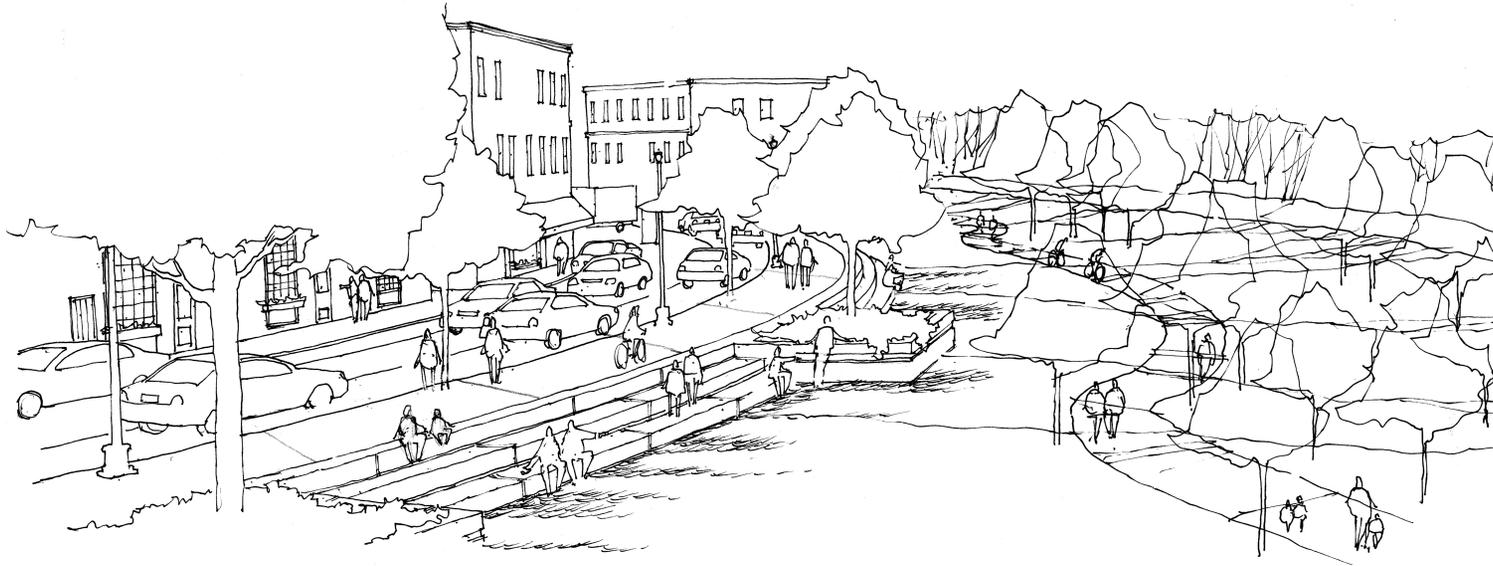


# New Auburn Village Center Study

Auburn | Maine



15 August 2014



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Landscape Architecture + Urbanism

# New Auburn Village Center Study – 8.15.14

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# 1. Executive Summary

The purpose of the New Auburn Village Center Study is to integrate mobility, urban design and open space in a manner that leverages the assets of the area in order to attract investment in the built environment and encourage economic development. The New Auburn community is committed to realizing the recommendations of the New Auburn Village Center Study in an informed and fiscally responsible manner. Revitalization efforts in New Auburn Village Center will be holistic, with each development and improvement as part of a coordinated and strategic plan to achieve a unified but dynamic place.

The New Auburn Village Center Study (Study) builds on many of the recommendations and the vision of the 2009 New Auburn Master Plan, which was adopted as part of the 2011 Auburn Comprehensive Plan. While the 2009 New Auburn Master Plan looked at all of New Auburn, the Study examines a more focused 38 +/- acre commercial area surrounded by residential neighborhoods as shown on **Figure 1**. More detailed designs for new streets, parks, parking and concept building locations are identified in an 18-acre focus area as shown on **Figure 2**. This area includes most of the recommendations of the Study and is referred to as the 2014 Master Plan.

The Study addresses specific goals including:

- Review the existing transportation network, urban form and land use in the New Auburn Center District;
- Determine effectiveness of the network in light of proposed land-use changes and build-out scenarios;
- Identify and evaluate vehicle, bicycle, pedestrian, transit, and parking transportation alternatives that include both physical improvements as well as potential changes to City ordinances and development standards;
- Work with the Steering Committee, as well as local community businesses and residents on recommendations;
- Develop recommendations for the network to improve traffic flow while respecting and improving the traditional form of New Auburn, and;
- Develop cost estimates and prioritized list of improvements/recommendations, which may include project phasing.

The recommendations of the Study were carefully vetted by the Steering Committee and presented at a series of public meetings to develop community consensus. The various recommendations resulted in the 2014 Master Plan, which outlines a future New Auburn Village Center where economic development, mobility, open space and the built environment are addressed holistically in order to maximize strategic investments. New Auburn Village Center is envisioned as a place that builds on the best of the past while embracing opportunities for 21<sup>st</sup> Century economic development and placemaking. The 2009 New Auburn Master Plan provides a good description of the future of New Auburn Village Center as a:

A Village Center that is a well-designed commercial core that serves as the community's downtown. The district is compact with buildings facing the street and ample sidewalks and green spaces to encourage a lively pedestrian

environment. In character with the surrounding neighborhoods, this mixed-use village provides first floor small-scale commercial and retail uses and upper floor offices and residential uses. Historic buildings in the area have been maintained and refurbished and act as a model for the scale and design of the new buildings. A focus is placed on supporting local neighborhood businesses including salons, pharmacies, laundromats, markets, and specialty retail stores. There are cafes, restaurants, and pubs that provide places for residents and visitors to gather.

Along the riverfront between the Lown Peace Bridge and the South Main Street Bridge, the floodplain has been reclaimed as open space with parks, trails, and public access points along the Androscoggin and Little Androscoggin Rivers that provide opportunities for walking, swimming, fishing, and boating.



**Figure 1: 2014 Study Area – 38 Acres +/-**

## 1.1 Overview of the 2014 Master Plan

The 2014 Master Plan focus area is approximately 18 acres. The 2014 Master Plan maximizes the potential of the area, creating a blue print for an urban neighborhood that is highly livable and can be phased in over a number of years through strategic transportation, infrastructure and open space improvements in order to leverage private sector investment. The 2014 Master Plan looks to the success that other communities have had with embracing riverfronts as well as how the design of streets and parking facilities is often critical in the function of public / private revitalization initiatives. In summary, the 2014 Master Plan balances the need to design a place of a specific character with the realities of traffic planning – however the emphasis is not on designing a downtown that is a conduit for vehicles, but more a place for people. Key aspects of the 2014 Master Plan include:

- Accepting a lower level of service for intersection functions – focusing on local placemaking and the pedestrian environment versus accommodating pass through traffic at the expense of the character and economy of New Auburn Village Center;
- Relocating the Lown Peace bridge to the Mill Street / Riverside Drive intersection. This routes traffic to Mill Street – creating a “Main Street” – and allows for the new “Riverway” and “Androscoggin” blocks to evolve as quiet, dense neighborhoods that take advantage of views and access to the Little Androscoggin and Androscoggin Rivers;
- Closing Riverside Drive between Mill and Broad to create an internal shared parking allowing for perimeter development;
- Closing Second Street between Broad and Mill (and creating the Riverway) to create an internal shared parking allowing for perimeter development;
- Closing Third between Broad and Mill creating infill development opportunities as well as internal shared parking;
- Maximizing on-street parking and minimizing curb cuts;
- Constructing an esplanade along the Riverway overlooking the Little Andy Park. This esplanade and steps will be on fill that will create a defined edge to the flood plain, creating new redevelopment opportunities above the 100-year flood plain elevation;
- Continuing the Little Andy Park to a “Broad Street Plaza” – a new civic space and overlook at the location of the existing bridge;
- Locating a Riverwalk between the Androscoggin Block buildings and the Androscoggin River to allow for public access as well as economic development opportunities;

- Placing buildings close to the sidewalk and street in a traditional manner;
- Creating vibrant and safe streetscapes with wide sidewalks, street trees, pedestrian-scaled lighting, bike racks and other amenities;
- Designing all streets to comply with Auburn’s Complete Street policy, and;
- Raising new development blocks above the 100-year flood plain to streamline permitting and reduce construction and insurance costs



Figure 2: 2014 New Auburn Village Center Master Plan

## 1.2 Urban Design Implementation Strategies

Every development and infrastructure, transportation and open space improvement is an opportunity to realize the vision of the 2014 Master Plan. It will be key to the success of implementing the 2014 Master Plan to think holistically and strategically in terms of the overall character of the area, not the traditional lot-by-lot approach that often results in suburban style development, the loss of housing and local businesses.

Following are key aspects of the Study and the 2014 Master Plan to monitor and implement as public and private investment occurs.

### 1.2.1 Relocating Lown Peace Bridge

Relocating the bridge to the intersection of Riverside Drive and Mill Street is a fundamental aspect of the 2014 Master Plan. The City of Auburn and the City of Lewiston should begin active, sustained and coordinated conversations with MaineDOT regarding moving the bridge. The bridge should be moved rather than investing in maintenance in order to prolong the lifespan in the current location.

Moving the bridge:

- Allows for traffic heading north or south on 136 to or from Lewiston to bypass New Auburn Village Center;
- Directs vehicle traffic along Mill Street, which can become the “Main Street” of New Auburn Village Center;
- Creates the riverfront related “Androscoggin” and “Riverway” blocks, which will be highly accessible to both vehicles and pedestrians without having the burden of through traffic and;
- Potentially allows for more flexibility in the redevelopment of the mills on the Lewiston side of the river

### 1.2.2 Flood Plain

New development areas are established in the creation of the Riverway Block, Androscoggin Block and by relocating the Lown Peace Bridge to the Mill / Riverside Intersection as shown on **Figure 3**. This benefits the area by:

- Raising elevations between six feet and one foot to a minimum required elevation of 136’ – one foot above the base 100-year flood elevation of 135’;
- Allowing the Little Andy Park to flood as needed;
- Minimizing the cost of expensive flood tolerant building materials;
- Streamlining permitting for developments, and;
- Reducing the cost of insurance



**Figure 3: Extent of 100-Year Flood Plain After Relocating Lown Peace Bridge and Creating the Riverway**

### 1.2.3 Right-of-Way Land Swaps

The City controls land in right-of-ways. Right-of-ways / streets should be either improved to support adjacent development or as shown in **Figure 4**, this land can be integrated into the future built environment as either shared surface parking or land for infill development. Each of the three proposed redevelopment blocks in the 2014 Master Plan includes City ROW: Riverside Drive in the Androscoggin Block, Second Street in the Riverway Block and Third Street in the South Gateway Block.

Leveraging land swaps potentially allows for:

- Creating interior shared parking
- Maximizing perimeter block development frontage
- Minimizing curb cuts
- Maximizing on-street parking
- Leveraging public / private partnerships: land swaps, RFP's, etc.



**Figure 4: Right-of Way Land Swaps**

## 1.2.4 Parking

Parking is critical to the success of a revitalized New Auburn Village Center. However, the parking should not distort the urban form nor be a cost burden to development. Parking should be:

- Distributed evenly throughout focus area
- Maximized by using on-street parking
- Created using interior shared parking lots
- Leveraged by the City by utilizing closed right-of-ways for shared parking
- Guided by a shared parking ordinance
- Increased through the introduction of structured parking if needed

The 2014 Master Plan includes consolidated off-street parking areas and extensive on-street parking as shown on **Figure 5**:

170 +/- on-street spaces  
291 +/- shared spaces

= 461 Total

*If a structured parking garage is placed in the Androscoggin Block, the total available parking increases by approximately 200 cars.*

*Utilizing a shared parking ordinance, the required parking for a development can be typically reduced by 1/3.*

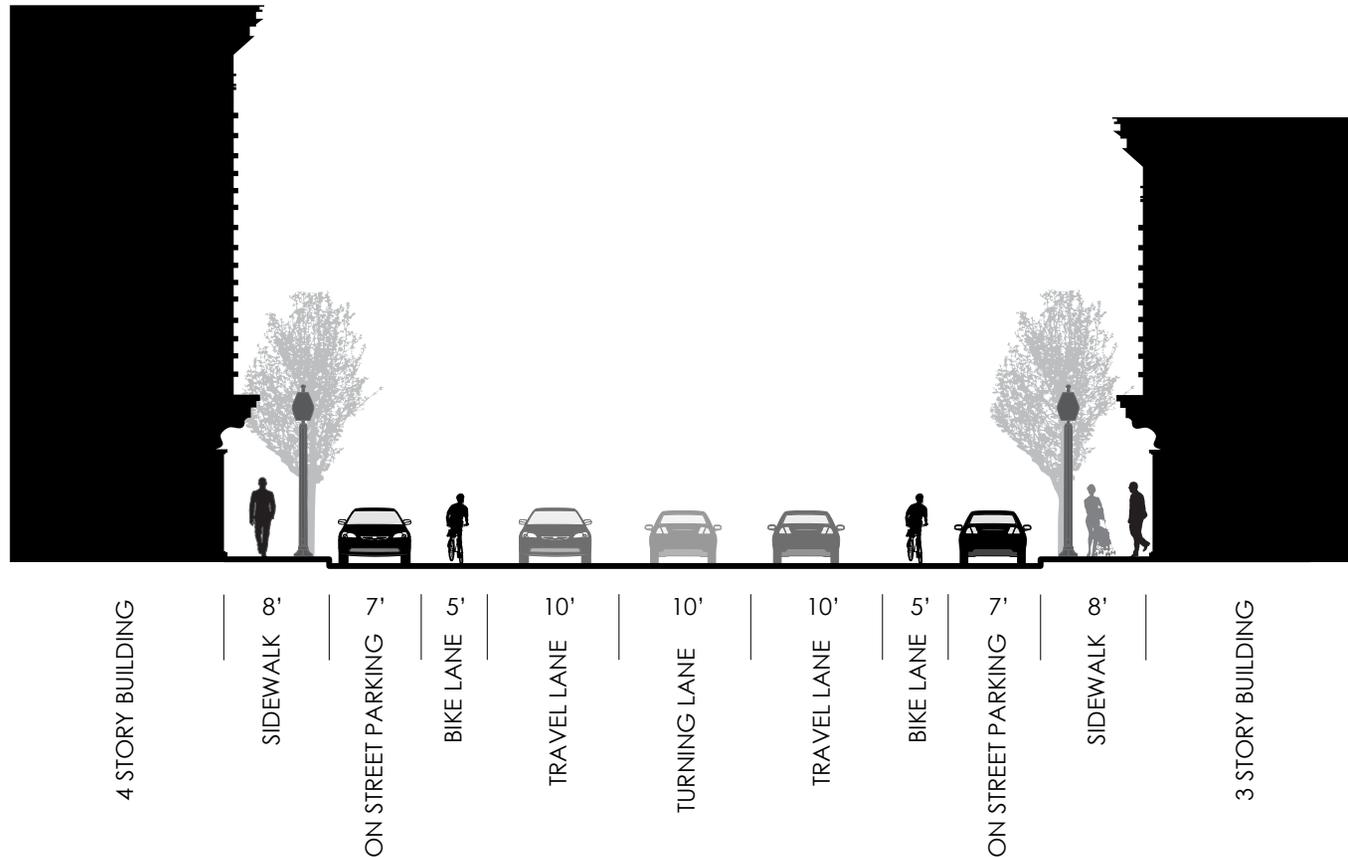


**Figure 5: Location of Shared Parking and On-Street Parking**

## 1.2.5 Building Form, Height and Placement

Focus on form, placement and how buildings address street frontage. These are the fundamentals of Form-Based Codes, a process that the City has already begun.

Both sides of the street should echo each other in terms of standards, helping to shape the “outdoor room.” The 2014 Master Plan envisions buildings between two and four floors. In general, there should be a ratio of 3:1 building face to building height ratio as shown on **Figure 6**.



**Figure 6: Traditional Scale of Buildings and Street Environment**

### **1.2.6 Streetscape / Complete Streets**

The 2014 Master Plan is predicated on the understanding that well-designed streets foster economic development and improve the quality of life for residents. When building or restoring streets, consider:

- Complete Street policies
- ADA compliance
- Wide and safe sidewalks
- Street trees, streetlights and other amenities
- Streets as civic space defined by proper form and placement of buildings
- Buried utilities

### **1.2.7 Open Space**

Leverage different types of open space for quality of life, neighborhood character and to jumpstart economic development. The 2014 Master Plan includes a range of open / civic spaces:

- Riverway
- Little Andy Park
- Androscoggin Walk
- Broad Street Plaza
- Pocket Parks
- Streets
- Connections to greater sidewalk and trail systems in New Auburn / Auburn / Lewiston

### **1.2.8 View Corridors / View Sheds**

View corridors and views sheds take advantage of the grid, the topography and the river frontage:

- The Riverway and Androscoggin Blocks establish / protect views to Little Androscoggin and Androscoggin Rivers
- The existing grid south of Mill Street in combination with the topography frames views to north and northwest
- Views from new location of Lown Peace Bridge back to redeveloped downtown will help reinforce the identity of the a revitalized New Auburn Village Center

## 1.2.9 Connectivity

A high level of connectivity makes the area easier to redevelop, safer for pedestrians and mitigates traffic impacts. Key design aspects of the 2014 Master Plan encouraging connectivity include:

- Two-way traffic circulation
- Maximum flexibility for turning movements
- The connectivity outside the focus area is maintained (intersections, block lengths, pedestrian shed) *Note – whole 38-acre study area has 23 intersections and the United States Green Building Council's Leadership in Energy and Environmental Design for Neighborhood Design requires at least eight intersections for a comparable area*
- Connectivity within focus area is enhanced with high accessibility, two-way traffic, streetscape and intersection improvements
- Pedestrian orientation of the Riverway / Little Andy Park and the Androscoggin Walk adds provides diversity for the pedestrian environment
- Safe pedestrian crossings at improved intersections and at select mid-block locations that will encourage foot traffic and economic development
- Implementation of the City's Complete Street Policy to accommodate all modes of travel, including bicycles

## 1.2.10 Housing

- Target to increase residential density in 18-acre focus area from 9 units per acre to 18-21 units per acre

## 1.2.11 Revised Zoning and Design Standards

- Continue with Form-Based Code process

Short-term zoning changes:

- Establish maximum footprint (can currently build 100,000 SF building, which is out of scale for urban setting)
- Establish maximum setbacks (allow 0' front setbacks)
- Allow zero lot line development
- Increase allowable lot coverage (80% to 100%)
- Maximum building height – three to four floors (maximum building footprints and heights are also a strategy for minimizing surface parking)
- Revise required parking for uses (reduce required ratios)
- No drive-thrus
- Establish a shared parking ordinance
- Utilize residential dwelling uses for Multi-Family Urban rather than Multi-Family Suburban – more mixed use
- No new single-family homes in the 18 acre focus area

- Many of the above short-term zoning changes can be accomplished by changing the zoning in the downtown area to Central Business 3 from General Business.

Recommended edits to 2009 New Auburn Master Plan:

- Place areas of Andrscoggin Block within in the proposed Limited Business Zone in New Auburn Village Center Zone' and;
- Place areas of the Riverway Block within the proposed Riverway Transition Zone in the New Auburn Village Center Zone

### **1.2.12 Phasing**

Sections 1.3 and 1.4 discuss the phasing of the major transportation improvements. As the street network is envisioned as a framework for revitalization, it is recommended that they Riverway be considered as the first phase in the implementation of the 2014 Master Plan. There are a number of reasons for this:

- The City already owns Little Andy Park and is proceeding to implement the long-term vision for the park;
- The City owns the Second Street ROW in the Riverway Block, and this land can be swapped for shared parking or infill development;
- In terms of traffic and the timing of the Lown Peace bridge relocation, the Riverway can be created without impacting the area;
- By creating the Riverway, land suitable for development outside the 100-year flood plain is established, and;
- The Riverway is a signature urban form, leveraging the potential for a unique riverfront neighborhood

### 1.3 Roadway, Intersections and Pedestrian Improvements

Conceptual Roadway improvement plans were developed that illustrate recommendations within the study area and include travel lanes; bicycle accommodations; sidewalks, crosswalks, traffic control, geometric adjustments and street layout. **Figures 30 through 34** illustrate the improvements. These recommended improvements are intended to reflect a Complete Streets plan from a multi-modal transportation perspective.

#### **Figure 7 – Main Street/Mill Street/South Main Street**

- The intersection remains controlled by a traffic signal.
- One travel lane is eliminated on the northbound South Main Street approach. Otherwise the number of lanes remains unchanged.
- Curb extension will be provided on southeast corner where the lane is being eliminated.
- New crosswalks and pedestrian signals is included
- New sidewalks and streetscape is included
- Bicycle lanes on Mill Street is included
- Close driveway at Rolly's Diner

Following the above changes, the intersection is estimated to operate at Level of Service D overall in the future 2035 condition, with some movements operating with long delays.



NEW AUBURN VILLAGE STUDY  
0' 50' 100'  
DRAFT

**Figure 7: ROW Improvements Main Street/Mill Street/South Main Street**

## **Figure 8 – Broad Street/Riverway**

- The intersection controlled by stop sign
- Single approach lanes on Broad Street and Riverway
- Curb extensions will be provided on all corners.
- New sidewalks and streetscape is included
- Bicycle lanes on Broad Street is included but not on Riverway because of shared path in park and shared nature of roadway

Following the above changes, the intersection is estimated to operate at an acceptable level of service in the future 2035.

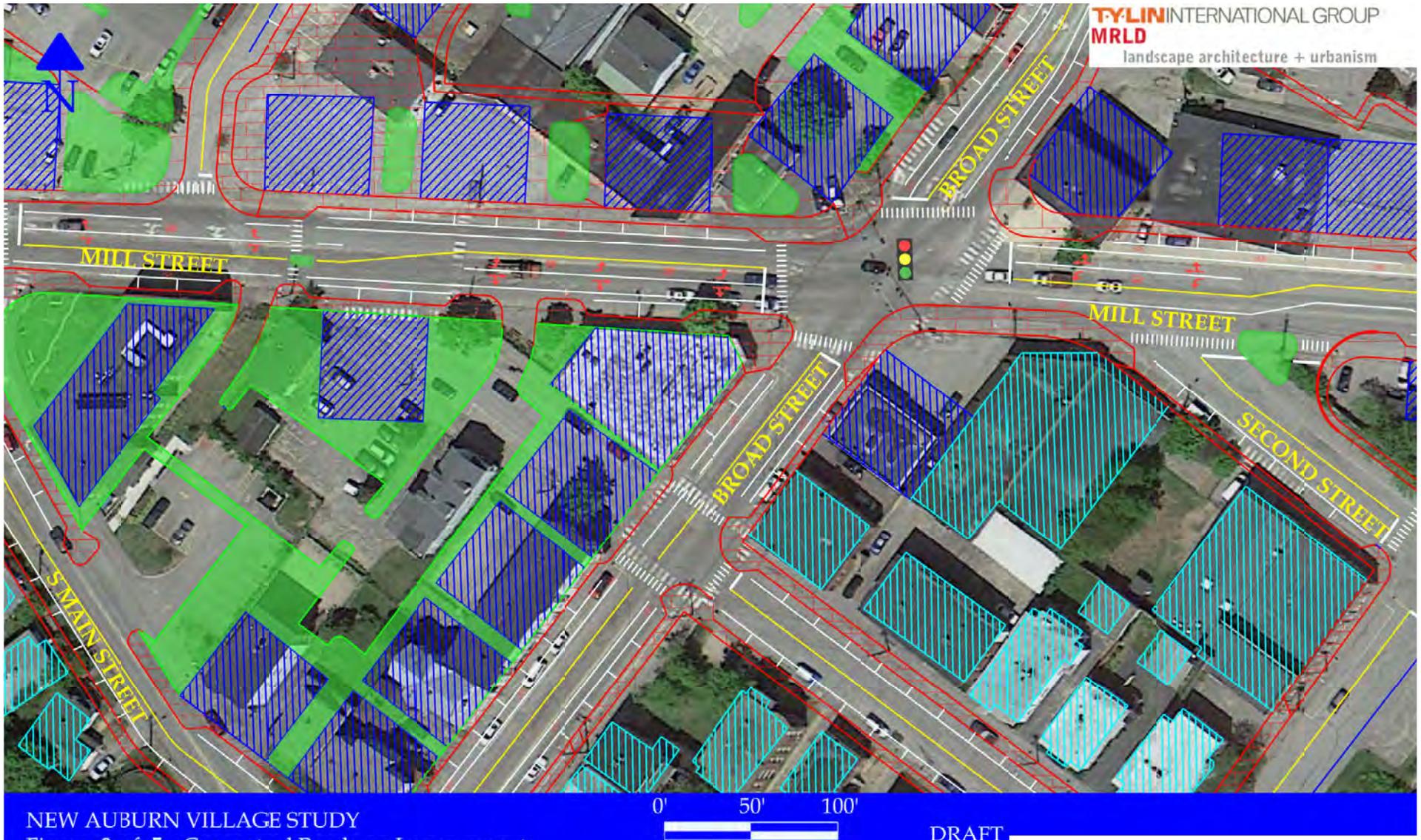


**Figure 8: ROW Improvements Broad Street/Riverway**

## **Figure 9 – Mill Street/Broad Street**

- The intersection remains controlled by a traffic signal.
- Single approach lanes on Broad Street.
- Two approach lanes on Mill Street (dedicated left-turn lanes and a shared through/right lane)
- Curb extensions will be provided on all corners.
- New crosswalks and pedestrian signals (crosswalks will be provided on all four approaches) is included
- New sidewalks and streetscape is included
- Bicycle lanes on Mill Street and Broad Street is included

Following the above changes, the intersection is estimated to operate at Level of Service B overall in the future 2035 condition, with some movements operating at Level of Service D.

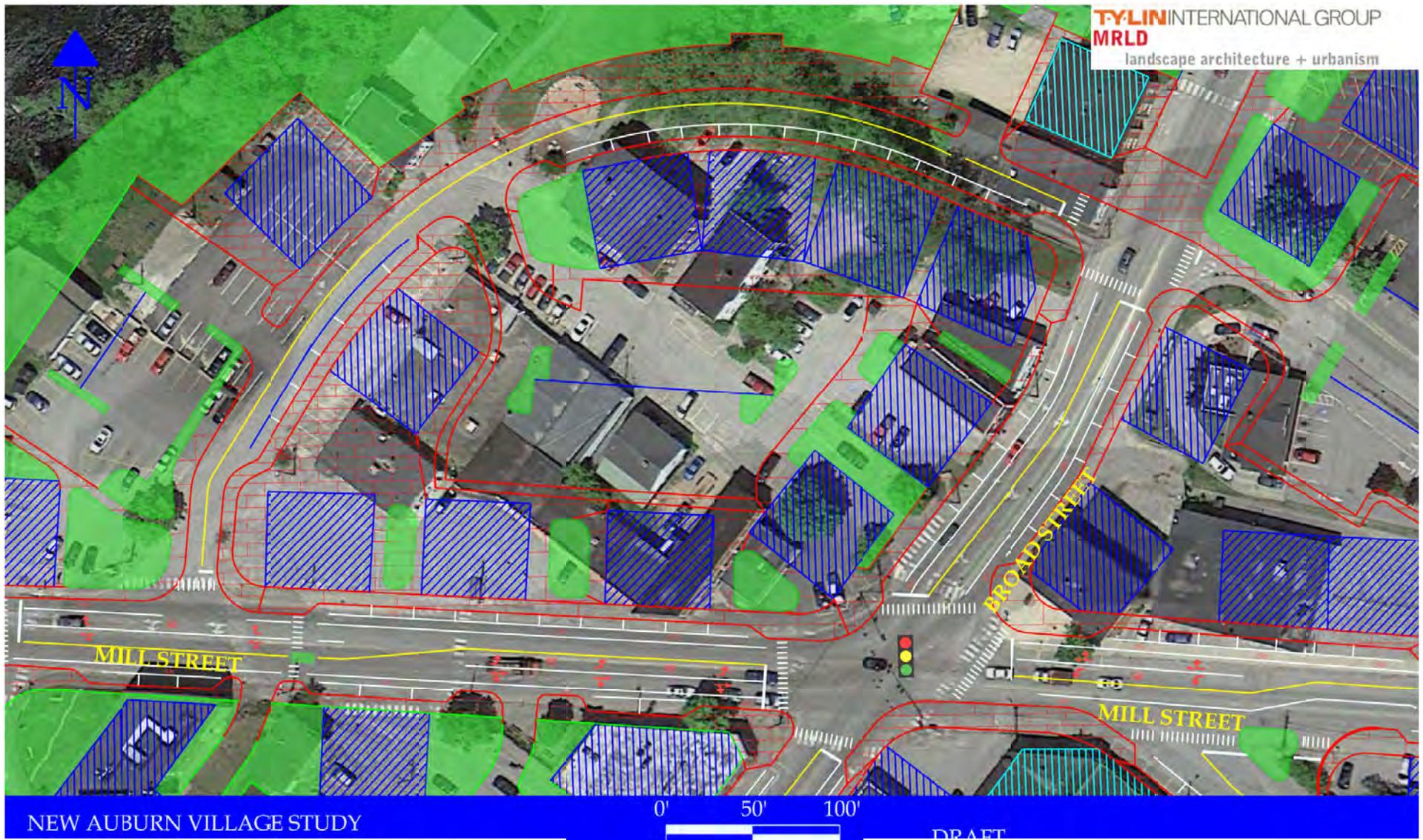


**Figure 9: ROW Improvements Mill Street/Broad Street**

## **Figure 10 – Riverway**

- On-street parking will be provided on development side of street.
- Two 10-foot travel lanes will be provided
- A 8-foot sidewalk on the building side of the street and a 12-foot shared use path / esplanade on the river side will be provided
- Curb Extensions and crosswalks are included at Mill Street, Broad Street, and the new parking lot entrance.
- New sidewalks and streetscape is included
- STOP sign controlled intersection at Broad Street/Riverway/ Parking Driveway intersection is proposed.

The intersection of Mill Street and the Riverway will be STOP sign controlled – there will be a stop sign on the Riverway controlling the movement of traffic to Mill Street – and left-turn movements will be restricted due to the proximity of the of this intersection to the Main Street traffic signal. Both new Riverway intersections are expected to operate at an acceptable level of service.

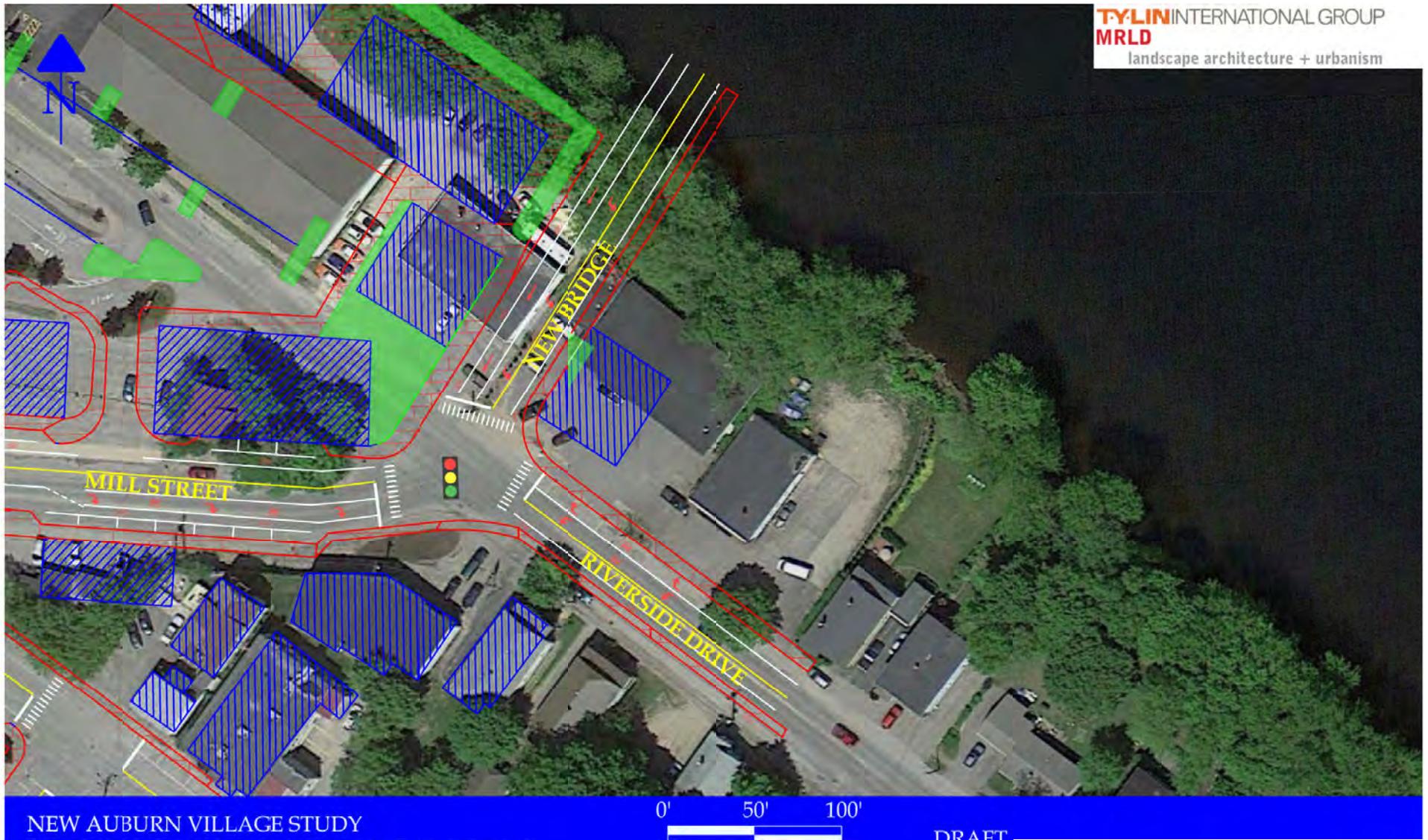


**Figure 10: ROW Improvements Riverway**

## **Figure 11 – Riverside Drive/Mill Street/New Bridge**

- The intersection will be controlled as traffic signal.
- Two lanes will be provided on all approaches as noted as follows:
- The bridge approach will have a left lane and a through lane
- Riverside Drive will have a left lane and a right lane
- Mill Street will have a through lane and a right lane
- Curb extensions will be provided at crosswalk locations
- Crosswalks will be provided on all intersection approaches
- New sidewalks and streetscape is included
- Bicycle lanes will be provided on all roadways (or a shared use lane will be provided on Mill depending on final design)

Following the above changes, the intersection is estimated to operate at Level of Service F overall in the future 2035 condition. It should be noted that this level of service conclusion occurs during short peak commute time periods. A guiding principle in the development of improvements is that expanding roadway capacity so that through vehicles can quickly and efficiently travel through New Auburn should not compromise the integrity of the plan. This poor level of service conclusion reflects this principle.



