opportunity Corridor:

- Exit 12 is a half cloverleaf interchange with South Main Street as it passes over the highway. The intersections of the ramps and South Main Street are not signalized.
- Exit 13 is a signalized “single point” diamond interchange formed by the I-93 ramps and Water Street / Manchester Street (Route 3). As a single point interchange, the off-ramp approaches, the Water Street eastbound approach, and the Manchester Street westbound approach are all controlled at a single large intersection centered beneath the I-93 viaduct. This enables a high degree of traffic operations efficiency: the I-93 northbound and southbound off-ramps each have two left turn lanes, and these opposing left turns can operate simultaneously. In a similar manner, the Manchester Street left turns onto I-93 southbound and the Water Street eastbound left turns onto I-93 northbound can also operate simultaneously. Manchester Street and Water Street each has a four lane approach to the interchange, with two through lanes and two left turn lanes. As a result of these wide approaches and traffic operation efficiencies, Exit 13 has a high traffic capacity.
- Exit 14 is a diamond interchange with Loudon Road, which passes beneath the I-93. There is a series of four signalized intersections, at or near the Exit 14 ramps, within only 600 feet. From east to west, these four intersections are:
 - Stickney Avenue / Loudon Road
 - I-93 Southbound Off-Ramp / I-93 Southbound On-Ramp / Loudon Road
 - I-93 Northbound On-Ramp / Loudon Road
 - I-93 Northbound Off-Ramp / Fort Eddy Road / Loudon Road

These closely spaced intersections result in queuing, conflicts, and operational inefficiencies. At the same time, Loudon Road provides critical connections within Concord: to the west, Loudon Road provides access to the center of downtown Concord (near the State House and City Hall), and to the east Loudon Road is a major commercial corridor and provides connections to New Hampshire state offices and Steeplegate Mall. As a result, traffic demand at Exit 14 is high, and there is significant congestion resulting from the interaction between the four



intersections. In order to accommodate the traffic demand, Loudon Road has a very wide cross-section, ranging from six lanes to eight lanes.

Exit 15 has a full cloverleaf interchange with I-393. Beyond the Exit 15 interchange, I-393 transitions from a four lane interstate highway to a five-to-six lane urban arterial, with traffic signals at I-393 / Commercial Street and I-393 / North Main Street / Bouton Street, where I-393 terminates.

NHDOT traffic data indicates that I-93 between Exits 12 and 13 carried approximately 72,700 vehicles on a daily basis in 2003 and 70,100 in 2002. Traffic count data for 2002 indicates that I-93 between Exits 13 and 14 carried approximately 69,000 vehicles on a daily basis in 2002. Traffic volumes decreased north of Loudon Road to 61,000 vehicles between Exits 14 and 15, indicating that a significant volume of traffic enters and exits I-93 at Exit 14 heading to and from the south. Data was not available for 2003 for the section of I-93 between Exits 13 and 15. Overall, traffic volumes have increased by 3.6 % annually between 1996 and 2002.

Interstate 393

I-393 is the second interstate highway that provides connection to the Opportunity Corridor. I-393 is a spur highway that runs from I-93 through Concord to the northeast. In Concord, I-393 is also designated as U.S. Route 4 and U.S. Route 202. In eastern Concord, I-393 intersects with New Hampshire Route 9, at which point I-393 ends and the highway continues to the east as Route 4 / 9 / 202. NHDOT traffic data for 2001 indicates that I-393 has the following daily traffic volumes: 39,000 vehicles between I-93 and Exit 1; 38,500 vehicles between Exits 1 and 2, and 32,000 vehicles between Exits 2 and 3. The fact that traffic volumes on I-393 drop significantly east of Exit 2 (Route 132) suggests that a significant component of the traffic is using I-393 to reach Loudon Road, Concord Heights, and East Concord via Route 132. Overall, traffic volumes have increased by 2.4 % annually between 1996 and 2001.

