

21st Century Downtown Master Plan North Windham, Maine

Adopted January 22nd, 2013



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Town of Windham, Maine

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EXECUTIVE SUMMARY

The North Windham 21st Century Downtown Master Plan (Master Plan) is both a practical and bold vision for the future of North Windham. The results are a series of guiding principles leading to conceptual growth scenarios. These scenarios are not to be taken literally. As time has shown, growth and change will happen over time. This master plan is intended to help the community embrace and promote growth and change in a way that improves the quality of place in North Windham.

This optimistic Master Plan prescribes a future where transportation options, land uses, streets and architecture create a new type of suburban “downtown.” Rather than approaching North Windham as just another “corridor study” that only promotes vehicular movement, this Master Plan addresses a wide range of issues reflecting the desire of the community to reveal and strengthen the opportunities found in North Windham. In summary, the goals of this Master Plan are to:

- Develop a comprehensive vision for transportation improvements in North Windham;
- Improve the capacity of Roosevelt Trail;
- Introduce street networks in an incremental manner that respond to the existing built context and allow for the growth of new neighborhoods surrounding the commercial core;
- Incubate a range of economic development and housing opportunities;
- Establish a renewed “sense of place” in Windham’s commercial center through Complete Streets, infill development, increased residential densities, vibrant public realms, mobility options and access to open space, and
- Focus on implementation by identifying short-term and long-term improvements and policies

CONTEXT SENSITIVE SOLUTIONS, COMPLETE STREETS AND LOCATION EFFICIENCY

Context Sensitive Solutions (CSS):

The Master Plan is based on the Context Sensitive Solutions (CSS) planning process. CSS is a response to the frustration that communities experience with transportation planning. In particular, this frustration is with the long-term impacts and types of places that result when the movement of vehicles is favored to the exclusion of other modes of travel (such as pedestrians and bicycles). The CSS approach to planning provides an opportunity to mobilize a community partnership around place and working with benchmarks and goals establish an attainable future. As part of the CSS based master planning process, a Mission and Values Statement is drafted that identifies the issues of today, a vision for the future and the basic steps to get there.

Master Plan Mission and Values Statement

Current zoning and transportation patterns in North Windham – in addition to being a centralized regional commercial area – have created a place that is auto-oriented, lacks pedestrian amenities and a specific sense of place. There is an inherent conflict between the need for Roosevelt Trail to serve thru traffic and to serve the local community. The arterials are stressed and the intersections are near or close to failing in terms of capacity.

The built form and pattern of development is poorly defined by shopping malls and big box retail set in expansive areas of parking. A lack of a traditional street network accommodating both vehicles and pedestrians and informing the scale and use of adjacent development is absent. Numerous property owners cannot afford to invest in their buildings and site improvements creating graying and aging properties. Overall there is a lack of vibrancy and integration between mobility and land use.

In the future, Roosevelt Trail will be a safe and attractive transportation corridor serving an emerging 21st Century Downtown comprised of the greater North Windham region. Roosevelt Trail will balance the needs of “to”, “thru” and “local” modes of travel, including cars, public transit, pedestrians and bicyclists in order for existing and future development to thrive. It will be a gateway to the Lakes Region as well as the heart to a vibrant town center.

The area will evolve into a place where people choose to live, work and play due to improved access management, pedestrian and bicycle networks, quality architecture and streetscapes, passive and active open space and better connectivity to existing and new residential neighborhoods adjacent to Roosevelt Trail.

The north / south linear and auto-oriented pattern of development will be integrated with a historic style grid creating a fabric of mixed-uses and street types in the lands to the east and the west of the transportation corridor – as well as the adaptive reuse of existing development and the infill of undeveloped parcels and areas of excess parking – promoting economic development at a variety of scales, increased residential densities, pedestrian-friendly Complete Streets and the health of ecological systems.

Both practical short-term and long-term strategies such as revised zoning codes, new efficient and context sensitive street networks, a diversity of mobility options, responsible development patterns, specificity regarding building form and location, vibrant public realms and infrastructure policies will enable a realistic transformation of North Windham of today to a place of distinction tomorrow.

Complete Streets:

The Master Plan is also based on the Complete Streets philosophy. Complete Streets are designed to provide safe, comfortable, and convenient environments for all modes of travel, regardless of age or ability. This includes motorists, pedestrians, bicyclists, and public transportation riders. For more information on Complete Streets, see Appendix D.

Location Efficient Design:

Location efficient design incorporates complete streets into new or “retrofitted” development, resulting in responsible street networks that maximize connectivity, walkability and a diversity of neighborhood types. In other words, location efficient design promotes a land development pattern that makes traveling between homes, businesses or civic amenities possible via all modes of travel. This development pattern requires that buildings are close enough together to make travel between sites possible by motorized transportation or human power transportation.

IMPLEMENTATION

The recommendations in the Master Plan are based on the conditions and analysis in the existing conditions chapter, input from the public and the Advisory Committee. Each recommendation is intended to work together to create a North Windham mixed-use district that integrates transportation issues, economic development and the built environment. The implementation of this Master Plan through capital improvements, ordinance amendments, and development review applications has the potential to create a 21st Century Downtown. This “downtown” is one that will remain suburban in nature, but becomes more than a collection of independent commercial properties. The vision embodied in these recommendations strives to achieve a welcoming, human scaled, mixed-use commercial center through the built environment and the accommodation of all modes of travel.

The Implementation Plan is divided into the following three categories:

1. Transportation
2. Land Use and Standards
3. Conceptual Character Areas / Future Growth Patterns

Each of the recommendation summaries contained in the table that follows correspond to a more detailed explanation in Chapter 3 of the plan. The brief overview contained in this executive summary provides a gateway to the in-depth discussion of the ideas that will implement the vision developed in this plan.

1. Transportation

a. Context Sensitive Solutions/Complete Streets

Recommendation	How	Responsible Party	Time*	Implementation
Adopt a Complete Streets Policy	Revise Town Ordinances	Town Council Planning Board Staff	Short-Term	As development / redevelopment occurs or as part of prioritized pedestrian improvements plan (grants, impact fees, TIF, CIP, bond)
Retrofit existing parking lots with pedestrian friendly Complete Streets, liner buildings, pad development, infill development and adaptive reuses;	Revise ordinance standards	Town Council Planning Board Staff	Long-term	As development occurs

b. Access Management and Vehicular Improvements

Recommendation	How	Responsible Party	Time	Implementation
Install raised medians on Roosevelt Trail where feasible to improve access and roadway capacity.	In conjunction with Roadway Construction / Development Projects	Town Council Planning Board Staff	Short-Term to Long-Term	As developments occurs, CIP, and MaineDOT
No changes should be made to the lane configurations on Roosevelt Trail between River Road and Boody's Corner.				

Recommendation	How	Responsible Party	Time	Implementation
Modify the existing traffic signal phasing so that southbound Roosevelt Trail vehicle left-turn movements onto Turning Leaf Drive have a protected phase (providing a green arrow phase so traffic can turn easily). This change will improve safety and reduce delay to vehicles turning left.	Town Project	Staff	Short-Term	CIP/Other Local Funding Mechanism Cost Estimate: \$15,000
Work with local business and property owners to modify driveway locations that are unsafe or unnecessarily contribute vehicle turning movements in the corridor.	In conjunction Development Projects or through Town Improvements	Town Council Planning Board Staff	Short-Term to Long-Term	As developments occurs and Town Projects. Cost Estimate: Driveway closing - \$110 per LF.

c. Pedestrian / Bicycles

Recommendation	How	Responsible Party	Time	Implementation
Install sidewalks on both sides of Roosevelt Trail.	In conjunction with Roadway Construction / Development Projects	Town Council Planning Board Staff	Short-Term to Long-Term	As developments occurs, CIP, and PACTS. Cost Estimate: Bituminous sidewalk (No Curbing) - \$20/LF

Recommendation	How	Responsible Party	Time	Implementation
Install sidewalks on both sides of Tandberg Trail (Rte. 35) between Roosevelt Trail and Manchester Drive	In conjunction with Roadway Construction / Development Projects / Town Implementation	Town Council Planning Board Staff	Short-Term to Long-Term	As developments occurs, CIP, and MaineDOT Cost Estimate: Bituminous sidewalk (No Curbing) is \$20 per LF. Project cost: \$30,000
Install sidewalks on the South side of Tandberg Trail (Rte. 115) between Roosevelt Trail and Emerson Drive	In conjunction with Roadway Construction/Development Projects/Town Implementation	Town Council Planning Board Staff	Short-Term to Long-Term	As development occurs, CIP, and MaineDOT Cost Estimate: Bituminous sidewalk (no Curbing) is \$20 per LF. Project cost: \$58,900
The channelization island at the Roosevelt Trail/Landing Rd. intersection should be eliminated and a standard radius constructed to minimize high-speed free flow entry movements;	Town Implementation	Town Council Planning Board Staff	Short-Term to Mid-Term	CIP or PACTS Cost Estimate: \$5,000
Install count-down pedestrian signals at all locations	In conjunction with Roadway Construction / Development Projects / Town Implementation	Town Council Planning Board Staff	Short-Term: On-Going	As developments occurs, CIP, and PACTS Cost Estimate: \$4,000 per intersection.