**Figure 11: ROW Improvements Riverside Drive/Mill Street/New Bridge**

## **Figure 12 – South Main/Broad/Fourth**

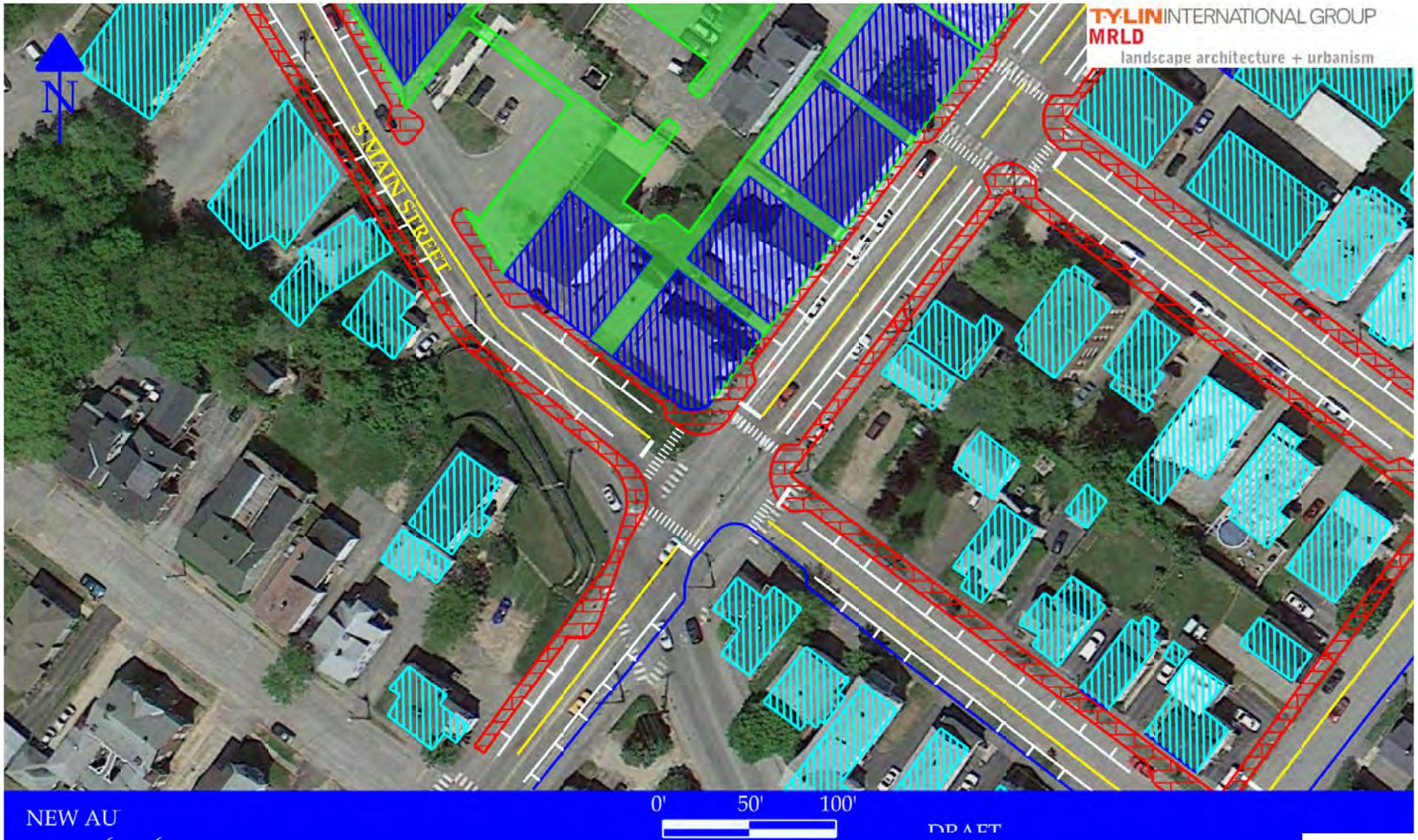
- Realigned intersection to match historic grid (traditional four-way intersection)
- STOP sign controlled intersection at South Main/Broad/Fourth intersection is proposed
- One lane approach from all directions
- Bicycle lanes are provided on Broad Street
- South Main Street south of Broad is closed

Following the above changes, the intersection is estimated to operate at Level of Service comparable to existing conditions. Signalization may be required in the future.

By closing South Main Street south of Broad Street, the intersection is safer. In addition, the intersections at Fifth and Cook and Sixth and Dunn can be restored to the original grid alignment to replicate historic traffic movement patterns, improve safety and reclaim land for infill development or open space.

Further study and public input on the closing of South Main south of Broad is required, as this will change the movement of vehicles through the area.

**It should be noted that closing these intersections in order to restore the historic grid does not impact the level of connectivity in New Auburn.**



**Figure 12: ROW Improvements South Main/Broad/Fourth**

## 1.4 Transportation Phasing and Implementation

This section of the Study covers project phasing and implementation and what transportation system components can be constructed as standalone projects or are a function of other activities. **Figure 13** illustrates how the overall 2014 Master Plan improvements can occur in a systematic and realistic fashion given the timing of area-wide infrastructure activities, most notably reconstruction of the Lown Peace Bridge. It should be noted that many of the improvements detailed will be implemented as re-development activities occurs and thus there may be additional phases not specified in this section. The section is intended to discuss larger phasing issues and concludes that major components of the Plan can proceed without waiting.

- Phase 1 of the Implementation Plan consists of the construction of the Riverway Area (bounded by Mill Street and Broad Street) and is estimated to cost \$2.7M. This area of improvements can occur without the relocation of the Lown Peace Bridge. If fully developed and improved, a temporary traffic signal may be required at the intersection of the Riverway and Broad Street. This intersection will serve as a key access point for the Riverway area and heavy traffic volumes to and from Lewiston will continue with no changes to the Lown Peace Bridge, and thus high-level traffic control is required. Key reasons why construction of the Riverway is suggested to proceed first include:
  - As noted above the Riverway can proceed independent of a relocated Lown Peace Bridge.
  - The City controls land in this area, including the Little Andy Park and the Second Street ROW. This land can be leveraged for open space, shared parking, and infill development.
  - The Riverway Block will establish the desired character for the area, helping jump start economic development.
- Phase 2 of the project generally consists of the area of the triangle bounded by Mill Street, Main Street, and Broad Street. This area of improvement can occur at any time. Closure of 3<sup>rd</sup> Street does not require any special action to the area transportation system. The cost of this phase is estimated to be \$5.7M.
- Phase 3 of the Implementation Plan is estimated to cost \$4.2M and generally includes the intersection area of South Main Street/Broad Street/4<sup>th</sup> Street. The plan notes suggested changes to the street network layout in the residential neighborhood that attempts to create a street grid system. This suggested change will introduce traffic impacts to some streets and a robust public process is suggested. Accordingly, the suggested recommendations in the plan should not proceed until a separate specific public process is performed.

- Phase 4 of the Implementation Plan generally consists of the triangle bounded by Mill Street, Broad Street, and Riverside Drive. The cost of this phase is estimated to be \$5.25M. A significant portion, if not all, of this area cannot be constructed until the Lown Peace Bridge is relocated opposite Mill Street. Heavy traffic volumes to and from Lewiston cannot be accommodated through the Mill Street/Broad Street intersection given intersection alignment geometry. Broad Street between Mill Street and the Peace Bridge cannot be improved until the bridge is relocated. The Mill Street/Broad Street can't be fully improved until the Peace Bridge is relocated. The eastbound Mill Street and northbound Broad Street approaches can be improved prior to the bridge relocation.



**Figure 13: 2014 Master Plan Transportation Phasing**

## 1.5. ROW Improvement Probable Cost Estimates by Phase

### Phase 1: \$2.7 M

- Riverway from Mill to Broad 2.7M

### Phase 2: \$5.7 M

- Mill Street, West of Main Street \$1.1M (This section assumes an overlay section of pavement.)
- Mill Street, Main to Broad St: \$2.3M (This section assumes a widening section and pavement rehabilitation.)
- Main Street, North of Mill Street: \$800K (This section assumes an overlay section of pavement.)
- Main Street, Mill to Broad Street: \$900K (1/2)
- Broad Street, Main Street to Mill Street: \$600K (1/3)

### Phase 3: \$4.2 M

- Main Street, Mill to Broad Street: \$900K (1/2)
- Fourth Street, from Broad to Cook St: \$1M
- Third Street, Cook Street to the End: \$300K
- Broad Street, Main Street to Mill Street: \$1.2M (2/3)
- Broad Street, South: \$800K

### Phase 4: \$5.25 M

- Mill Street, Broad to Riverside: \$2.2M (This section assumes a widening section and pavement rehabilitation.)
- Second Street to Cook Street: \$750k
- Riverside Street: \$1.1M
- Broad Street Mill to End: \$1.2M

*The costs above do not assume any right of way costs, costs to construct the new bridge, removal of the old bridge, existing building demolition, or improvements to existing sites outside of the right of way. Included in the costs are common borrow costs, pedestrian lights, street trees and grates, traffic signal additions and updates, brick sidewalk with granite curb, drainage and sewer rehabilitation and adjustments, underground utilities, pavement markings, new signage, removal of existing pavement and other common excavation, maintenance of traffic, mobilization, contingency, design engineering, and construction administration.*

## 2. Project Overview

The New Auburn Village Center Study (Study) builds on many of the recommendations and the vision of the 2009 New Auburn Master Plan, which was adopted as part of the 2011 Auburn Comprehensive Plan. While the 2009 New Auburn Master Plan looked at all of New Auburn, the Study examines a more focused 38 +/- acre commercial area surrounded by residential neighborhoods as shown on **Figure 14**. More detailed designs for new streets, parks, parking and concept building locations are identified in an 18-acre focus area as shown on **Figure 41**. This area includes most of the recommendations of the Study and is referred to as the 2014 Master Plan.



**Figure 14: 2014 Study Area – 38 Acres +/-**

The 2009 Master Plan calls for:

A Village Center that is a well-designed commercial core that serves as the community's downtown. The district is compact with buildings facing the street and ample sidewalks and green spaces to encourage a lively pedestrian environment. In character with the surrounding neighborhoods, this mixed-use village provides first floor small-scale commercial and retail uses and upper floor offices and residential uses. Historic buildings in the area have been maintained and refurbished and act as a model for the scale and design of the new buildings. A focus is placed on supporting local neighborhood businesses including salons, pharmacies, laundromats, markets, and specialty retail stores. There are cafes, restaurants, and pubs that provide places for residents and visitors to gather.

The New Auburn Village Center District is served by a one-way loop or other feasible road system to enhance traffic flow and safety.

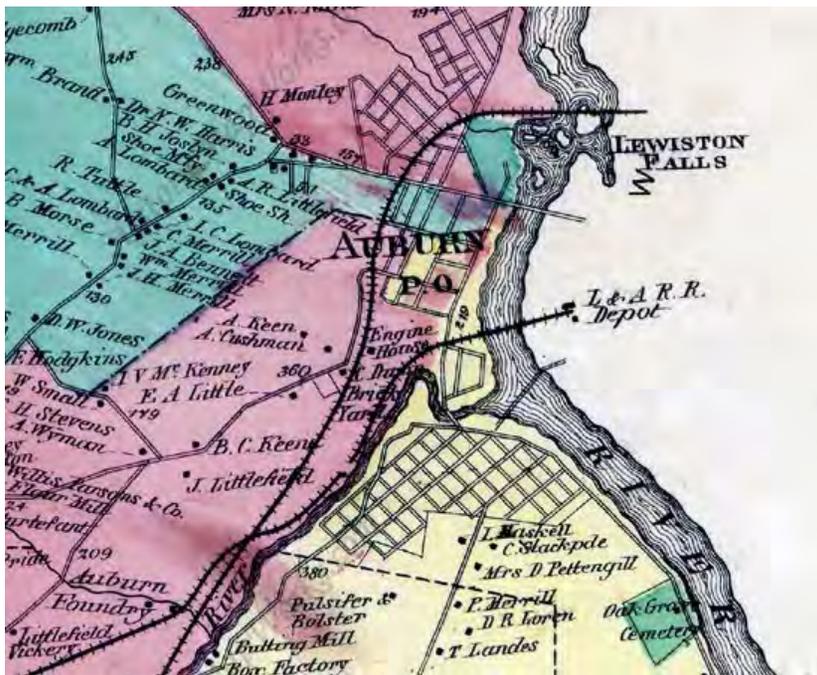
Along the riverfront between the Lown Peace Bridge and the South Main Street Bridge, the floodplain has been reclaimed as open space with parks, trails, and public access points along the Androscoggin and Little Androscoggin Rivers that provide opportunities for walking, swimming, fishing, and boating.

The Study strongly reflects this holistic vision in the anticipated building forms, street networks, streetscapes, green spaces and the envisioned mix of uses. The working motto for the Study is to “integrate multi-modal transportation and street types with urban form to create a framework for revitalization.” It was decided early in the planning process that while addressing regional traffic was an important consideration, designing a revitalized New Auburn Village Center – a place of distinct character building on the best of the past while embracing a bold vision for the future – was the primary goal and that this will be accomplished through specific urban design and transportation recommendations supported by the enabling policies and codes.

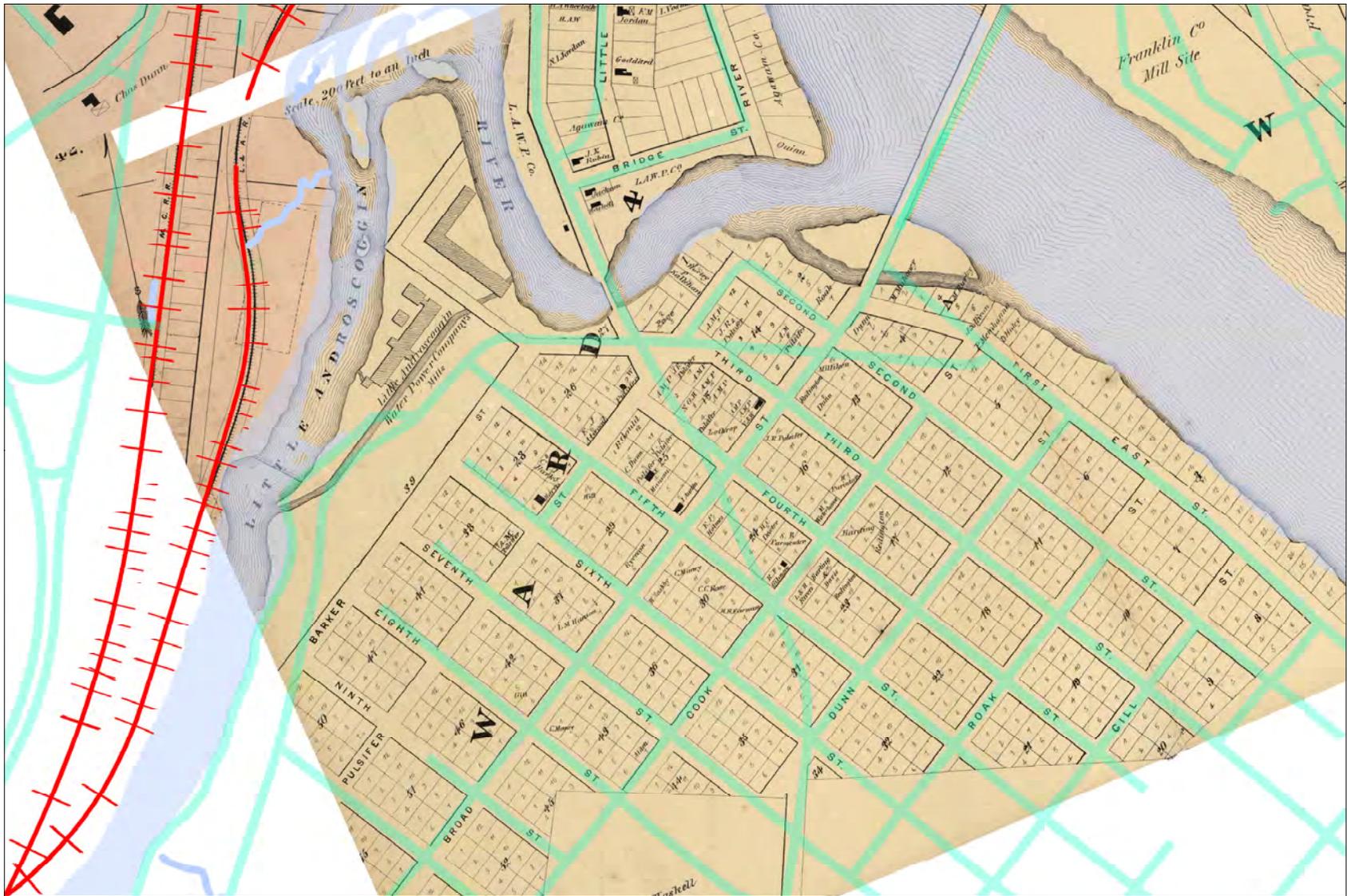
In addition to extensive existing conditions analysis and modeling of the proposed options, the Study considered the 1873 grid street plan, which created a strong framework for urban form as shown on **Figures 15 and 16**. The 1873 street grid includes the hallmarks of efficient urbanism including a high level of connectivity, short blocks, walkability, defined intersections and buildings set close to the front property line. However, the integrity of the grid and the scale of the buildings framing the streets has eroded over time due to a number of factors including the fire of 1933 that destroyed 248 buildings and left 1,500 homeless; the introduction (or persistence) of Mill Street, which cuts across the grid creating inefficient intersections and development blocks at Riverside, Second, Broad, Third and South Main Streets; the slicing of South Main across the grid from Second and Mill to Sixth and Dunn; suburban style developments and zoning standards creating expanses of parking and finally, road and intersection “improvements”, which accommodate peak commuter / pass through traffic, while making circulation difficult for local traffic and unsafe for pedestrians.

The 1873 street grid established a legible network of streets that in turn comprised a greater neighborhood. The grid acted as a framework for development. The street network did not act so much to move traffic as it did to plat the land for infill development. In developing the 2014 Master Plan, the grid was studied in light of the needs of the contemporary city, and while it was used as a point of inspiration, it was not simply recreated.

The Little Androscoggin and the Androscoggin Rivers are two of the areas greatest assets. The historic grid turned the back of the New Auburn to these resources. The proposed street alignments as shown on **Figure 41** establish unique public spaces along the river frontages as well as a variety of redevelopment opportunities outside of the 100-year flood plain. Many contemporary communities are strategically leveraging waterfronts as part of greater economic development and placemaking initiatives.



**Figure 15: New Auburn 1873 Street Grid and Greater Context**



**Figure 16: 1873 Plat of New Auburn (Existing Streets Shown in Green)**

### 3. Public Participation and the Planning Process

The New Auburn Village Study was guided by input from Steering Committee comprised of stakeholders representing a range of interests in the area, the community at large and City staff. The Study received additional professional assistance from the Androscoggin Transportation Resource Center. The Steering Committee and representative staff included:

- Leroy Walker: Ward 5 City Councilor
- Ken Blais: New Auburn Village Business, Representative of the United New Auburn Association
- John Roy: Firehouse Grille, New Auburn Village Business
- Tina Croteau: Marcel's Barber Shop, New Auburn Village Business
- Eric Potvin: New Auburn Village Real Estate/Developer
- Larry Pelletier: New Auburn Village Resident
- Mia Poliquin-Pross: Planning Board Member
- Eric Cousens: Director of Planning and Permitting, City of Auburn
- Doug Greene: City Planner, City of Auburn
- Dan Goyette: City Engineer / Deputy Public Works Director, City Auburn
- Jason Ready: PE, Engineer / Transportation Planner, ATRC

Tom Errico of TY Lin International and Mitchell Rasor of MRLD Landscape Architecture + Urbanism lead the consultant team. All of the work prepared by the consultant team was reviewed and edited by the Steering Committee. It was a deliberate planning process taking into account many variables, but ultimately the Steering Committee vetted recommendations before presentation to the community. In addition to numerous staff meetings, the following meetings were held over the course of the Study.

- Steering Committee: May 30, 2013
- Public Meeting #1: June 20, 2013
- Steering Committee: July 11, 2013
- Steering Committee: August 15, 2013
- Public Meeting #2: September 5, 2014
- Steering Committee: October 10, 2013
- Steering Committee: October 24, 2013
- Steering Committee: November 21, 2013
- Steering Committee: December 19, 2013
- Public Meeting #3: February 6, 2014
- Steering Committee: April 10, 2014
- City Council Presentation of Draft Study: July 28, 2014

The Study is based in a Context Sensitive Solutions (CSS) approach to placemaking. The CSS approach to transportation planning arose from the desire of communities to work with planners and State and Federal agencies to create a process where community values regarding mobility and land use are integrated from the outset of a project. This approach seeks to take into account public knowledge and input in conjunction with a consideration of the built and natural environment. As its name implies, the point of this approach is to build transportation infrastructure that is sensitive to the human, built and natural context in which it is located.

Key to a CSS approach is the development of a Value and Purpose Statement at the beginning of the project to identify the vision, goals, issues and the process. The Value and Purpose Statement established the metrics for the Study. During the course of the Study the Steering Committee and the consultant team referred to it when making decisions.

### **Value and Purpose Statement**

New Auburn Village Center is a thriving, walkable community. It is a place, a destination, a gateway and an inviting entrance to downtown Auburn. The compact center is safe, inviting and home to restaurants, shops, markets and services. Strategic investments in the public realm such as parking, streetscapes, transportation improvements and the expanded Little Androscoggin Park demonstrate an ongoing commitment on behalf of the City to make smart choices that have exponential returns.

The placemaking opportunities of economic development are carefully considered when proactively working with the private sector. It is understood that each development or redevelopment is part of a bigger picture of revitalizing New Auburn Village Center as a neighborhood of urban streets, buildings and public spaces. By making a place inviting to people, a place is made that is inviting to businesses and attractive for new investment.

Over the past several decades, neighborhood businesses including restaurants, shops, a bank and a hardware store have closed their doors. It is evident that the tendency to build public infrastructure favoring pass through commuters and the automobile at the expense of pedestrian needs has played a role in the changing economic conditions and will need to be considered if renewed investment is desired. The New Auburn Village Center Study will be a success when residents see the role the past can play in a new economy and change is measured by increased community vitality, new investment and growing property values.

## Process

- Review the existing transportation network, urban form and land use in the New Auburn Center District;
- Determine effectiveness of the network in light of proposed land-use changes and build-out scenarios;
- Identify and evaluate vehicle, bicycle, pedestrian, transit, and parking transportation alternatives that include both physical improvements as well as potential changes to City ordinances and development standards;
- Work with the Steering Committee, as well as local community businesses and residents on recommendations;
- Develop recommendations for the network to improve traffic flow while respecting and improving the traditional form of New Auburn, and;
- Develop cost estimates and prioritized list of improvements/recommendations, which may include project phasing.

As part of the due diligence for developing the most appropriate and responsible plan in terms of meeting the goals of the community and attracting investment, the consultant team explored nine options, five of which were selected for a detailed “apples to apples” comparison. A range of metrics on issues such as but not limited to residential density, potential commercial square footage, parking counts, transportation level of service and river accessibility were used to evaluate the schemes. From the analysis of the five schemes, a sixth scheme, “The Riverway” – which was also analyzed using the same metrics as the five schemes – was adopted as the favored approach by the Steering Committee. The Riverway scored highest based on most metrics and also met the goals of Values and Purpose Statement, particularly in creating a neighborhood that is safe and inviting for pedestrians. The schemes were presented at the final public meeting on February 6, 2014. The Riverway received the strongest support from those in attendance.

In summary, the 2014 Master Plan evolved from a thorough analysis of a wide range of existing conditions issues, previous reports, the evaluation of various street / block configurations as well as input from the public and the Steering Committee. Numerous ideas for transportation networks and urban design configurations were explored in an iterative process. One of the most important aspects of the 2014 Master Plan, relocating the Lown Peace Bridge downstream to the current intersection of Mill Street and Riverside Drive, evolved from a breakout group design exercise at the first public workshop held on May 30, 2013 as shown on **Figure 17**. The concept of moving the bridge did not appear in most of the options, but ultimately it proved to be a persistent and logical integrated transportation and land use planning strategy that helps “unlock” the potential of New Auburn Village Center.





**Figure 18: Public Meeting #3 held on February 6, 2014 where Final Concepts were Presented and The Riverway Favored**

At the final Public Meeting held on February 6, 2014 (**Figure 18**), in addition to reaching general consensus on The Riverway, it was important to receive specific input on the following issues that are central for the redevelopment vision of the 18-acre focus area:

Issue	Response
Relocating the Bridge:	Yes
Placing Buildings Close to Street	Yes
Height of Buildings	2-4 floors
Shared Parking Areas Behind Buildings	Yes
On-Street Parking	Yes
Two-Way Traffic versus One-Way	Two-way
Traffic Signals versus Roundabouts	Signals
Closing South Main Between Broad and Cook	Interesting, but needs further analysis
Encouraging Streets with Different Character	Yes
Making the Riverfront Public Space	Yes
Designing to Maximize Place versus Accommodating Traffic	Yes

## 4. Existing Transportation Infrastructure

### 4.1 Hourly Traffic Volume Variation

To gain an understanding of hourly traffic volume variation in the study area traffic volumes were reviewed over a 12-hour period between 6:00am and 6:00pm at the Main Street/South Main Street/Mill Street and Broad Street/Mill Street intersections. **Tables 1 and 2** present the hourly volume levels for each approach and for the intersections overall. As noted in the tables the peak volumes occurred during the afternoon commute time period. Peak hour traffic volumes are the most relevant level of traffic volume from a system planning perspective because it represents the greatest time-of day demand on the capacity of a transportation system and therefore represents a worst-case volume-to-capacity scenario. Traffic engineering practices typical review peak hour volume conditions in understanding the performance of a facility.

TABLE 1 – HOUR TRAFFIC VOLUMES AT MAIN STREET/SOUTH MAIN STREET/MILL STREET													
Start Time	Main Street Southbound			Mill Street Westbound			South Main Street Northbound			Mill Street Eastbound			Hourly Total
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
06:00 AM	0	13	74	40	1	0	0	16	0	0	1	0	652
06:15 AM	2	8	66	44	3	1	1	13	1	0	1	1	725
06:30 AM	5	2	85	52	1	0	1	16	0	0	1	5	809
06:45 AM	5	10	75	67	7	0	1	31	0	0	1	1	914
07:00 AM	5	12	93	69	1	0	1	27	1	0	6	3	1059
07:15 AM	2	15	102	65	1	0	2	26	0	0	5	7	1084
07:30 AM	4	17	113	92	2	0	3	34	0	1	3	4	1115
07:45 AM	8	25	117	117	10	0	1	46	0	2	4	13	852
08:00 AM	3	15	97	70	7	0	1	41	0	0	3	6	821
08:15 AM	0	16	107	79	4	0	1	40	0	0	4	5	936
08:30 AM	0	1	6	3	0	0	0	0	0	0	0	0	993
11:00 AM	2	42	73	136	5	0	2	38	0	0	5	9	1358
11:15 AM	8	35	103	142	7	2	4	46	1	0	4	6	1418
11:30 AM	7	37	79	146	5	0	1	27	0	0	3	8	1453
11:45 AM	9	25	121	154	2	0	4	44	0	0	8	8	1549
12:00 PM	9	32	114	161	4	0	1	40	0	1	5	5	1586
12:15 PM	11	43	120	156	7	2	0	42	1	0	3	8	1229
12:30 PM	10	36	112	166	10	0	0	42	0	1	11	21	1340
12:45 PM	10	44	130	161	9	0	1	40	1	1	5	10	1380
01:00 PM	1	3	5	6	0	0	0	0	0	0	0	0	1421

TABLE 1 – HOUR TRAFFIC VOLUMES AT MAIN STREET/SOUTH MAIN STREET/MILL STREET													
Start Time	Main Street Southbound			Mill Street Westbound			South Main Street Northbound			Mill Street Eastbound			Hourly Total
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
03:45 PM	11	58	160	192	9	0	4	54	0	0	7	9	1833
04:00 PM	6	60	130	176	6	2	2	50	1	0	9	7	1784
04:15 PM	11	57	114	190	7	1	7	58	1	0	1	6	1813
04:30 PM	9	48	124	173	7	1	1	48	0	0	1	15	1783
04:45 PM	12	57	117	189	5	0	2	52	0	0	5	16	1712
05:00 PM	6	59	130	196	7	1	1	64	0	0	2	12	1613
05:15 PM	7	50	133	172	2	0	0	41	1	1	5	11	1438
05:30 PM	9	37	112	147	5	0	0	33	0	1	4	8	1015
05:45 PM	11	53	96	136	5	2	1	39	1	0	6	6	659
06:00 PM	5	49	83	100	1	1	1	52	0	0	1	10	303

TABLE 2 – HOUR TRAFFIC VOLUMES AT BROAD STREET/MILL STREET													
Start Time	Southbound			Westbound			Northbound			Eastbound			Hourly Total
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
06:00 AM	0	30	36	28	8	0	4	17	3	0	27	0	759
06:15 AM	0	32	40	42	12	1	0	13	0	3	24	0	826
06:30 AM	0	21	49	48	12	0	2	29	2	4	44	1	929
06:45 AM	1	20	51	52	21	0	1	27	2	5	46	1	1027
07:00 AM	0	28	54	61	11	0	1	33	1	2	29	0	1166
07:15 AM	0	39	72	51	12	3	2	34	4	5	48	0	1248
07:30 AM	2	32	77	56	30	1	4	40	1	1	63	2	1270
07:45 AM	1	44	112	61	23	2	4	42	4	2	71	0	1242
08:00 AM	0	37	87	60	25	0	0	38	1	1	51	2	1159
08:15 AM	2	24	85	56	22	3	6	32	5	6	50	1	1138
08:30 AM	2	27	65	72	30	3	0	33	6	3	41	0	1118
08:45 AM	2	25	72	69	17	2	3	40	7	6	40	0	1090
09:00 AM	3	29	66	65	27	1	7	36	6	7	33	0	1102
09:15 AM	1	28	68	79	34	1	5	24	5	1	26	0	1066
09:30 AM	2	33	62	55	23	2	0	28	5	4	39	1	1057
09:45 AM	1	42	64	72	35	3	1	37	4	4	31	1	1101
10:00 AM	0	23	67	74	23	2	4	30	3	0	19	0	1064
10:15 AM	3	34	64	75	28	4	2	27	0	1	23	2	1102

TABLE 2 – HOUR TRAFFIC VOLUMES AT BROAD STREET/MILL STREET													
Start Time	Southbound			Westbound			Northbound			Eastbound			Hourly Total
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
10:30 AM	1	37	59	82	42	2	3	36	4	6	26	0	1187
10:45 AM	1	30	57	78	31	2	2	23	0	0	34	0	1191
11:00 AM	0	24	62	88	29	5	3	28	3	2	38	1	1283
11:15 AM	1	34	70	125	28	1	10	39	2	1	35	2	1347
11:30 AM	0	32	69	108	29	1	5	34	3	2	16	3	1378
11:45 AM	2	40	91	122	29	2	5	25	2	1	30	1	1423
12:00 PM	2	27	68	134	45	2	7	31	0	5	26	0	1436
12:15 PM	0	27	72	149	40	3	3	36	2	7	40	0	1406
12:30 PM	1	16	80	121	39	3	4	37	2	2	41	1	1344
12:45 PM	0	27	78	138	47	1	4	31	2	4	31	0	1326
01:00 PM	2	34	74	92	40	3	4	36	2	0	27	3	1292
01:15 PM	0	33	67	114	41	6	2	11	3	0	40	0	1326
01:30 PM	2	35	85	111	39	7	4	17	1	1	24	3	1345
01:45 PM	0	34	57	142	39	0	2	18	2	0	34	1	1344
02:00 PM	2	26	82	131	25	4	3	27	0	4	47	0	1344
02:15 PM	3	24	64	131	35	4	2	30	4	1	38	0	1362
02:30 PM	1	37	81	90	40	1	2	38	3	1	33	1	1380
02:45 PM	0	38	79	102	31	1	3	35	0	5	32	3	1490
03:00 PM	2	26	70	121	53	6	2	52	1	2	33	1	1559
03:15 PM	0	29	73	135	50	1	4	23	6	1	32	0	1644
03:30 PM	3	34	100	145	48	5	5	52	2	4	39	1	1743
03:45 PM	2	42	69	136	51	3	3	57	3	2	29	1	1751
04:00 PM	1	28	84	164	54	1	1	60	1	4	56	0	1812
<b>04:15 PM</b>	<b>2</b>	<b>35</b>	<b>109</b>	<b>139</b>	<b>57</b>	<b>4</b>	<b>5</b>	<b>60</b>	<b>3</b>	<b>4</b>	<b>33</b>	<b>2</b>	<b>1843</b>
04:30 PM	0	29	90	122	75	4	4	71	4	3	44	0	1837
04:45 PM	0	39	92	146	77	3	12	45	2	3	39	0	1712
05:00 PM	0	52	98	145	84	2	6	50	3	2	42	1	1538
05:15 PM	0	48	107	132	61	1	4	53	3	2	36	0	1077
05:30 PM	0	26	84	72	36	2	4	52	3	4	37	1	630
05:45 PM	0	15	72	86	32	1	6	38	0	1	33	1	309
06:00 PM	0	2	2	8	2	0	0	8	0	0	2	0	24

In order to determine the peak hour of the entire corridor, a comparison of the peak hour volumes from the varying traffic counts was made and are presented in **Table 3**.