As described above, I-393 intersects I-93 at a full cloverleaf interchange. Unique to design of I-393 are the two signalized intersections west of the I-93 interchange: Commercial Street and I-393's western terminus at Bouton Street and North Main Street. The original highway plan called for an extension of I-393 through Concord to meet I-89 on the west side of the city. However, this plan was not pursued and instead I-393 was terminated at North Main Street. This configuration effectively results the local roadway connections (I-393 to and from the west) merging and diverging with the interstate-to-interstate ramps from the left, which is the opposite of standard highway design approaches. The I-393 westbound traffic must also decelerate from highway speeds to stop at the signalized intersections.

I-93 – Bow to Concord

NHDOT is planning improvements to I-93 between Bow and Concord. The study will examine and define existing and potential future capacity concerns and address safety issues related to the short weave sections on the highway ramps, particularly between Exits 14 and 15. Alternatives have yet to be



defined, but it is likely that consideration will be given to widening I-93 to six lanes as it passes through Concord and making improvements to Exit 15 and its connections to I-393. Proposals to put Loudon Road over I-93, as described in the *2020 Vision for Concord*, will also be considered in the study.

Local Streets

The following are the major surface streets in and around the Opportunity Corridor. Many of these are major arterials that intersect each other at large signalized intersections with high traffic volumes and congestion. In some cases, improvements designed to address congestion have resulted in wide roadways and challenging conditions for pedestrians and bicyclists.

South Main Street

Main Street is the principal commercial corridor in downtown Concord, and runs along the western edge of the Opportunity Corridor. Main Street is divided into North Main Street and South Main Street, with the boundary between the two at Pleasant Street.

South Main Street itself has two principal segments. From Pleasant Street to Water Street, South Main Street (designated Route 3) has two lanes in each direction and on-street parking on both sides of the street. The western side of South Main Street has 45-degree angle parking from Pleasant Street to St. John the Evangelist Church (near Storrs Street), and some parallel parking south of that point. The eastern side of South Main Street has angle parking from Pleasant Street to Freight Street, and parallel parking from Freight Street to Water Street. From Pleasant Street to Water Street, the storefront retail on South Main Street grows less dense, and there are some residential buildings mixed in with the retail.

South Main Street is aligned directly with Water Street, which conveys Route 3 south. South Main Street bears right at Water Street, and continues south into Concord's South End neighborhood. South of Water Street, South Main Street is designated as Route 3A, and has one lane in each direction with parallel parking on each side.



South Main Street continues to form the western edge of the Opportunity Corridor in the South End neighborhood. Land uses along this segment of South Main Street are primarily light industrial, with some residential, from Water Street to Holly Street. Industrial businesses in the Opportunity Corridor include Sanel Auto Parts, D and D Auto Sales and Service, Taylor Rental, Steenbeke and Sons Building Supply, the Concord Trailways storage yard, and the New Hampshire Forest Fire Division. South of Holly Street, South Main Street is principally residential.

North of Water Street, South Main Street generally has good traffic operations and minimal congestion. Traffic concerns on South Main Street include the potential effect of future Opportunity Corridor development on the residential neighborhood near the southern end of the Opportunity Corridor, and on the local streets to the west. These concerns were articulated during the planning for the Concord Commons project, which

would have created a retail development in the railyard between Hall Street and South Main Street. The project proposed to extend Langdon Avenue with an at-grade railroad crossing between Hall Street and South Main Street and to extend Storrs Street southward to distribute traffic and provide alternative connections to I-93 via Exit 13.

North Main Street

North Main Street is the continuation of South Main Street / Route 3 north of Pleasant Street. North Main Street is a two-way north-south arterial roadway with two lanes in each direction and additional turn lanes at signalized intersections. For major traffic movements, it effectively terminates in the north at the signalized intersection of Bouton Street / I-393 Connector, although an additional section of North Main Street continues northerly to Horseshoe Pond Lane through the Concord Historic District.

North Main Street has two lanes in each direction and parking on both sides of the street. This comprises 45-degree angle parking on both sides from Pleasant Street to Park Street near the State House. On the east side of North Main Street, there is parallel parking from Park Street to Loudon Road and from Storrs Street to opposite Washington Street, and on the west side there is parallel parking from Park Street to Pearl Street. Although the traveled way of North Main Street is very wide (approximately 80 feet) in this section, it is nevertheless quite pedestrian-friendly. There are high volumes of pedestrians walking between the government buildings and the storefront businesses, and there are frequent crosswalks, both signalized and unsignalized, with good pavement markings and signage.