Recommendation	How	Responsible Party	Time	Implementation
For all new roads constructed or reconstructed, sidewalks should be provided on both sides and crosswalks should be installed at all intersection locations.	In conjunction with Roadway Construction / Development Projects / Town Implementation	Town Council Planning Board Staff	Short-Term to Long-Term	As developments occurs, CIP, and PACTS Cost Estimate: Bituminous sidewalk (No Curbing) - \$20/LF Painted crosswalk - \$1/LF. Parallel Line Crosswalk - \$60 Block Design crosswalk - \$120 (per 30-ft-wide crossing)
Upgrade signalized intersections so that pedestrians can cross all approaches. This will require the installation of crosswalks, ADA ramps, and pedestrian signal equipment.	In conjunction with Roadway Construction / Development Projects / Town Implementation	Town Council Planning Board Staff	Short-Term On-Going	As developments occurs, CIP, and PACTS. Cost Estimate: Sidewalk Ramp -- \$2,000/ramp Crosswalk – See above. Pedestrian Head, Push Button, and Post -\$4,000/post
Provide a landscaped esplanade (Where right-of-way will allow), so the pedestrian experience will be enhanced by a buffer and space.	In conjunction with Roadway Construction / Development Projects / Town Implementation	Town Council Planning Board Staff	Short-Term to Long-Term	As developments occurs, CIP, and MaineDOT Cost Estimate: \$45 LF for a 5-foot wide esplanade

d. *Conceptual Street Network and Location Efficiency*

Recommendation	How	Responsible Party	Time	Implementation
Enable residential neighborhood development that will support the commercial core. This includes neighborhoods on the periphery of the commercial district and mixed-use developments within the commercial core;	Revise ordinance Standards	Town Council Planning Board Staff	Short-Term	As development occurs
Retrofit existing parking lots with Complete Streets, liner buildings, pad development, infill development and adaptive reuse;	Revise ordinance standards	Town Council Planning Board Staff	Short-Term	As development occurs
The street networks and development should maximize connectivity and respond to an overall development pattern versus a typical disconnected lot-by-lot pattern with redundancies such as parking, stormwater facilities, curb cuts and driveways;	Revise ordinance standards	Town Council Planning Board Staff	Short-Term	As development occurs
Buildings should act as “urban architecture”, framing the public realm and reinforcing the new and retrofitted Complete Streets;	Revise ordinance standards	Town Council Planning Board Staff	Short-Term	As development occurs

Recommendation	How	Responsible Party	Time	Implementation
The installation of streetscape amenities, the placement of utilities underground, and a reduction in the amount of, or elimination of, overhead traffic signs should be added to the Town's capital improvement program/planning.	Revise capital improvement plan/planning	Town Council Staff	Short-Term (CIP) Long-Term (Implement)	Town Cost Estimate: See Section 3.0 of this Plan
Explore funding options such as the existing tax increment financing (TIF) district or the creation of a development/business improvement district.	Revise Capital Improvement Plan	Town Council Staff	Short-Term	Town
Street blocks should be approximately 300 - 600 linear feet, creating three or four way intersections to maximize connectivity and create walkable, pedestrian-friendly neighborhoods;	Revise ordinance standards	Town Council Planning Board Staff	Short-Term	As development occurs
The Town should continue to identify locations for a lateral road between River Road and Route 35 that should not impact existing residential neighborhoods.	Continue analysis of lateral road network	Town Council Planning Board Staff	Long-Term	Town CIP, MDOT, FHWA

Recommendation	How	Responsible Party	Time	Implementation
Develop traffic calming standards to mitigate the effects of through traffic if connections are made to existing streets	Revise ordinance standards	Town Council Planning Board Staff	Short Term	Town

2. Land Use and Standards

Recommendation	How	Responsible Party	Time	Implementation
Revise the Town’s parking standards to promote shared parking and Complete Streets.	Revise ordinance standards	Town Council Planning Board Staff	Short-Term	Town
The installation of a public sewer system can help to achieve the goals of the Master Plan.	Bond, CIP, impact fees, TIF and grants	Town Council Planning Board Staff	Long-term	Town
Revise the Land Use Ordinance through the adoption of a Conceptual Master Plan for North Windham.	Revise ordinance standards	Town Council Planning Board Staff	Short-Term	Town
Revise the street standards in the Land Use Ordinance	Revised ordinance standards	Town Council Planning Board Staff	Short-Term	Town
Adopt standards for green infrastructure and energy efficient development	Revised ordinance standards	Town Council Planning Board Staff	Short-Term	As development occurs
Adopt a Complete Streets policy	Revised ordinance standards	Town Council Planning Board Staff	Short-Term	As development occurs

Recommendation	How	Responsible Party	Time	Implementation
Incorporate the Master Plan into the Windham Comprehensive Plan	Revised ordinance standards	Town Council Planning Board Staff	Short-Term	Town
Conduct economic modeling for the North Windham commercial district to determine the most sustainable balance of land uses and development patterns.	Feasibility Analysis	Town Council Planning Board Staff	Short-Term	Town to cross-reference findings with recommendations in this Master Plan
Enable increased residential development in the study area.	Revise ordinance standards	Town Council Planning Board Staff	Long-term: in relation to sewer extension	Town
Make housing of different types an allowable use throughout the area.	Revise ordinance standards	Town Council Planning Board Staff	Short-Term	As development occurs
Provide incentives for residential development surrounding the commercial core	Revised lending practices, increased densities, grants for compact development	Town State	Long-term	Lending agencies (for-profit and non-profit) and Town

a. *Conceptual Character Areas / Future Growth Patterns*

Recommendation	How	Responsible Party	Time	Implementation
Establish Character Areas prescribing built form and patterns of development based on “street frontage types”	Revise ordinance standards	Town Council Planning Board Staff	Short-Term/ Ongoing	As development occurs

Notes:

* Time Frame

- Short-Term – 1 to 5 Years
- Mid-Term – 5 to 15 Years
- Long-Term – 15 or More Years

CIP = Capital Improvement Program

1.0 PURPOSE OF THE NORTH WINDHAM 21ST CENTURY DOWNTOWN MASTER PLAN

The purpose of the North Windham 21st Century Downtown Master Plan (Master Plan) is to outline a practical, but bold vision for the future of North Windham by holistically addressing transportation options, land uses, streetscapes and architecture in order to guide future growth and redevelopment in a manner that improves pedestrian safety / walkability, maintains the capacity of Roosevelt Trail, diversifies economic opportunities and ultimately results in a pattern and scale of development that creates a sense of place more typical of a small downtown than an aggregation of shopping malls and strip development.

The Master Plan anticipates growth and redevelopment in a contextual and incremental manner. The conceptual layout of streets and neighborhoods should not be taken literally, but understood to embody best practices. Real opportunities exist to transform North Windham into a 21st Century Downtown – not Bath or Brunswick – but a place with an alternative future achieved through a range of policy, transportation and development standards.

In general, North Windham is contending with three major issues: a stressed transportation corridor, aging commercial centers and the lack of a street network that would be a more efficient use of both developed and undeveloped lands and provide better connectivity for all modes of travel. In summary, the goals of the Master Plan are to:

- Develop a comprehensive vision for mobility improvements in North Windham;
- Improve the capacity of Roosevelt Trail;
- Introduce street networks in an incremental manner that respond to the existing built context and allow for the growth of new neighborhoods surrounding the commercial core;
- Incubate a range of economic development opportunities;
- Establish a renewed “sense of place” in Windham’s commercial center through Complete Streets, infill development, increased residential densities, vibrant public realms, mobility options and access to open space, and
- Focus on implementation by identifying short-term and long-term improvements and policies

1.1 21st Century Downtown Master Plan Mission and Values Statement

As part of a Context Sensitive Solutions (CSS) oriented transportation / land use plan, a Mission and Values Statement is developed at the beginning of the project to identify concerns and then establishing a vision, goals and metrics.

Master Plan Mission and Values Statement

Current zoning and transportation patterns in North Windham – in addition to being a centralized regional commercial area – have created a place that is auto-oriented, lacks pedestrian amenities and a sense of place. There is an inherent conflict between the need for Roosevelt Trail to serve thru traffic and to serve the local community. The arterials are stressed and the intersections are near or close to failing in terms of capacity.