<b>TABLE 3 - PEAK HOUR VOLUME BY INTERSECTION</b>		
<b>Location</b>	<b>AM Peak Hour Begin Time</b>	<b>PM Peak Hour Begin Time</b>
South Main Street/Main Street/Mill Street	7:30	3:45
Mill Street/Broad Street	7:30	4:15
Mill Street/3 <sup>rd</sup> Street	7:00	4:00
Mill Street/Riverside Drive	7:15	4:30
Broad Street/Riverside Drive	7:15	3:30
Mill Street/5 <sup>th</sup> Street	7:45	3:00
South Main Street/Broad Street	7:15	4:30
South Main Street/5 <sup>th</sup> Street/Cook Street	7:15	4:15
<b>Overall</b>	7:15	4:30

The determination of the AM peak hour was easily determined, as most intersection peak hours occurred between 7:15 and 8:15 am. The PM peak hours varied at the study area intersections and a detailed comparison of the hourly volumes was conducted to determine the overall peak volume. As shown in **Table 4**, the maximum total volume occurred between 4:30 and 5:30 pm and was therefore used for analysis purposes

<b>TABLE 4 - PM HOUR VOLUME COMPARISON</b>				
<b>Location</b>	<b>Begin Time</b>			
	<b>3:45</b>	<b>4:00</b>	<b>4:15</b>	<b>4:30</b>
South Main Street/Main Street/Mill Street	1751	1812	1843	1837
Mill Street/Broad Street	1833	1784	1813	1783
Mill Street/3 <sup>rd</sup> Street	1163	1216	1215	1201
724Mill Street/Riverside Drive	673	693	704	724
Broad Street/Riverside Drive	1195	1129	1174	1194
Mill Street/5 <sup>th</sup> Street	90	92	89	102
South Main Street/Broad Street	668	681	692	726
South Main Street/5 <sup>th</sup> Street/Cook Street	559	571	593	567
<b>TOTAL</b>	7932	7978	8123	<b>8134</b>

**General Conclusion: The peak hour volumes at the study intersections generally occurred between 7:15 and 8:15 am and 4:30 and 5:30 pm.**

## 4.2 Turning Moving Counts

Intersection turning movement counts were conducted within the study area at key locations as shown on **Figure 19**. Turning movement volumes provide critical information that helps to evaluate the performance of intersections and how well they are operating from a delay perspective. Additionally, analyses should focus on the peak volume demand time period, which is typically used to determine if a roadway is meeting standards for the worst-case volume period. The volumes will be the primary input variable in the traffic models evaluating traffic operations. A summary on the locations counted are noted as follows.

- South Main Street/Main Street/Mill Street – July 30, 2009 (6:00am to 6:00pm)
- Mill Street/3<sup>rd</sup> Street – April 30, 2013 (7:00am to 9am/3:00pm to 6:00pm)
- Mill Street/Broad Street – August 4, 2009 (6:00am – 8:45am/11:00am to 1:15pm/3:45pm to 6:15pm)
- Mill Street/Riverside Drive – April 23 and May 1, 2013 (7:15am to 9am/3:00pm to 5:45pm)
- Broad Street/Riverside Drive – April 30, 2013 (7:00am to 9am/3:30pm to 6:00pm)
- Mill Street/5<sup>th</sup> Street – April 30 and May 1, 2013 (7:00am to 9am/3:00pm to 6:00pm)
- South Main Street/Broad Street – April 10 and 11, 2013 (7:00am to 9am/3:00pm to 6:00pm)
- South Main Street/5<sup>th</sup> Street/Cook Street – April 24, 2013 (7:00am to 9am/3:00pm to 6:00pm)

Design Hour Volume traffic volumes were estimated using the 2011 Maine Department of Transportation Count Book Table of Weekly Group Mean Factors, 6<sup>th</sup> lowest group mean factor was determined to be 0.87. A factor was then determined for each count based on its week in the month. The weekly factor was divided by the 6<sup>th</sup> lowest factor, multiplied by the peak hour total volume and rounded to the next highest whole volume. These volumes were then balanced with the remaining volumes in the corridor to determine the AM and PM Peak hour volumes as depicted on the following page as shown on **Figure 20**.



*Figure 19: Study Intersections*



### 4.3 Daily Traffic Volumes

**Table 5** presents the 2011 Average Annual Daily Traffic (AADT) volumes within the study area as obtained from MaineDOT. Daily traffic volumes are not used in detailed analysis of a roadway but provide a general level of traffic as it relates to other roadways and is sometimes used in long-term planning analyses. These volumes are provided for informational purposes and are not expected to be used in the assessment of improvement alternatives.

Location	AADT
Main Street south of Academy Street	17,300
Mill Street west of Broad Street	11,550
Broad Street northeast of Riverside Drive	14,920
Mill Street west of Main Street	1,500
South Main Street south east of Mill Street	4,780

### 4.4 Vehicle Classification

Vehicle classification information was obtained from the intersection turning movement counts. **Table 6** presents the percent of heavy vehicles (defined as single-unit and tractor trailer trucks) for each study intersection. Truck volumes are an important part of evaluating a transportation system as they are an input variable into the traffic models and are a consideration in the geometric design of intersections.

Approach	AM	PM
<b>South Main Street/Main Street/Mill Street</b>		
South Main Street Northbound	8%	4%
Mill Street Westbound	9%	5%
Main Street Southbound	5%	4%
Mill Street Eastbound	6%	1%
<b>Mill Street/3<sup>rd</sup> Street</b>		
Driveway Southbound	0%	0%
Mill Street Westbound	3%	2%
3rd Street Northbound	7%	0%
Mill Street Eastbound	5%	1%
<b>Broad Street/Mill Street</b>		
Mill Street Eastbound	6%	2%
Broad Street Southbound	8%	1%
Mill Street Westbound	3%	3%

Broad Street Northbound	2%	2%
<b>Riverside Drive/Mill Street</b>		
Riverside Drive Southbound	3%	0%
Driveway	0%	0%
Riverside Drive Northbound	4%	3%
Mill Street Eastbound	6%	1%
<b>Broad Street/Riverside Street</b>		
Broad Street Southbound	4%	1%
Riverside Drive Westbound	2%	1%
Broad Street Northbound	3%	1%
Driveway Eastbound	0%	0%
<b>Mill Street/5<sup>th</sup> Street</b>		
Driveway Southbound	12%	13%
Mill Street Westbound	8%	4%
5 <sup>th</sup> Street Northbound	0%	0%
Mill Street Eastbound	4%	0%
<b>Broad Street/South Main Street</b>		
Broad Street Westbound	7%	2%
South Main Street Southbound	7%	4%
Broad Street Eastbound	2%	2%
South Main Street Northbound	4%	4%
<b>5th Street/South Main Street/Cook Street</b>		
South Main Street Southbound	12%	1%
Cook Street Westbound	14%	0%
5 <sup>th</sup> Street Northwest-bound	0%	0%
South Main Street Northbound	6%	1%
Cook Street Eastbound	6%	0%
5 <sup>th</sup> Street Southeast-bound	0%	0%

**General Conclusion:** In general heavy truck percentages within the study area are higher than typical averages. Typically heavy truck percentages are assumed to be 2% based upon state and national default practices. As noted in the Table 6, several intersection approaches exceed what is considered to be average. Future improvements will need to take into account that trucks will need to maneuver through New Auburn Village Center. Typical ways to address truck movements include intersection geometry, truck routing, lane widths and roadway alignment. Concepts presented later in this report, including the final Master Plan, utilized auto turn templates to evaluate truck movement in the area.

## 4.5 Historical Traffic Volumes

Historical AADT information was obtained from MaineDOT for the study area between 2008 and 2011. **Table 7** presents the historical traffic volumes with growth patterns over the three-year period. As noted traffic volumes have both increased and declined over the time periods noted.

TABLE 7 - HISTORICAL AVERAGE ANNUAL DAILY TRAFFIC VOLUMES				
Location	2011	2009	2008	% Change 2008 to 2011
Main Street South of Academy Street	17,300	16,220	18,160	-5.0%
Mill Street West of Broad Street	11,550	11,450	12,190	-5.5%
Broad Street Northeast of Riverside Drive	14,920	N/A	16,040	-7.5%
Mill Street West of Main Street	1,500	1,230	1,420	+5.3%
S. Main Street Southeast of Mill Street	4,780	4,290	5,410	-13.2%

**General Conclusion:** Traffic volumes have declined over the last several years and this trend is likely related to several factors including the economic recession. This information will be considered when developing future traffic volumes in conjunction with evaluation of future roadway performance.

## 4.6 Crash History

Crash data was obtained from MaineDOT for the most recent available three-year period (2009-2011) for study area as shown on **Figures 21 and 22**. One location (intersections and roadway segments) was identified as a critical location but did not meet the criteria to be a High Crash Location (HCL) per MaineDOT criteria (8 or more crashes and a Critical Rate Factor greater than or equal to 1.0). **Table 8** notes locations that had one or more crashes over the reported three-year period.

Table 8 - 2009-2011 Crash Data			
Location	# of Crashes between 2009-2011	Crash Rate	Critical Rate Factor (CRF)
<b>Intersections</b>			
Mill Street/5 <sup>th</sup> Street	1	0.72	1.20
Mill Street/South Main Street	3	0.15	0.14
Mill Street/2 <sup>nd</sup> Street	2	0.67	0.45
Mill Street/3 <sup>rd</sup> Street	1	0.08	0.24
Mill Street/Broad Street	8	0.45	0.42
Mill Street/2 <sup>nd</sup> Street	3	0.15	1.52
Mill Street/Riverside Drive	5	0.70	1.94
Broad Street/Riverside Drive	3	0.18	0.58
Broad Street/3 <sup>rd</sup> Street	2	0.36	0.95
Broad Street/4 <sup>th</sup> Street	1	0.33	0.77
Broad Street/South Main Street	6	0.72	2.08
Cook/5 <sup>th</sup> /South Main Street	2	0.33	0.89
<b>Roadway Segments</b>			
Mill/3 <sup>rd</sup> to Mill/Broad	2	263.56	0.53
Mill/Pulsifier to Mill/3 <sup>rd</sup>	1	255.38	0.43
Mill/Main to Mill/Pulsifier	2	492.18	0.85
5 <sup>th</sup> /Pulsifier to Broad/5 <sup>th</sup>	1	8697.54	20.61
Main/Mill to Mill/5 <sup>th</sup>	2	1217.66	1.01
Main/4 <sup>th</sup> to Broad/4 <sup>th</sup>	1	3261.58	2.29
Broad/3 <sup>rd</sup> to Cook/3 <sup>rd</sup>	2	2746.59	1.94
Pulsifier/2 <sup>nd</sup> to Broad/2 <sup>nd</sup>	2	13732.96	16.28
Broad/Riverside .03 mi south	1	260.63	0.44
Broad/Riverside .06 mile east	4	1557.10	2.78
Broad/5 <sup>th</sup> to Main/Broad	2	2365.91	3.83
Broad/Mill to Broad/3 <sup>rd</sup>	2	1003.56	1.71
Cook/4 <sup>th</sup> to Cook/5 <sup>th</sup> /Main	1	6088.28	6.07





## 4.7 Intersection Level of Service

The standard used to evaluate traffic operating conditions of the transportation system is referred to as the Level of Service (LOS). This is a qualitative assessment of the quantitative effect of factors such as speed, volume of traffic, geometric features, traffic interruptions, delays, and freedom to maneuver. LOS analysis was based upon procedures detailed in the 2010 Highway Capacity Manual, Transportation Research Board. One of the standard programs used in traffic modeling is Synchro. However, Synchro may not accurately model closely spaced intersections. As such, SimTraffic was used in place of Synchro based on the fact that it better assesses the implication of closely spaced intersections, which currently contribute to spillback issues in New Auburn (spillback is when vehicles queuing at one intersection extend to a point where it blocks an adjacent intersection. Gridlock is a common term used to define spillback).

Signalized intersection LOS is based on average stopping delay per vehicle. **Table 7** summarizes LOS categories and their associated delay.

Table 7 - Signalized Intersections		
Level of Service	Average Delay Per Vehicle (seconds.)	General Description
A	≤10	Very low vehicle delays, free flow, signal progression extremely favorable, most vehicles arrive during given signal phase.
B	>10 and ≥20	Good signal progression, more vehicles stop and experience higher delays than for LOS A.
C	>20 and ≥35	Stable Flow (Acceptable Delays) Stable flow, fair signal progression, significant number of vehicles stop at signals.
D	>35 and ≥55	Approaching Unstable Flow (Tolerable Delay) Congestion noticeable, longer delays and unfavorable signal progression, many vehicles stop at signals.
E	>55 and ≥80	Unstable Flow (Intolerable Delay) Limit of acceptable delay, unstable flow, poor signal progression, traffic near roadway capacity, frequent cycle failures.
F	>80	Unacceptable delays, extremely unstable flow and congestion, traffic exceeds roadway capacity, stop-and-go conditions.

The measures of delay for each level of service rating for unsignalized intersections are found in **Table 8**.

TABLE 8 - UNSIGNALIZED INTERSECTIONS		
Level of Service	Average Delay Per Vehicle (seconds.)	General Description
A	≤10	No delays at intersections with continuous flow of traffic. Uncongested operations: high frequency of long gaps available for all left and right turning traffic. No observable queues.
B	>10 and ≤20	Same as A
C	>20 and ≤30	Moderate delays at intersections with satisfactory to good traffic flow. Light congestion; infrequent backups on critical approaches
D	>30 and ≤40	Increased probability of delays along every approach. Significant congestion on critical approaches, but intersection functional. No standing long lines formed.
E	>40 and ≤50	Heavy traffic flow condition. Heavy delays probable. No available gaps for cross-street traffic or main street turning traffic. Limit of stable flow.
F	>50	Unstable traffic flow. Heavy congestion. Traffic moves in forced flow condition. Average delays greater than one minute highly probable. Total breakdown.

The following tables summarize each intersection and movement - providing the delay (in seconds) followed by the Level of Service (A-F) for each movement. An overall Level of Service for each intersection is also provided. The analysis was conducted for both the weekday AM and PM peak hours. 95<sup>th</sup>% queues were estimated and provided in the following tables. The 95<sup>th</sup>% queue is a queue length that is exceeded only 5% of the time and is commonly used for design purposes.

**MILL STREET/MAIN STREET/ SOUTH MAIN STREET** – Overall this intersection operates at an acceptable level service during both peak hours. Long delays are experienced on the Mill Street eastbound approach and are related to signal time allocation and the desire to provide more green time to heavier volume movements. Queue lengths can be long on the Main Street approach, but in most cases vehicles do not wait through multiple signal cycles.

Movement	Level of Service	Delay (seconds/vehicle)	95 <sup>th</sup> % Queue (feet)
Mill Street EB Left	E (C)	56 (30)	134 (71)
Mill Street EB Through	E (C)	63 (26)	
Mill Street EB Right	C (B)	35 (16)	
Mill Street WB Left	N/A (C)	N/A (28)	49 (50)
Mill Street WB Through	D (C)	47 (25)	152 (167)
Mill Street WB Right	A (A)	8 (9)	
South Main Street Left	C (B)	24 (17)	198 (190)
South Main Street Through	C (B)	23 (20)	
South Main Street Right	B (A)	14 (9)	10 (37)
Main Street Left	D (C)	42 (28)	506 (433)
Main Street Through	C (B)	21 (12)	421 (283)
Main Street Right	B (A)	11 (8)	
Overall	C (B)	27 (17)	N/A

**MILL STREET/3<sup>RD</sup> STREET** – Movements from the STOP sign controlled 3<sup>rd</sup> Street approach do experience some delay, but it is not considered excessive. The analysis does indicate long queues on Mill Street, but the queuing is related to operations at the Main Street intersection.

Movement	Level of Service	Delay (sec/veh)	95 <sup>th</sup> % Queue (feet)
Mill Street EB Left	A (A)	6 (10)	116 (132)
Mill Street EB Through	A (A)	2 (1)	
Mill Street EB Right	A (A)	2 (1)	
Mill Street WB Left	A (A)	2 (9)	97 (250)
Mill Street WB Through	A (A)	1 (4)	
Mill Street WB Right	N/A (A)	N/A (3)	48 (78)
3 <sup>rd</sup> Street Left	C (F)	24 (119)	
3 <sup>rd</sup> Street Right	A (F)	2 (58)	N/A (57)
Driveway Left	N/A (D)	N/A (35)	
Driveway Through	N/A (E)	N/A (46)	
Driveway Right	N/A (E)	N/A (47)	
Overall	A (A)	2 (6)	N/A

**MILL STREET/BROAD STREET** – This location operates well and little problems were identified.

Movement	Level of Service	Delay (sec/veh)	95 <sup>th</sup> % Queue (feet)
Mill Street EB Left	C (C)	35 (21)	356 (283)
Mill Street EB Through	B (B)	15 (15)	113 (109)
Mill Street EB Right	A (A)	10 (9)	
Mill Street WB Left	D (C)	36 (25)	193 (188)
Mill Street WB Through	C (C)	31 (24)	
Mill Street WB Right	C (B)	23 (18)	
Broad Street NB Left	C (C)	31 (22)	
Broad Street NB Through	C (B)	22 (16)	263 (42)
Broad Street NB Right	B (A)	19 (4)	
Broad Street SB Left	C (B)	26 (16)	59 (56)
Broad Street SB Through	B (B)	16 (15)	
Broad Street SB Right	A (A)	2 (2)	84 (136)
Overall	C (B)	22 (13)	N/A

**MILL STREET/RIVERSIDE DRIVE** – This location operates well and little problems were identified.

Movement	Level of Service	Delay (sec/veh)	95 <sup>th</sup> % Queue (feet)
Mill Street Left	A (B)	8 (12)	37 (40)
Mill Street Through	B (A)	11 (8)	
Mill Street Right	A (A)	2 (3)	
Driveway Left	B (C)	13 (17)	24 (20)
Driveway Through	A (B)	8 (12)	
Driveway Right	A (A)	5 (4)	
Riverside Drive NB Left	A (A)	2 (4)	87 (119)
Riverside Drive NB Through	A (A)	0 (2)	
Riverside Drive NB Right	A (A)	0 (1)	
Riverside Drive SB Left	A (A)	2 (1)	14 (12)
Riverside Drive SB Through	A (A)	0 (0)	
Riverside Drive SB Right	A (A)	0 (0)	
Overall	A (A)	4 (3)	N/A

**BROAD STREET/RIVERSIDE DRIVE** – This location operates at excellent levels overall with long delays noted for the left-turns from Riverside Drive. This movement is very low and in fact prohibited by regulations.

Table 13 – existing level of service  
Broad Street/Riverside Drive  
xxx – AM Peak Hour  
(xxx) – PM Peak Hour

Movement	Level of Service	Delay (sec/veh)	95 <sup>th</sup> % Queue (feet)
Riverside Dr WB Left	E (E)	43 (46)	30 (150)
Riverside Dr WB Through	A (C)	0 (24)	
Riverside Dr WB Right	A (A)	9 (15)	
Riverside Drive EB Left	A (A)	0 (0)	169 (0)
Riverside Drive EB Through	C (A)	15 (0)	
Riverside Drive EB Right	C (A)	17 (0)	
Broad Street NB Left	A (A)	1 (4)	30 (38)
Broad Street NB Through	A (A)	0 (0)	
Broad Street NB Right	A (A)	0 (0)	
Broad Street SB Left	A (A)	8 (5)	196 (236)
Broad Street SB Through	A (A)	3 (3)	
Broad Street SB Right	A (A)	0 (3)	
Overall	A (A)	4 (4)	N/A

**MILL STREET/5<sup>TH</sup> STREET** – This location operates at excellent levels, overall and for individual movements, and operationally little delay is experienced.

Table 14 – Existing Level of Service  
Mill Street/5<sup>th</sup> Street  
xxx – AM Peak Hour  
(xxx) – PM Peak Hour

Movement	Level of Service	Delay (sec/veh)	95 <sup>th</sup> % Queue (feet)
Mill Street EB Left	N/A (A)	N/A (0)	0 (0)
Mill Street EB Through	A (A)	0 (0)	
Mill Street WB Left	A (A)	1 (1)	
Mill Street WB Through	A (A)	1 (1)	10 (7)
Mill Street WB Right	A (A)	1 (1)	
5 <sup>th</sup> Street Right	A (A)	2 (2)	
Driveway Left	A (A)	3 (3)	49 (52)
Driveway Through	N/A (A)	N/A (3)	
Driveway Right	A (N/A)	2 (N/A)	
Overall	A (A)	1 (1)	N/A

**BROAD STREET/SOUTH MAIN STREET** – This location operates at excellent levels, overall and for individual movements, and operationally little delay is experienced.

Table 15 – existing level of service Broad Street/South Main Street xxx – AM Peak Hour (xxx) – PM Peak Hour			
Movement	Level of Service	Delay (sec/veh)	95 <sup>th</sup> % Queue (feet)
South Main Street NB Left	A (A)	0 (1)	7 (32)
South Main Street NB Through	A (A)	0 (1)	
South Main Street NB Right	A (A)	0 (1)	
South Main Street SB Left	A (A)	2 (1)	27 (18)
South Main Street SB Through	A (A)	1 (1)	
South Main Street SB Right	A (A)	1 (1)	
Broad Street EB Left	A (A)	9 (9)	100 (53)
Broad Street EB Through	A (A)	10 (7)	
Broad Street EB Right	A (A)	8 (4)	
Broad Street WB Left	A (A)	8 (10)	63 (81)
Broad Street WB Through	A (A)	6 (8)	
Broad Street WB Right	A (A)	4 (6)	
Overall	A (A)	4 (2)	N/A

**SOUTH MAIN STREET/COOK STREET/5<sup>TH</sup> STREET** – This location operates at excellent levels, overall and for individual movements, and operationally little delay is experienced.

Table 16 South Main Street/Cook Street/5 <sup>th</sup> Street xxx – AM Peak Hour (xxx) – PM Peak Hour			
Movement	Level of Service	Delay (sec/veh)	95 <sup>th</sup> % Queue (feet)
5 <sup>th</sup> Street EB Left 2	A (A)	0 (0)	0 (0)
5 <sup>th</sup> Street EB Left	A (A)	0 (0)	
5 <sup>th</sup> Street EB Through	A (A)	0 (0)	
5 <sup>th</sup> Street EB Right	A (A)	0 (0)	
5 <sup>th</sup> Street EB Right 2	A (A)	0 (0)	
5 <sup>th</sup> Street WB Left 2	A (A)	0 (0)	24 (20)
5 <sup>th</sup> Street WB Left	A (A)	0 (0)	
5 <sup>th</sup> Street WB Through	A (A)	0 (0)	
5 <sup>th</sup> Street WB Right	A (A)	6 (2)	
5 <sup>th</sup> Street WB Right 2	A (A)	3 (0)	
S Main Street NB Left 2	A (A)	1 (0)	24 (35)
S Main Street NB Left	A (A)	0 (0)	

S Main Street NB Through	A (A)	0 (0)	
S Main Street NB Right	A (A)	0 (2)	
S Main Street NB Right 2	A (A)	0 (0)	
S Main Street SB Left 2	A (A)	0 (0)	43 (86)
S Main Street SB Left	A (A)	3 (4)	
S Main Street SB Through	A (A)	0 (1)	
S Main Street SB Right	A (A)	0 (1)	
S Main Street SB Right 2	A (A)	0 (0)	
Cook Street EB Left 2	A (A)	0 (0)	42 (30)
Cook Street EB Left	A (A)	9 (0)	
Cook Street EB Through	A (A)	5 (7)	
Cook Street EB Right	A (A)	0 (0)	
Cook Street EB Right 2	A (A)	4 (5)	
Cook Street WB Left 2	A (A)	0 (0)	44 (44)
Cook Street WB Left	A (A)	9 (0)	
Cook Street WB Through	A (A)	7 (8)	
Cook Street WB Right	A (D)	0 (31)	
Cook Street WB Right 2	A (A)	0 (0)	
Overall	A (A)	1 (1)	N/A

**General Conclusion: Intersections within the study area generally operate at acceptable levels of service with little vehicle delay.**

## 4.8 Sidewalks

Sidewalks in the study area are largely bituminous concrete with a few small areas of concrete and are generally in good condition. There are a few gaps within the study area:

- Both sides of Mill Street from the Goodman Wipes and Paper Company west to the project extents.
- Both sides of 5<sup>th</sup> Street from Mill Street roughly to Pulsifier Street.
- Pulsifier Street as it connects with Mill Street to the northern section of 2<sup>nd</sup> Street.

There are many obstacles in the sidewalks (mostly utility poles), a problem that exists in the study area. The sidewalks do not have ADA compliant ramps, ramps on steep roads lead users into the intersection, and none have detectable warning tiles. The majority of intersections do not have perpendicular approaches at the crosswalks (the preferred alignment for ADA compliance).

## 4.9 Crosswalks

Crosswalks are provided at many intersections in the study area. All crosswalks have the “block” design paint layout configuration. A summary of crosswalk locations is noted as follows.

South Main Street and Mill Street:

- Mill Street westerly approach
- South Main Street southerly approach
- Mill Street easterly approach

Pulsifier Street and Mill Street:

- Pulsifier Street northerly approach

3<sup>rd</sup> Street and Mill Street:

- 3<sup>rd</sup> Street southerly approach
- Mill Street westerly approach

Broad Street and Mill Street:

- Mill Street easterly approach
- Mill Street westerly approach
- Broad Street northerly approach
- Broad Street southerly approach
- 2<sup>nd</sup> Street from northerly approach (adjacent to Broad Street)

5<sup>th</sup> Street and Broad Street:

- 5<sup>th</sup> Street northerly approach
- 5<sup>th</sup> Street southerly approach
- Broad Street easterly approach

5<sup>th</sup> Street, Cook Street, and South Main Street:

- 5<sup>th</sup> Street northerly approach
- 5<sup>th</sup> Street southerly approach
- Cook Street easterly approach
- Cook Street westerly approach
- South Main Street northerly approach
- South Main Street southerly approach

South Main Street and Broad Street/Broad Street and 4<sup>th</sup> Street:

- South Main Street northerly approach
- South Main Street southerly approach
- Broad Street westerly approach
- Broad Street easterly approach
- 4<sup>th</sup> Street southerly approach

3<sup>rd</sup> Street and Broad Street:

- 3<sup>rd</sup> Street northerly approach
- 3<sup>rd</sup> Street southerly approach
- Broad Street westerly approach
- Broad Street easterly approach

Broad Street and Riverside Drive:

- Riverside Drive southerly approach
- Broad Street easterly approach

**General Conclusion: For all signalized intersections in the study area crosswalks are provided on all approaches and thus provide a comprehensive system. In some cases crosswalk locations are very long and thus creates an intimidating crossing situation. Crosswalks are provided at STOP sign controlled intersections, but in many cases on some of the intersection approaches, this creating indirectness and inconvenience concerns. For the most part the crosswalk painted style is consistent and consists of a very visible “ladder” design.**

## **4.10 Bicycle Facilities**

As part of implementing the City's Complete Street Policy, bike lanes have been located on Mill Street.

**General Conclusion: Other than the Mill Street bicycle lanes, no provisions for bicyclists are provided in the study area. Accordingly, future improvement plans should consider adding either bicycle lanes or formalize shared road bicycle accommodations.**

## 4.11 Regulatory Signage

**Table 17** presents a summary of regulatory signs posted within the study area. The inventory of signage helps understand how traffic is regulated in the area.