Like South Main Street, North Main Street is generally commercial in nature. From Pleasant Street north to Loudon Road, North Main Street is lined with storefront retail consisting of small shops and restaurants; the adjacent angle parking provides an essential parking supply for these businesses. Eagle Square and the Museum of New Hampshire History are major attractions on this section of the street. The State House is also located on North Main Street. The downtown section of the roadway has heavy pedestrian traffic and crossings are provided at signalized and unsignalized intersections.



North of Loudon Road, North Main Street has two lanes in each direction, plus some areas with a center shared left turn lane to access side streets and driveways. In this section, North Main Street continues to be commercial, but the businesses are larger and newer, with off-street parking. As a result, there is not as much need for on-street parking. North of Loudon Road, North Main Street has much lower volumes of pedestrians on the street, vehicle speeds seem higher, and pedestrian crossings are much more difficult.

Traffic concerns for North Main Street include the need to ensure that additional traffic, particularly north-south through traffic, does not burden the street, which is congested during parts of the day. I-93 currently provides an alternative connection that is used by this type of traffic and any changes to the highway that reduces or eliminates local-to-

local connections could have an effect on North Main Street. Parking supply and convenience for customers of the storefront businesses is another consideration; the City has opted to retain angle parking in the downtown in order to provide as much convenience parking as possible.

Water Street (Route 3)

Water Street is directly aligned with South Main Street, and it extends Route 3 south to the I-93 Exit 13 interchange. NHDOT recently reconstructed Water Street, including the bridge over the railroad tracks that run through the Opportunity Corridor, in order to provide additional traffic capacity. Water Street carries heavy traffic volumes between Exit 13 and downtown Concord, and it includes four to eight lanes to accommodate it: Water Street generally has two lanes in each direction, with one or two additional turn lanes at intersections. This ultimately results in some wide cross-sections of seven or eight lanes, including the eight lane cross section at the Exit 13 interchange.



Manchester Street (Route 3)

Manchester Street is a two-way north-south arterial roadway that is aligned with Water Street at Exit 13 and carries Route 3 to the south, to Concord Municipal Airport, Pembroke, Suncook, Hooksett and Manchester. Immediately southeast of Exit 13, Manchester Street crosses the Merrimack River via the Korea Veterans Memorial Bridge. The bridge provides four to six lanes, including two through lanes in each direction. Immediately south of the Merrimack River, Manchester Street meets Old Turnpike Road and Black Hill Road at a signalized intersection. Beyond this intersection, Manchester Street has three wide lanes, one lane in each direction and a center turning lane, as well as wide shoulders.

Hall Street

Hall Street is a two-way north-south arterial roadway that connects Water Street with South Main Street in Bow at the I-93/I-89 interchange to the south of the Opportunity Corridor. The roadway provides one lane in each direction, with four to six foot wide shoulders. Light industrial uses including warehouses, as well as offices, lodging, and residential land uses are located along the corridor. No existing traffic concerns have been identified. However, consideration needs to be given to the potential role of this roadway as a transportation “spine” for the southern section of the Opportunity Corridor and its potential relationship to a corridor-wide north-south roadway.

Loudon Road (Route 9)

Loudon Road is the principal east-west roadway connecting downtown Concord to I-93 and across the Merrimack River to Concord Heights. Loudon Road is a two-way east-west arterial roadway that provides connections from the densest section of downtown Concord, at the center of the commercial district and the state and municipal government district, to the east. Loudon Road provides connections to and from I-93 at the Exit 14 diamond interchange, and to the retail uses along Fort Eddy Road. To the

east of Fort Eddy Road, Loudon Road crosses the Merrimack River and provides connections to the state office complex, the retail businesses lining the road, the Concord Municipal Airport, and the Steeplegate Mall.