The built form and pattern of development is poorly defined by shopping malls and big box retail set in expansive areas of parking. A lack of a traditional street network accommodating both vehicles and pedestrians and informing the scale and use of adjacent development is absent. Numerous property owners cannot afford to invest in their buildings and site improvements creating graying and aging properties. Overall there is a lack of vibrancy and integration between mobility and land use.

In the future, Roosevelt Trail will be a safe and attractive transportation corridor serving an emerging 21st Century Downtown comprised of the greater North Windham region. Roosevelt Trail will balance the needs of “to”, “thru” and “local” modes of travel, including cars, public transit, pedestrians and bicyclists in order for existing and future development to thrive. It will be a gateway to the Lakes Region as well as the heart to a vibrant town center.

The area will evolve into a place where people choose to live, work and play due to improved access management, pedestrian and bicycle networks, quality architecture and streetscapes, passive and active open space and better connectivity to existing and new residential neighborhoods adjacent to Roosevelt Trail.

The north / south linear and auto-oriented pattern of development will be integrated with a historic style grid creating a fabric of mixed-uses and street types in the lands to the east and the west of the transportation corridor – as well as the adaptive reuse of existing development and the infill of undeveloped parcels and areas of excess parking – promoting economic development at a variety of scales, increased residential densities, pedestrian-friendly Complete Streets and the health of ecological systems.

Both practical short-term and long-term strategies such as revised zoning codes, new efficient and context sensitive street networks, a diversity of mobility options, responsible development patterns, specificity regarding building form and location, vibrant public realms and infrastructure policies will enable a realistic transformation of North Windham of today to a place of distinction tomorrow.

1.2 Context Sensitive Solutions / Complete Streets Principles

The Master Plan is based on both the Context Sensitive Solutions (CSS) and Complete Streets approaches. The following is a brief description of the benefits of using these approaches to bring together transportation and land use planning to create locations with a sense of place.

Context Sensitive Solutions

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. For more information on the CSS process, see Appendix C.

Complete Streets

Complete Streets are safe, comfortable, and convenient for everyone, regardless of age or ability – motorists, pedestrians, bicyclists, and public transportation riders. Complete Streets also shape development patterns by creating interconnected blocks and decreased distance between intersections. These streets are designed to support the desired adjacent built form and uses and set the standard for vibrancy and aesthetics. The images below show the transformation of a typical arterial into a Complete Street. In general, Complete Streets consist of the following components (Complete Streets may not always include all of these components):

- Buildings (typically two floors or two floors in height) set to the front property line on both sides of the road to define the walls of the “outdoor room”
- Sidewalks
- Crosswalks
- An esplanade or amenity zone for street trees, lighting, signage and other streetscape elements
- On-street parking
- Travel lanes (in some cases there is a bike lane between the travel lane and the on-street parking)
- Esplanades
- Shared drives to minimize curb cuts



courtesy Glatting Jackson Kercher Anglin, Inc.

Before and after transformation of a typical arterial into a Complete Street

1.3 Study Area

The primary study area consists of the Commercial-I Zone (C1 Zone) – approximately 600 acres – running from the Roosevelt Trail / Page Road intersection in the south to the Roosevelt Trail / Whites Bridge Road intersection in the north. During the planning process, the study area was expanded to include a context area in order to address how undeveloped lands might transition to the surrounding neighborhoods.

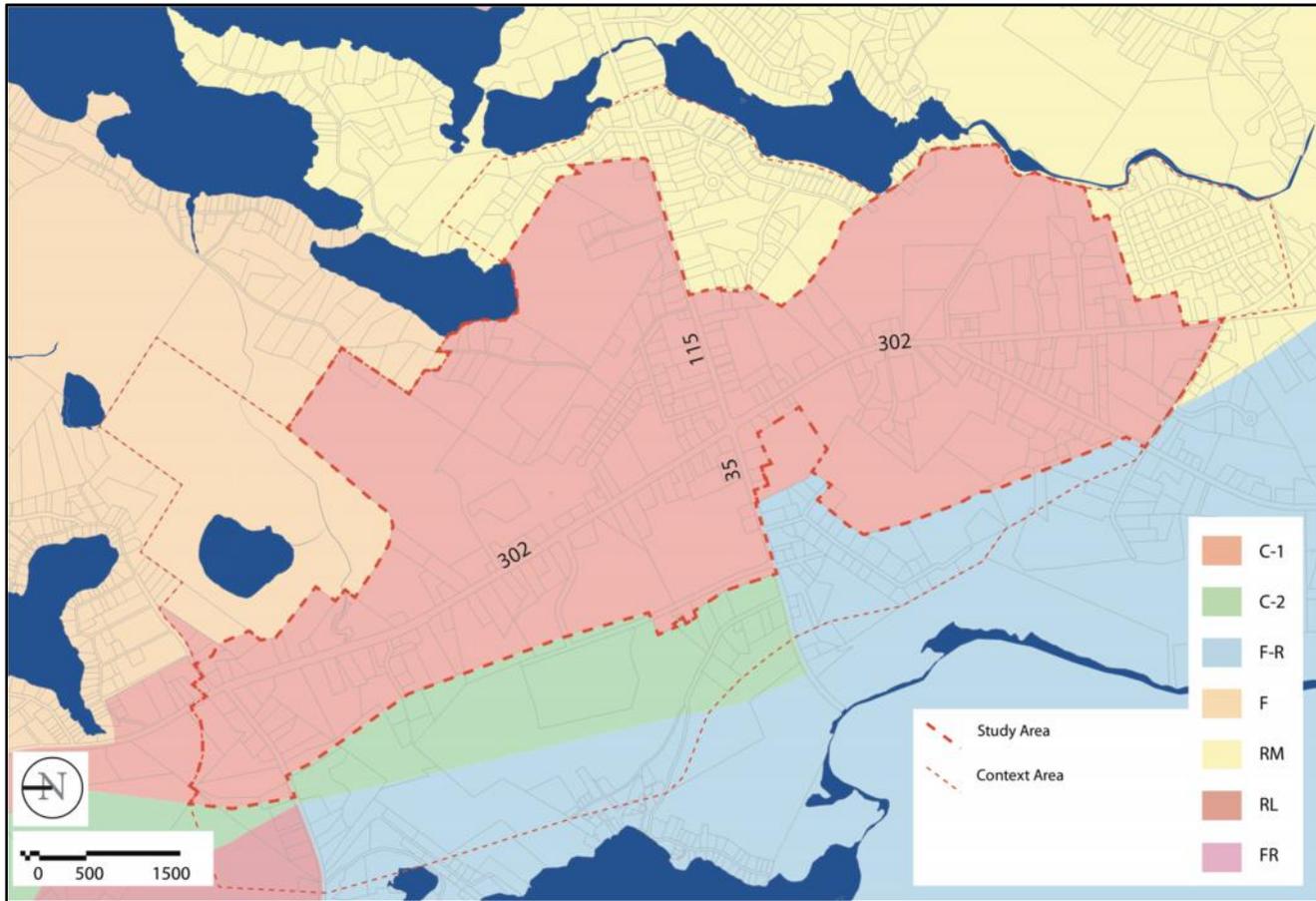


Figure 1: Study Area, Context Area and Zoning

1.4 Committee Membership

The North Windham 21st Century Downtown Master Plan Advisory Committee:

- Kevin Call / Town of Windham / Town Council
 - Mark Cobb / Cobb's Collision Center / Business/ Property Owner
 - Lori Cunningham / Grotto Pizzeria Restaurant
 - Keith Elder / Town of Windham / Planning Board
 - Dan Hancock / Gorham Savings Bank / WEDC/ Banking Services
 - Robbyn Mooradian / Armstrong Advanced Dental Concepts / Service Business
 - Robert Muir / Northwood Drive /Area Resident
 - Charlotte Simpson / Avesta Housing / Senior Housing
 - Beth Schidzig / Architect / Windham Resident
 - Jay Wise / WRE Brokers/ Windham Mall / Property Owner/Retail
-
- *Staff Support:*
 - Tom Bartell / Town of Windham / Economic Development Dept.
 - Doug Fortier / Town of Windham /Dept. of Public Works
 - Brooks More / Town of Windham / Planning Department

Consultants:

- Tom Errico, T.Y. Lin International
- Mitchell Rasor, MRLD Landscape Architecture + Urbanism
- Kari Gallow, MRLD Landscape Architecture + Urbanism



1.5 Planning Process

The following is a list of the steps used in the planning process. The goal of the process has been to use a transparent, organized and step-by-step planning process:

- Establishment of the Committee
- Study area site walk (see summary notes in Appendix B)
- Creation of the Values and Mission Statement
- Inventory of existing conditions
- Presentation of existing conditions to the Advisory Committee and discussion of implications
- Meetings with stakeholders – organizations, businesses and property owners
- Preparation with the Advisory Committee for a Public Workshop
- Public Workshop to understand opportunities and constraints
- Development of concept solutions informed by input from the staff, Advisory Committee and field research
- Presentation of draft concepts to the Advisory Committee
- Presentation of revised concepts to the Advisory Committee
- Preparation with the Committee for a Public Workshop
- Presentation of the planning process and draft concepts at a 2nd Public Workshop
- Presentation of the input from the Public Workshop and required revisions to the Advisory Committee
- Development of Draft Master Plan with Town Staff
- Review of Draft Master Plan by the Committee and Town Staff
- Public Outreach Period for Review and Comment on Draft Master Plan
- *Review of Final Plan by the Advisory Committee and Town Staff (Future activity)*
- *Presentation to the Council and Planning Board (Future activity)*

1.6 Public Outreach

Public outreach is a key aspect of the Master Plan and central to a Context Sensitive Solutions process. Public outreach and the ongoing input of the Advisory Committee provided a feedback loop leading to the proposed recommendations. For comments from the public outreach process, please see Appendix B. Public outreach consisted of:

- Regular meetings with the Advisory Committee;
- Public workshops on May 12, 2011 September 22, 2011, and September 6th, 17th and 20th, 2012, and
- Meetings with organizations and individual property owners.

2.0 EXISTING CONDITONS

The existing transportation system in North Windham is noted for its dual roles of, 1) moving traffic through the region, and 2) providing vehicular access to businesses and residences in the area. While the system is strained by these competing demands, the district on the whole is a successful and important commercial center for the southern end of the Lakes Region.

At the same time, the singular focus on providing motor vehicular access and movement has reduced the overall sense of place in district. As stated in the Master Plan's Vision and Mission Statement, the goals of this study are to understand the ways in which the existing transportation system can be improved for all modes of travel and help shape the built environment in a more pedestrian and traditional form versus the form and pattern of big box and strip development. The existing transportation and land use conditions documented in this section of the report help to serve as a foundation and guide for the recommendations in Chapter 3.

2.1 Transportation

2.1.a Existing Street Network

Summary:

The North Windham commercial district is served by a variety of street types. These range from the major arterial of Roosevelt Trail to the parking aisles of the large retail centers. Figure 2 (p. 9) provides a visual overview of the existing vehicular traffic patterns and the different types of "roadways" that are present in the commercial district. Seven different types of roadways were identified. Each of the different types is described in the Findings, below.

Conditions:

- Arterials (Red Lines). The arterials move vehicles through the study area, but also serve a secondary role in providing access to individual properties. For more information on the role of arterials, please see Section 2.1.b, below.
- Collectors (Orange Lines). The only collector in the district is River Road. This section of River Road is home to a number of small businesses and residences. Business types include day cares and automobile sales and service. Collectors are designed to move traffic in the same manner as arterials. However, due to their lower traffic volumes (i.e. less cars on a daily basis), they are intended provide a greater level of access to abutting properties. For more information on collectors, see Section 2.1.a, below.

- Local Streets (Blue Lines). The local streets provide access to the neighborhoods within, and on the edges, of the commercial district. These streets are noted for their decreased width and lower travel speeds.
- Parallel Roads (Heavy Green Line). Manchester Drive on the east side of Roosevelt Trail is a classic example of a “parallel” road, which is basically designed to move traffic – almost in the manner of an arterial or collector.
- Development Drives (Light Green Lines). In general, these drives are dead-end roads that do not connect to other roadways in the district. The one exception to this condition is Landing Road, which provides a connection from Roosevelt Trail to Manchester Drive.
- Inter-Parcel Circulation (Purple Line). There are inter-parcel circulation ways within the Study Area. The first links Route 35 to Landing Road via Shaw’s Plaza and the Wal-Mart parking lot. The second is located on the Windham Mall property and links Franklin Drive to the traffic signal at Landing Road. These routes, while still privately owned as parts of the parking lot circulation system, function as local streets.
- Parking Circulation (Grey Lines). The grey lines represent circulation within parking lots. The majority of these grey lines are north of Route 115 in the “big box” area. The white gaps are the location of the buildings. This type of development requires extensive on-site circulation, but typically isolated to each development.

Findings/Analysis

- Arterials. For a combination of reasons, such as the location of driveways and a general lack of property and street connectivity in the area, the arterials’ ability to move traffic is hampered by the inefficient need to provide access to individual properties. Furthermore the lack of connectivity between parcels often adds additional cars to the arterial roadways and intersections. For example, a person that needs to visit more than one business can only do so in their vehicle (no pedestrian or bicycle options) via multiple turning movements on Roosevelt Trail. This is referred to as location “inefficient” and can be improved through greater inter-parcel circulation (see Appendix C for more information on location efficient design).
- Collectors. The River Road intersection with Roosevelt Trail is incomplete due to its insufficient turning lanes and insufficient merge lane heading east/south.
- Local Streets. There is little to no connectivity between the neighborhoods and the overall district. As discussed at the public meetings, there is a strong desire to maintain separation between commercial traffic and local traffic. At the same time, this lack of connectivity contributes to the overall inefficiency of the system. One of the goals of this plan is to explore whether

new local street connections would be appropriate in the event that additional property is developed for residential use as envisioned by the Master Plan.

- **Parallel Roads.** The existing parallel road in the district, Manchester Drive, provides an alternative means of access to several destination businesses in the district. As a result, this roadway reduces some of the local stress on Roosevelt Trail. However, the roadway currently lacks an adequate level of integration with the street network. Furthermore, Manchester Drive does not provide for pedestrian or bicycle use. As a result, this type of roadway should be improved in accordance with the Complete Streets approach to land use and mobility planning.
- **Development Drives.** The dead-end development drives contribute to the inefficiency of the transportation network. As future development occurs, opportunities to connect these drives to other parcels should be encouraged.
- **Inter-Parcel Circulation.** A term used for these types of routes is a “desire line.” A desire line is the actual route vehicles or pedestrians want to take between points A and B. In addition, these lower traffic volume roadways have the greatest potential to be developed in ways that create a sense of place in North Windham.
- **Parking Circulation.** This investment in “street” infrastructure is a missed opportunity, because a planned “street network” could have been embedded into the overall pattern providing local circulation and access to the big box stores and shopping malls as well as smaller mixed-use developments. Continued attention should be placed on integrating the circulation of parking lots with the inter-parcel circulation drives to ultimately develop a “master planned” district that is noted for its welcome mixed-use environment.