Table 17 - Regulatory Signage Summary			
Sign Type	Direction of Travel	Sign	Identifying Characteristics
Speed Limit	Mill St WB	25 MPH	Just after Int with S Main Street
Warning	Riverside Dr NB	Right Turn Only	Intersection with Broad St
	4 <sup>th</sup> St NB	Right Turn Only	Intersection with Broad St
	5 <sup>th</sup> St SB	Yield with 5 <sup>th</sup> St Sign on top	Intersection with 5 <sup>th</sup> and Cook
	Mill St EB	Yield	Intersection with Riverside Drive
	Broad St SB	No Left Turn	Just after Intersection with Riverside Drive
	Broad Street SB	No Left Turn	In the Median at the Intersection with Mill St
	Riverside Drive NB	No Left Turn Ahead	Just South of the Intersection with Mill Street
	2 <sup>nd</sup> Street EB (Northern Section)	Do Not Enter	Intersection with Broad Street
	S Main Street NB	Do Not Enter	Intersection with Mill Street
	Riverside Drive NB	Low flying aircraft	Just south of the Intersection with Mill Street
	Mill St WB	No Turn on Red (mounted on mast arm)	Intersection with S Main Street
	Mill St WB	Yield to Pedestrians in Crosswalk/Pedestrian Crossing Sign	Intersection with S Main Street
	S Main Street SB	Yield to Pedestrians in Crosswalk/Pedestrian Crossing Sign	Intersection with Mill Street
Lane Use	Broad St NB	Keep Right with Diamond	On Back of Stop Sign at Intersection with S Main Street
	Broad St SB	Keep Right with Diamond	On Back of Sign in Median
	S Main St SB	Stay to the Right, Black Diamond with yellow dots	Intersection with Broad Street
	S Main St NB	Right side of island (mounted on mast arm pole)	Intersection with Mill Street
Stop	5 <sup>th</sup> St NB	Stop Sign with 5 <sup>th</sup> Street mounted on top	Intersection with Mill Street
	5 <sup>th</sup> St SB	Stop Sign	Intersection with Broad Street
	5 <sup>th</sup> St NB	Stop Sign	Intersection with Broad Street
	5 <sup>th</sup> St NB	Stop Sign	Intersection with 5 <sup>th</sup> and Cook
	Cook St NE	Stop Sign with Cook, 5th and S Main Mounted on Top	Intersection with 5 <sup>th</sup> and Main
	Cook St SW	Stop Sign	Intersection with 5 <sup>th</sup> and Main

**Table 17 - Regulatory Signage Summary**

Sign Type	Direction of Travel	Sign	Identifying Characteristics
	Cook St NE	Stop Sign	Intersection with 3 <sup>rd</sup> St
	Cook St SW	Stop Sign	Intersection with 3 <sup>rd</sup> St
	Cook St NE	Stop Sign	Intersection with 2 <sup>nd</sup> St
	4 <sup>th</sup> St NB	Stop Sign	Intersection with Cook St
	4 <sup>th</sup> St SB	Stop Sign	Intersection with Cook St
	4 <sup>th</sup> St NB	Stop Sign (with Broad Street Sign mounted on top)	Intersection with Broad St
	3 <sup>rd</sup> St NB	Stop Sign	Intersection with Broad St
	3 <sup>rd</sup> St SB	Stop Sign	Intersection with Broad St
	3 <sup>rd</sup> St NB	Stop Sign	Intersection with Mill St
	2 <sup>nd</sup> St NB	Stop Sign (2 <sup>nd</sup> Street Sign mounted on top)	Intersection with Mill St
	2 <sup>nd</sup> St NB	Stop Sign (2 <sup>nd</sup> Street Sign mounted on top )	Intersection with Mill St (near S Main St Intersection)
	Riverside Drive NB	Stop Sign	Intersection with Broad St
	2 <sup>nd</sup> St EB (Northern Section)	Stop Sign (2 <sup>nd</sup> Street Sign mounted on top)	Intersection with Broad St
	Broad St SB	Stop Sign with All Way (2)	Intersection with S Main Street
	Broad St NB	Stop Sign with All Way (2)	Intersection with S Main Street
	S Main Street NB	Stop Sign with All Way (2)	Intersection with Broad Street
	S Main St SB	Stop Sign with All Way (2)	Intersection with Broad Street
Directional	Riverside Drive NB	Auburn Downtown/Lewiston directional	Across from Dunkin Donuts
	Mill St EB	North 136	Intersection with Riverside Drive
	Riverside Drive NB	Auburn Downtown/Lewiston directional	Just south of Intersection with Mill Street
	Riverside Drive NB	136 and Hospital	Just south of Intersection with Mill Street
	Mill St EB	136 sign with arrows on utility pole	Intersection with Broad Street
	Mill St EB	Mill St Sign mounted on top of Pedestrian Heads	Intersection with Broad Street
	Mill St EB	Street sign mounted to signal pole	Intersection with South Main Street
	Broad St NB	136 Arrow and Ped Heads mounted on Mast Arm	Intersection with Mill St
	Mill St WB	Signs to 136, 121, 202, 11, and 4	Intersection with South Main Street
	S Main St NB	Route 136 Arrow mounted on mast arm	Intersection with Mill Street
	S Main St SB	Durham, Freeport, South 136	Intersection with Mill Street

## 4.12 Roadway Characteristics

- Mill Street is a two-lane roadway with pockets for turn lanes onto South Main Street and Broad Street that runs straight through the corridor area with the exception of a slight turn before intersecting with 5<sup>th</sup> Street. There are signals at each of the major intersections with South Main Street and Broad Street and areas of on-street parking.
- South Main Street is a relatively straight road through the corridor area intersecting the original grid system. It is a two-lane road system with turn pockets at the intersection of Mill Street and on-street parking throughout the corridor.
- Broad Street is a relatively straight road through the corridor running parallel to Cook Street. It is a two-lane roadway with a pocket for turn lanes where it intersects Mill Street at the signalized intersection.
- First, Second, Third, Fourth and Fifth Streets make up the cross-legs of the grid system and are largely residential streets. They are two-lane roadways with on-street parking available and stop signs where they cross major intersecting roadways.
- Riverside Drive intersects Broad Street and Mill Street in the corridor. A key traffic generator in this area is Dunkin' Donuts. There are limited areas of on-street parking here.

## 4.13 Roadway System

Mill Street, Main Street, and Broad Street east of Mill Street are functionally classified as an Other Principal Arterial. South Main Street, Riverside Drive, Broad Street west of Mill Street, and Mill Street east of Broad Street are classified as a Major Urban Collector. All other roadways in the study area are local streets. In simplistic terms, "functional classification" reflects a highway's balance between providing land access versus mobility. Functional classification is the process by which public streets and highways are grouped into classes according to the character of service they are intended to provide. Generally, highways fall into one of four broad categories-- principal arterial, minor arterials, collector roads, and local roads. Arterials provide longer through travel between major trip generators (larger cities, recreational areas, etc.); and collector roads collect traffic from the local roads and also connect smaller cities and towns with each other and to the arterials: local roads provide access to private property or low volume public facilities. Definitions of the all roadway classifications are noted below.

Principal Arterial - Interstate: A series of continuous routes that have trip lengths and volumes indicative of substantial statewide or interstate travel. This classification is for highways designated as interstate and include I-95, I-195, I-295 and I-395.

Principal Arterial - Other Freeways and Expressways: These roads must be divided highway with partial (freeway) or full (expressway) control-of-access. Primarily serve through traffic and major circulation movements within federally-defined Urban Areas.

Other Principal Arterial: Highways that provide long distance connections, but do not fit the two categories above.

Rural: Corridor movement suitable for substantial statewide or interstate travel between larger population centers. (e.g., Route 3, Augusta to Belfast).

Urban: Routes, which carry through traffic and most of the trips entering/leaving a Federally-designated Urban Area. They provide continuity for all rural arterials that intercept the urban boundary. (e.g., Western Avenue in Augusta or Brighton Avenue in Portland).

Minor Arterial: A series of continuous routes that should be expected to provide for relatively high overall travel speeds with minimum interference to through movement, and are defined as two distinct types:

Rural: Form a network of 1,039 miles in Maine, in conjunction with the rural principal arterial system, with service characteristics that:

1. Link cities, large towns and other traffic generators (i.e., major resort areas) that are capable of attracting travel over long distances.
2. Integrate interstate and inter-county service.
3. Have spacing consistent with population density so all developed areas are within a reasonable distance from the arterial system.
4. Provide service to corridors with trip lengths and travel densities greater than those served by rural collector or local systems. (e.g., Route 27 from Farmington to Sugarloaf Mountain and to the intersection of Route 16 in Eustis or Route 3 between Ellsworth and Bar Harbor).

Urban: Within a Federally designated Urban Area, these roads interconnect with and augment the urban principal arterial system. They distribute travel to geographic areas smaller than those of higher systems (e.g., Hogan Road in Bangor, or Stone Street in Augusta from the East side rotary to Eastern Avenue [Route 17]).

Collectors: Rural: Generally serve travel of primarily intra-county rather than statewide importance and travel distances are shorter than arterial routes.

1. Major Collector Roads: (a) Serve county seats not on arterial routes, larger towns not directly served by higher systems (b) link nearby larger towns, or cities, or with route of higher classifications (c) serve more important intra-county travel corridors which could connect consolidated schools, shipping points, important agricultural areas, etc. (e.g., Route 9 in Augusta from intersection of Route 17 to the intersection of Route 126 in Randolph).

2. Minor Collector Roads: Spaced consistent with population density to accommodate local roads within reasonable distance of collector roads. Provide service to smaller communities. Link locally important traffic generators with the arterial system. (e.g., Pond Road / Neck Road between Manchester and Litchfield).

Urban: Provide both land access and traffic circulation within urban residential neighborhoods and commercial and industrial areas in federally designated Urban Areas. Route density is much higher than in rural areas. (e.g., Buck Street in Bangor next to the racetrack, or Hotel Road in Auburn from Route 122 near the Lewiston / Auburn airport to West Auburn Road).

Local Roads: Provide access to adjacent land and provide service to travel over relatively short distances as compared to the higher systems.

Rural: All rural roads not classified as principal arterial, minor arterial, or collector roads (e.g., Caribou Lake between Washburn and Caribou, or Flag Pond Road in Saco from Route One west to Route 112).

Urban: All urban streets in a federally designated Urban Area that are not in one of the other higher systems. They permit direct access to land, route density is higher than rural areas, and they connect to the higher systems. They also offer lower mobility and service and through-traffic movement is deliberately discouraged. (e.g., Purington Avenue in Augusta between North Belfast Avenue and South Belfast Avenue, or Longfellow Avenue in Brunswick from Route 123 to Maine Street).

## 4.14 ADA Compliance

Title II of the Americans with Disabilities Act (ADA) requires state and local governments to make pedestrian crossings accessible to people with disabilities by providing curb ramps. To comply, the curb ramps provided must meet specific standards for width slope, cross slope, placement, and other features. Ramp design criteria include the following:

- Ramp slope must be 8.33% or less (1:12).
- Cross slope cannot exceed 2%.
- Ramp must be at least 3 feet wide, not including flared sides.
- Ramp must have detectable warnings (dome-shaped bumps) that extend the full width and depth of the ramp.
- Rise is the vertical change measured from the low point (base of curb) at the high point on the other side. Since sidewalks have a cross slope to direct water toward street, the rise of the curb ramp is often greater than the curb reveal height.
  - Ramp run may have a running slope of up to 10% (1:10) if the rise is no more than 6 inches.
  - Ramp run may have a running slope of up to 12.5 % (1:8) several of the existing sidewalk ramps have detectable warning panel surfaces.

**General Conclusion:** Many ramp slopes in the study area exceed the maximum ramp slope on steep roads, leading users into the intersection. Some cross slopes exceed 2% in areas without curbs. There are few detectable warning tiles in the study area. All future streetscapes and intersection improvements must be fully ADA compliant.

## 4.15 Driveway Characteristics and Access Management

Access management standards for the City of Auburn were generally reviewed and are noted as follows:

**Safe Sight Distance:** “Driveways and other accesses for all developments, including individual residences, sub-divisions and commercial and other non-residential developments shall be located to meet a minimum sight distance measured in each direction along the arterial or collector while maintaining adequate distances from adjacent driveways and intersections.” For the study area, a minimum sight distance of 250 feet must be provided as measured from the driver’s seat of a vehicle 10 feet behind the curb with a height of 3 ½ feet above the pavement with an object height of 4 ¼ feet.

**Curb Cut and Driveway Spacing:** “The minimum distance between curb cuts and driveways shall be measured from the centerline of the driveways at the right-of-way line and shall be a function of the posted corridor road speed...” For the study area a minimum spacing of 105 feet is required. If a lot lacks sufficient corridor road frontage for spacing the distance can be reduced to 85 feet.

**Number of Driveways per Lot:** “the maximum number of driveways to a particular site shall be governed by the following:”

- No low volume traffic generator, including single-family dwellings and duplexes shall have more than one two-way access onto a single roadway
- No medium or high volume traffic generator shall have more than one two-way access or two one-way accesses in total onto a single roadway.
- All driveways shall comply with the spacing requirements.

**Corner Lot Access:** “...entrance(s) to and exit(s) from the site shall be located only on the minor or collector road.”

**Shared Driveways:** “Shared driveways shall be encouraged for adjacent sites in order to minimize the number of driveways along the arterial.”

**Interconnections:** “For all projects, provisions for vehicular and pedestrian circulation connections to future projects on adjacent properties shall be provided wherever feasible and to the maximum extent possible.”

**General Conclusion:** Several areas are non-compliant with City standards for access management but do to the short city blocks in this area many cannot be avoided. Future access management recommendations will be identified.

## 4.16 Traffic Signals

Two intersections within the study area are controlled by traffic signals (Main Street/South Main Street/ Mill Street and Broad Street/Mill Street) with the following details:

### **Main Street/South Main Street at Mill Street:**

- Span wire supported signal.
- Fully actuated (an actuated signal has detection for all turn movements and the signal phasing and timing is adjusted according to demand).
- Pedestrian signal equipment on all approaches.

### **Broad Street and Mill Street:**

- Span wire supported signal.
- Fully actuated.
- All movements permissive except for Mill Street eastbound, which is protected.
- Pedestrian signal equipment on all approaches.

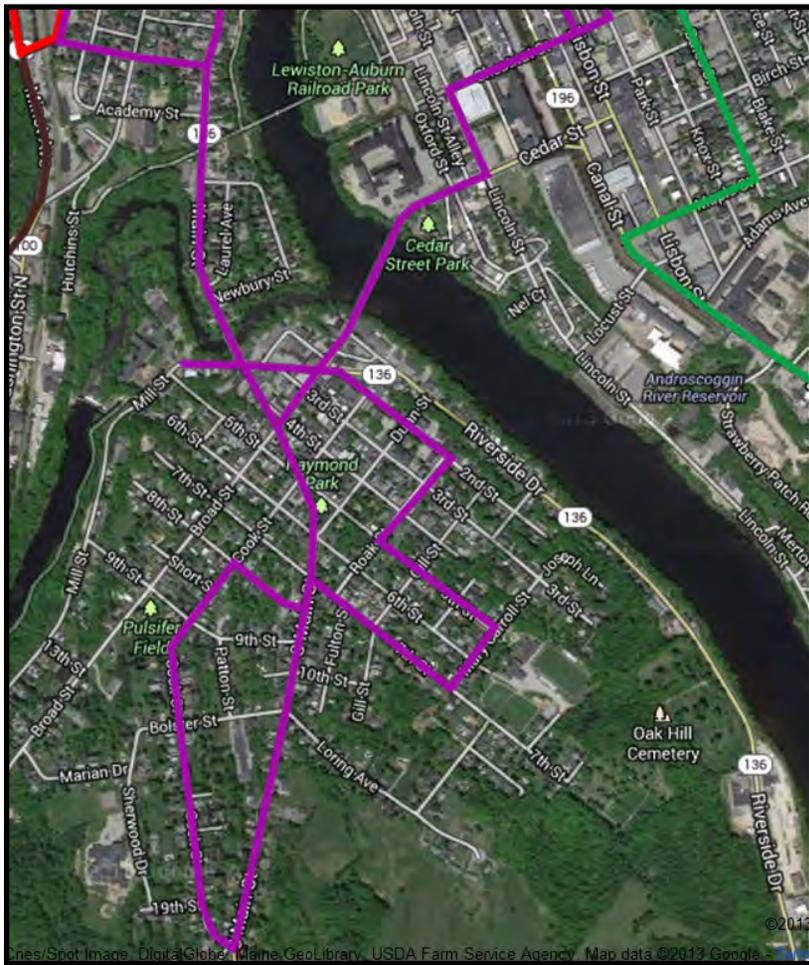
**General Conclusion:** From a corridor system perspective, the two study traffic signals operate independently of each other. Coordination of the traffic signals should be considered as because the signals are close together and this will improve corridor mobility without impacting pedestrian safety.

## 4.17 Bus Service

Bus service is provided within the New Auburn Center Study area and the schedule (Tables 18 and 19), route description (Figure 10), and route map is presented as follows.

Table 18 – Weekday Bus Schedule										
L	B	C	D	E	A		D	C	B	L
Oak Street	Franco American Center	Walton School	Barker Arms	Roak Block	Great Falls	Spring Street	Barker Arms	Walton School	Franco American Center	Oak Street
					6:45	6:47	6:53	6:58	7:01	7:05
7:15	7:19	7:27	7:32	7:35	7:45	7:47	7:53	7:58	8:01	8:05
8:15	8:19	8:27	8:32	8:35	8:45	8:47	8:53	8:58	9:01	9:05
9:15	9:19	9:27	9:32	9:35	9:45	9:47	9:53	9:58	10:01	10:05
10:15	10:19	10:27	10:32	10:35	10:45	10:47	10:53	10:58	11:01	11:05
11:15	11:19	11:27	11:32	11:35	11:45	11:47	11:53	11:58	12:01	12:05
12:15	12:19	12:27	12:32	12:35	12:45	12:47	12:53	12:58	1:01	1:05
1:15	1:19	1:27	1:32	1:35	1:45	1:47	1:53	1:58	2:01	2:05
2:15	2:19	2:27	2:32	2:35	2:45	2:47	2:53	2:58	3:01	3:05
3:15	3:19	3:27	3:32	3:35	3:45	3:47	3:53	3:58	4:01	4:05
4:15	4:19	4:27	4:32	4:35	4:45	4:47	4:53	4:58	5:01	5:05
5:15	5:19	5:27	5:32	5:35	5:45	5:47	5:53	5:58	6:01	6:05
6:15	6:19	6:27	6:32	6:35	6:45	6:47				

Table 19 – Saturday Bus Schedule										
L	B	C	D	E	A		D	C	B	L
Oak Street	Franco American Center	Walton School	Barker Arms	Roak Block	Great Falls	Spring Street	Barker Arms	Walton School	Franco American Center	Oak Street
9:15	9:19	9:27	9:32	9:35	9:45	9:47	9:53	9:58	10:01	10:05
11:15	11:19	11:27	11:32	11:35	11:45	11:47	11:53	11:58	12:01	12:05
1:15	1:19	1:27	1:32	1:35	1:45	1:47	1:53	1:58	2:01	2:05
3:15	3:19	3:27	3:32	3:35	3:45	3:47	3:53	3:58	4:01	4:05



**Route Description (Figure 23)** - Depart Oak Street Bus Station, Bates Street, turn right onto Ash Street, turn left onto Park Street, turn right onto Chestnut Street, turn left onto Lincoln Street, turn right onto Cedar Street, proceed into New Auburn, straight on Broad Street, turn left onto South Main Street, turn right onto Cook Street, turn right onto 8th Street, turn left onto South Main Street, turn right onto 7th Street, turn left onto Mary Carroll Street, turn left onto 3rd Street, turn right onto Dunn Street, turn left onto 2nd Street, turn left onto Mill Street, proceed to Barker Arms. Depart Barker Arms on Mill Street, turn left onto Main Street, straight to Great Falls Plaza, straight to Great Falls Transfer Hub.

**Figure 23: Bus Route**

**General Conclusion:** Bus service is important for the community and currently serves the area. Any considerations for future street designs should accommodate and promote public transit.

## 5. Future Traffic Volumes and Analysis

Future peak hour traffic volumes during the AM and PM peak hours within the study area were based upon growth projections contained in the ATRC travel demand model as shown in **Table 20**. The ATRC travel demand model estimates future year traffic volumes on roadways throughout the region. ATRC has developed forecasts for housing units, workplaces, shopping destinations, medical facilities, recreational sites, and all other destinations to which people travel in the region. The model estimates the number of trips to and from these destinations. The model then matches trips with complementary destinations (e.g., home-to-work) and assigns the trips to the shortest path. Forecast traffic growth on any particular roadway link is the sum of traffic generated by new or expanded development adjacent to the roadway and of traffic using the roadway as its shortest path to new development elsewhere in the region.

Based upon recent traffic volume trends, two volume scenarios were evaluated, an aggressive model growth scenario and a reduced scenario (50% reduction). ATRC area is expected to have an increase in population and with that an increase in traffic out to the year 2030. The model uses several sources to project future travel, including the University of Southern Maine’s Center for Business and Economic Research, Maine Department of Labor, Maine State Planning Office, Maine Department of Transportation and its travel demand model, and the U.S. Census. Overall, the model forecasts the following:

- Population will increase by an average of 0.2% per year
- Employment will increase by approximately 35% over the next two decades.

The following table presents the percent changes expected within the study area between 2013 and 2030:

<b>Table 20 – Future Traffic Volumes</b>		
<b>Location</b>	<b>Aggressive Growth</b>	<b>Reduced Growth</b>
<b>Mill Street and 5<sup>th</sup> Street</b>		
5 <sup>th</sup> Street	8%	4%
Mill Street	12%	6%
<b>South Main Street and Mill Street</b>		
Mill Street west of south Main Street	12%	6%
Mill Street east of south Main Street	20%	10%
South Main Street south of Mill Street	12%	6%
South Main Street north of Mill Street	18%	9%
<b>Mill Street and 3<sup>rd</sup> Street</b>		
Mill Street	20%	10%
3 <sup>rd</sup> Street	4%	2%
<b>Riverside Drive and Broad Street</b>		
Broad Street south of Riverside Drive	22%	11%
Broad Street north of Riverside Drive	26%	13%

Riverside Drive east of Broad Street	30%	15%
<b>Riverside Drive and Mill Street</b>		
Mill Street west of Riverside Drive	18%	9%
Riverside Drive west of Mill Street	30%	15%
Riverside Drive east of Mill Street	20%	10%
<b>Broad Street and Mill Street</b>		
Mill Street east of Broad Street	18%	9%
Mill Street west of Broad Street	20%	10%
Broad Street north of Mill Street	22%	11%
Broad Street south of Mill Street	26%	13%
<b>South Main Street and Broad Street</b>		
Broad Street east of South Main Street	26%	13%
Broad Street west of South Main Street	8%	4%
South Main Street	12%	6%
<b>South Main Street and Cook Street and 5<sup>th</sup> Street</b>		
South Main Street	12%	6%
Cook Street	8%	4%

### 2030 No-Build Intersection Operations / Level of Service

An evaluation of key study area intersections during the critical PM peak hour was performed and is summarized in the following **Tables 21-24**. Note that the Mill / 5<sup>th</sup> Street intersection was not analyzed because no changes we anticipated in this area. The results indicated the following:

*No-Build is defined as the existing transportation system with no improvements to capacity or traffic control.*

- For the 2030 Reduced volume scenario, acceptable level of service results are projected at the key study intersections with a few movements that do experience long delays.
- For the 2030 Aggressive volume scenario, long delays are projected for several movements at the key study intersections.

<b>TABLE 21 – 2030 NO-BUILD LEVEL OF SERVICE</b>			
<b>MILL STREET /MAIN STREET/SOUTH MAIN STREET</b>			
XXX – PM PEAK HOUR			
Movement	Existing	2030 No-Build Reduced	2030 No-Build Aggressive
Mill Street EB Left	D	D	F
Mill Street EB Through	D	D	F
Mill Street EB Right	C	C	F
Mill Street WB Left	D	D	E
Mill Street WB Through	D	D	D
Mill Street WB Right	A	A	A
South Main Street Left	C	D	D
South Main Street Through	C	C	D
South Main Street Right	A	B	E
Main Street Left	C	C	F
Main Street Through	B	B	C

Main Street Right	B	B	B
Overall	B	C	D
<b>TABLE 22 – 2030 NO-BUILD LEVEL OF SERVICE</b>			
<b>MILL STREET/BROAD STREET</b>			
XXX – PM PEAK HOUR			
Movement	Existing	2030 No-Build Reduced	2030 No-Build Aggressive
Mill Street EB Left	C	C	C
Mill Street EB Through	B	C	F
Mill Street EB Right	B	C	F
Mill Street WB Left	C	D	E
Mill Street WB Through	C	D	E
Mill Street WB Right	B	C	E
Broad Street NB Left	D	E	F
Broad Street NB Through	B	C	F
Broad Street NB Right	A	C	F
Broad Street SB Left	B	C	F
Broad Street SB Through	B	B	D
Broad Street SB Right	A	A	B
Overall	B	C	D

<b>TABLE 23 – 2030 NO-BUILD LEVEL OF SERVICE</b>			
<b>MILL STREET/RIVERSIDE DRIVE</b>			
XXX – PM PEAK HOUR			
Movement	Existing	2030 No-Build Reduced	2030 No-Build Aggressive
Mill Street Left	B	E	F
Mill Street Through	B	C	F
Mill Street Right	A	C	F
Driveway Left	C	D	F
Driveway Through	B	D	F
Driveway Right	A	D	F
Riverside Drive NB Left	A	A	A
Riverside Drive NB Through	A	A	A
Riverside Drive NB Right	A	A	A
Riverside Drive SB Left	A	B	E
Riverside Drive SB Through	A	B	E
Riverside Drive SB Right	A	C	C
Overall	A	B	F

TABLE 24 – 2030 No-BUILD LEVEL OF SERVICE BROAD STREET/RIVERSIDE DRIVE XXX – PM PEAK HOUR			
Movement	Existing	2030 No-Build Reduced	2030 No-Build Aggressive
Riverside Dr WB Left	E	F	F
Riverside Dr WB Through	D	F	F
Riverside Dr WB Right	B	F	F
Riverside Drive EB Left	A	A	B
Riverside Drive EB Through	A	A	A
Riverside Drive EB Right	A	A	A
Broad Street NB Left	A	A	A
Broad Street NB Through	A	A	A
Broad Street NB Right	A	A	A
Broad Street SB Left	A	A	B
Broad Street SB Through	A	A	B
Broad Street SB Right	A	A	A

## 6. Existing Zoning, Land Use and Urban Design Conditions

### 6.1 Introduction

New Auburn Center was platted as a grid in the tradition of many great downtowns. This grid system established a strong relationship between streets and blocks of buildings, creating a direct relationship between urban form and mobility. See **Figure 16** for an image of the historic plat. The formal platting of the grid was not perfect. In draping the grid over the area, topography and the confluence of the Little Androscoggin and the Androscoggin Rivers as well as the alignment of Mill Street created variations that give New Auburn its unique character – but pose ongoing challenges for redevelopment and pedestrian and vehicular circulation. **Figure 24** shows Mill Street cutting across the grid, creating a direct route for traffic, but inefficient intersections and development parcels.



**Figure 24: Aerial Showing New Auburn with Mill Street Bisecting the Grid.**

All the streets in the original plan were not the same. A hierarchy based on the intensity and type of use created streets of varying character. For example, Fifth Street between Mill and Broad Streets was different than Broad Street between Riverside and Mill Streets. This direct relationship between function and character has in part eroded overtime – especially on Mill, Broad and South Main Streets – as the accommodation of the car and regional traffic has in many cases been favored over the needs of New Auburn Village Center proper.

As New Auburn Village Center grew and the grid and intersections became more legible with the construction of buildings lining the streets including such landmarks such as the Baker Mill Complex and the St. Louis Parish campus, the experience of living “on the grid” became more dynamic. The dynamic nature of the grid was further enhanced by the dramatic topography, which frames views of landscapes and landmarks in the distance. Thus the grid functions to orient one within New Auburn as well as to the greater context.

This rich history of the built environment, natural features and the greater context is an excellent starting point for understanding the potential for revitalizing New Auburn Village Center in a manner meeting the needs of the community today and into the future. One such example is the current focus on recovering the flood plain for public access along the Little Androscoggin and Androscoggin Rivers. As originally platted, the City turned its back to the rivers. Waterfronts are now part of the new economy. Rivers are valued for recreational opportunities, habitat and beauty, not just as sources for generating power.

The New Auburn Center grid – the urban fabric – has responded to the New Auburn Fire of 1933, which destroyed 249 buildings, the closure of mills and, changing demographics and uses, the South Main Street extension and the absorption of regional traffic flows. The grid has also been impacted by the placement of buildings that do not properly address the street and changes to intersections that benefitted the movement of vehicles through the area over intrinsic value of the area. Grids have elasticity, but New Auburn Village Center has become increasingly fragmented over the years. The community now has the opportunity to revisit the past and relink legible urban form with economic development as part of a new 21<sup>st</sup> Century economy.

This Study outlines a future for New Auburn Village Center that reconciles different modes of travel with different land uses in a manner that strengthens the historic patterns of growth in the area. Mobility and urban form are not mutually exclusive, but inform each other to create a place attracting investment and is inviting for the full demographic spectrum.

## 6.2 Existing Zoning

As shown on **Figure 25** the study area is currently comprised of the General Business and Multi-Family Urban Districts. In addition there is a Flood Plain Overlay and Shoreland Overlay District along the Little Androscoggin and Androscoggin Rivers. **Figure 34** shows the extent of the 100-year flood plain as defined by the 135' contour.

### General Business District

The purpose of the existing General Business District (to be primarily rezoned as the New Auburn Village Center, Riverfront Transition and Limited Business Development Districts in the 2009 New Auburn Master Plan):

This District is intended to include commercial uses serving both the City and the region, together with normal accessory uses compatible with a cohesive and attractive shopping and office area.

Key standards:

- Uses: The allowable uses are generally appropriate
- Lot Width Minimum: 100'
- Lot Depth Minimum: 100'
- Minimum Front Setback: 25' or average of 25% of lot
- Height: Four stories or 45'
- Density. Not more than 30 percent of the total lot area shall be covered by buildings used for commercial or office uses. The density of residential uses shall be the same as that required for buildings in the Multi-family Suburban District (up to 17 units per acre)

General review of standards (as the City proceeds to implement the standards for the New Auburn Center Village District):

- Consider residential dwelling uses allowed in the Multi-Family Urban versus the Multi-Family Suburban District;
- The prohibition of drive-thru facilities is appropriate in an area with limited space and the focus is on creating a strong relationship between the building and the street;
- Off-street parking standards should be more flexible, recognizing that certain uses do not need parking at the same time;
- Major Retail Development (over 100,000 SF of new ground floor retail space) is a large footprint and out of scale with the existing pattern of development. In addition, and equally problematic, is that the required off-street parking for such types of development often exceed the footprint of the building;
- Buildings should have a **maximum** front setback of 0' to 10' to encourage a vibrant pedestrian realm;
- Allow for 0' side setbacks, which allows for a continuous building edge reinforcing the pedestrian realm;

- Consider a prohibition of single-family homes or only allow one-unit buildings if residence is on second floor or above;
- There are several one-story buildings in the area that do not contribute to the proper sense of scale and do not take advantage of the allowed and desired density for an urban center;
- The most recent full site development has a building that does not directly address Broad, Riverside or Mill Street. The site plan is suburban in nature, with a focus on serving the needs of the car, not the pedestrian. In tight knit urban areas with limited space, every effort should be made to develop sites in a manner reinforcing the pedestrian experience by placing buildings directly adjacent to sidewalks;
- The pedestrian network does not allow for complete and safe movement through the area, which discourages pedestrian activity, and;
- In urban areas designated parks as well as the activated streetscape are the primary “open spaces.” Consider reducing the required 20% open space per each lot, allowing for 100% lot coverage. This would create more space on each lot for building coverage as well as off-street parking. In addition, many urban areas are now also allowing green roofs to count towards “open space” coverage, and;
- Consider increasing residential net residential densities from a maximum of 17 units per acre to 21 units per acre.
- Consider a Form-Based Code versus a typical Land Use Code. Many communities are now adopting Form-Based Codes in order to achieve a built environment that is more traditional in pattern and scale while encouraging local economic development.

## **Multi-Family Urban District**

The purpose of the existing Multi-Family Urban District (to be primarily rezoned as the New Auburn Center Enterprise District in the 2009 New Auburn Master Plan):

This district is intended to stabilize and protect medium to high-density residential areas by providing for a varied denser urban pattern made suitable to the needs of the population by encouraging a range of housing types. This multi-family zone has maximum density of 17 dwellings units per acre, yet retains the open character of residential areas by requiring 50 percent green space. It is intended that this district will provide the maximum possible freedom in the design of structures and their grouping and will encourage flexible and imaginative layouts and designs.

Key standards:

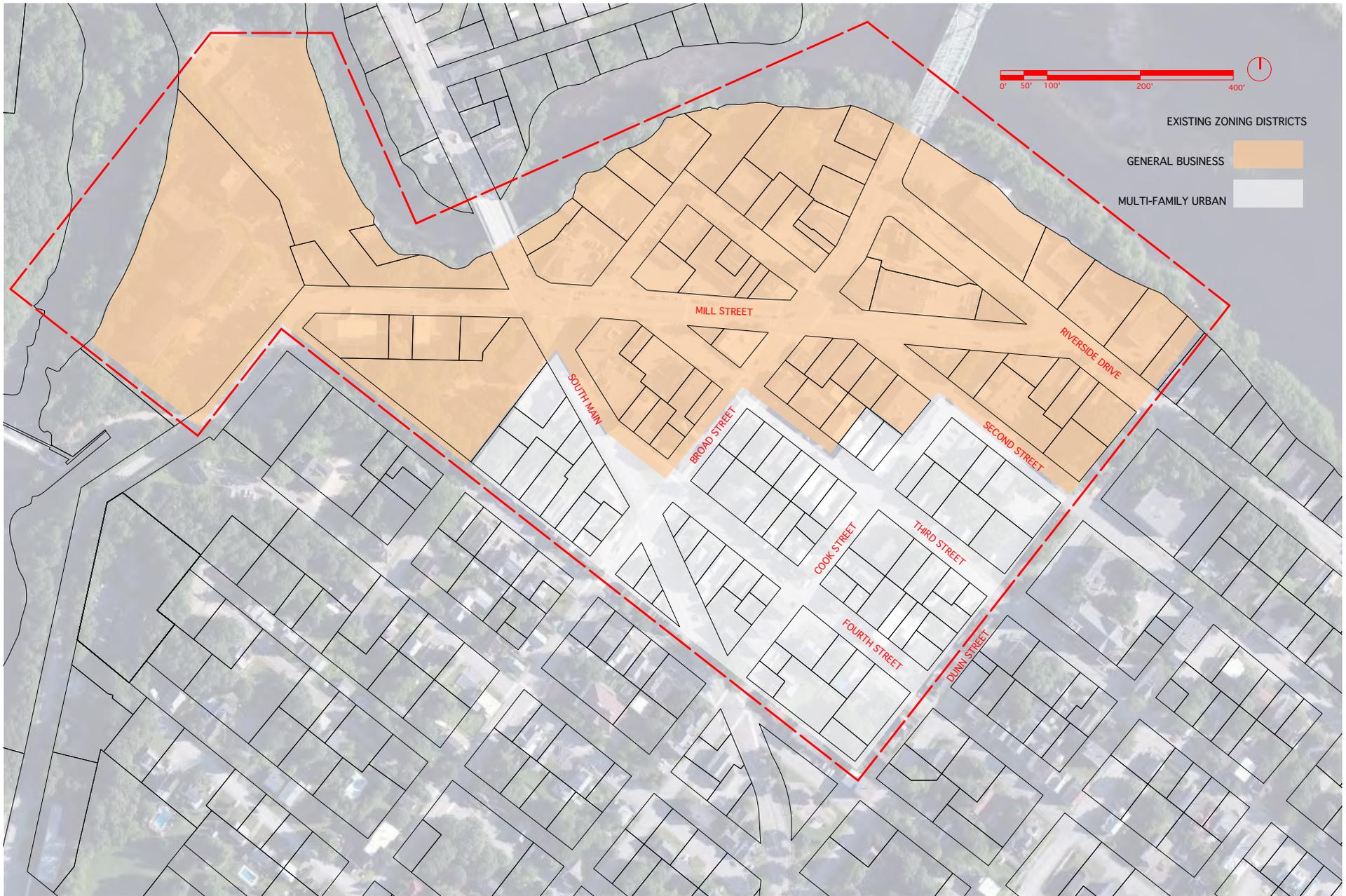
- Uses: The allowable uses are generally appropriate
- Lot Width: 50' Minimum
- Lot Depth: 100' Minimum
- Minimum Front Setback: 25' or average depth of 25% of lot
- Height: Four stories or 45'

General review of purpose and standards (as the City proceeds to implement the standards for the New Auburn Center Village District):

- Consider residential dwelling uses allowed in the Multi-Family Urban versus the Multi-Family Suburban District;
- Do not allow Farming of field crops, row crops, orchards, truck gardens as these are not an efficient use of land;
- Do not make multi-family units in existence prior to September 23, 1988 a non-conforming use. Find other mechanisms for controlling the quality of housing stock and density in order to encourage investment;
- Buildings should have a **maximum** front setback of 0' to 25' to encourage a vibrant pedestrian realm;
- Buildings on corner lots should define the intersection with appropriated scaled landscaping or fencing made of quality materials, and;
- Do not require that professional offices be in buildings that are listed on the State Resource List and/or Federal Historic Register. This limits investment to a number of buildings in the proposed District.