Loudon Road generally has two through lanes in each direction. The Loudon Road Bridge over the Merrimack River has two through lanes in each direction; the westbound side of the bridge widens to three lanes as it approaches Fort Eddy Road / Exit 14 Northbound Off-Ramp. As it passes through the Opportunity Corridor, Loudon Road widens to provide turn lanes at its intersections with Fort Eddy Road, the I-93 ramps, and North Main Street. Loudon Road is up to eight lanes wide at some points in the Exit 14 interchange. There are five closely spaced intersections with traffic signals in the ¼ mile between Fort Eddy Road and North Main Street, including four signalized intersections within only 600 feet of each other. As a result, congestion is a regularly occurring problem on this section of the roadway, in spite of the excessive width of the roadway.

The principal issues on Loudon Road are related to its width and relationship to pedestrian and urban design goals for downtown Concord and the Merrimack River; in addition, Loudon Road has high traffic volumes and excessive congestion at the Exit 14 interchange. The Loudon Road corridor study and the *20/20 Vision for Concord* recommend reducing Loudon Road from four or five lanes to three lanes, and implementing improved access controls. The *20/20 Vision for Concord* also recommended elevating Loudon Road and lowering I-93 to allow Loudon Road to pass over, rather than under the highway. Loudon Road would also benefit from a reduction in traffic volumes at Exit 14; this would reduce the traffic congestion and could enable Loudon Road to be reduced in width in this area as well. Such a reduction in traffic volumes would require diverting I-93 entering and exiting traffic away from Exit 14, and most likely to Exit 15.

Storrs Street

Storrs Street is a two-way north-south arterial roadway that is located east of North Main Street and South Main Street and runs generally parallel to the Main Street corridor. Storrs Street generally provides one lane in each direction, with additional left turn lanes at some intersections. It also has on-street parallel parking on either side of the street approximately from the parking deck near Loudon Road to approximately 250 feet from Storrs Street's southern terminus at South Main Street.

Storrs Street passes beneath congested Loudon Road near the Exit 14 interchange, and provides a local bypass of the Main Street Corridor between its intersection with South Main Street at Perley Street and its intersection with North Main Street north of Loudon Road. The existing Opportunity Corridor land uses along Storrs Street are principally commercial. Between Storrs Street and the Main Street corridor, there are historical brick industrial structures that currently house storefront retail, restaurants, and small offices. Between Storrs Street and I-93 are large scale retail uses with large surface parking lots; these include the Capitol Shopping Center.



Traffic volumes on Storrs Street are generally fairly low, and there is minimal congestion. The northern terminus of Storrs Street at North Main Street is unsignalized, and North Main Street has high traffic volumes, but the traffic signal at Loudon Road usually provides adequate gaps that enable Storrs Street traffic to exit. The major issues for Storrs Street include the visibility of the street for motorists that are unfamiliar with the area.

Consideration has also been given to extending the street southward beneath Water Street to the South Opportunity Corridor. The newly rebuilt Water Street bridge includes an open bay to accommodate this connection. The City of Concord is also reviewing a northward Storrs Street extension to meet an extension of Court Street that would pass over the rail line and connect with Stickney Avenue.

Stickney Avenue

Stickney Avenue is a two-way north-south local roadway with one lane in each direction that provides access into the northern end of the Opportunity Corridor. To the south, Stickney Avenue terminates at a signalized intersection with Loudon Road; at the northern end, a slip ramp provides access from the Exit 15 southbound on-ramp to Stickney Avenue. Egress is only possible via Loudon Road. The street serves the Concord Trailways terminal, a NHDOT highway maintenance facility that will soon be abandoned, a U-Haul truck rental facility, and a small residential neighborhood on Herbert Street.

Traffic issues for Stickney Avenue are related to the current limitations on access to the street and its adjacent land uses. The Loudon Road intersection is immediately adjacent to the Exit 14 interchange, which has high traffic volumes and congestion. I-93 blocks access to the east, and the railroad line blocks access to the west, including the other Opportunity Corridor roadways such as Constitution Avenue, which lies very close to the Stickney Avenue corridor. Consideration was given to an at-grade rail crossing as part of planning for Constitution Avenue. A potential extension from the intersection of Commercial Street and Constitution Avenue would add a new access point for the Stickney Avenue corridor.