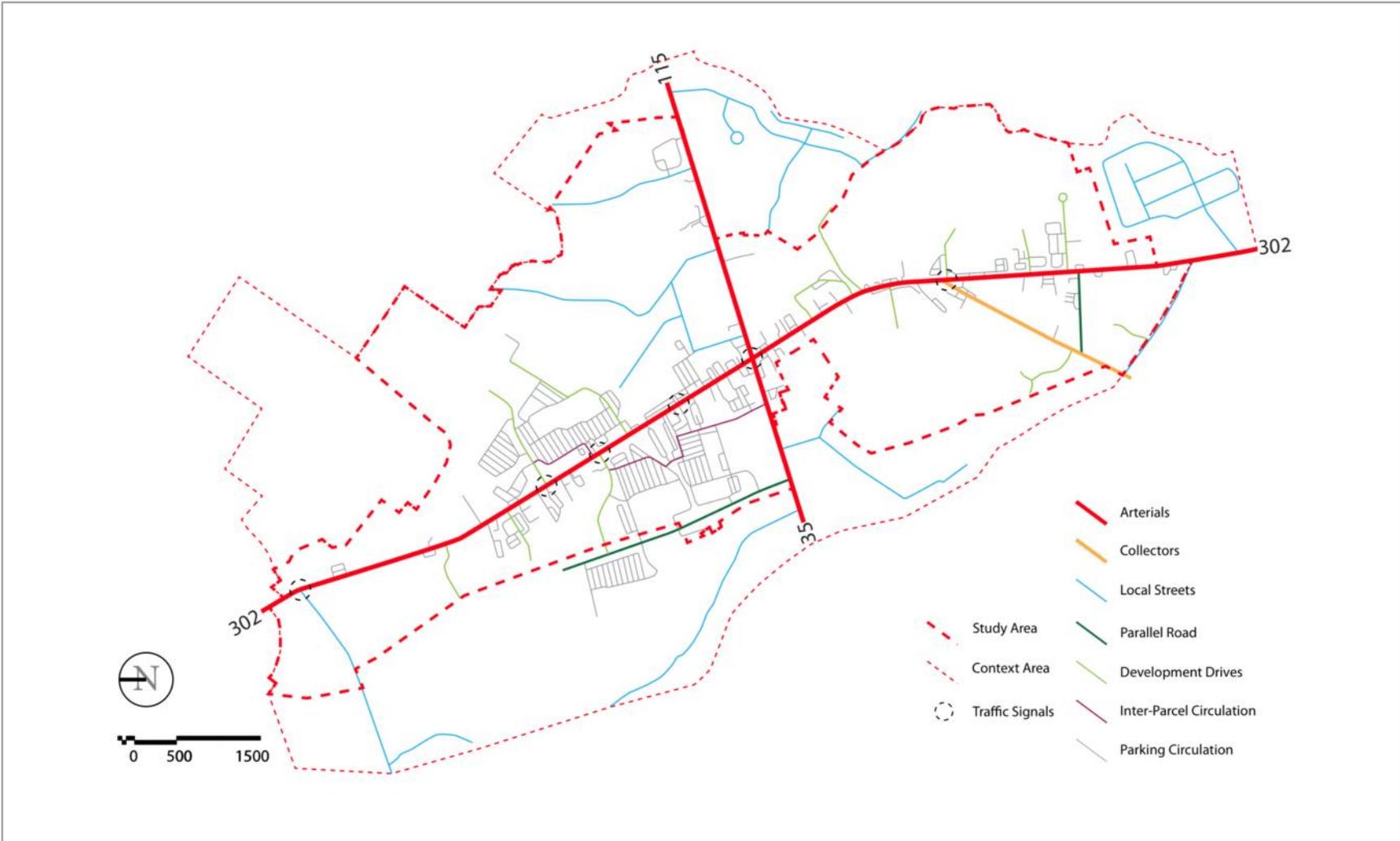


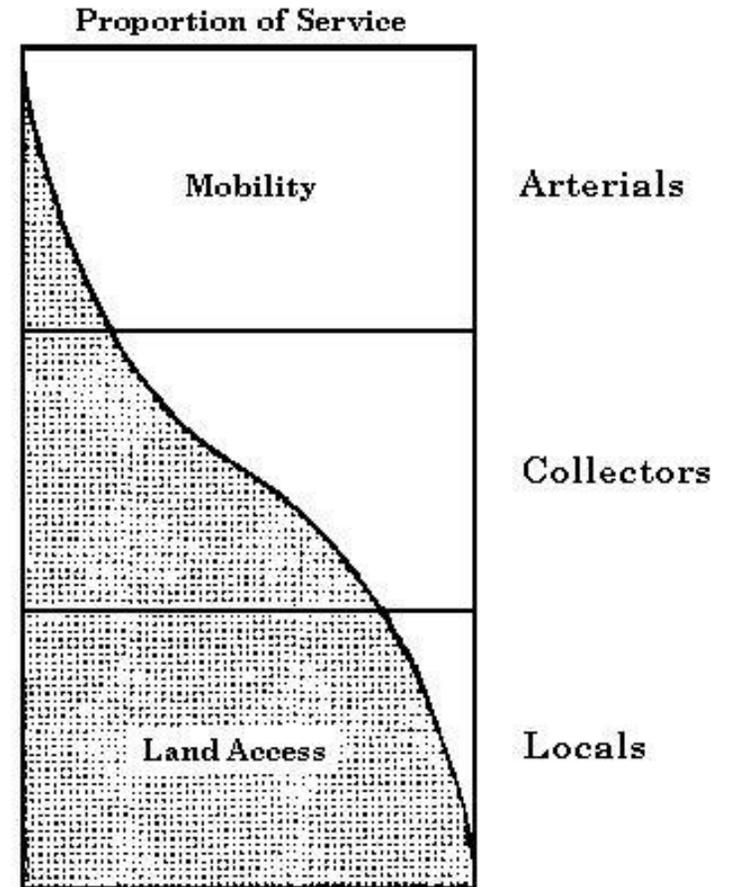
Figure 2: Existing “Street Network”

2.1.b Vehicular

Summary:

The transportation system in the study area is dominated by Roosevelt Trail. As discussed in Section 2.1.a, above, the road is classified as an arterial with a primary function of regional mobility. However, there are also many businesses that obtain their access from Roosevelt Trail. This dual role of providing regional mobility and providing local access creates an inherent conflict. The illustration to the right labeled, “Proportion of Service,” shows in a visual form that an ideal transportation system reserves arterials for moving traffic while local streets are designed to provide access. Thus, the designed function of Roosevelt Trail to move traffic is strained in North Windham by the local demand to provide access to individual properties.

This “strain” is caused by the need for vehicles to use the arterial roadways to make most trips between individual properties. These trips add to the volume of cars on the roadway, and increase the number and type of turning movements that conflict with traffic moving on a straight line course through the corridor. The following conditions are reflective of the competing demands being placed on the district’s transportation system.



Conditions:

Inventory of Traffic Data – A detailed inventory of existing traffic information was assembled for the project and is summarized, below. In addition, graphic illustrations of these conditions can be found Appendix A and B.

- Average Annual Daily Traffic Volumes (AADT) (Count conducted in 2007).

Location	Avg. Annual Traffic Volume (in # of Vehicles)
Roosevelt Trail south of River Road	16,170
Roosevelt Trail south of Routes 115/35	23,690
Roosevelt Trail north of Routes 115/35	26,070
Roosevelt Trail north of Whites Bridge Road	21,420
River Road west of Roosevelt Trail	7,260
Route 35 west of Roosevelt Trail	9,520 (2006)
Route 115 east of Abby Road	14,590

- Crash History – The following table lists the locations along Roosevelt Trail between Pope Road and Whites Bridge Road that were classified as a High Crash Location (HCL) according to MaineDOT criteria for the most recent available three-year period between 2008 and 2010. An HCL is defined as a location with 8 crashes or more and a Critical Rate Factor (CRF) of 1.00 or more within the three year reporting period.

Location	Number	CRF
Roosevelt Trail @ Routes 115/35	42	1.23
Roosevelt Trail Segment south of River Road	16	1.43
Roosevelt Trail Segment River Road to Approx. Sposedo Rd.	22	1.52
Roosevelt Trail Segment Approx. Sposedo Rd. to Routes 115/35	25	1.87
Roosevelt Trail between Routes 115/35 and Shaw’s Entrance Drive	26	1.62
Roosevelt Trail Segment north of Shaw’s Entrance Drive	15	1.05
Roosevelt Trail Segment north of Landing Road	13	1.15

Level of Service – Levels of Service information was obtained from the 2007 Windham Service Road Study. The level of service gives a letter grade for an intersection based on the amount of delay a vehicle experiences for a given traffic movement. In general, a LOS of D or below is considered to be a “failing” intersection.

- Roosevelt Trail/Whites Bridge Road – Overall LOS ‘C’ (some movements operate at LOS ‘E’)
- Roosevelt Trail/Landing Drive – Overall LOS ‘B’ (some movements operate at LOS ‘D’)
- Roosevelt Trail/Shaw’s Drive – Overall LOS ‘B’ (some movements operate at LOS ‘D’)
- Roosevelt Trail/Routes 115/35 – Overall LOS ‘D’ (some movements operate at LOS ‘E’)
- Roosevelt Trail/River Road – Overall LOS ‘C’ (some movements operate at LOS ‘D’)

Findings/Analysis:

Traffic Volumes. As noted in the AADT figures, above, the heaviest traffic volumes are found on Roosevelt Trail north of the River Road intersection. Continued growth of vehicular traffic in the future may require additional roadway treatments. The North Route 302 Corridor Plan (March 2011) noted that traffic volumes above 28,000 may require the limiting of left turn movements through the installation of center medians. Similar to the crash History/safety analysis, one of the ways to preserve roadway capacity, and delay the need for limiting left turn movements, is through applying access management practices.

Crash History/Safety. The primary conclusion from this data is that a significant portion of Roosevelt Trail in the study area has potential safety problems. As noted in the table, most HCL locations are roadway segments located on sections of Roosevelt Trail, rather than at specific intersections. Most of the vehicle crashes in these locations are likely related to vehicles making turns into and out of driveways. This signals a need to institute better access management practices in the district, and especially on the major arterials.

Level of Service. The LOS figures for each of the intersections shows that in general the conditions on the Roosevelt Trail corridor are acceptable. However, there are some turning movements that are considered to be failing. To improve the current and future LOS at these intersections, continued efforts should be made to identify and construct lateral roads that will expand the transportation network. The overall goal is to make intersection improvements that will improve the level of service while also improving safety conditions.

2.1.c Pedestrian / Bicycles

Summary:

In the beginning of the planning process, the Advisory Committee used the CSS tool of conducting a field visit to the North Windham district. This field visit focused on identifying gaps and deficiencies in the transportation system. In addition, observations were made about how improvements could be made to improve the look and feel of the district. The Committee found that there are many opportunities for improving the pedestrian and bicycling conditions in the study area.