**Summary: Aspects of existing zoning and standards, such as building placement, parking requirements, and the creation of a civic public realm need to be more urban rather than suburban in nature to encourage redevelopment that aligns with the vision outlined in the 2009 New Auburn Master Plan, the Auburn Comprehensive Plan and the goals of the Study.**

**Existing zoning and standards allow for suburban type development that is an inefficient use of land, favors vehicles and does not include deliberate strategies and tactics to increase the vibrancy of the neighborhood.**



**Figure 25: Existing Zoning**

### **6.3 2009 New Auburn Master Plan Proposed Zoning**

The 2009 New Auburn Master Plan was incorporated into the 2011 Auburn Comprehensive Plan. This New Auburn Village Center Study is more focused planning effort looking at the downtown mixed-use core of New Auburn Center and the adjacent high-density residential neighborhoods supporting the core. The core is primarily commercial, but includes several of the areas largest multi-family buildings. The surrounding neighborhoods are primary residential with scattered professional / commercial / social / institutional uses. The Comprehensive Plan recommends rezoning the study area into the following four Districts as shown on **Figure 26**.

#### **Proposed New Auburn Village District**

##### Objective:

Promote the upgrading and redevelopment of the traditional New Auburn Village Center District. The district is intended to assure that development or redevelopment occurs in a manner that reinforces the historic village/urban pattern of development with a strong pedestrian orientation, buildings located close to the street, and parking located at the side or rear of the buildings. The focus of the City's land use regulations in this area should be on allowing property owners flexibility in the reuse and redevelopment of properties as long as the "village/urban character" is maintained.

Automotive-related uses, including vehicle repair and service stations, should not be allowed within this district. Drive-through services should be allowed, but only if they are located and designed in a manner that is compatible with a pedestrian-friendly, village environment.

##### Development Standards:

The standards in the New Auburn Village Center District should allow property owners flexibility in the use and development/redevelopment of properties, as long as an urban/village pattern of development is maintained.

Lot size and frontage requirements should be minimized or eliminated. Setback requirements should allow buildings to be located at the sidewalk line, and side setbacks should not be required. Any area between the front of the building and the street should be required to be used for pedestrian purposes, including outdoor spaces, and vehicle use should be prohibited. Parking should be required to be located at the side or rear of the building, but the minimum parking requirement should be reduced, and new or redeveloped properties should be allowed to count the use of shared or public parking to meet the standard.

## **Proposed New Auburn Enterprise District:**

### Objective:

Encourage the reinvestment in property on the fringe of the New Auburn Village Center District through a combination of upgrading of the public infrastructure and allowing limited commercial use of existing buildings. The commercial use within residential buildings should be secondary to the residential use and should be limited to low intensity uses that do not detract from the area's residential character

Retail and other uses that rely on commuters or pass-by customers for a significant share of their market should not be allowed in the New Auburn Enterprise District.

### Development Standards:

Residential development and redevelopment should be allowed at density of up to 12-18 units per acre. The reuse/reconfiguration of space within existing buildings for residential purposes should be allowed without consideration of the density/lot size requirements provided that the buildings will be renovated, be compatible with the neighborhood, and meet the City's requirements for residential units including the provision of appropriate parking and green space.

The development standards should allow for development to occur in a manner that is similar to the existing pattern of setbacks within the district. Residential buildings with nonresidential uses should be allowed to consider shared parking to meet their parking requirements.

## **Proposed Riverfront Transition District:**

### Objective:

Reclaim developed areas within the 100-Year floodplain of the Androscoggin River for open space and public usage through a combination of regulation and acquisition. Within these areas, the City should limit new development and redevelopment while acquiring property from willing sellers for fair market value. Once blocks of riverfront are acquired, these should be redeveloped as public open space with extension of the River walk trail system where appropriate.

Existing developed properties within the Riverfront Transition District should be allowed to continue to be used for their current use and be maintained and expanded within strict limits. New development or redevelopment for residential or commercial purposes should not be permitted. Allowed uses in the Riverfront Transition District should be limited to recreational and open space uses, and facilities for providing public access to the river, including boat/canoe launches.

### Development Standards:

The standards for the Riverfront Transition District should allow existing buildings to be expanded by up to 30% of the current building footprint or building volume as long as the expansion does not make the building closer to the shoreline. New development including parking and recreational facilities other than trails/paths and facilities for water access should be required to be set back from the shoreline to create a “green edge” along the shoreline.

### **Proposed Limited Business Development District:**

#### Objective:

Allow for the development and redevelopment of small and moderate scale nonresidential uses in areas that have good vehicle access and are served or can be served by public water and sewerage. Since these districts are often located adjacent to existing residential neighborhoods or residentially zoned areas, the allowed uses and development standards are intended to assure that activity within these districts have minimal adverse impact on the adjacent residential areas. In addition to nonresidential activity, the Limited Business Development District should allow for both existing and new residential uses at a density of up to 10-12 units per acre.

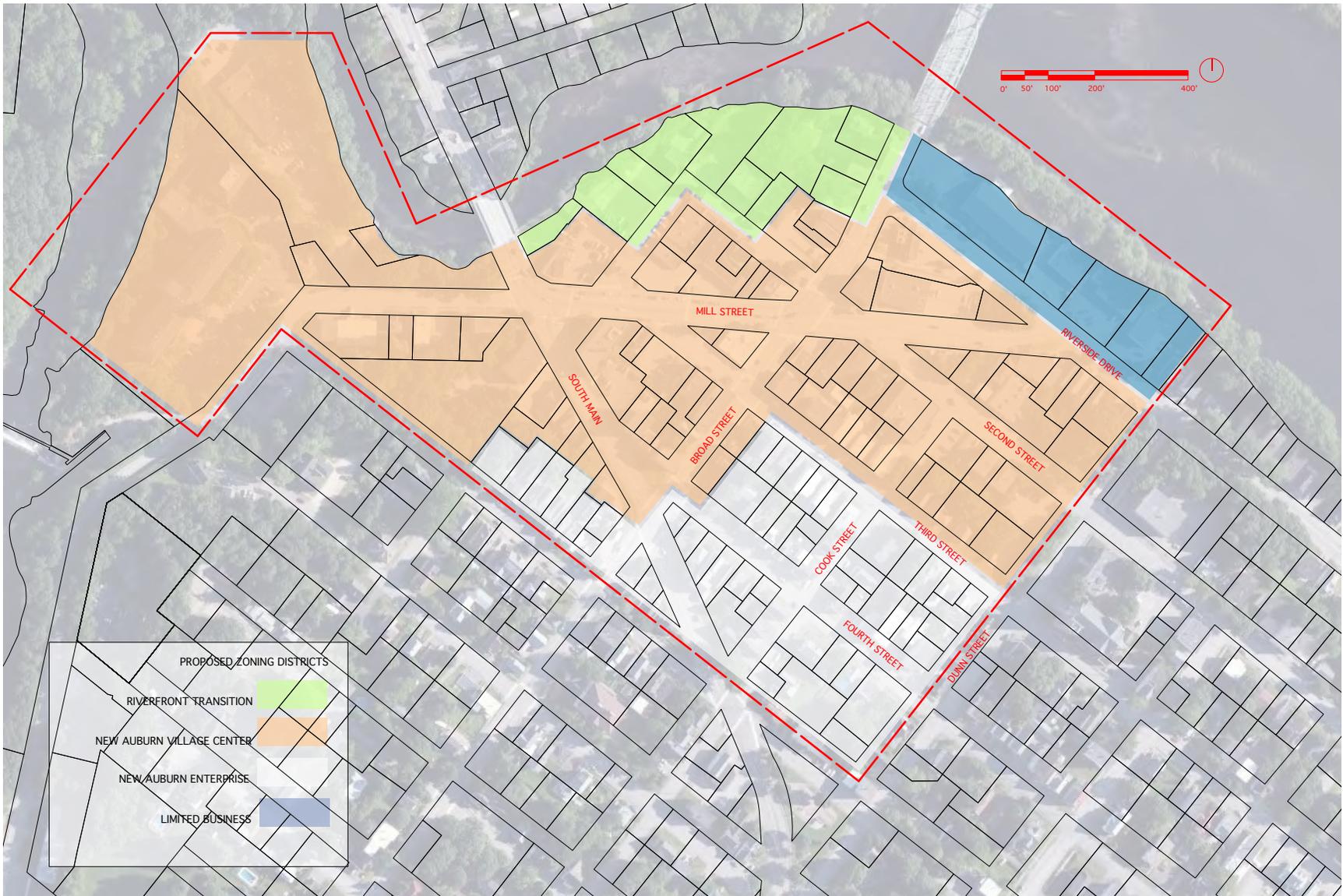
#### Development Standards:

The focus of the City’s development standards for the Limited Business Development District should be on assuring that new development or redevelopment/expansion of existing uses is done in a manner the results in well-designed, attractive projects that minimize the potential for undesirable impacts. To ensure that redevelopment/conversion of residential buildings to nonresidential uses is compatible with the design and character of the community; these projects should require site plan review. The review standards should include provisions to manage the amount and location of vehicular access to the site, minimize storm water runoff and other potential environmental impacts, require an attractive treatment along the boundary between the lot and the street, and provide for the buffering of adjacent residential districts.

Multifamily housing and townhouse style development should be allowed at a density of up to 10-12 units per acre, while single and two-family housing should be allowed at a density of up to 6-8 units per acre. Conversion of older single-family units to duplexes is encouraged, as well as the full utilization of all established units within multi-unit buildings provided that the building will be renovated and meet the City’s requirements for residential units, including the provision of appropriate parking and green space.

**Summary: The 2011 Comprehensive Plan vision and proposed standards and uses for the 2009 New Auburn Master Plan area are in general consistent with the goals of the Study in order to create a downtown that:**

- Acknowledges the environmental, cultural and economic benefits of the Little Androscoggin and Androscoggin Rivers;
- Encourages uses that support a local economy;
- Requires the placement of buildings that reinforce a pedestrian realm;
- Allows for appropriate mix of uses and densities encouraging a range of economic development opportunities that reinforce urban form and neighborhood character;
- Assumes ongoing strategic public investment in transportation and public realm infrastructure to attract private sector investment, and;
- Respects the fundamentals of the historic urban form of the New Auburn Village Center grid through appropriate transportation policies and urban design standards in order to create a walkable and vibrant downtown.



**Figure 26: Proposed Zoning – From 2009 New Auburn Master Plan**

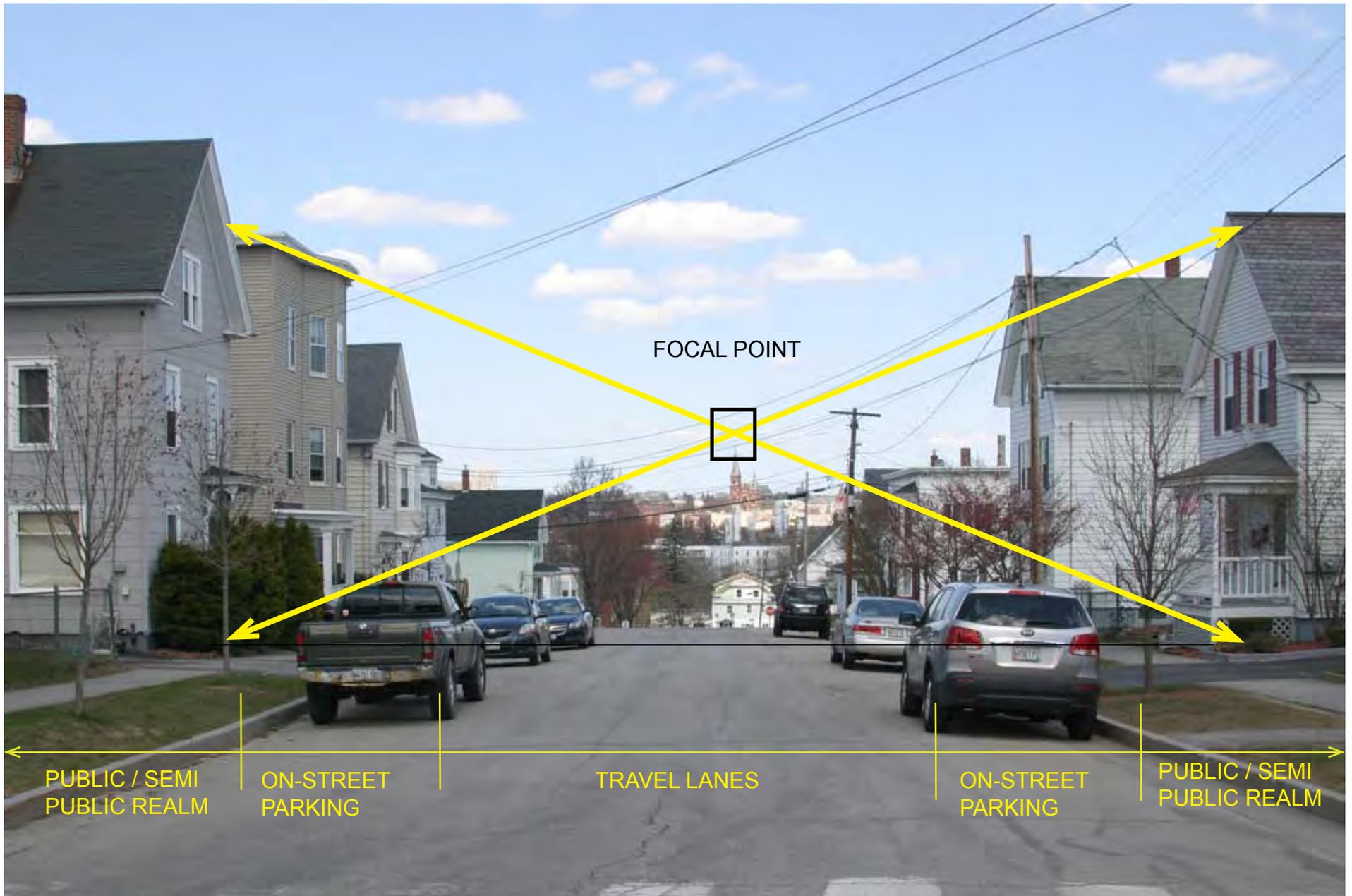
## 6.4 Urban Form, Street Space and Sight Lines

In general, the study area has a strong and legible urban form in large part due to the street grid. Overtime, buildings filled the blocks creating well-defined street “walls.” Many of the streets in New Auburn Village Center have all the components that are desired in contemporary communities designed to meet the fundamental principles of New Urbanism. The components of these ideal streets or what is sometimes called the “outdoor room” include:

- A 3:1 building face to building face to building height ratio
- A semi-public realm with front porches or a small front lawn
- Buildings set close to the front property line in a consistent manner
- A public pedestrian realm including sidewalks and an esplanade with street trees
- On-street parking
- Travel lanes (a two-way street is preferred)

However as noted before, the built environment, particularly fronting and north of Mill Street, has lost the legibility of a traditional downtown due to suburban type development, parking placed in front of buildings and transportation infrastructure that is designed to accommodate through traffic rather than the local economy.

See **Figure 27** for a diagram analysis of an ideal street in New Auburn.



**Figure 27: Elements of an Ideal Street**

As previously noted, the street grid and change in topography allow for the framing of distant landscapes and landmarks in Auburn and Lewiston. These vistas add to the dynamic quality of moving through the streets in the study area that are in general scaled to the pedestrian.



**Fifth at Broad Looking Towards Barker Mill and Auburn**



**Broad at Fifth Looking Towards Lewiston**



**South Main at Cook Looking Towards Auburn  
(buildings are 45 degrees to road because South Main  
cuts through historic block)**



**Cook at South Main Looking Towards Lewiston**



**Dunn at Sixth and South Main Looking Towards Lewiston**



**Fourth at Dunn looking towards Lewiston**



**Third at Dunn looking towards Auburn**



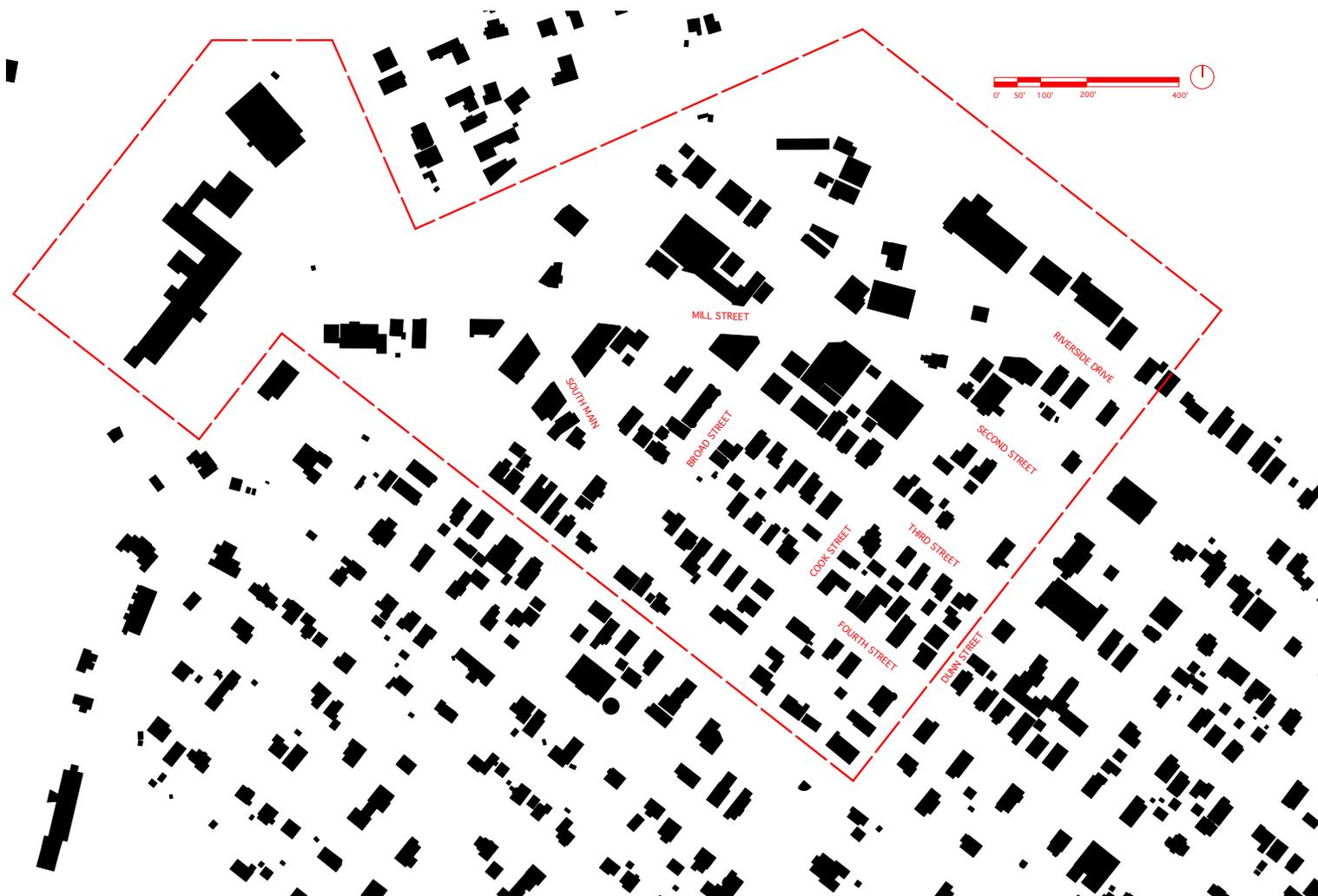
**Second at Dunn looking towards Auburn**



**Riverside at Dunn looking towards Broad Street**

Not all of the above examples of streets and sight lines are perfectly framed. Some of the edges to the street are undefined due to gaps in the building wall, lack of a streetscape, wide curb cuts or parking lots directly adjacent to the street. The experience of the streets can be enhanced with improved access management, infill development and

streetscaping, which includes elements such as curbing, street trees, streetlights and sidewalks. **Figure 28** is a Figure / Ground Study of the study area. This graphic depicts the footprints of buildings. It is valuable for understanding the pattern and scale of growth as well as identifying missing pieces in the urban fabric and where streets are not well defined by buildings. In general, the lands north of Mill Street have become fragmented over time. South Main Street is also apparent as it cuts through the grid creating odd shaped lots and complex intersections. It is easy to identify the blocks that are more residential in nature due to the finer grain of the footprints.



**Figure 28: Figure / Ground Analysis of Development Patterns**

**Summary: New Auburn Center has numerous opportunities to simultaneously strengthen the historic urban form through public and private investments in traffic infrastructure, streetscaping and redevelopment of infill development at the appropriate scale and located as to define the street wall.**

**In reconsidering zoning for the downtown area, consider a Form-Based Code approach versus a more traditional land use approach. To better align the 2009 Master Plan with the Study:**

- Integrate areas of the Androscoggin Block within the proposed Limited Business District to the proposed New Auburn Village Zone
- Integrate the Riverway south into the New Auburn Village Zone – removing it from the Riverfront Transition Zone

## **6.5 Street Types and Hierarchies**

As noted earlier, Mill Street, Main Street, and Broad Street east of Mill Street are functionally classified as an Other Principal Arterial. South Main Street, Riverside Drive, Broad Street west of Mill Street, and Mill Street east of Broad Street are classified as a Major Urban Collector. All other roadways in the study area are local streets. In simplistic terms, "functional classification" reflects a highway's balance between providing land access versus mobility. The functional classification definitions for the streets in the study area are:

**Other Principal Arterial:** Highways that provide long distance connections, but are not Freeways such as 295 or Interstates such as 95.

**Major Urban Collector:** Provides both land access and traffic circulation within urban residential neighborhoods and commercial and industrial areas in federally designated Urban Areas. Route density is much higher than in rural areas.

**Local Urban Streets:** All urban streets in a federally designated Urban Area that are not in one of the other higher systems. They permit direct access to land, route density is higher than rural areas, and they connect to the higher systems. They also offer lower mobility and service and through-traffic movement is deliberately discouraged.

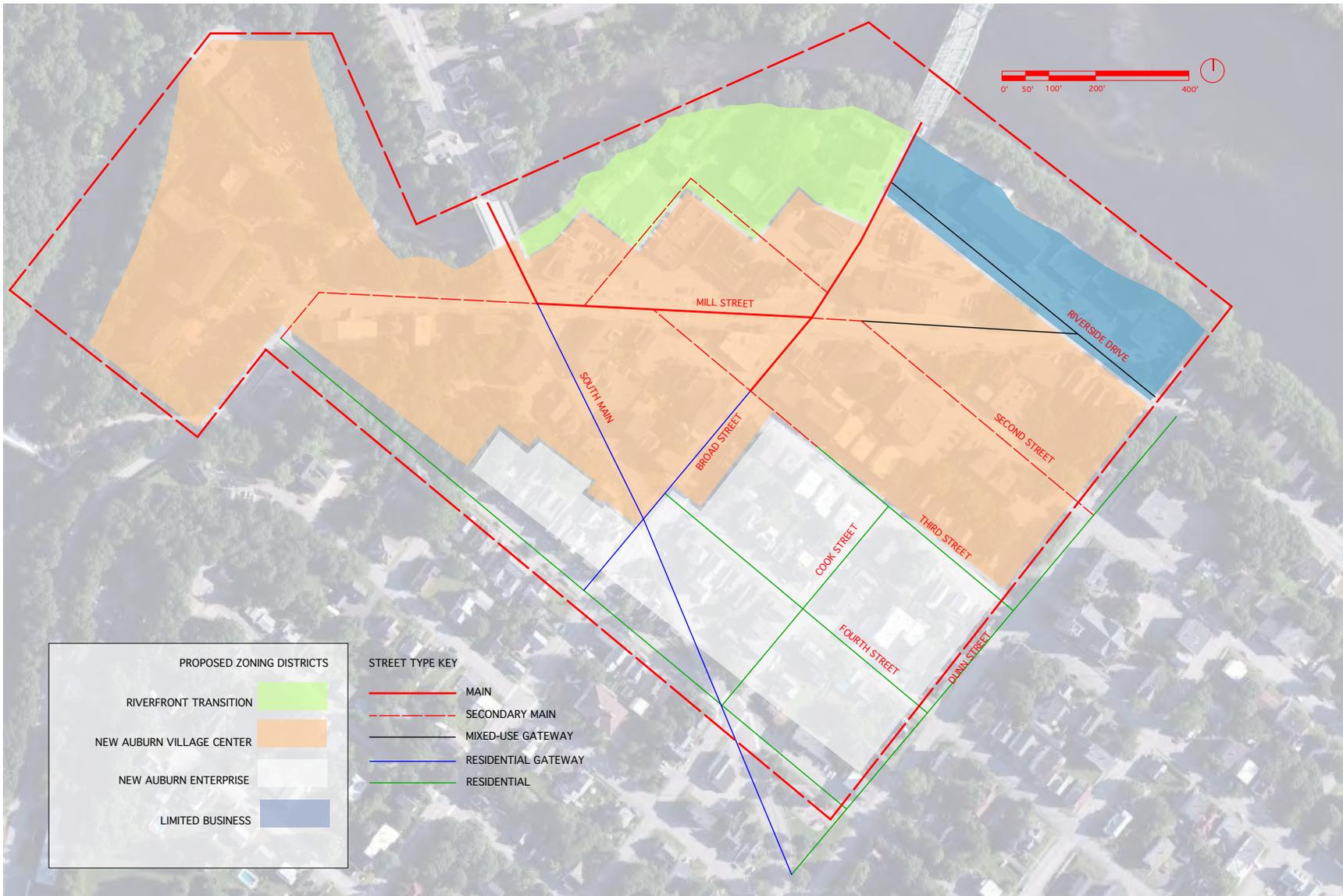
In this portion of the Study, streets are identified in terms of their current role in relations to the land use and urban form of New Auburn Village Center. Because the streets are already part of a platted network – a network which has evolved over time to handle increasing traffic volumes more than support economic growth in New Auburn Village Center – the intention is to understand how all the streets can have the character of local streets, but have varying functional aspects based on the desired capacity for traffic volumes. An ideal downtown has fewer street classifications. There is no

empirical evidence provided for this except for the experience of visiting vibrant places. Vibrant places have diversity, but not extremes. A place tends to be more coherent when there are less formal differences between the design of streets. There should be variation, but more a variation on a theme rather than distinct divisions. The goal is to create connections, not divide or bypass the community as was often prior to current thinking on integrating mobility and land use. In the most traditional sense, a place may have a Main Street and then side streets. This simplicity is not always easy or possible to maintain with the regionalization of growth, but it is something to consider if it is the goal of the community.

The design of streets is a major factor in how a community envisions the future of a place. Great streets are also great places. The streets must function, but the level of service should be tempered by the values of the community, not just the desire to efficiently move traffic through New Auburn Village Center.

**Figure 29** is a diagram of the mapped streets created by noting use and using intuition, not traffic counts. These street “types” are combined with the zoning districts as proposed in the 2009 New Auburn Master Plan. Zoning district lines typically distinguish use areas that are located on discrete parcels, follow natural features such as a river, are setback a specific distance from the centerline of a street or are located down the center of streets. Diversity is key to vibrancy, but consistency is important for creating an urban framework that is legible and practical. To achieve the traditional street form or an “outdoor room”, both sides of the street should have the same design standards and allowable uses. This is not to require a monotonous mirror image between the different sides of the street, but provide diversity without extremes. Buildings on either side of a street should be approximately the same height. The streetscape on either side of the street should unify the space, however some diversity in street trees, signage and other components do not distract from the whole.

After combining the intuitive street mapping with the proposed zoning from the 2009 New Auburn Master Plan in **Figure 29**, only Third Street was the clear divide between two zones: the New Auburn Village Center and New Auburn Enterprise Districts. Overtime, the character of Third Street will be more legible and uniform if both sides are in the same zone. Consideration should be given to moving the zone line to rear of lots facing the southern side of Third.



**Figure 29: Proposed Zoning from the 2009 New Auburn Master Plan combined with Intuitive Street Mapping**

**Summary: Streets are places. Vibrant places are diverse, but do not have extremes. Urban renewal introduced extremes to many cities. Years later many communities are trying repair the damage by such aggressive transportation choices that were not sensitive to context or community values. Both sides of a street should be in the same zone and have similar standards to create a consistent urban form, emphasizing the street as a “place.”**

## 6.6 Open Space and Natural Features

As previously discussed, the natural features of the area played a central role in shaping the economy, culture and urban form of New Auburn Village Center. The Little Androscoggin and Androscoggin Rivers defined the edges of the community. It has also been noted that the grid of streets in conjunction with the change in topography creates dramatically framed views of Auburn and Lewiston. The riverfronts and the connectivity of the street grid will continue to play important roles in the future character and economy New Auburn, but with variations on past spatial relationships in order to meet the needs of today.

As discussed below, a typical block length of the grid is 400' by 200'. It is no coincidence that the long side of a block is in general parallel with the slope of the topography. This allows for an efficient layout of streets maximizing the number of units fronting each street while the depth of each block is typically two lots deep – allowing for a traditional formal arrangement of buildings fronting the street in a public manner and the two private backyards addressing each other. The streets are relatively flat and the backyards absorb the change in grade. This formal relationship is made evident where South Main cuts through the middle of a block from Broad to Cook, exposing the back of the homes fronting Fifth and Fourth Streets. In this instance, the traditional urban form of the area was disrupted to benefit the vehicular traffic.

The topography in the area levels off at Riverside Drive and Mill Street. These are in effect the toe of the slope and probably the extent of the 500-year flood plain. Urban landscapes are often highly manipulated through cut and fill, but as with the orientation of the grid, it is probably not a coincidence that Mill Street follows the bottom of the hillside, cutting an angle across the grid. If the topography extended further to Broad Street in this area, Mill Street would probably not have the alignment it does today: a direct connection between Riverside and the Main Street Bridge / Barker Mill complex.

In addition to the importance of making the streets safe and an inviting as “open space,” the City is pursuing a larger initiative of connectivity and open space planning to help revitalize New Auburn Village Center by providing new opportunities for recreation and public access to the river (as well as implementing the Complete Streets Policy.) As with many riverfronts, New Auburn Village Center has turned its back to the Little Androscoggin and Androscoggin. The riverfronts were not considered as an asset in the way that natural resources are now valued as important components in economic development plans. The City is not planning a waterfront park just for the sake of access, but creating a place that is unique to New Auburn Village Center. The expanded Riverwalk will link the riverfront to a greater system of trails and open spaces as well as create opportunities for redevelopment in the area to address both the river and the formal street grid.