Fort Eddy Road

Fort Eddy Road is a two-way roadway that runs generally north/south. The roadway runs parallel and east of I-93 between Loudon Road to the south and the New Hampshire Technical Institute and Christa McAuliffe Planetarium to the north of I-393. Near its northern end, it provides connections to and from I-393 Exit 1, and it has one lane in each direction with additional left turn lanes at intersections. Toward its southern terminus at Loudon Road, Fort Eddy Road provides access to shopping centers with large surface parking lots. In the southern section, Fort Eddy Road has a raised median and two travel lanes in each direction, with additional left turn lanes at major intersections. There is no parking permitted on Fort Eddy Road, with one to two travel lanes in each direction.



Traffic issues are related to the level of congestion on Fort Eddy Road. The high volume of retail traffic and the reliance on Loudon Road as the primary access into and out of Fort Eddy Road result in congestion during peak afternoon and weekend hours.

Commercial Street

Commercial Street is a two-way local street with one lane in each direction that provides access to the commercial land uses along Horseshoe Pond, including office buildings, a medical facility, the Marriott Hotel, and the Grappone Conference Center. Commercial Street intersects with I-393 at a traffic signal. To the north of I-393, Commercial Street provides direct access to and from the land uses along Horseshoe Pond. To the south of I-393, Commercial Street provides access to and from Constitution Avenue, which passes beneath I-393 adjacent to the railroad line and provides access to the land uses along Horseshoe Pond. At the signalized intersection at I-393 / Commercial Street, traffic can only make a right turn in and a right out from Commercial Street. Full access was eliminated with the construction of the Constitution Avenue.

Traffic volumes on Commercial Street are generally low, and there is no significant congestion. The limited access traffic signal and the confusing access patterns for the Horseshoe Pond area may limit the ability of traffic to find its way through this section of the Opportunity Corridor. Consideration should be given to changes to Commercial Street that could increase roadway connectivity in the Opportunity Corridor.

Constitution Avenue

Constitution Avenue is a two-way local street with one lane in each direction that passes beneath I-93 and provides connections between eastbound I-393 and the Horseshoe Pond commercial area. Constitution Avenue was built along the railroad corridor as part of the Grappone Conference Center project. As part of this project, Commercial Street was limited to right-turn in/right-turn out operation at I-393. Constitution Avenue, which passes under the I-393 viaduct provides the movements that were eliminated (i.e., eastbound I-393 to Commercial Street and Commercial Street to I-393 eastbound).

Constitution Avenue was planned with the potential for an at-grade rail crossing to connect with Stickney Avenue. This connection should be considered as an option for increasing roadway connectivity within the Opportunity Corridor.

A.5.2. Mass Transportation

Mass transportation is provided by public and private carriers. Public transit within Concord is operated by Concord Area Transit (CAT), which operates three bus routes as well as senior and special transit services in Concord. Private operators provide intercity and commuter bus services. Within the Opportunity Corridor, inter-city bus transit service is provided by Concord Trailways, which operates a multimodal facility on Stickney Avenue.

Concord Area Transit

The fixed route public transportation in Concord is provided through CAT, which is administered by the Belknap – Merrimack Community Action Program. CAT operates

three fixed bus routes in Concord, two of which serve the Opportunity Corridor. The Manchester Street Route stops at the Trailways Terminal on Stickney Avenue. The Heights Route serves the Fort Eddy Plaza and the nearby New Hampshire Technical Institute. The third CAT fixed route, the Penacook Route, connects downtown Concord with Penacook to the north principally via Route 3.

These routes all terminate in downtown Concord, at or near the State House. At least a part of each route is also in a “loop” configuration, which increases the geographic coverage of the route but makes connections less direct for some riders. Each route provides 12 trips per day between about 6:30 AM and 6:30 PM, at roughly one hour intervals. There is no fixed route bus service on weekends or major holidays. Fares on the fixed route service are \$1.00 for adults, 50 cents for seniors, and free for children under five. Discounts are provided for monthly passes, student passes and 10 Ride Tickets. There is a free transfer between routes on Main Street.