Conditions:

The existing pedestrian and bicycle infrastructure conditions can best be described and understood by reviewing the Field Edit Observation list and figures in Appendix B. In summary, there are considerable gaps in the transportation system's ability to accommodate all modes of travel. Examples of these gaps include an incomplete sidewalk network, a lack of crosswalks and sufficient pedestrian crossing signals, large expanses of parking lots, a lack of bicycle routes and racks.

Findings/Analysis:

Based on the conditions documented in the Advisory Committee's field visit, much work is needed to build pedestrian and bicycle facilities that are necessary to create a more inviting mixed-use environment. These improvements have the potential to increase pedestrian access between business establishments, and thereby reduce some of the need to add vehicle trips on Roosevelt Trail to visit multiple destinations within the commercial center. Implementation of the recommendations in Chapter 3 will initiate a long-term improvement in making North Windham available for all modes of travel.

2.1.d Streetscape

Summary:

The study area is lacking the types of streetscape amenities (e.g., benches, shelters and pedestrian-scaled lighting) that create a welcoming retail and commercial environment.

Conditions:

- Landscaping/Tree Cover. There is a general lack of tree cover in the parking lots, although the canopy percentage was not calculated as part of this Master Plan;
- Landscaping. Businesses fronting 302 within the commercial core have landscape treatments of varying degrees. The range of landscaping goes from properties with wide landscaped areas that are comprised of lawns, flower beds and shrubs to those with a thin strip of bark mulch and a few low shrubs. Advisory Committee members identified that more unified landscaping along the corridor would improve the overall look and feel of the commercial district.



*Narrow Landscaped Area
Without Screening of Parked Cars*



*Wide Landscaped Area
With Shrubs for Screening of Parking and Seating*

Utility Lines. The view down Roosevelt Trail is notable for the large number of overhead utility lines and DOT traffic signs.

Streetscape Amenities. The following is a list of streetscape amenities that are not currently found in the commercial district. The installation of these types of features can be used to create a more attractive shopping environment.

- Seating
- Kiosks
- Shelters
- Bike racks
- Trash receptacles,
- Street trees
- Pedestrian-scaled lighting
- Interconnected sidewalks

Findings/Analysis:

Landscaping. The Advisory Committee noted on its field visit that the implementation of a more unified and consistent landscape plan in the district would greatly improve the appeal and sense of place in the district.

Capital Improvements. The arterials, collectors, local streets and inter-parcel connectors within the study area do not include – nor are required to integrate – streetscape amenities. A comprehensive capital improvement program does not exist for the short and long-term installation of streetscape amenities. The Town currently has several tax increment financing (TIF) districts in the area. The capital improvement program should re-look at existing TIFs and other options such as development/business improvement districts.

Development Review Standards. New developments must meet current site plan standards and strive to meet design guidelines. As currently written, these are basically aesthetic standards that do not address pedestrian safety and connectivity. As a result, future development may not contribute to streetscape amenities or pedestrian safety in the district.

Utility Lines. The North Windham commercial district is cluttered with overhead utility lines and DOT traffic signs. The overabundance of this visual clutter:

- Detracts from the commercial district’s role as the gateway to the natural beauty of the Lake Region,
- Serves a distraction to motorists, and
- Creates sidewalk obstacles (e.g. utility poles located in the middle of sidewalks)

2.2 Land Use

2.2.a Environmental Constraints

Summary:

Environmental constraints such as shoreland zones, wetlands, the sand and gravel aquifer and steep slopes were identified using GIS, input from Town Staff, the public and the Advisory Committee. Vernal pools have not been mapped. Detailed field verification of existing environmental conditions is beyond the scope and budget of this planning process. This being said, the general level of information collected for this plan is useful for understanding the potential type and scale of development in the study area.

Conditions:

- Environmental constraints identified within the study area consist of wetlands and setbacks to water bodies. These areas are depicted on Figure 3, below;
- The study area has four basic “quadrants” of undeveloped land suitable for development. These quadrants are located as follows:
 - North of Lowes
 - East of Hannaford
 - East of Roosevelt Trail running from the rear of Manchester School South to approximately Commons Avenue.
 - West of Roosevelt Trail south of Whites Bridge Road.
- Development in the study area is limited to the east due to topography such as steep slopes, shoreland zoning and a series of interconnected ponds and streams;
- Development to the west of the study area is limited due to the Presumpscot River protection zone, additional ponds and streams and two utility corridors;
- The study area lacks sewer. The Town and the United States Geologic Survey (USGS) are monitoring the impact of existing development on groundwater, ponds and streams. Any proposed development will require detailed site analysis as well as permits from the appropriate agencies, and
- The study area is served by public water.

Findings/Analysis:

- The study area is well suited for redeveloping existing sites and infill parcels in the commercial core and along Roosevelt Trail;

- There are opportunities for incremental growth in the surrounding “quadrants”. The conceptual residential build-out scenarios in the Master Plan use 20,000 square feet as a minimum lot size. This lot size meets the State of Maine minimum standard for dwelling units using septic systems for wastewater disposal, and
- The installation of sewer could reduce impacts on adjacent environmentally sensitive areas and improve conditions for infill development within the commercial core. As a side note, a sewer feasibility study for the area has been completed and the Town is evaluating the findings and related costs.

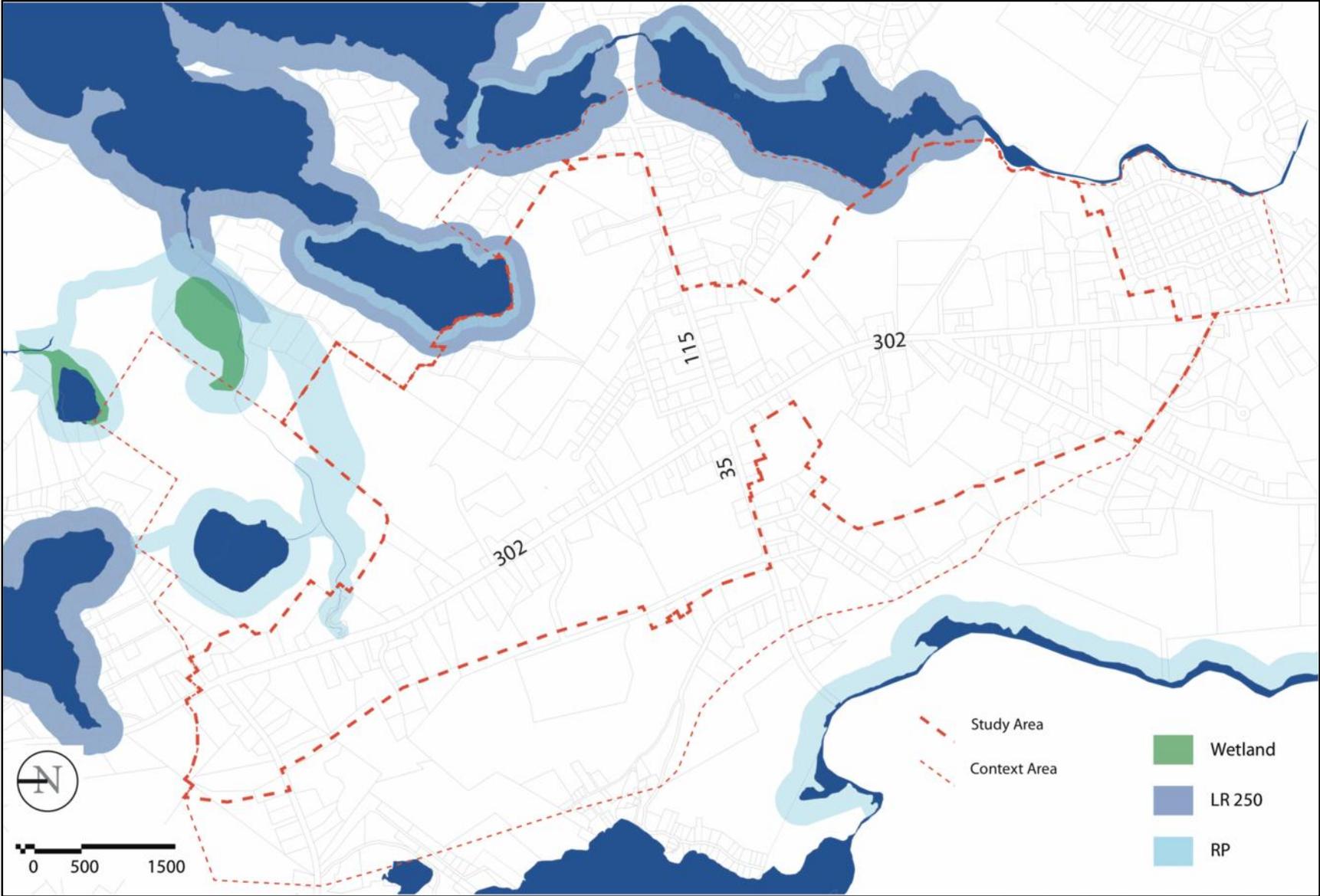


Figure 3: Environmental Constraints

2.2.b Zoning

Summary:

North Windham is a regional commercial center that includes a range of local and national businesses, home occupations and grandfathered residences. This area evolved into a commercial center due to its advantageous location at the intersection of Roosevelt Trail and Routes 35/115 and the abundance of relatively flat land with good soils. The historic transportation patterns and land uses created a gateway to the Lakes Region. The area is also supported by seasonal visitors to the Lakes Region.