The proposed Riverfront Transition District as called for in the 2009 New Auburn Master Plan will enable a focal point in the heart of New Auburn Village Center that integrates urban and ecological systems. One will be able to move upstream along the Little Androscoggin to the open space on the Barker Mill peninsula, to the Barker Mill Trail, then along

Mill Street to Sherwood Heights, across to the Huston Farm / Oak Point / Walton School open space and finally back along the Androscoggin River to the Little Androscoggin River. This loop system will complement the more urban streetscapes that currently provide almost complete connectivity throughout New Auburn.

**Summary: The development of New Auburn Center, both formally and economically, is directly related to natural features such as the rivers and the topography. While the orientation of the street grid still works with the topography as an efficient way to create development blocks and frame views, the identification of the Little Androscoggin River as an asset to showcase will help inform how the core of the future downtown grows and becomes a magnet for 21<sup>st</sup> Century economic development.**

## 6.7 Parking

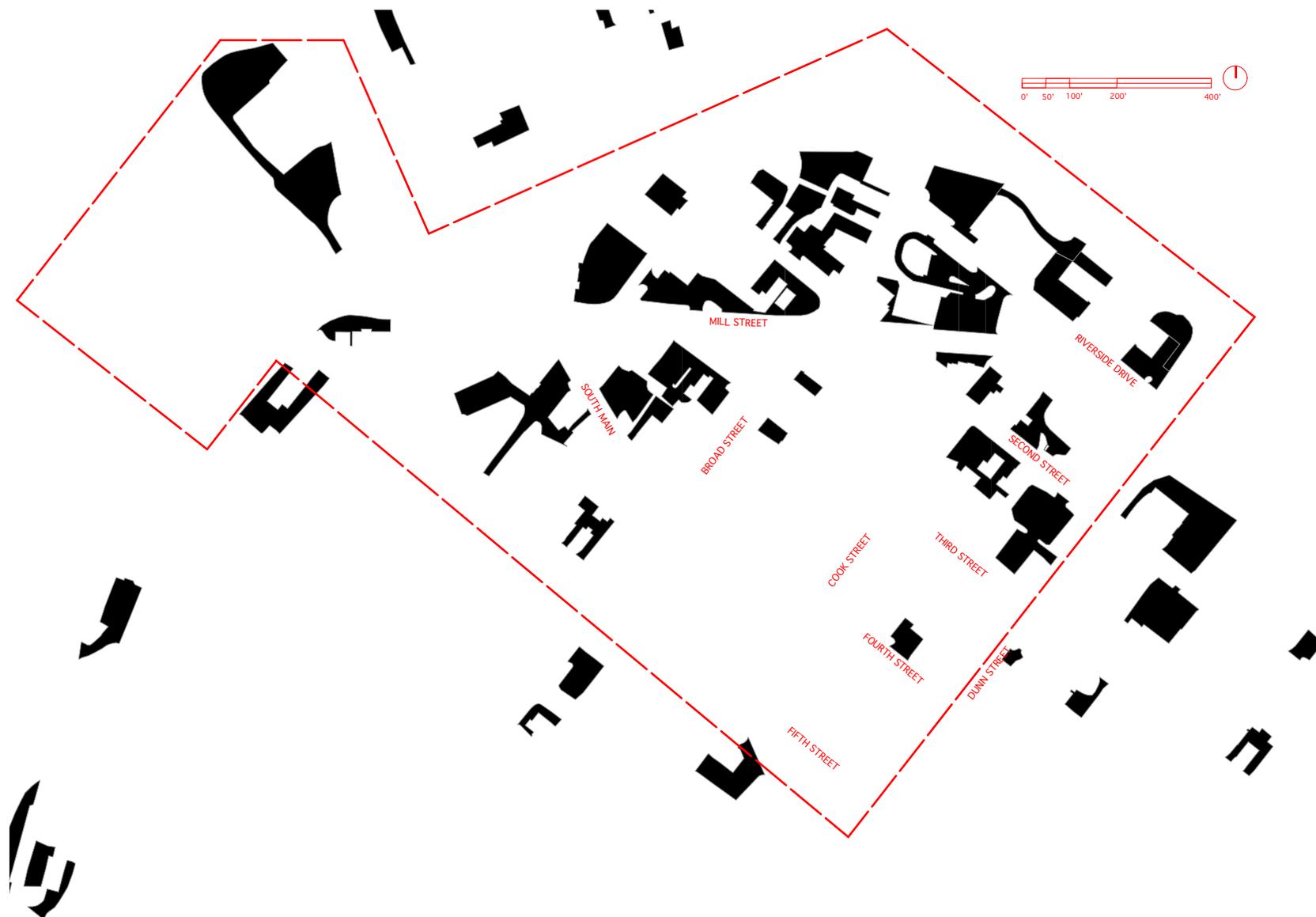
There are approximately 90 on-street and 256 off-street existing parking spaces in the 18-acre focus study area. **Figure 30** is a parking figure / ground analysis diagram showing the distribution of off-street parking in the full study area. This graphic illustrates that parking currently works to divide the area, rather than unify an urban form. For example, the north side of Mill Street is almost completely defined by expanses of parking rather than the more traditional building wall. The extent of the parking and drive-thru facilities at the Dunkin' Donuts on the corner of Riverside and Broad is evident in the graphic. This is a highly visibly intersection lacking definition. Current ordinances, in general, require that each development provide for parking on-site rather than promoting centralized shared parking lots. Currently, many surface parking lots are located at intersection corners or are placed along streets, promoting a more suburban and than urban built environment – which can generally be inferred as a place that favors that car over the pedestrian.

Strategically placed parking is critical for supporting businesses, however it should not detract from urban form. Off-street parking, access and internal circulation are often placed between buildings and the street, creating a suburban or strip mall arrangement in an urban setting. It is a goal of the Study to best integrate parking where it does not become a visually and functionally dominant “land use.” Just as consistent building walls help to define a street, consolidate parking located behind buildings or within blocks promotes a shared approach economic development, while contributing to a more traditional urban downtown built environment. This is evident in the 2014 Master Plan, where many of the existing smaller lots are consolidated into three primary shared lots.

As redevelopment occurs, the demand for parking increases. As part of an economic development plan it is critical to understand how ideal build-out scenarios will impact parking supply and demand. For example, if a key corner parcel is redeveloped with a three-story building, both the new parking demand and the displaced parking have to be considered in a holistic manner.

Parking is part of the math of a successful place, an integral aspect of the future of New Auburn Village Center, but the community will have to decide where it is best located, the role it plays in the daily function, best management strategies and required enforcement if currently lacking.

**Summary: Parking is essential to the success of a downtown, but it has to be strategically located and managed in order to create a place that feels like a city rather than a suburb and enables revitalization through cost sharing such as reducing the required number of parking spaces, developing a shared parking ordinance, maximizing on-street parking and if needed creating a shared public parking facility – either surface or structured.**



**Figure 30: Off-Street Parking Figure Ground Analysis (in the 2014 Master Plan the Dispersed Lots are Consolidated for Efficiency)**

## 6.8 Connectivity

The most desirable compact villages and urban centers have a high degree of connectivity, including streets, sidewalks, bike lanes and pathways. Communities with a high degree of connectivity can more efficiently deliver services, reduce emergency response times and offer a greater diversity of experiences because every block is different than the next and every intersection has a unique identity. A high degree of connectivity also improves walkability, increasing foot traffic, which is essential for vibrancy and the sustainability of small businesses. There are numerous ways to calculate the quality of connectivity and walkability of a community. The following three are the most common.

### Pedestrian Shed

Healthy, vibrant places are walkable. People should be able to walk to work, school, church, open space, stores and transit. A pedestrian shed is defined as a five minute walk or approximately 1,320'. As shown on **Figure 31**, starting at the intersection of Mill and Broad Streets all of New Auburn Village Center (as well as parts of Auburn and Lewiston) is within a five minute pedestrian shed (eight to ten minutes if you are heading uphill.)

### Block Lengths

Long blocks are monotonous and do not provide opportunities for taking alternative routes between points A and B. In urban locations it is recommended that block lengths consistently range between 300' to 600'. Portland, OR has a maximum block length of 530'. As shown on **Figure 32**, New Auburn Village Center is comprised of a grid with blocks measuring approximately 200' by 400'. This is an ideal length for connectivity as well as supporting the desired density.

### Intersection Density

Intersection density is measured by dividing the number of intersections by the unit of an area, e.g. square mile. The United States Green Building Council (USGB) recommends 140 intersections per square mile to ensure a certain degree of connectivity. The New Auburn Village Center Study area is approximately 38 acres, which using the USGB benchmark results in a desired number of eight intersections. The study area has 23 well-defined intersections as shown on **Figure 33**. This calculation does not take into account informal paths, alleys or parcel-to-parcel connections.

**Summary: New Auburn Village Center has a high degree of connectivity in terms of pedestrian shed, block lengths and intersection density. Connectivity for all modes of travel is at the heart of a safe and vibrant downtown. The recommended sidewalk and intersections improvements will only increase the walkability and connectivity of the area for all modes of travel. The 2014 Master Plan will maintain and improve upon the connectivity of the area.**



**Figure 31: Pedestrian Shed**



**Figure 32: Block Lengths**



**Figure 33: Intersection Density**

## 6.9 Flood Plain

Approximately 5.5 acres of the 18-acre focus area are in the 100-year flood plain as shown on **Figure 34**. Elevation 135' is the base elevation for the flood plain. New buildings require a first floor elevation at a minimum of 136' – one foot above the base elevation. The new roads and buildings in the 2014 Master Plan have been planned to be above the flood plain, which reduces insurance costs and eases permitting. Note that **Figures 34 - 42** look at a more focused downtown area rather than the full study area.



**Figure 34: 18-Acre Focus Study Area with 100-Year Flood Plain**

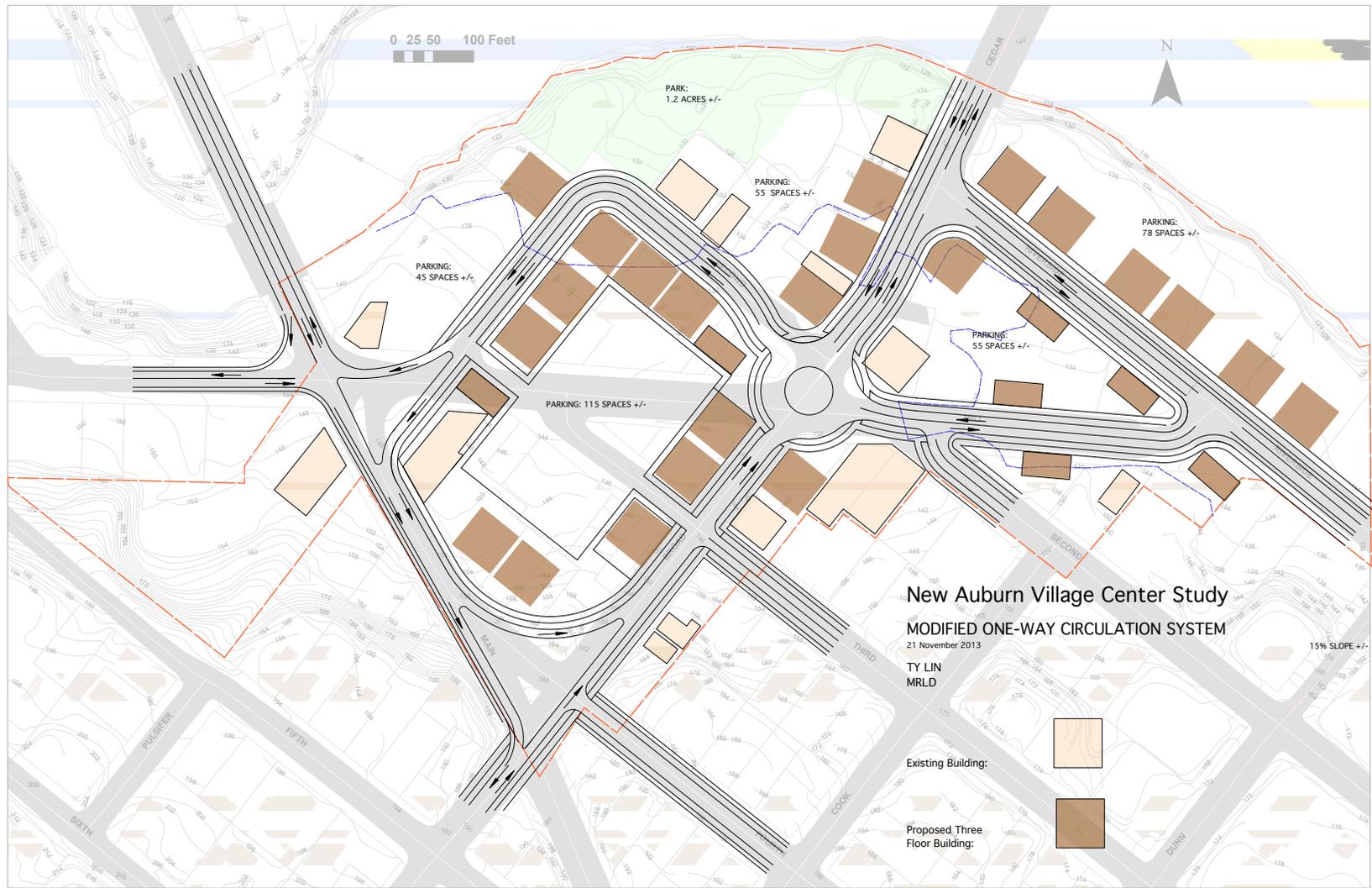
## 7.0 Concept Plans

The 2014 Master Plan – focusing on the 18-acre downtown area – evolved from a series of concept plans exploring different street networks, one-way and two-way traffic flows, building placements, development opportunities and constraints, parking, the relationship between the community and the two rivers and other factors. The concept plans focus on the 18-acre “downtown” area of New Auburn, roughly defined by South Main, Broad, Mill to Riverside, and then the Androscoggin and Little Androscoggin river frontage back to South Main. The concept plans were also directly informed by input from the public as well as the Steering Committee. All of the concept plans were vetted by the Steering Committee, leading to the preferred combination of components resulting in the 2014 Master Plan. A variety of comparison metrics – as shown in **Table 7.1** – in addition to the Value and Purpose Statement guided the evaluation process. As previously noted the five concept plans were carefully evaluated for a range of factors, leading to concept 6, The Riverway as shown on **Figure 40**.

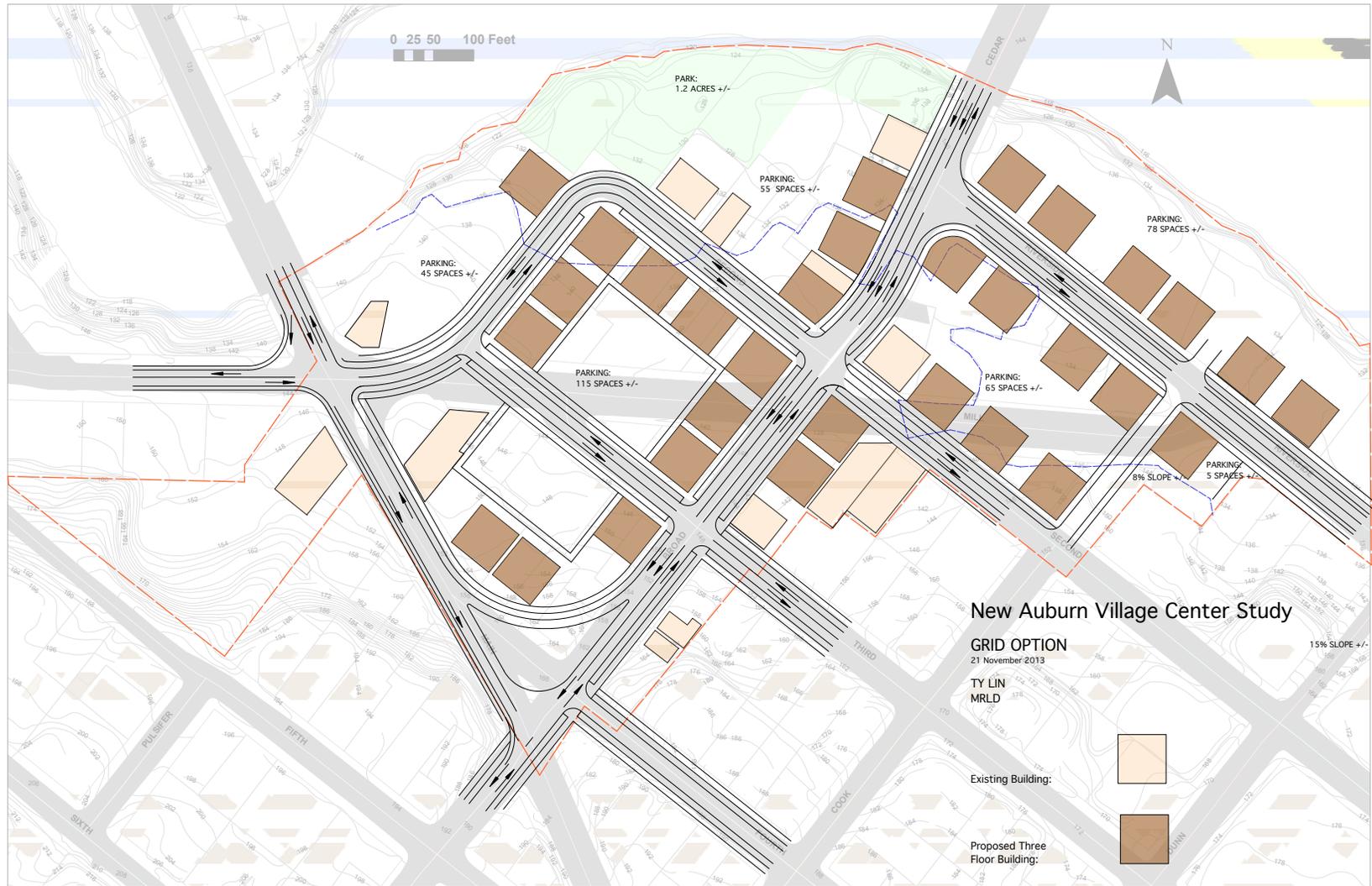
In **Table 7.2**, The One Way Loop, The Grid and the Riverway were compared with a different set of metrics, relating more to urban design and transportation. Each scheme received either a “+” or a “-” as a simple way of noting if the concept was in general positive or negative regarding this particular metric.

<b>Table 7.1 Concept Matrix</b>							
	<b>Existing Conditions</b>	<b>One-Way Loop</b>	<b>Grid</b>	<b>Option 1 Variation</b>	<b>Option 1</b>	<b>Option 2</b>	<b>Riverway</b>
<b>Metrics</b>							
Study Area	18 Acres +/-	18 Acres +/-	18 Acres +/-	18 Acres +/-	15 Acres +/-	15 Acres +/-	18 Acres +/-
Existing Residential Units	101 Units +/-	65 Units +/-	59 Units +/-	55 Units +/-	49 +/-	55 Units +/-	57 Units +/-
Proposed Residential Units	0	150 Units +/-	186 Units +/-	191 Units +/-	82 +/-	54 Units +/-	192 Units +/-
<b>Total Residential</b>	<b>101 +/-</b>	<b>215 Units +/-</b>	<b>245 Units +/-</b>	<b>246 Units +/-</b>	<b>131 +/-</b>	<b>109 Units +/-</b>	<b>249 Units +/-</b>
Existing Commercial	85,048 SF +/-	15,579 SF +/-	15, 579 SF +/-	15,579 SF +/-	15,867 SF +/-	24,953 SF +/-	17,149 SF +/-
Proposed Commercial		90,000 SF +/-	111,600 SF +/-	118,800 SF +/-	76,065 SF +/-	63,225 SF +/-	115,200 SF +/-
<b>Total Commercial</b>	<b>85,048 SF +/-</b>	<b>105,579 SF +/-</b>	<b>127, 179 SF +/-</b>	<b>134,379 SF +/-</b>	<b>91,932 SF +/-</b>	<b>88,178 SF +/-</b>	<b>132,349 SF +/-</b>
100-Year Flood Plain	5.5 Acres +/-	5.5 Acres +/-	5.5 Acres +/-	5.5 Acres +/-	5.5 Acres +/-	5.5 Acres +/-	1.5 Acres +/-
ROW	5 Acres +/-	5 Acres +/-	4.40 Acres +/-	4.5 Acres +/-	4 Acres +/-	4.40 Acres +/-	4.50 Acres +/-
Riverfront Park	1.2 Acres +/-	1.2 Acres +/-	1.2 Acres +/-	1.5 Acres +/-	1.55 Acres +/-	1.4 Acres +/-	1.7 Acres +/-
<b>Net Residential Density</b>	<b>9 Units Per Acre +/-</b>	<b>18.22 Units Per Acre +/-</b>	<b>19.97 Units Per Acre +/-</b>	<b>20.50 Units Per Acre +/-</b>	<b>14 Units Per Acre +/-</b>	<b>12 Units Per Acre +/-</b>	<b>21 Units Per Acre +/-</b>
On-Street Parking	90 +/-	146 +/-	160 +/-	181 +/-	123 +/-	125 +/-	170 +/-
Off-Street Public Parking	14 +/-	0	0	0	14 +/-	14 +/-	0
Off-Street Private Parking	256 +/-	348 +/-	398 +/-	412 +/-	299 +/-	241 +/-	291 +/-
<i>Sub Total Existing Parking</i>	<i>360 +/-</i>	<i>494 +/-</i>	<i>558 +/-</i>	<i>593 +/-</i>	<i>436 +/-</i>	<i>380 +/-</i>	<i>461 +/-</i>
Total Required Parking by Uses	425 +/-	674 +/-	791 +/-	816 +/-	502 +/-	458 +/-	814 +/-
Total Required w/ 1/3 Shared Efficiency	280 +/-	452 +/-	530 +/-	547 +/-	337 +/-	307 +/-	546 +/-

<b>Table 7.2 Concept Matrix</b>			
	<b>One-Way</b>	<b>Grid</b>	<b>Riverway</b>
<u>Metrics</u>			
Total Residential	246 Units +/-	243 Units +/-	249 Units +/-
Total Commercial	119,579 SF +/-	127, 179 SF +/-	132,349 SF +/-
Riverfront Park	1.4 Acres +/-	1.4 Acres +/-	1.7 Acres +/-
Development Block Potential	+	+	-
Implementation Phasing	-	-	+
<i>Bridge Location Compatibility</i>	+	-	-
Street Hierarchy	-	+	+
Accessibility/Connectivity	-	+	+
Intersection Geometric Design Constraints	+	-	+
Vehicle Speeds	-	+	+
Traffic Capacity	+	-	+
Reusing Existing Infrastructure	-	-	+
Relationship to Rivers	-	+	+
Multi-Modal Functionality	-	+	+
Discourages Cut-Through	-	+	-
Parking Garage Feasibility	+	-	-



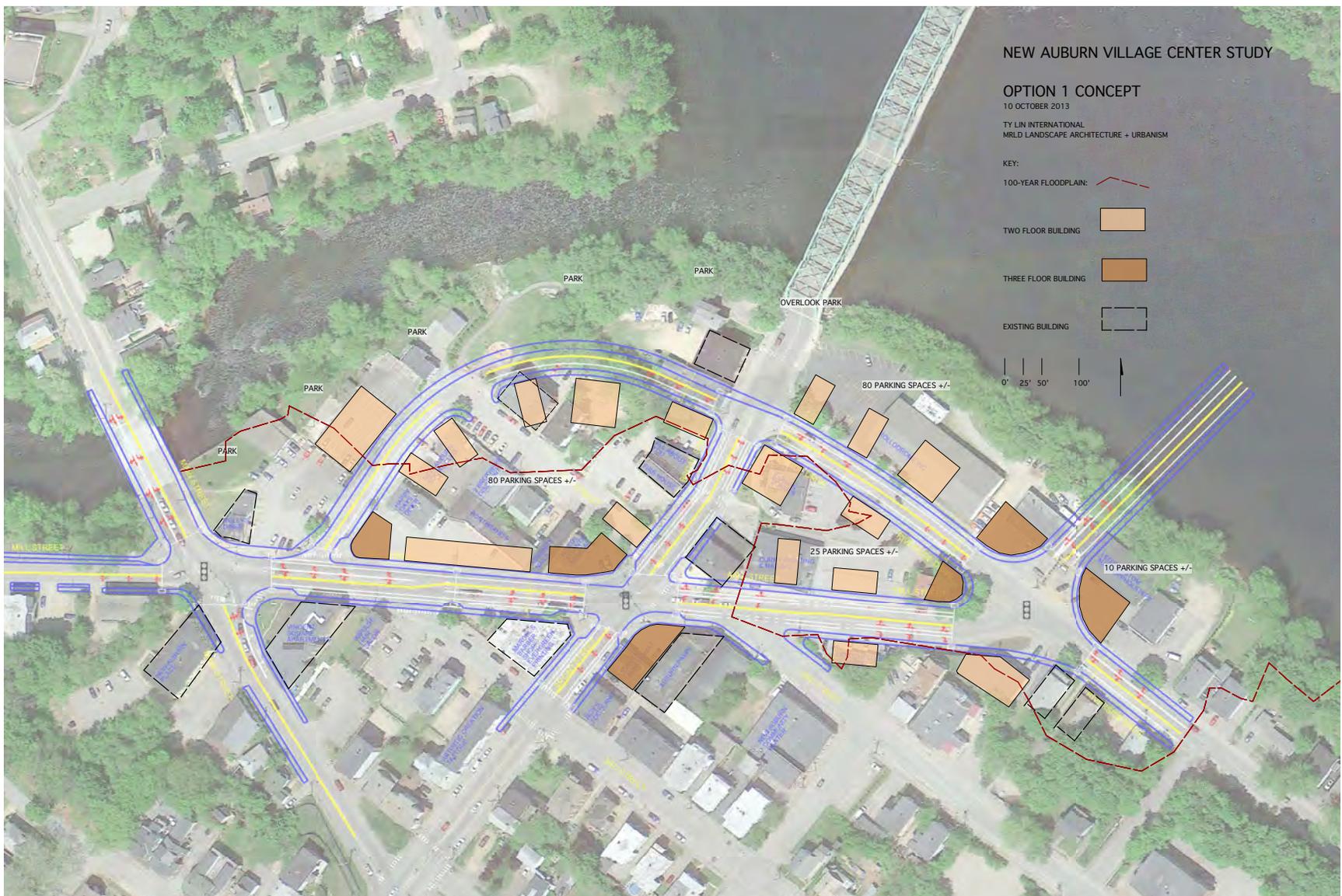
**Figure 35: One Way Loop Concept**



**Figure 36: Grid Concept**



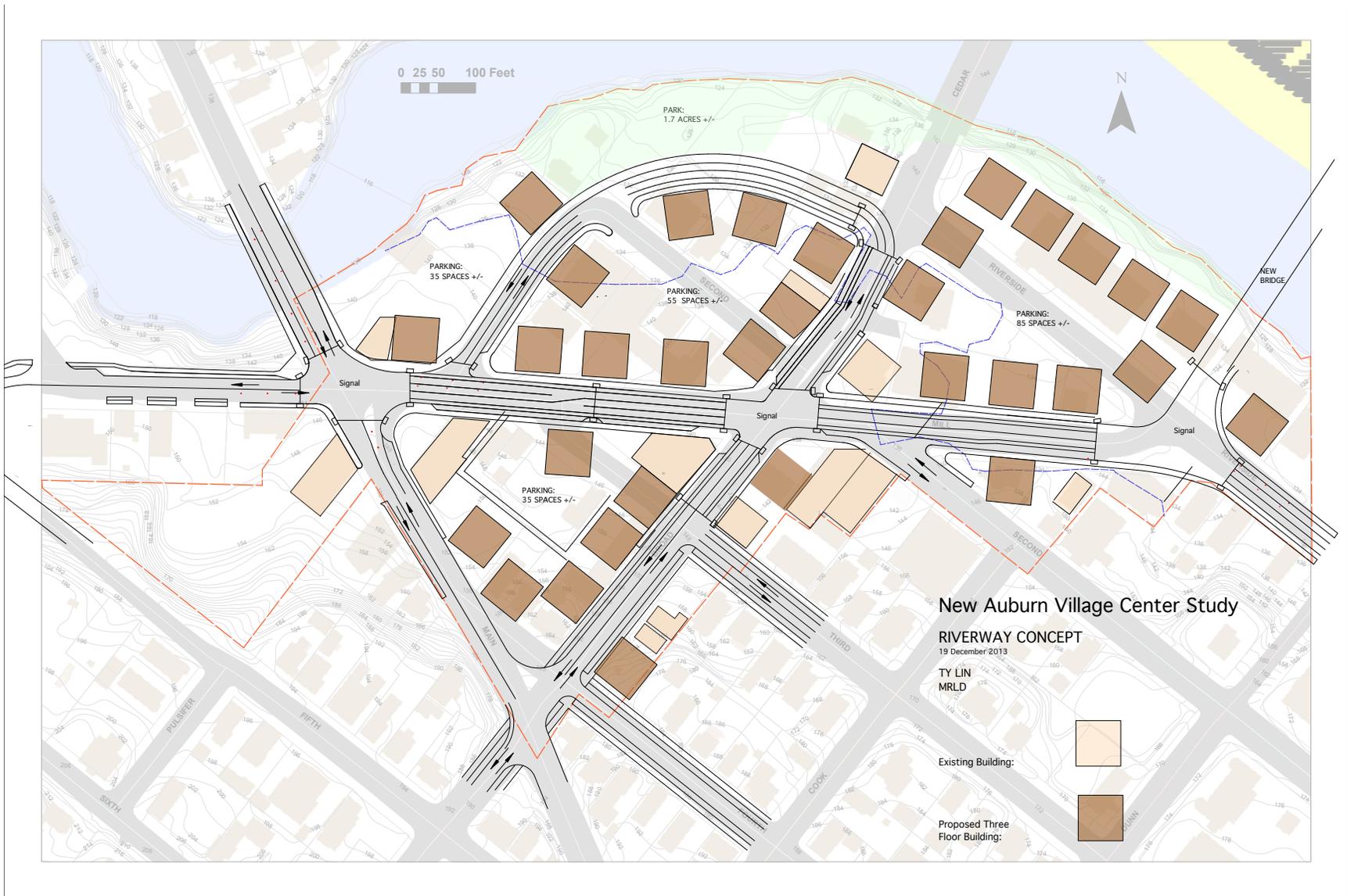
**Figure 37: Option 1 Concept Variation**



**Figure 38: Option 1 Concept**



**Figure 39: Option 2 Concept**



**Figure 40: The Riverway Concept**

## 8. 2014 New Auburn Village Center Master Plan



Figure 41: 2014 New Auburn Village Center Master Plan



**Figure 42: 2014 New Auburn Village Center Master Plan (showing 300 Car Structured Parking at Androscoggin Block)**

## 8.1 Overview of the 2014 Master Plan

The 2014 Master Plan focus area is approximately 18 acres. The 2014 Master Plan maximizes the potential of the area, creating a blue print for an urban neighborhood that is highly livable and can be phased in over a number of years through strategic transportation, infrastructure and open space improvements in order to leverage private sector investment. The 2014 Master Plan looks to the success that other communities have had with embracing riverfronts as well as how the design of streets and parking facilities is often critical in the function of public / private revitalization initiatives. In summary, the 2014 Master Plan balances the need to design a place of a specific character with the realities of traffic planning – however the emphasis is not on designing a downtown that is a conduit for vehicles, but more a place for people. Key aspects of the 2014 Master Plan include:

- Accepting a lower level of service for intersection functions – focusing on local placemaking and the pedestrian environment versus accommodating pass through traffic at the expense of the character and economy of New Auburn Village Center;
- Relocating the Lown Peace bridge to the Mill Street / Riverside Drive intersection. This routes traffic to Mill Street – creating a “Main Street” – and allows for the new “Riverway” and “Androscoggin” blocks to evolve as quiet, dense neighborhoods that take advantage of views and access to the Little Androscoggin and Androscoggin Rivers;
- Closing Riverside Drive between Mill and Broad to create an internal shared parking allowing for perimeter development;
- Closing Second Street between Broad and Mill (and creating the Riverway) to create an internal shared parking allowing for perimeter development;
- Closing Third between Broad and Mill creating infill development opportunities as well as internal shared parking;
- Maximizing on-street parking and minimizing curb cuts;
- Constructing an esplanade along the Riverway overlooking the Little Andy Park. This esplanade and steps will be on fill that will create a defined edge to the flood plain, creating new redevelopment opportunities above the 100-year flood plain elevation;
- Continuing the Little Andy Park to a “Broad Street Plaza” – a new civic space and overlook at the location of the existing bridge;
- Locating a Riverwalk between the Androscoggin Block buildings and the Androscoggin River to allow for public access as well as economic development opportunities;

- Placing buildings close to the sidewalk and street in a traditional manner;
- Creating vibrant and safe streetscapes with wide sidewalks, street trees, pedestrian-scaled lighting, bike racks and other amenities;
- Designing all streets to comply with Auburn’s Complete Street policy, and;
- Raising new development blocks above the 100-year flood plain to streamline permitting and reduce construction and insurance costs

The summary **Table 8.1** in Section 8.2 for the purposes of development, density and parking calculations assumes that each new building has three floors with three residential units on the second and third floors. Although the downtown area is surrounded by residential neighborhoods and there are strong traffic counts – it was a working assumption of this Study that increasing residential density will make New Auburn Village Center more attractive as a place to start a business, visit or live.