The September 2003 *Concord Area Transit Expansion Study* indicated that the Heights Route had 177 daily boardings and the Manchester Street Route had 55 daily boardings. The study recommended replacing the Manchester Street Route with a “Heritage Heights” Route that would continue to serve the Trailways terminal in the Opportunity Corridor. Other recommendations included routing the Penacook Route via Storrs Street.

The CAT fixed route bus service is supplemented with door-to-door paratransit services in the Concord area, also provided by the Belknap – Merrimack Community Action Program. These services include Central New Hampshire Transportation (CNHT), the senior transit system, and the special transit service for people with disabilities. Seniors (60 and Over) pay \$1.00 for the demand response service. The special transit service fare is \$2.00.

Intercity and Commuter Bus Service

Concord Trailways provides inter-city and commuter bus service from the Concord Trailways Terminal on Stickney Avenue in the Opportunity Corridor. Concord Trailways Terminal provides approximately 270 free parking spaces (including 8 handicapped parking spaces), which are well-utilized (a spot survey at 1:30 PM on Wednesday May 5, 2004 indicated parking occupancy of approximately 85%). The terminal is open from 4:45 a.m. to 10:00 p.m. Sunday through Friday and 4:45 a.m. to 8:00 p.m. on Saturday, and it provides taxicab service and connections to local CAT bus service.



Concord Trailways provides bus service to Manchester, Boston and Logan International Airport. There are thirteen departures from Concord on weekdays (excluding holidays), with outbound bus trips departing between 5:00 a.m. and 7:00 p.m. and inbound trips arriving between 9:35 a.m. and 11:35 p.m. Seven of the departures bypass Manchester and travel express to Boston’s South Station, a major regional transportation center with Northeast Corridor Amtrak rail service. One trip does not connect to Logan Airport.

There are fifteen return trips. On weekends and holidays, there are twelve departures from Concord of which three departures bypass Manchester and travel express to Boston's South Station and one trip does not connect to Logan Airport. There are eleven return trips.

A.5.3. Pedestrians and Bicycles

Concord is a fairly compact city, and pedestrian and bicycle access is generally good within downtown Concord and Concord's village centers. Most streets within the downtown and the village centers have sidewalks, and intersections accommodate pedestrians with crosswalks and pedestrian signal phases. Concord also has park and open space resources, including trails and riverfront parks, such as Terrill Park, Waterfront Park, Healey Park, and the Heritage Trail.

At the same time, pedestrians and bicyclists face significant challenges in Concord. Many areas in downtown Concord and in the village centers have high traffic volumes, high vehicle speeds, and wide crossings. The City of Concord recently completed traffic improvements, beginning at McKee Square at the intersection of South Street, Clinton Street, and Broadway in the South End. This project provides improved pedestrian and bicycle access to the South Opportunity Corridor.

An even greater pedestrian and bicycle access issue, however, is the lack of connectivity between the centers, and the lack of connectivity between the parks and their trail systems. Downtown Concord and the Opportunity Corridor are within 1 – 1.5 miles of most of the other Concord villages: the South End, Concord Heights, East Concord, and West Concord. The Opportunity Corridor is also very close to the Merrimack River.

However, the roadways that connect downtown and the Opportunity to the villages and the parks are mostly high volume, high speed roadways with poor pedestrian and bicycle accommodation. The parks and the Merrimack River are blocked from the Opportunity Corridor and from each other by I-93, the rail lines, and the major roadways.

There have been some pedestrian and bicycle improvements, especially in the North Opportunity Corridor. Transportation Enhancement funding has been used to provide improved connections along Horseshoe Pond and to the new Grappone Conference Center. In addition, the proposed Salem to Concord Bikeway would link Concord to Manchester, Salem, and intermediate points, and provide a major transportation and recreation resource. However, the proposed Salem to Concord Bikeway corridor ends at the Concord line near the I-93 / I-89 interchange. And the Merrimack River paths are discontinuous in the downtown.

A continuous bicycle / pedestrian shared-use path through the Opportunity Corridor, with connections to the riverfront parks, downtown Concord, and the Salem to Concord Bikeway, would be a major improvement to Concord's pedestrian and bicycle network.