The Land Use Ordinance defines the intent of the C1 Zone:

To provide general retail sales, services and businesses within the Town of Windham in locations capable of conveniently servicing community-wide and/or regional trade areas, with safe, well-regulated automobile access *and pedestrian access where appropriate*.

During the analysis phase of the Master Plan – and in light of the scope of work and the Values and Mission Statement – the study area was expanded to include the adjoining commercial and residential areas. The inclusion of these neighborhoods informs the analysis of walkability, connectivity and the development potential within the four quadrants identified in Section 2.2.a, above. The expansion of the study area is also useful to help anticipate the appropriate transitions to adjacent residential neighborhoods.

Conditions:

Commercial 1 District.

- Intent. It is not uncommon in suburban areas to have Commercial Zones that focus more on the types of allowed “uses.” This is in comparison to a more integrated approach addressing use, form and pattern. Furthermore, development in the C1 Zone is reviewed on a case-by-case basis, rather than the cumulative impact of development and how each use contributes to the scale and pattern of development in the Zone;

- Allowed Uses. The C1 Zone has a number of allowed and grandfathered uses that are typical of downtowns (Section 2.2.c below further elaborates on how the distribution of these uses creates identifiable “character areas”). These include the following:
 - Post office
 - School
 - Cemetery
 - Fire Station
 - Church
 - Residences
 - Restaurants
 - Hardware store
 - Record store / bookshop
 - Banks
 - Ball fields
 - Grocery stores
 - Pharmacies
- Residential Uses. New Single-family, two-family and multifamily dwellings are not allowed unless they are created within buildings that were constructed before July 8, 1976. Housing for Older Persons is an allowable use without grandfathered provisions. However, dwelling units may not be located in the basement or the first story unless classified as “affordable” by the Federal Housing Act of 1959., and
- Balanced Tax Base. The 2003 Comprehensive Plan notes commercial development constitutes 20% of the Town’s tax revenue with a goal of increasing commercial revenue to 30%. However, commercial development currently represents 16% of the tax base.

Findings/Analysis:

- The standards of the C1 Zone do not achieve the “intent” of the zoning district or the stated goals of the Master Plan’s Values and Mission Statement;
- The study area includes a range of allowable uses, but lacks the form and pattern of a traditional downtown;
- Residential uses are allowed only with grandfathered status. Housing for Older Persons is an allowed use, but not in basements or the first story of a building unless the dwelling units meet the definition of affordable;
- Current street standards for Subdivisions in the Land Use Ordinance do not require Complete Streets or street networks;
- The Land Use Ordinance identifies the location of the C1 Zone and is specific regarding issues such as uses, setbacks and parking ratios, but does not include a master plan vision for the desired form, scale and pattern of development and redevelopment. Development is reviewed on a case-by-case basis;
- Commercial district guidelines in regards to pedestrian spaces, parking areas, services areas, architecture, landscaping, lighting and signage are only recommendations and not standards;

- Parking must be within 300' of the principal use for which the spaces are required;
- Mixed-use developments require the maximum required parking per use, however a reduction in parking may be granted if the applicant can demonstrate feasibility;
- Shared parking is allowed if the applicant can demonstrate feasibility;
- The Land Use Ordinance does not have standards for on-street parking;
- The Land Use Ordinance does not require energy efficient buildings and low impact site development;
- A 50'-wide buffer is required between the C1 Zone and adjacent residential uses, and
- Town-wide, commercial tax revenues have decreased since 2003 and it is not known how the C1 Zone is contributing to this trend, and
- There are a number of factors influencing economic development (and are outside the scope of this planning effort), but as discussed later, economic modeling is required to understand how revitalizing North Windham as a 21st Century Downtown will impact Town revenues.

2.2.c Land Use Character Areas

Summary:

When one drives through the study area there is an overwhelming sense of strip and big box development. However, the “pattern” of uses in the study area uncovers a more nuanced picture of North Windham. It is important to understand these patterns and types of uses because they reveal opportunities to meet the goals of the Mission and Values Statement. In the review of the study area it was no longer seen as an all-encompassing “zone”, but rather as a place with a diverse history and dynamic future – a future that is both realistic and visionary.

Conditions:

The pattern of uses in the study area uncovers several land use character areas. Each of these character areas are shown in Figure 4, below. An identification and description of each is as follows:

- Civic. A “civic” core including town lands, a cemetery, a fire station, a school, a church and a meetinghouse (see Figure 5, which shows the location of Town-owned properties);
- Residential. These are neighborhoods located both within the C1 District and on the periphery of the commercial core.;
- Big Box Retail. The big box stores and retail shopping plazas form the most distinguishable core of the commercial district;
- Mixed-use/Residential. These areas include a mix of use types arraigned in a linear development pattern. Typically, the uses do not share the same property, but are on adjacent parcels. Examples include River Road and Whites Bridge Road;
- Strip Development. Traditional commercial strip development along Roosevelt Trail to the north and south of the big box core and the intersection of Routes 302 / 115 / 35, and
- Industrial. A cluster of more industrial uses exists in the northern end of the study area. This area is relatively undeveloped compared to the rest of the commercial district.

Findings/Analysis:

An analysis of the land use patterns in Figure 4 provides the following insights:

- Looking at the C-1 District as a place with unique characteristics and opportunities can be the starting point for systematically guiding growth in a responsible manner. This analysis identifies that the study area is not a monolithic “zone.” Rather, it is a place with logical patterns of development, uses and historic trends;

- Identifying the character areas helps inform (re) development opportunities, the appropriate location and scale of future uses and how to ensure compatibility with adjacent uses, and
- The existing C-1 District is not sympathetic to the context of each character. An analysis of the existing zones and the creation of individual standards will help enhance the unique areas within the commercial zoning district.