Calculating density is not always easy (units versus people, what land to include in the calculation, the perception of the demographic, etc.), however utilizing the concept of the Transect, New Urbanists have developed the following rule of thumb for defining residential density and in turn neighborhood character:

Urban Core:	25 to 100 Units Per Acre
Center:	<u>15 to 40 Units Per Acre (most closely aligned with the 2009 New Auburn Master Plan vision)</u>
General Urban:	6 to 20 Units Per Acre
Suburban:	2 TO 8 Units Per Acre

*Note: Net Residential Density for the purposes of this Study is calculated by subtracting ROW and park area from the total study area and then dividing by the number of units.*

This information is from the Better Cities and Towns website. “Center” is described as:

The Center (T5) is like the core in many ways — buildings typically mix uses, with shops on the first floor and offices and residential units above, and are usually built to the sidewalk — but the character has more of a "main street" feel.

PlaceMakers describes the historical center thus: “The main street neighborhood was as diverse as any, including merchants living over their shops and old folks who didn’t want to have to saddle up to get to all the necessities. You could see lights on in the windows over the square every evening, and could hear mothers calling their kids to

come in and do their homework...Most buildings are attached, with their fronts aligned. Full four-way intersections with rectilinear trajectories (i.e., streets at right angles to each other) are common. Buildings top out at two to four stories. Setbacks are short and sidewalks are wide. Open space often takes the form of squares. Transit is often available. Housing consists of apartments above retail, stand-alone apartment buildings, townhouses, and live/work units (townhouses designed so that one or more floors can accommodate business activities). Unlike the core, the density allows for surface parking in the center of blocks. Thoroughfares generally consist of main streets and boulevards. Net residential densities generally range from 15 to 40 units/acre.

*Source: <http://bettercities.net/article/transect>*

The “Center” definition is close to the definition in the 2009 New Auburn Master Plan for the proposed New Auburn Village Zone.

## 8.2 Development Matrix

<b>Table 8.1 Riverway Matrix</b>		
	<b>Existing Conditions</b>	<b>Riverway</b>
<b><u>Metrics</u></b>		
Study Area	18 Acres +/-	18 Acres +/-
Existing Residential Units	101 Units +/-	57 Units +/-
Proposed Residential Units	0	192 Units +/-
<b>Total Residential</b>	<b>101 +/-</b>	<b>249 Units +/-</b>
Existing Commercial	85,048 SF +/-	17,149 SF +/-
Proposed Commercial		115,200 SF +/-
<b>Total Commercial</b>	<b>85,048 SF +/-</b>	<b>132,349 SF +/-</b>
100-Year Flood Plain	9 Acres +/-	9 Acres +/-
ROW	5 Acres +/-	4.5 Acres +/-
Riverfront Park	1.2 Acres +/-	1.7 Acres +/-
<b>Net Residential Density</b>	<b>9 Units Per Acre +/-</b>	<b>21 Units Per Acre +/-</b>
On-Street Parking	90 +/-	170 +/-
Off-Street Public Parking	14 +/-	0
Off-Street Private Parking	256 +/-	291 +/-
<i>Sub Total Existing Parking</i>	<i>360 +/-</i>	<i>461 +/-</i>
<b>Total Required Parking by Uses</b>	<b>425 +/-</b>	<b>814 +/-</b>
<b>Total Required w/ 1/3 Shared Efficiency</b>	<b>280 +/-</b>	<b>546 +/-</b>

### 8.3 Roadway, Intersections and Pedestrian Improvements

Conceptual Roadway improvement plans were developed that illustrate recommendations within the study area and include travel lanes; bicycle accommodations; sidewalks, crosswalks, traffic control, geometric adjustments and street layout. **Figures 43 through 48** illustrate the improvements. These recommended improvements are intended to reflect a Complete Streets plan from a multi-modal transportation perspective.

#### **Figure 43 – Main Street/Mill Street/South Main Street**

- The intersection remains controlled by a traffic signal.
- One travel lane is eliminated on the northbound South Main Street approach. Otherwise the number of lanes remains unchanged.
- Curb extension will be provided on southeast corner where the lane is being eliminated.
- New crosswalks and pedestrian signals is included
- New sidewalks and streetscape is included
- Bicycle lanes on Mill Street is included
- Close driveway at Rolly's Diner

Following the above changes, the intersection is estimated to operate at Level of Service D overall in the future 2035 condition, with some movements operating with long delays.



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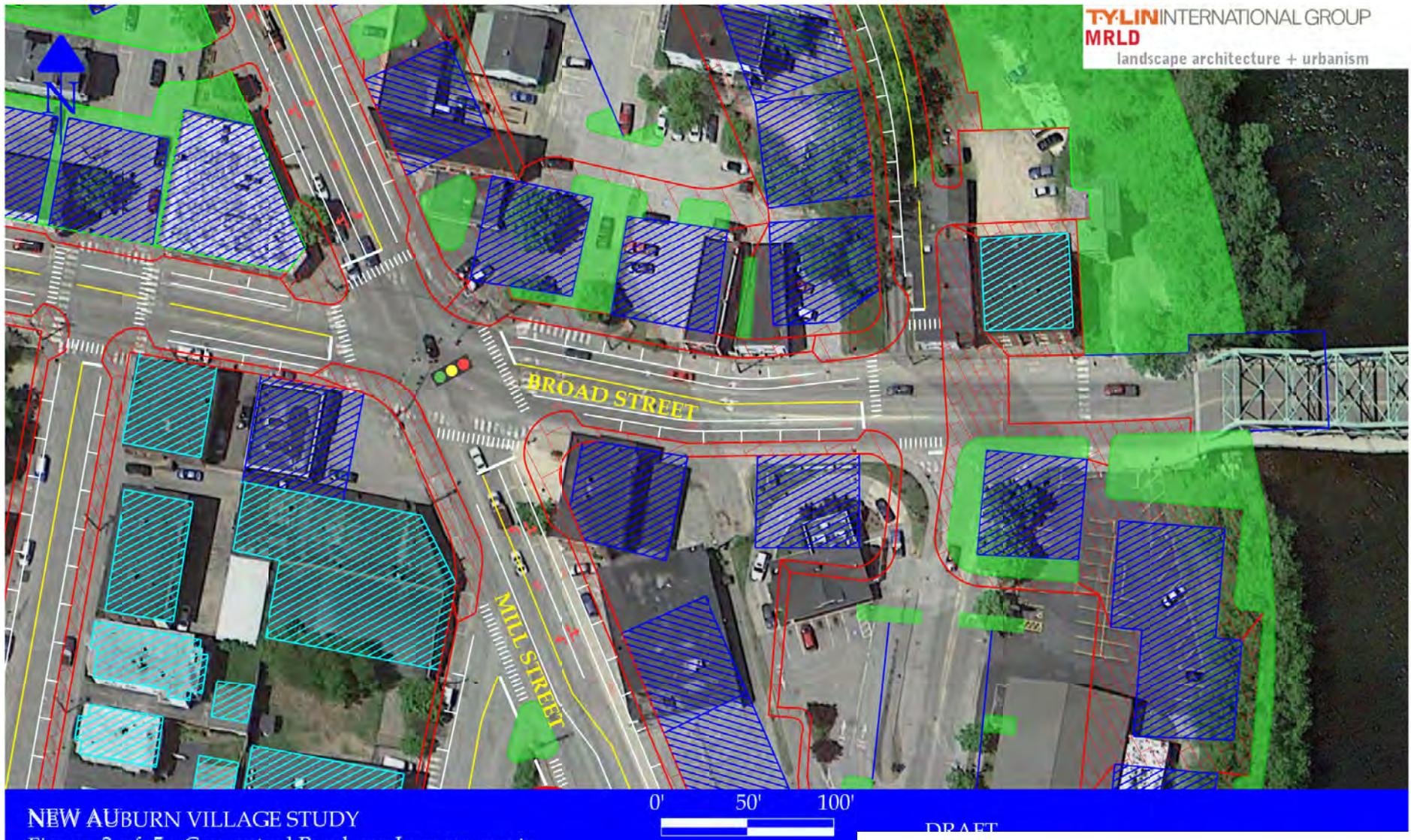
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**Figure 43: ROW Improvements Main Street/Mill Street/South Main Street**

#### **Figure 44 – Broad Street/Riverway**

- The intersection controlled by stop sign
- Single approach lanes on Broad Street and Riverway
- Curb extensions will be provided on all corners.
- New sidewalks and streetscape is included
- Bicycle lanes on Broad Street is included but not on Riverway because of shared path in park and shared nature of roadway

Following the above changes, the intersection is estimated to operate at an acceptable level of service in the future 2035.

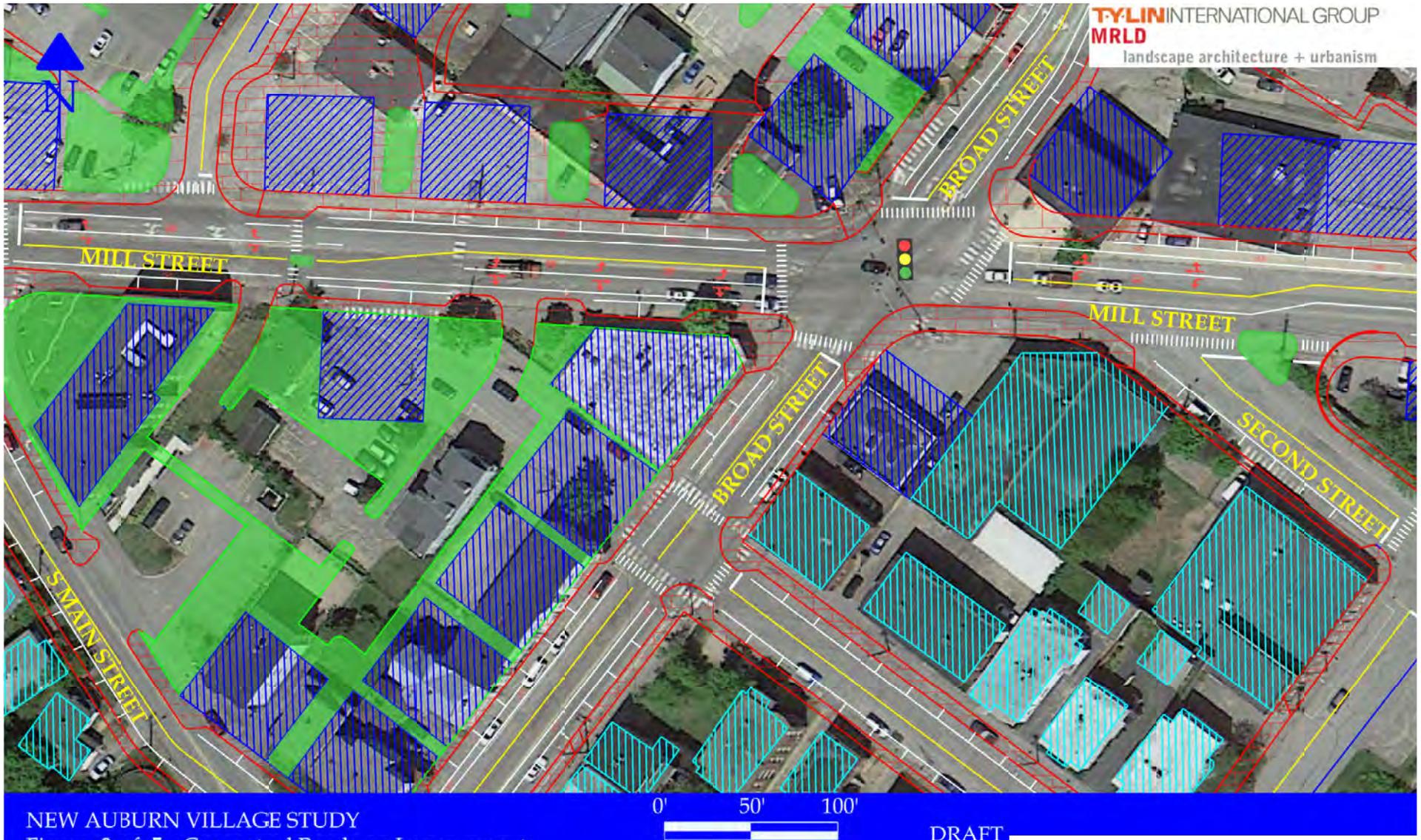


**Figure 44: Broad Street/Riverway**

## **Figure 45 – Mill Street/Broad Street**

- The intersection remains controlled by a traffic signal.
- Single approach lanes on Broad Street.
- Two approach lanes on Mill Street (dedicated left-turn lanes and a shared through/right lane)
- Curb extensions will be provided on all corners.
- New crosswalks and pedestrian signals (crosswalks will be provided on all four approaches) is included
- New sidewalks and streetscape is included
- Bicycle lanes on Mill Street and Broad Street is included

Following the above changes, the intersection is estimated to operate at Level of Service B overall in the future 2035 condition, with some movements operating at Level of Service D.

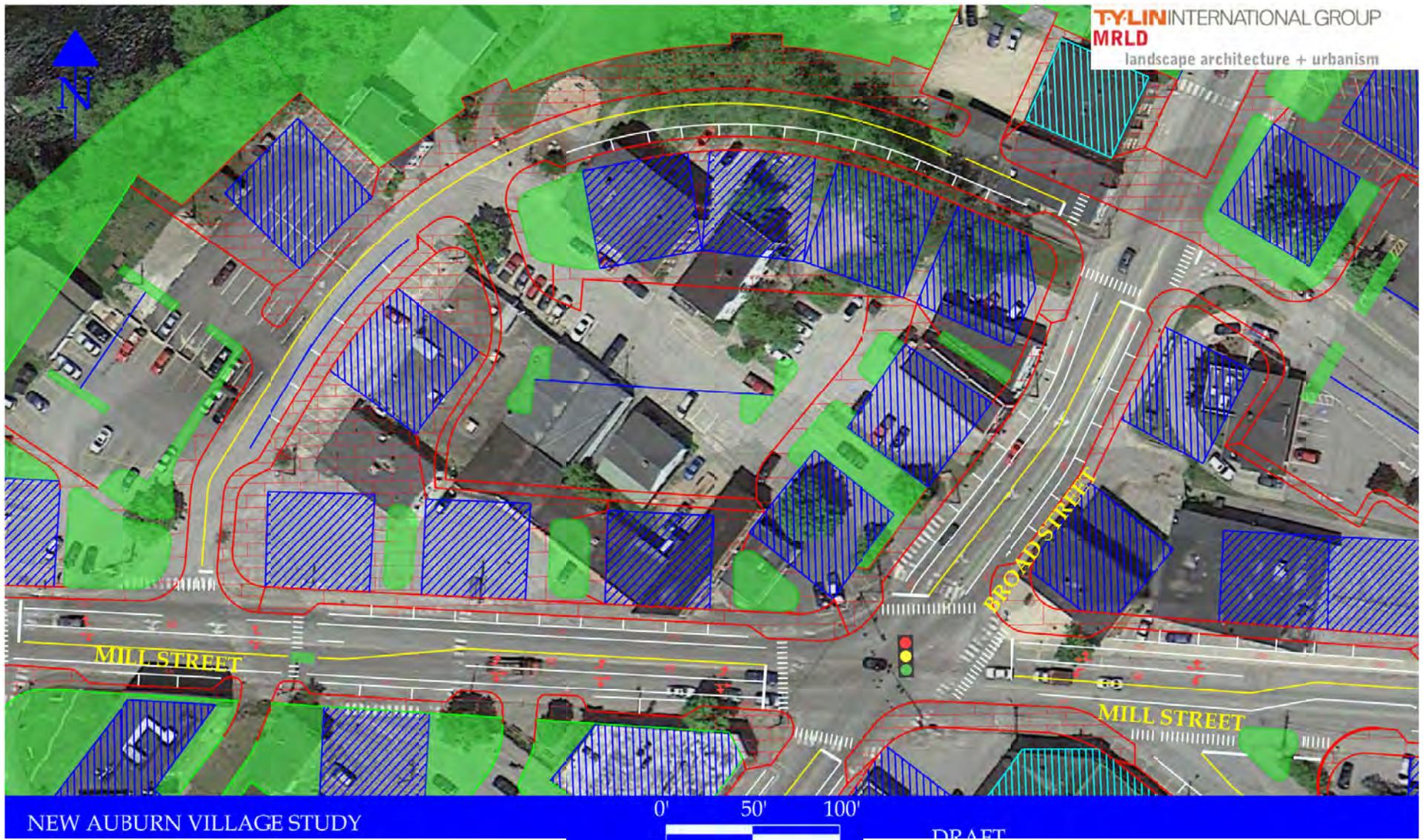


**Figure 45: ROW Improvements Mill Street/Broad Street**

## **Figure 46 – Riverway**

- On-street parking will be provided on development side of street.
- Two 10-foot travel lanes will be provided
- A 8-foot sidewalk on the building side of the street and a 12-foot shared use path / esplanade on the river side will be provided
- Curb Extensions and crosswalks are included at Mill Street, Broad Street, and the new parking lot entrance.
- New sidewalks and streetscape is included
- STOP sign controlled intersection at Broad Street/Riverway/ Parking Driveway intersection is proposed.

The intersection of Mill Street and the Riverway will be STOP sign controlled – there will be a stop sign on the Riverway controlling the movement of traffic to Mill Street – and left-turn movements will be restricted due to the proximity of the of this intersection to the Main Street traffic signal. Both new Riverway intersections are expected to operate at an acceptable level of service.

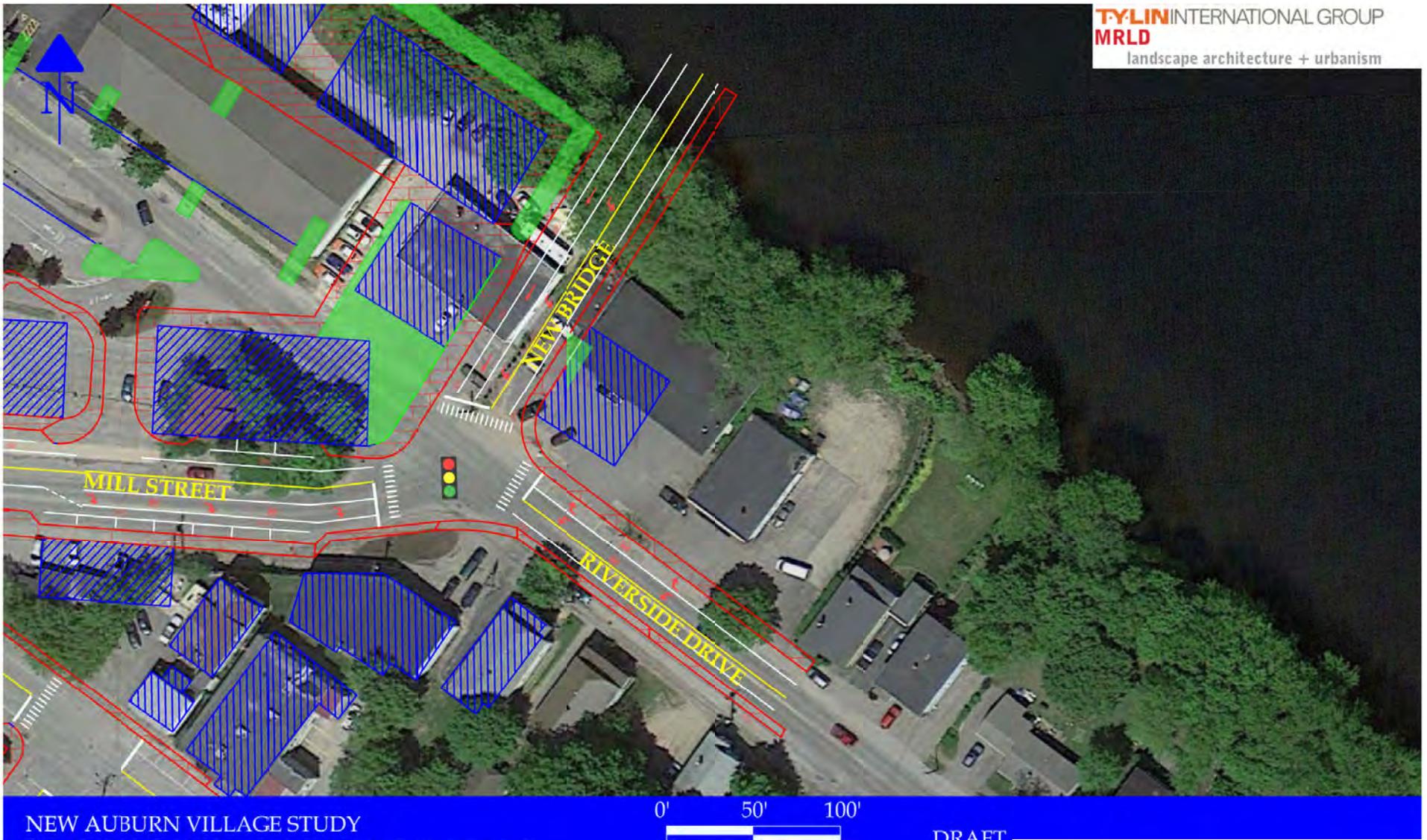


**Figure 46: ROW Improvements Riverway**

## **Figure 47 – Riverside Drive/Mill Street/New Bridge**

- The intersection will be controlled as traffic signal.
- Two lanes will be provided on all approaches as noted as follows:
- The bridge approach will have a left lane and a through lane
- Riverside Drive will have a left lane and a right lane
- Mill Street will have a through lane and a right lane
- Curb extensions will be provided at crosswalk locations
- Crosswalks will be provided on all intersection approaches
- New sidewalks and streetscape is included
- Bicycle lanes will be provided on all roadways (or a shared use lane will be provided on Mill depending on final design)

Following the above changes, the intersection is estimated to operate at Level of Service F overall in the future 2035 condition. It should be noted that this level of service conclusion occurs during short peak commute time periods. A guiding principle in the development of improvements is that expanding roadway capacity so that through vehicles can quickly and efficiently travel through New Auburn should not compromise the integrity of the plan. This poor level of service conclusion reflects this principle.



**Figure 47: ROW Improvements Riverside Drive/Mill Street/New Bridge**

## **Figure 48 – South Main/Broad/Fourth**

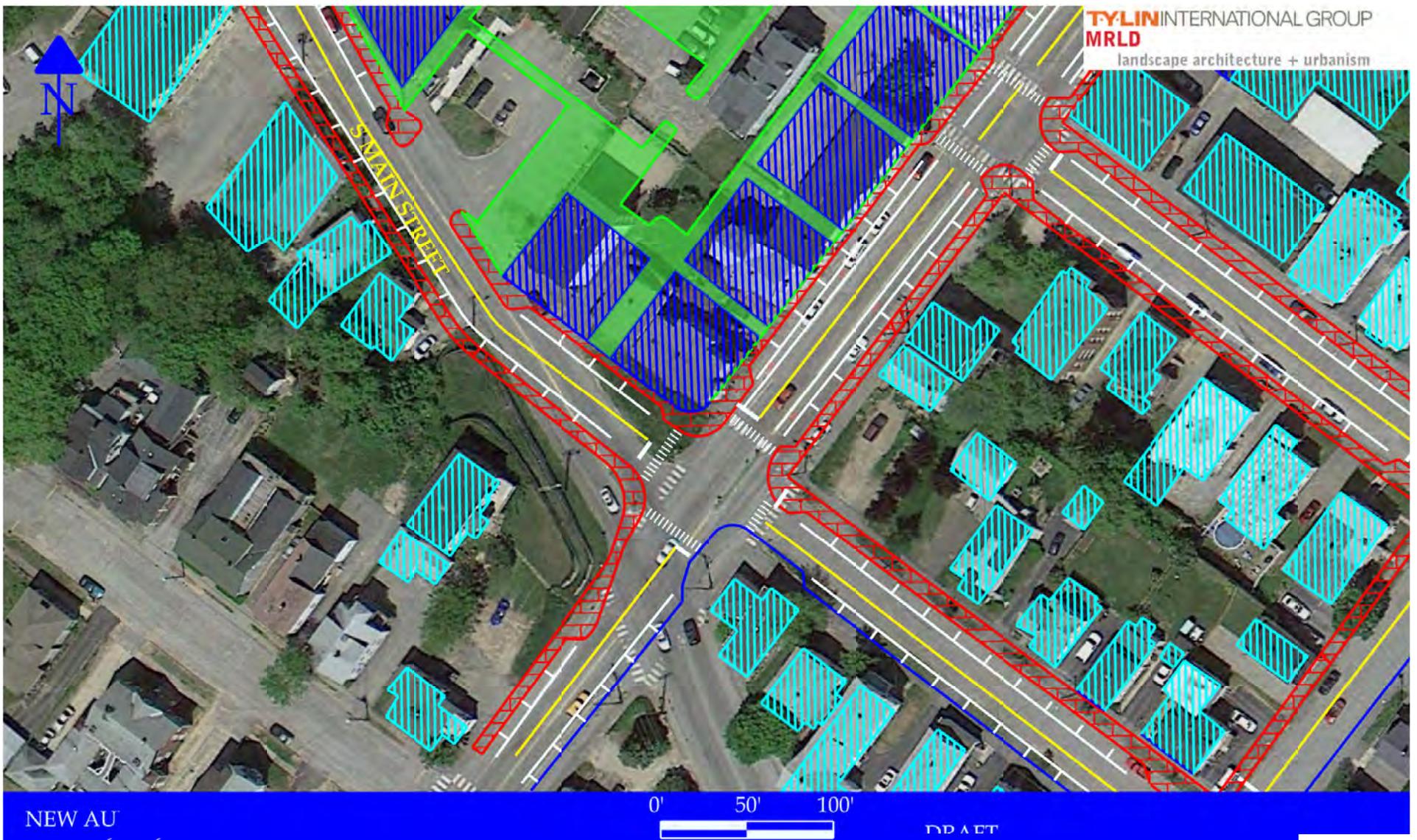
- Realigned intersection to match historic grid (traditional four-way intersection)
- STOP sign controlled intersection at South Main/Broad/Fourth intersection is proposed
- One lane approach from all directions
- Bicycle lanes are provided on Broad Street
- South Main Street south of Broad is closed

Following the above changes, the intersection is estimated to operate at Level of Service comparable to existing conditions. Signalization may be required in the future.

By closing South Main Street south of Broad Street, the intersection is safer. In addition, the intersections at Fifth and Cook and Sixth and Dunn can be restored to the original grid alignment to replicate historic traffic movement patterns, improve safety and reclaim land for infill development or open space.

Further study and public input on the closing of South Main south of Broad is required, as this will change the movement of vehicles through the area.

**It should be noted that closing these intersections in order to restore the historic grid does not impact the level of connectivity in New Auburn.**



**Figure 48: ROW Improvements South Main/Broad/Fourth**

## **New Auburn Village Center Study – 8.15.14**

### **8.4 Urban Design**

A number of aspects of the 2014 Master Plan distinguish it as both illustrative of the goals of the community as well as capitalizing on the inherent qualities of the area. The following drawings are traced over existing conditions photos to demonstrate the transformative concepts that are central to the 2014 Master Plan including the integration of transportation with the built environment, the strategic use of streets to encourage economic development and leveraging the unique assets of the river frontage to create places of value and distinction benefiting the community as well as the individual investor.



**Figure 49: Eastern Gateway / Intersection of Mill/Riverside/Proposed Bridge**

**Eastern Gateway.** A new intersection at Mill and Riverside where the Lown Peace Bridge is relocated is highly functional yet makes a strong statement regarding the built environment whether arriving from the south, east or north.



**Figure 50: Mill Street as the New Main Street**

**Main Street.** Mill Street, which is Route 136, will continue to carry the most through traffic, however, redesigned with buildings set close to the street, a vibrant streetscape, pedestrian amenities and on-street parking will help calm traffic, create a Main Street feel and encourage people to stop and explore New Auburn Village Center.



**Figure 51: Androscoggin Block**

**The Androscoggin Block.** The riverfront and Broad and Mill Streets define this development block. Buildings on Mill and Broad address the street while a series of buildings directly address the Androscoggin River and a riverwalk. This block can either have an interior surface parking lot or structured parking.



**Figure 52: Broad Street Plaza**

**Broad Street Plaza.** By relocating the existing bridge downstream, there is an opportunity to create a pedestrian plaza at the approach to the old bridge – a new visual terminus looking down Broad Street towards Lewiston. The buildings fronting this plaza have parking to the rear. Part of the existing bridge can be transformed into a river overlook.

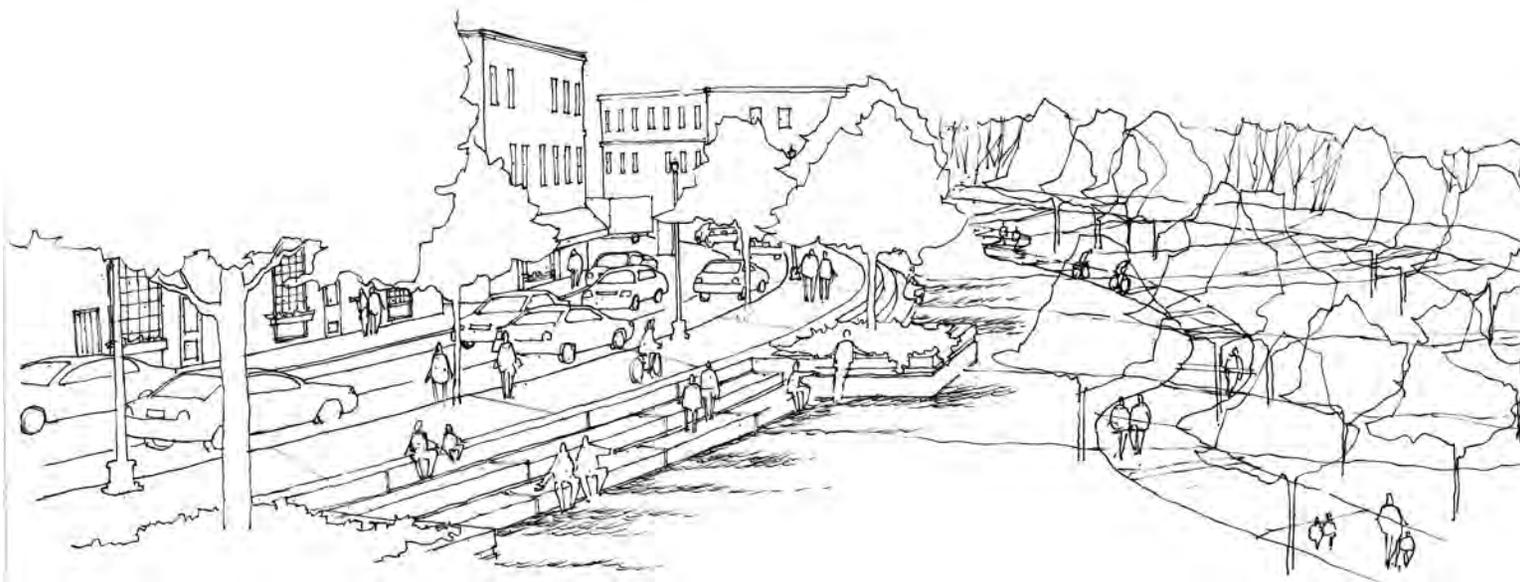


**Figure 53: Broad Street Looking Towards Lewiston and the Proposed Broad Street Plaza. Third Street is closed to the Left**

**Closing Third Street.** In the 2014 Master Plan the short length of Third between Broad and Mill is closed, maximizing parking and creating infill opportunities. In this view, as with other views the Complete Streets policy is evident in accommodating a range of users. Broad Street leads to Broad Street Plaza, the Riverway and the Androscoggin Walk.



**Figure 54: Riverway – Existing Conditions**



**Figure 55: Riverway – Proposed Conditions**

**Riverway.** In contrast to the Androscoggin Block, the Riverway as shown in **Figure 55** above includes a series of buildings that overlook a quiet, pedestrian-friendly street and a park running along the Little Androscoggin to the confluence. This park has a less urban feel than the Riverwalk along the Androscoggin Block and is also an area that can absorb storm events as it is in the flood plain. The Riverway and adjacent buildings are raised out of the flood plain. One can envision closing the Riverway for special events that fill the street and the Little Andy Park.