A.5.4. Freight and Passenger Rail Service

The Opportunity Corridor was once home to a sprawling rail yard operation that was operated by the Boston and Main Railroad. Located in the central section of the Opportunity Corridor (south of Loudon Road) and extending south to the South End, this operation included extensive rail yards and maintenance facilities. Today, several Concord businesses are served by rail.

The rail lines bisect the southern and northern sections of the Opportunity Corridor and are generally located adjacent to I-93 in the central section. A small rail yard is located in the central section and rail spurs, including active tracks to serve several area businesses are located in the southern section. The line passes under Loudon Road and splits into two branches. The state-owned Concord-Lincoln line runs north to Tilton and is used for freight service. A second line to the west, the Northern Line, passes through Boscawen and runs to the west toward White River Junction in Vermont. The Concord-Lincoln Line is a single track operation. Tracks are in disrepair or have been torn up on sections of the Northern Line to White River Junction. There are public and private grade crossings within the Opportunity Corridor.

The *Boston to Montreal High-Speed Rail Planning and Feasibility Study Phase I* report identified the following rail conditions within the Opportunity Corridor:

- The line is generally flat with no sections exceeding one percent grade.
- There is a five degree curve in the Concord Yard.
- There are public and private grade crossings.
- The corridor narrows to 20 feet at Mile Post (MP) 73.3.
- Freight trains are restricted to operate at 10 mph or slower.

Freight Service

Freight service continues to operate along the rail lines through the Opportunity Corridor. The Guilford Railroad System owns this section of the rail line and the New England Southern operates the service the rail line and yard in Concord. Observations indicate that the railroad operates approximately one train per week to customers north of Concord using the Northern Line and the Concord-Lincoln Line. There are three to five trains per week that operate south of Concord over the New Hampshire Main Line to connect with the Guilford Railroad System in Manchester.



High-Speed Rail Proposal

Concord is located on the designated Boston to Montreal High-Speed Rail Corridors. NHDOT is participating in a feasibility study that issued a report, the *Boston to Montreal High-Speed Rail Planning and Feasibility Study Phase I* report, in April 2003. The report documenting existing conditions along the corridor; identified up to thirteen possible station locations; and evaluated potential ridership for a 2025 analysis year based on different operating scenarios (e.g., changes in assumptions about the number of stops, fares, etc.).

The Study identified different station types for the corridor. Concord was identified as an Urban Intermediate station with potential for multimodal connections. There were no specific recommendations for station locations for any of the potential new stations such as Concord. The report includes general criteria for station design. A station at Concord was included in the ridership estimates for seven service packages. The 2025 ridership estimates for Concord Station (and the line as a whole) varied greatly by the assumptions that were used from 5,000 for a low level of service with two trains per day to 51,000 for a frequent high-speed service.

The report concluded that “(s)ufficient potential ridership and fare revenue exists to warrant the implementation of Phase II of the Study.” Phase II, which is scheduled to begin in the summer of 2004, will include a cost-benefit analysis of the service.

A.5.5. Implications for the Future

The review of existing conditions provides insight to potential improvements that could be developed for the Concord Opportunity Corridor. In particular, the I-93 project creates an opportunity to reorganize roadway connections, improve the relationship between local and regional roadways, and enhance the connections between downtown Concord and the Merrimack River. Potential rail service as part of the Boston-Montreal High Speed Rail Corridor project would strengthen and enhance Multimodal connection in the Opportunity Corridor. At the same time, the rail lines create design constraints that must be considered as part of planning for roadway improvements.

The following summarizes the key implications for future improvements to the transportation system that serves the Opportunity Corridor:

1. I-93/I-393 Interchange (Exit 15)

- Short-weaves need to be improved for safety reason. These conditions are internal to the interchange and external between the interchange and I-93 Exit 14 and I-393 Exit 1.
- I-393 currently ends at a signalized intersection. Consideration of design options that are better integrated into the local street network.
- The configuration of I-393 and the Opportunity Corridor roadways requires that connections between downtown and the North Opportunity Corridor (with significant new construction) travel via I-393. The North Opportunity Corridor should be better integrated with downtown Concord and the rest of the Opportunity Corridor.

2. Loudon Road

- There is a significant overlap in through-traffic and in traffic demand for commercial access and egress on Loudon Road.
- The number of intersections and the short spacing between them and the need to accommodate high volumes of left-turns complicates operations on Loudon Road.
- In order to accommodate the traffic demand at Exit 14, Loudon Road is seven to eight lanes wide. This makes Loudon Road, and access to and across the Merrimack River, uninviting for pedestrians and bicyclists.

3. Connections to and through the Opportunity Corridor

- Access to the Opportunity Corridor from Loudon Road is limited by the operations of the roadways and the lack of clear connections to the south.
- There is no continuous north-south roadway to link the sub-districts of the Opportunity Corridor and, as a result, Main Street and I-93 provide this function.
- The railroad and the potential future limitations of high-speed operation limit the ability to make east-west connections within the Opportunity Corridor.

4. Regional Multimodal and Rail Connections

- The current Trailways Terminal has excellent highway access, but lacks sufficient parking.
- The location of a passenger rail station should include a commuter/intercity bus component and consider its relationship to highway access and downtown destinations.
- Restrictions on at-grade crossings, particularly for high-speed operations, vertical clearances, horizontal curves and track grades are design considerations for any potential changes to roadways in the Opportunity Corridor.

5. Pedestrian and Bicycle

- Bicycle connections should be enhanced to the planned and local roadways within the Opportunity Corridor should include bicycle accommodation.
- I-93, particularly its interface with local streets at the various exits along the Opportunity Corridor, and the railroad present barriers for east-west pedestrian and bicycle connections.

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STEERING COMMITTEE MEMBERS

Todd Allen, *Groundwork Concord*
Jeffery Bart, *City Council*
J. Allen Bennett, *City Council*
Harry Blunt, Jr., *Concord Coach Lines*
James Bouley, *City Council*
Niel Cannon, *CRDC*
Chip Chesley, *General Services Director*
Mike Connor, *NH Administrative Services*
Peter Dearness, *NE Southern Railroad*
Richard Ehrlich/Silvio Dupuis, *NH Historical Society*
Nan Hagen, *Main Street Concord*
Roger Hawk, *Comm. Devel. Director*
John Hutson, *Franklin Pierce Law Ctr.*
Ken Lurvey, *Business Devel. Coordinator*

William McGonagle, *City Council*
Van McLeod, *NH Dept. of Cultural Resources*
M. T. Mennino, *Capitol Center for the Arts*
Howard Moffett, *Concord 20/20*
Christopher Morgan, *Conservation Comm.*
Katherine Potter, *Guilford Rail Systems*
John Ransmeier, *Concord 20/20*
Ansel Sanborn, *NHDOT*
Tim Sink, *Chamber of Commerce*
Michael Tardiff, *CNHRPC*
Douglas Woodward, *City Planner*
Paul Worsowicz, *Concord Coach Lines*
Michael Vignale, *City Engineer*

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William McGonagle, *Ward 7*
Keith Allberg, *Ward 8*
Katherine Rogers, *Ward 9*
James Bouley, *Ward 10*

CITY OF CONCORD

Roger Hawk, *Comm. Devel. Director*
Douglas Woodward, *City Planner*
Stephen Henninger, *Assist. City Planner*
Matthew Walsh, *Comm. Devel. Project Manager*
Ken Lurvey, *Business Devel. Coordinator*

Michael Vignale/Brent Edmonds, *City Engineer*

CONTRIBUTING CONSULTANTS

The Cecil Group, Inc.

Steven G. Cecil, *Project Director*

Margarita Iglesia, *Project Manager*

Howard Snyder, *Landscape Architect*

Bonz and Company, Inc.

Richard Paik, *Real Estate Development
Consultant*

Bluestone Planning Group

Larry Bluestone, *Urban Designer*

Rizzo Associates, Inc.

Joe Beggan, *Transportation Planner*

Ned Codd, *Transportation Engineer*

Dominick Ciavarro, *Transportation
Planner*

CONCORD OPPORTUNITY CORRIDOR MASTER PLAN

The Cecil Group, Inc.
Bluestone Planning Group
Rizzo Associates, Inc.
Bonz and Company, Inc.