**Closing of South Main between Cook and possibly to Dunn** is not depicted in a view, however it has several potential opportunities although it would require rerouting traffic through the existing grid of neighborhoods. In effect, vehicles would disperse through the grid depending on their point of origination and intended destination. In closing South Main, intersections at Broad, Cook and Dunn will be safer and there are opportunities for infill development, the return of lands to abutting properties, the creation of a greenway or any combination of the above. The closure of South Main between Broad and Dunn is an interesting idea, but requires further study.

### **8.5 Streetscape / Street Hierarchy and Character**

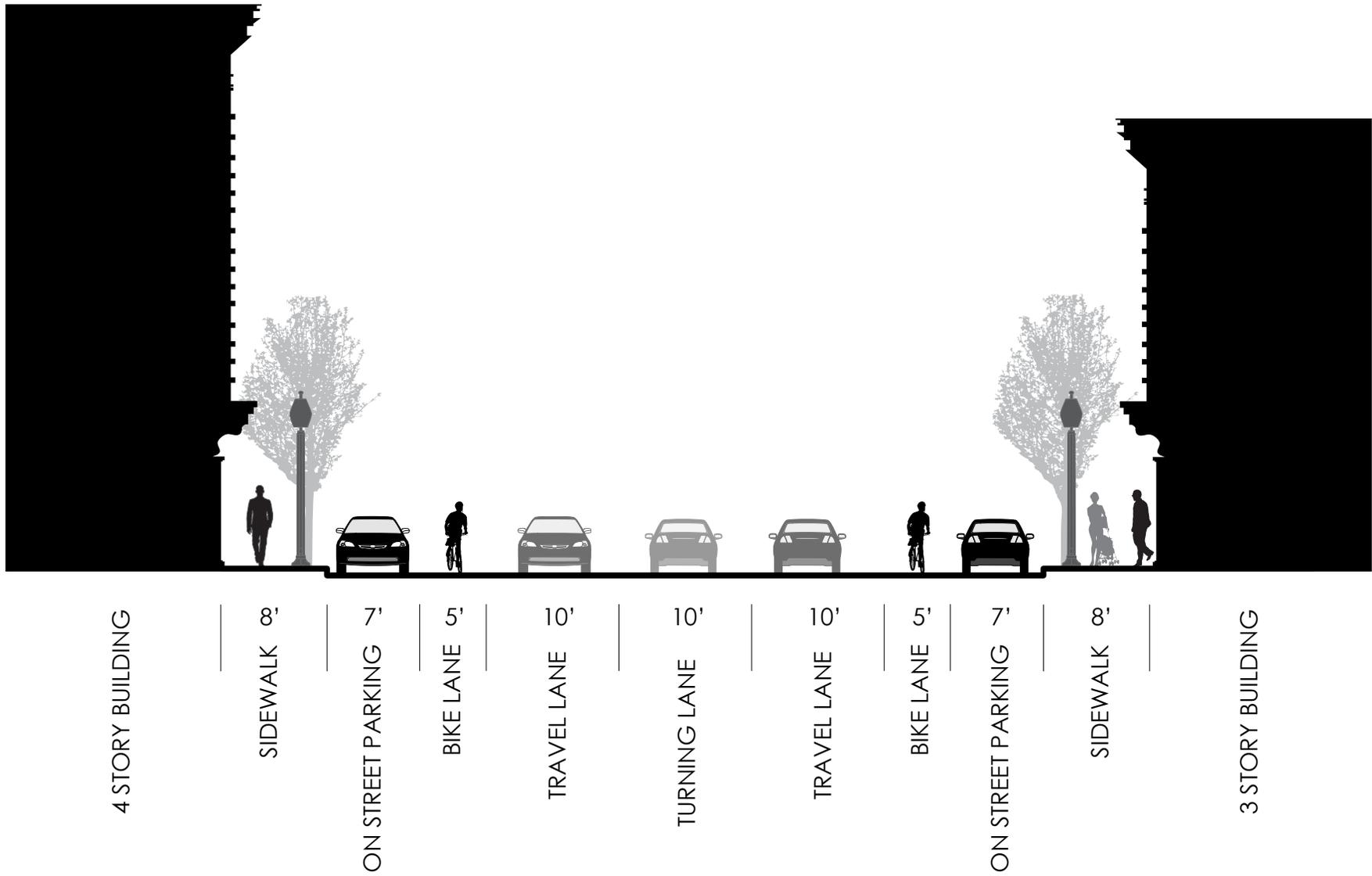
As noted earlier, a diversity of street types adds to the character of an area and provides a range of development opportunities. The streets and intersections have been designed, modeled and evaluated for traffic capacity, but as of equal importance they have been designed to support different types of adjacent development, establishing a synergy between mobility, urban design and economic development.

The following street cross-sections as shown on **Figures 56 - 60** illustrate the range of streetscapes and character envisioned in the 2014 Master Plan.

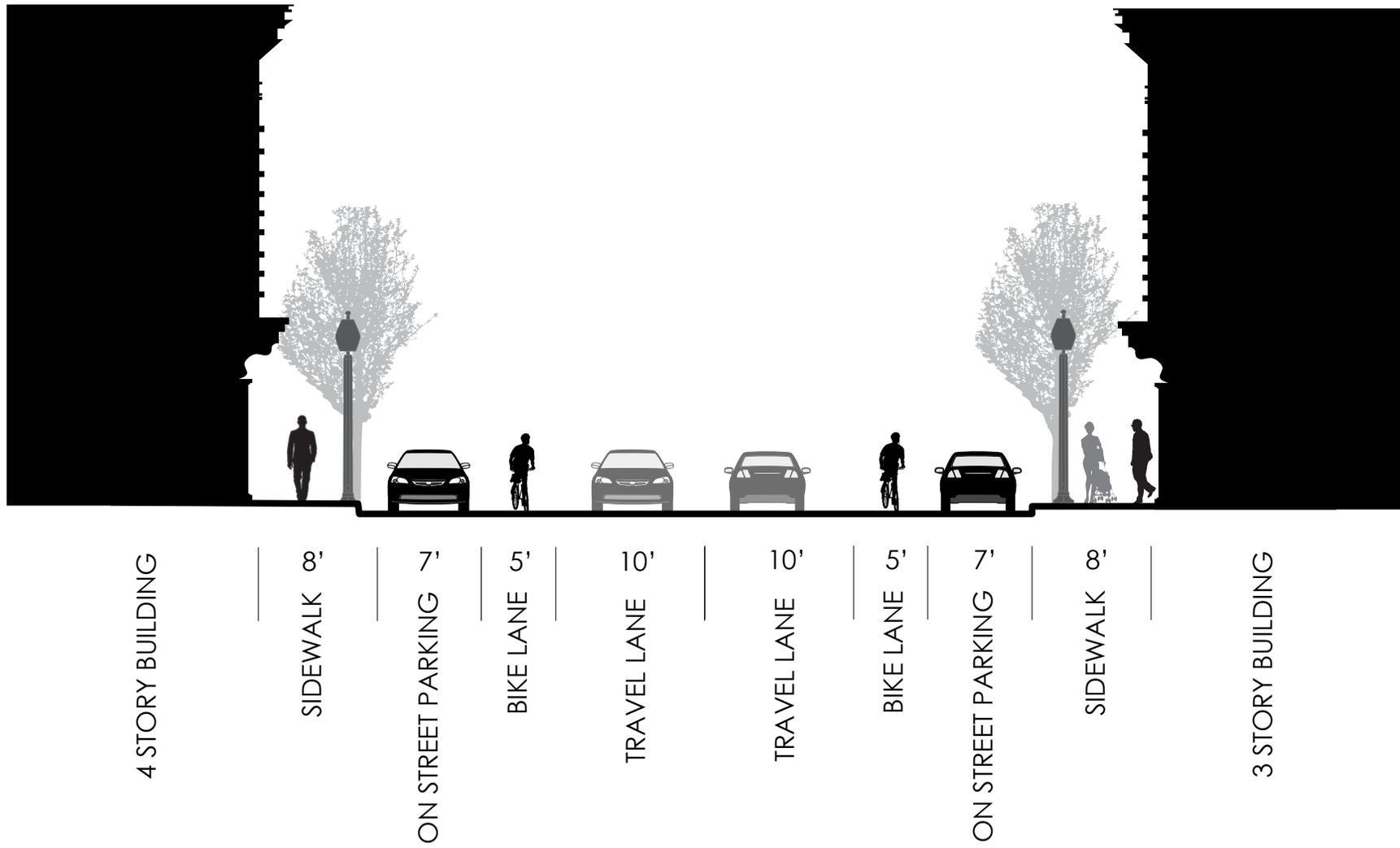
It should be noted that these are the general recommendations for streetscape character, but that the exact street design must respond to the specifics of development and that certain aspects of the street design, such as a dedicated bike lanes, might have to be integrated into a shared use roadway depending on right of way constraints.

The 2014 New Auburn Master Plan includes the following streets that vary in character and capacity while maintaining a cohesive identity for New Auburn Village Center:

- Mill Street
- South Main Street
- Broad Street between South Main Street and Mill Street
- Broad Street between Mill Street and the Riverway
- The Riverway



**Figure 56: Typical Section through Mill Street**

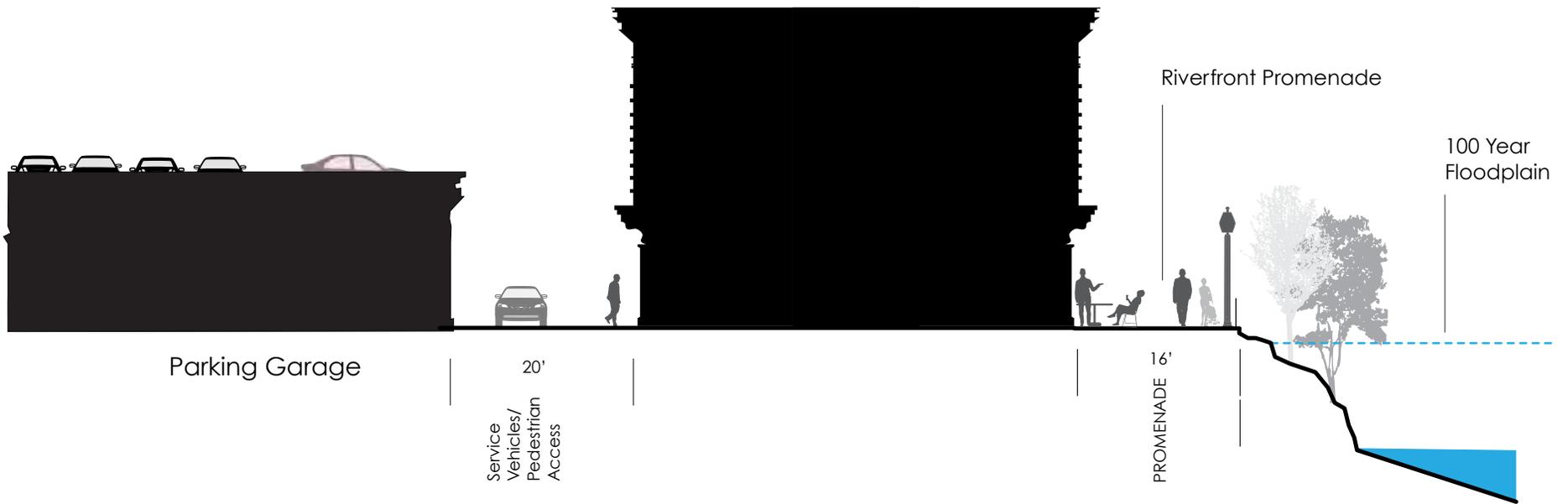


**Figure 57: Typical Section through Broad Street**



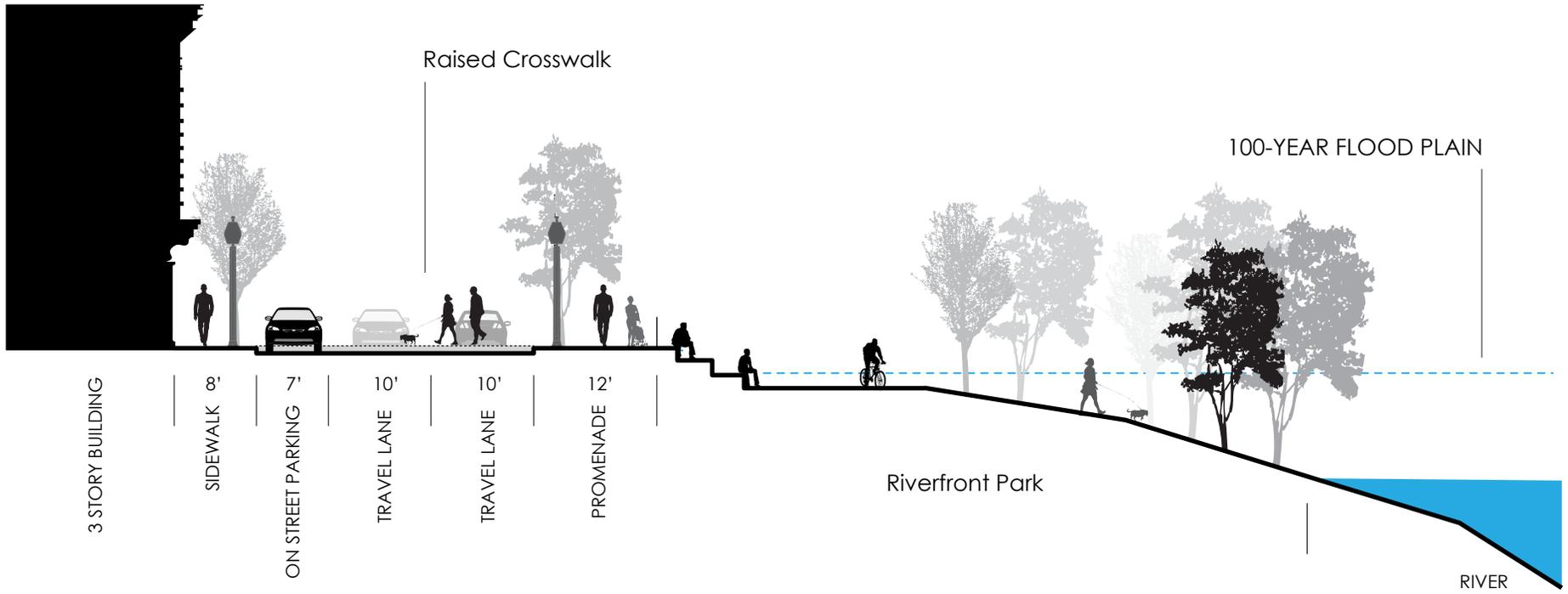
Androscoggin Block  
w/ Surface Parking (100 cars +/-)

**Figure 58: Typical Section through Androscoggin Block with Surface Parking**



Andoscoggin Block  
w/ Parking Garage (300 cars +/-)

**Figure 59: Typical Section through Andoscoggin Block with Structured Parking**



**Figure 60: Typical Section through The Riverway**

## **8.6 Open Space**

Open space and vital public realms will play an important role in the revitalization of New Auburn Village Center. Streetscapes that are safe and encourage foot traffic should be considered as part of the downtown open space “system.”

It has already been noted that the 2014 Master Plan integrates the Little Androscoggin and Androscoggin Rivers in a deliberate manner promoting recreation, accessibility and redevelopment.

In summary, open space should not be considered as passive or a mere respite from urban life, but as tool to encourage and guide development and improve livability of the envisioned downtown.

## **8.7 Connectivity**

As previously discussed, reestablishing the original street grid was explored, however, the 2014 Master Plan achieves a level of both connectivity and accessibility for vehicles and pedestrians without replicating the grid. The revitalized New Auburn Village Center will be efficient and safe for cars. Two-way traffic flows and a careful distribution of both on-street and off-street parking will make the area easy to visit, encouraging economic development.

New Auburn Village Center must be safe and accessible for all modes of travel and users in order to encourage economic development. There have been discussions regarding New Auburn Village Center where the situation is described as congested, not pedestrian friendly, aging, losing businesses, circuitous, and underdeveloped. The ideas of accessibility and connectivity are central to unlocking the potential of New Auburn Village Center.

To quote the Victoria Transport Policy Institute website, “just as a car is a machine for mobility, a city is a machine for accessibility.” Accessibility seeks to maximize connectivity, balance a mix of uses, provide parking without creating suburban sprawl, include a range of housing types and promoting development that is financially viable while remaining in character and scale with the area.

## 8.8 Flood Plain

5.5 +/- acres of the 18-acre focus study area are in the flood plain as shown on **Figure 61**. Most of the buildings in the flood plain will need to be raised approximately one foot to reach elevation 136', which is one foot above the 100-year flood plain. The Riverway requires the most fill, ranging from approximately one foot to six feet of fill in order to create a block suitable for development. Fill for the Riverway is included in the cost estimates in Section 11.



**Figure 61: 2014 New Auburn Village Center Master Plan with Extent of Existing 100-Year Flood Plain – Elevation 135'**

## 9. Urban Design Implementation Strategies

Every development and infrastructure, transportation and open space improvement is an opportunity to realize the vision of the 2014 Master Plan. It will be key to the success of implementing the 2014 Master Plan to think holistically and strategically in terms of the overall character of the area, not the traditional lot-by-lot approach that often results in suburban style development, the loss of housing and local businesses.

Following are key aspects of the Study and the 2014 Master Plan to monitor and implement as public and private investment occurs.

### 9.1 Relocating Lown Peace Bridge

Relocating the bridge to the intersection of Riverside Drive and Mill Street is a fundamental aspect of the 2014 Master Plan. The City of Auburn and the City of Lewiston should begin active, sustained and coordinated conversations with MaineDOT regarding moving the bridge. The bridge should be moved rather than investing in maintenance in order to prolong the lifespan in the current location.

Moving the bridge:

- Allows for traffic heading north or south on 136 to or from Lewiston to bypass New Auburn Village Center;
- Directs vehicle traffic along Mill Street, which can become the “Main Street” of New Auburn Village Center;
- Creates the riverfront related “Androscoggin” and “Riverway” blocks, which will be highly accessible to both vehicles and pedestrians without having the burden of through traffic and;
- Potentially allows for more flexibility in the redevelopment of the mills on the Lewiston side of the river

### 9.2 Flood Plain

New development areas are established in the creation of the Riverway Block, Androscoggin Block and by relocating the Lown Peace Bridge to the Mill / Riverside Intersection as shown on **Figure 62**. This benefits the area by:

- Raising elevations between six feet and one foot to a minimum required elevation of 136' – one foot above the base 100-year flood elevation of 135';
- Allowing the Little Andy Park to flood as needed;
- Minimizing the cost of expensive flood tolerant building materials;
- Streamlining permitting for developments, and;
- Reducing the cost of insurance



**Figure 62: Extent of 100-Year Flood Plain After Relocating Lown Peace Bridge and Creating the Riverway**

### 9.3 Right-of-Way Land Swaps

The City controls land in right-of-ways. Right-of-ways / streets should be either improved to support adjacent development or as shown in **Figure 63**, this land can be integrated into the future built environment as either shared surface parking or land for infill development. Each of the three proposed redevelopment blocks in the 2014 Master Plan includes City ROW: Riverside Drive in the Androscoggin Block, Second Street in the Riverway Block and Third Street in the South Gateway Block.

Leveraging land swaps potentially allows for:

- Creating interior shared parking;
- Maximizing perimeter block development frontage;
- Minimizing curb cuts;
- Maximizing on-street parking, and;
- Leveraging public / private partnerships: land swaps, RFP's, etc.



**Figure 63: Right-of Way Land Swaps**

## 9.4 Parking

Parking is critical to the success of a revitalized New Auburn Village Center. However, the parking should not distort the urban form nor be a cost burden to development. Parking should be:

- Distributed evenly throughout focus area;
- Maximized by using on-street parking;
- Created using interior shared parking lots;
- Leveraged by the City by utilizing closed right-of-ways for shared parking;
- Guided by a shared parking ordinance, and;
- Increased through the introduction of structured parking if needed

The 2014 Master Plan includes consolidated off-street parking areas and extensive on-street parking as shown on **Figure 64**:

170 +/- on-street spaces

291 +/- shared spaces

= 461 Total

*If a structured parking garage is placed in the Androscoggin Block, the total available parking increases by approximately 200 cars.*

*Utilizing a shared parking ordinance, the required parking for a development can be typically reduced by 1/3.*

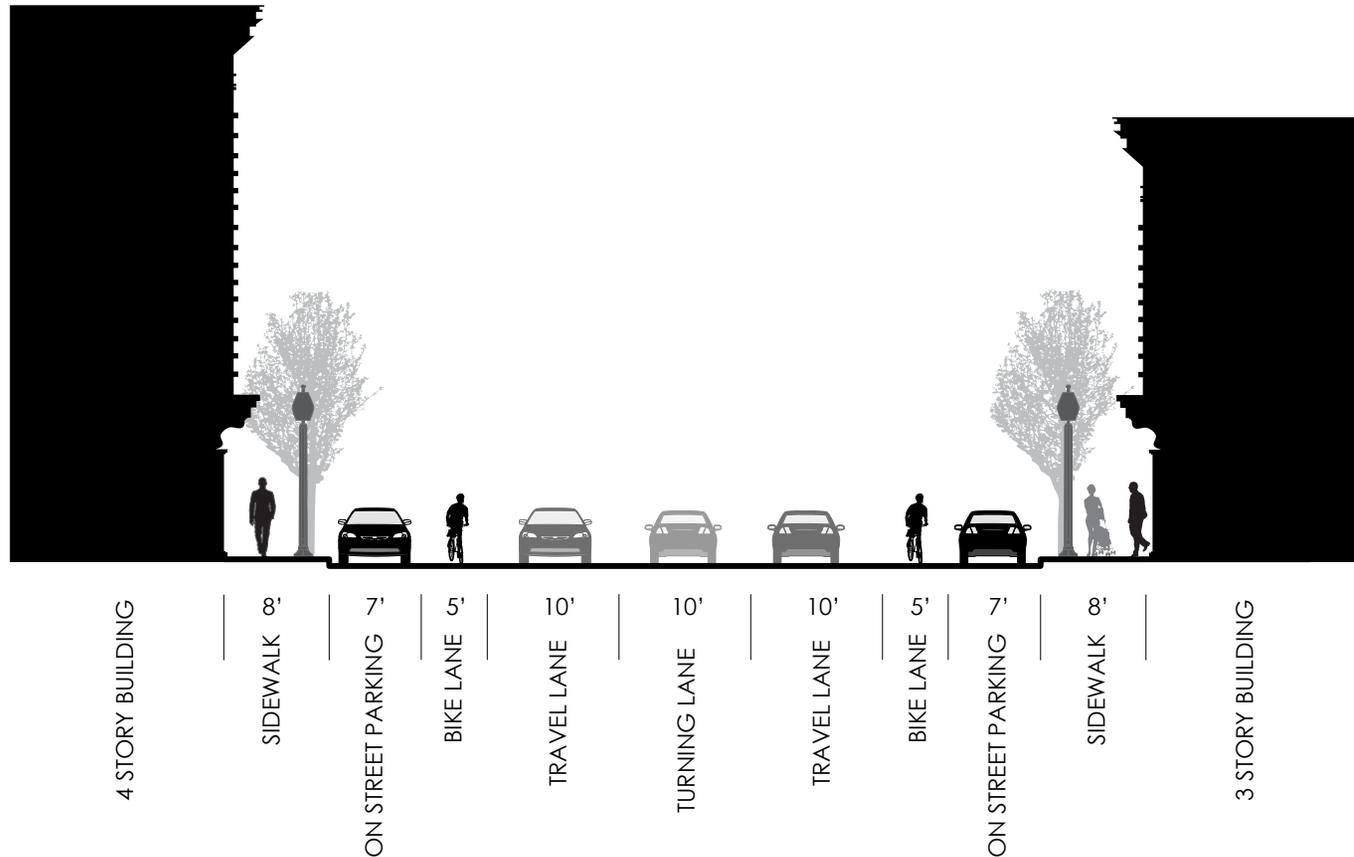


**Figure 64: Location of Shared Parking and On-Street Parking**

## 9.5 Building Form, Height and Placement

Focus on form, placement and how buildings address street frontage. These are the fundamentals of Form-Based Codes, a process that the City has already begun.

Both sides of the street should echo each other in terms of standards, helping to shape the “outdoor room.” The 2014 Master Plan envisions buildings between two and four floors. In general, there should be a ratio of 3:1 building face to building height ratio as shown on **Figure 65**.



**Figure 65: Traditional Scale of Buildings and Street Environment**

## 9.6 Streetscape / Complete Streets

The 2014 Master Plan is predicated on the understanding that well-designed streets foster economic development and improve the quality of life for residents. When building or restoring streets, consider:

- Complete Street policies;
- ADA compliance;
- Wide and safe sidewalks;
- Street trees, streetlights and other amenities;
- Streets as civic space defined by proper form and placement of buildings, and;
- Buried utilities

## 9.7 Open Space

Leverage different types of open space for quality of life, neighborhood character and to jumpstart economic development. The 2014 Master Plan includes a range of open / civic spaces:

- Riverway;
- Little Andy Park;
- Androscoggin Walk;
- Broad Street Plaza;
- Pocket Parks;
- Streets, and;
- Connections to greater sidewalk and trail systems in New Auburn / Auburn / Lewiston

## 9.8 View Corridors / View Sheds

View corridors and views sheds take advantage of the grid, the topography and the river frontage:

- The Riverway and Androscoggin Blocks establish / protect views to Little Androscoggin and Androscoggin Rivers;
- The existing grid south of Mill Street in combination with the topography frames views to north and northwest, and;
- Views from proposed location of Lown Peace Bridge back to redeveloped downtown will help reinforce the identity of the a revitalized New Auburn Village Center

## 9.9 Connectivity

A high level of connectivity makes the area easier to redevelop, safer for pedestrians and mitigates traffic impacts. Key design aspects of the 2014 Master Plan encouraging connectivity include:

- Two-way traffic circulation;
- Maximum flexibility for turning movements;
- The connectivity outside the focus area is maintained (intersections, block lengths, pedestrian shed) *Note – whole 38-acre study area has 23 intersections and the United States Green Building Council's Leadership in Energy and Environmental Design for Neighborhood Design requires at least eight intersections for a comparable area*
- Connectivity within focus area is enhanced with high accessibility, two-way traffic, streetscape and intersection improvements;
- Pedestrian orientation of the Riverway / Little Andy Park and the Androscoggin Walk adds provides diversity for the pedestrian environment;
- Safe pedestrian crossings at improved intersections and at select mid-block locations that will encourage foot traffic and economic development, and;
- Implementation of the City's Complete Street Policy to accommodate all modes of travel, including bicycles

## 9.10 Housing

- Target to increase residential density in the 18-acre focus area from 9 units per acre to 18-21 units per acre

## 9.11 Revised Zoning and Design Standards

- Continue with the Form-Based Code process

Short-term zoning changes:

- Establish maximum footprint (can currently build 100,000 SF building, which is out of scale for urban setting);
- Establish maximum setbacks (allow 0' front setbacks);
- Allow zero lot line development;
- Increase allowable lot coverage (80% to 100%);
- Maximum building height – three to four floors (maximum building footprints and heights are also a strategy for minimizing surface parking);
- Revise required parking for uses (reduce required ratios);
- No drive-thrus;
- Establish a shared parking ordinance;
- Utilize residential dwelling uses for Multi-Family Urban rather than Multi-Family Suburban – more mixed use;
- No new single-family homes in the 18-acre focus area, and;

- Many of the above short-term zoning changes can be accomplished by changing the zoning in the downtown area to Central Business 3 from General Business.

Recommended edits to 2009 New Auburn Master Plan:

- Place areas of Andrscoggin Block within in the proposed Limited Business Zone in New Auburn Village Center Zone, and;
- Place areas of the Riverway Block within the proposed Riverway Transition Zone in the New Auburn Village Center Zone

## 9.12 Phasing

Sections 10 and 11 discuss the phasing of the major transportation improvements. As the street network is envisioned as a framework for revitalization, it is recommended that they Riverway be considered as the first phase in the implementation of the 2014 Master Plan. There are a number of reasons for this:

- The City already owns Little Andy Park and is proceeding to implement the long-term vision for the park;
- The City owns the Second Street ROW in the Riverway Block, and this land can be swapped for shared parking or infill development;
- In terms of traffic and the timing of the Lown Peace bridge relocation, the Riverway can be created without impacting the area;
- By creating the Riverway, land suitable for development outside the 100-year flood plain is established, and;
- The Riverway is a signature urban form, leveraging the potential for a unique riverfront neighborhood

## 10. Transportation Phasing and Implementation

This section of the Study covers project phasing and implementation and what transportation system components can be constructed as standalone projects or are a function of other activities. **Figure 66** illustrates how the overall 2014 Master Plan improvements can occur in a systematic and realistic fashion given the timing of area-wide infrastructure activities, most notably reconstruction of the Lown Peace Bridge. It should be noted that many of the improvements detailed will be implemented as re-development activities occurs and thus there may be additional phases not specified in this section. The section is intended to discuss larger phasing issues and concludes that major components of the Plan can proceed without waiting.

- Phase 1 of the Implementation Plan consists of the construction of the Riverway Area (bounded by Mill Street and Broad Street) and is estimated to cost \$2.7M. This area of improvements can occur without the relocation of the Lown Peace Bridge. If fully developed and improved, a temporary traffic signal may be required at the intersection of the Riverway and Broad Street. This intersection will serve as a key access point for the Riverway area and heavy traffic volumes to and from Lewiston will continue with no changes to the Lown Peace Bridge, and thus high-level traffic control is required. Key reasons why construction of the Riverway is suggested to proceed first include:
  - As noted above the Riverway can proceed independent of a relocated Lown Peace Bridge.
  - The City controls land in this area, including the Little Andy Park and the Second Street ROW. This land can be leveraged for open space, shared parking, and infill development.
  - The Riverway Block will establish the desired character for the area, helping jump start economic development.
- Phase 2 of the project generally consists of the area of the triangle bounded by Mill Street, Main Street, and Broad Street. This area of improvement can occur at any time. Closure of 3<sup>rd</sup> Street does not require any special action to the area transportation system. The cost of this phase is estimated to be \$5.7M.
- Phase 3 of the Implementation Plan is estimated to cost \$4.2M and generally includes the intersection area of South Main Street/Broad Street/4<sup>th</sup> Street. The plan notes suggested changes to the street network layout in the residential neighborhood that attempts to create a street grid system. This suggested change will introduce traffic impacts to some streets and a robust public process is suggested. Accordingly, the suggested recommendations in the plan should not proceed until a separate specific public process is performed.
- Phase 4 of the Implementation Plan generally consists of the triangle bounded by Mill Street, Broad Street, and Riverside Drive. The cost of this phase is estimated to be \$5.25M. A significant portion, if not all, of this area cannot be constructed until the Lown Peace Bridge is relocated opposite Mill Street. Heavy traffic volumes to and from Lewiston cannot be accommodated through the Mill Street/Broad Street intersection given intersection alignment geometry. Broad Street between Mill Street and the Lown Peace Bridge cannot be improved until the bridge is relocated. The Mill Street/Broad Street can't be fully improved until the Lown Peace Bridge is relocated. The eastbound Mill Street and northbound Broad Street approaches can be improved prior to the bridge relocation.



**Figure 66: 2014 Master Plan Transportation Phasing**

## 11. ROW Improvement Probable Cost Estimates by Phase

### Phase 1: \$2.7 M

- Riverway from Mill to Broad 2.7M

### Phase 2: \$5.7 M

- Mill Street, West of Main Street \$1.1M (This section assumes an overlay section of pavement.)
- Mill Street, Main to Broad St: \$2.3M (This section assumes a widening section and pavement rehabilitation.)
- Main Street, North of Mill Street: \$800K (This section assumes an overlay section of pavement.)
- Main Street, Mill to Broad Street: \$900K (1/2)
- Broad Street, Main Street to Mill Street: \$600K (1/3)

### Phase 3: \$4.2 M

- Main Street, Mill to Broad Street: \$900K (1/2)
- Fourth Street, from Broad to Cook St: \$1M
- Third Street, Cook Street to the End: \$300K
- Broad Street, Main Street to Mill Street: \$1.2M (2/3)
- Broad Street, South: \$800K

### Phase 4: \$5.25 M

- Mill Street, Broad to Riverside: \$2.2M (This section assumes a widening section and pavement rehabilitation.)
- Second Street to Cook Street: \$750k
- Riverside Street: \$1.1M
- Broad Street Mill to End: \$1.2M

*The costs above do not assume any right of way costs, costs to construct the new bridge, removal of the old bridge, existing building demolition, or improvements to existing sites outside of the right of way. Included in the costs are common borrow costs, pedestrian lights, street trees and grates, traffic signal additions and updates, brick sidewalk with granite curb, drainage and sewer rehabilitation and adjustments, underground utilities, pavement markings, new signage, removal of existing pavement and other common excavation, maintenance of traffic, mobilization, contingency, design engineering, and construction administration.*