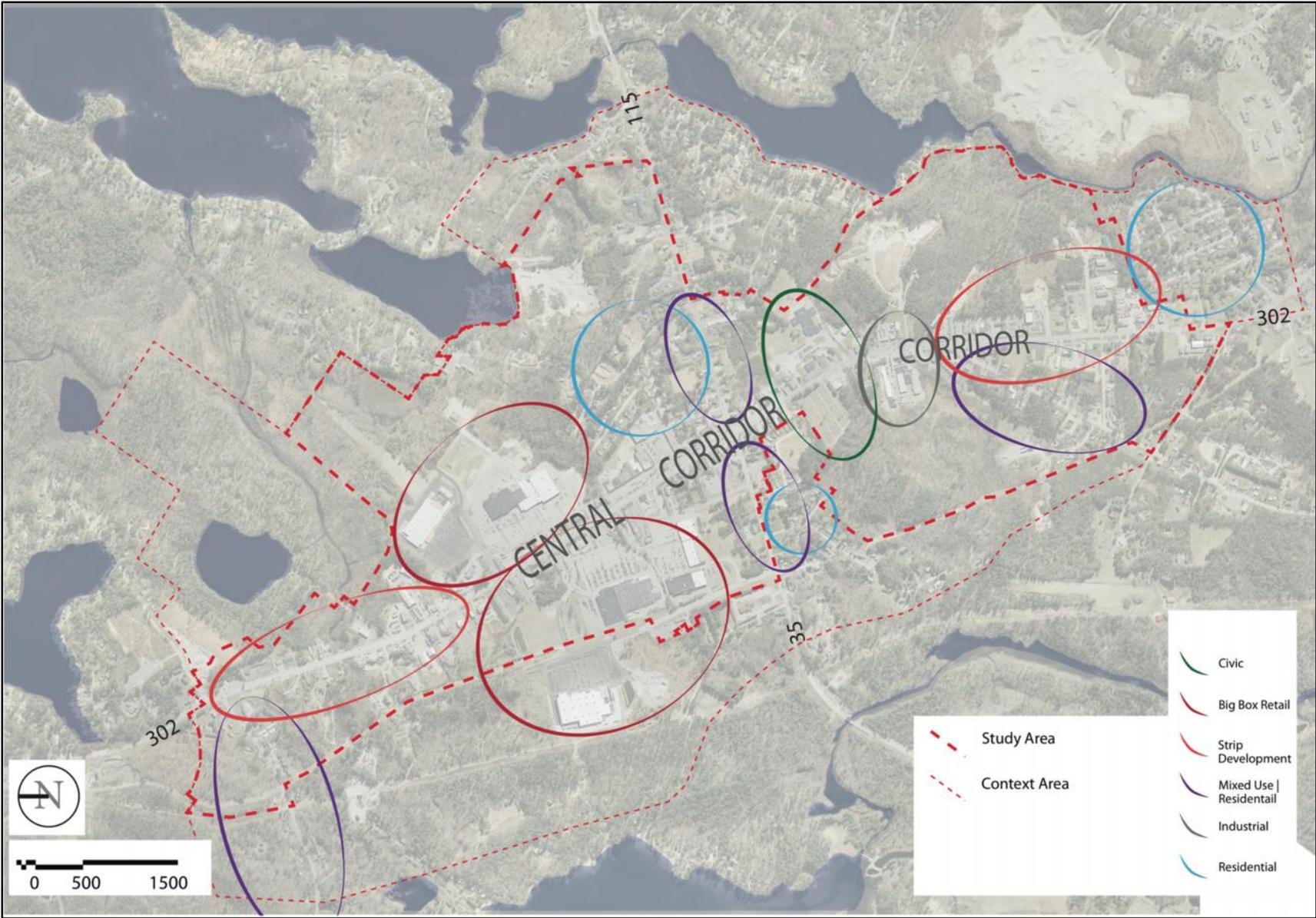


Figure 4: Land Use Character Areas

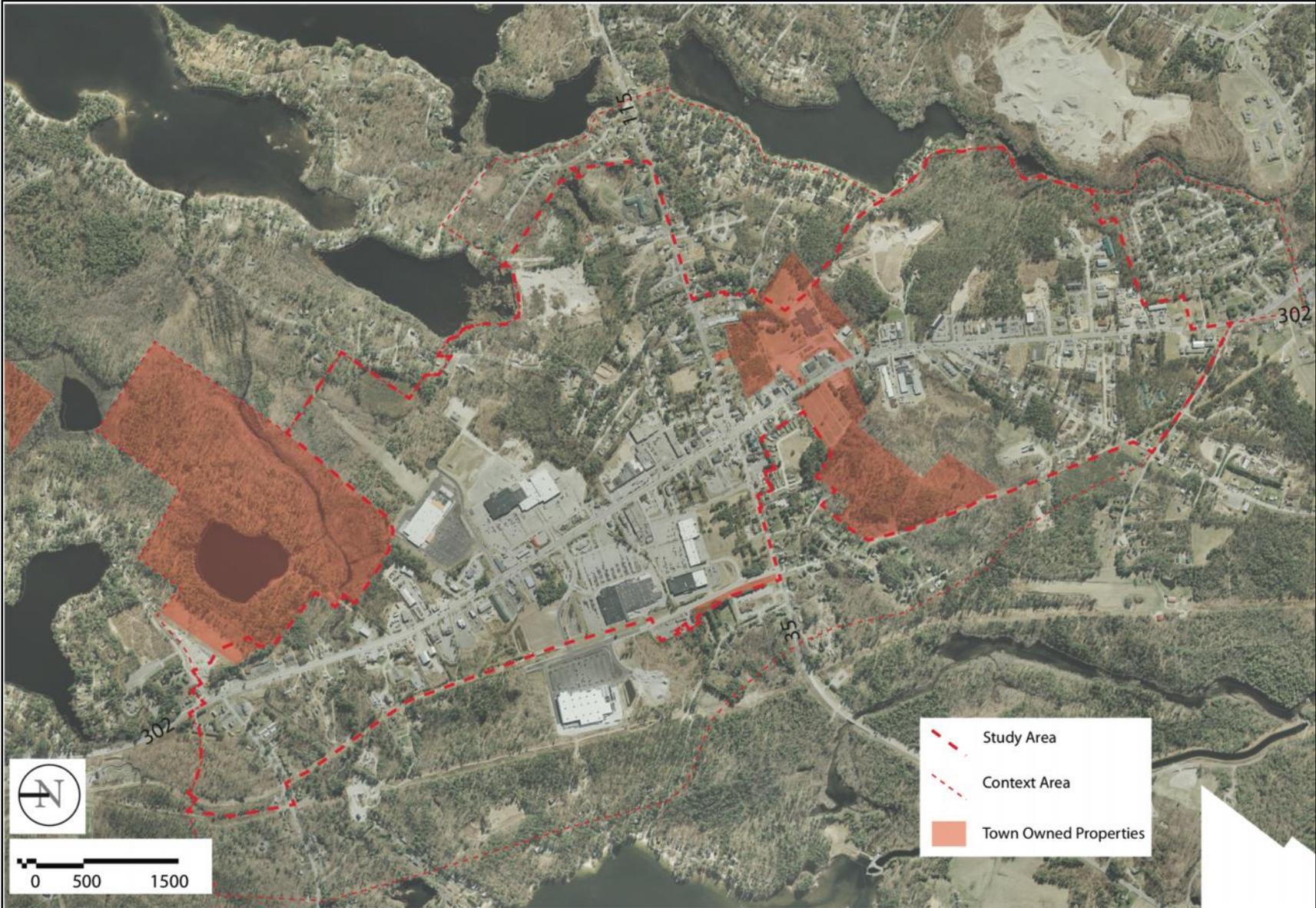


Figure 5: Town-Owned Lands

2.2.d Development Patterns

Summary:

Just as the land use character areas analysis provides a nuanced understanding of the study area, a tool referred to as a “figure / ground analysis” depicts the scale of buildings in comparison to the land area – and even more specifically the pattern of development. Figure 6, below, is a figure/ground analysis of the study area that shows buildings (figures) in black and the surrounding ground in white.

It is clear that in some areas development corresponds to street patterns. This is found in a neighborhood like Brookhaven and in the development along Roosevelt Trail and Routes 115 and 35. In contrast, the buildings in the big box area of North Windham appear to “float” in space with no relationship to a street pattern. By looking at the figure/ground illustration, the community has another tool for evaluating existing conditions and determining a desired future pattern of development.

Conditions:

What is important to note from the figure/ground analysis is that,

- Strip Development. Most of the strip or smaller scale development in the study area follows existing streets and roads. An example of this pattern can be found along Roosevelt Trail between Page Road and River Road;
- Big Box Retail. In the big box core, surface parking and corresponding circulation covers more land than the buildings;
- Impervious/Paved Surfaces. The surface parking combined with the impervious surface of the buildings creates large areas of stormwater that must be treated;
- The large amount of white area in Figure 6 shows the potential for infill development.

Findings:

- Big Box Retail. The big box retail and shopping plazas include a large amount of surface parking and private access/circulation drives. This land coverage directly correlates with both the Town’s required parking to building square footage (and use) ratios and those desired by private business. These ratios result in a built environment with little to no pedestrian amenities;
- Impervious/Paved Surfaces. Large impervious and/or paved surfaces create the need for stormwater treatment basins. In a commercial center these are not an efficient use of land. A reduction in the amount of impervious surface and an increase in low-impact development practices (a.k.a LID) would reduce the need to dedicate land to non-commercial uses;

- Infill Development Opportunities. Typical of today’s suburban commercial centers, the big box portion of the study area has an inefficient use of land resources (For more information on this subject, see the section on “Floor Area Ratio” in Appendix C). Examples of these inefficiencies include:
 - Expansive areas of impervious surfaces (predominately in the form of parking lots),
 - A predominance of one-story buildings,
 - Long distances between buildings and few pedestrian amenities (both of which discourage walking between establishments),
 - Lack of Complete Streets,
 - Minimal to no street networks,
 - Limited residential uses,
 - Negative impacts on stormwater quality, and
 - Stressed arterial roads serving the big box retail and shopping malls;

- As new development occurs there should be a clear relationship between the street network and the buildings. The ideal development pattern would include the following:
 - The use of a grid street network to increase vehicular and pedestrian connectivity,
 - The placement of buildings closer to the sidewalk/street to improve the pedestrian/shopping environment,
 - A reduction in the large surface parking areas (both the unbroken expanses and the amount of unused spaces);

- The building pattern in the study area follows the arterial linear street networks. As a result, there is an overall lack of street and parcel connectivity in the district;
- Buildings with smaller footprints front on streets and larger developments are surrounded by parking at a scale that is not pedestrian-friendly;
- The relative affordability of land provides little incentive for developers to build multi-story buildings or parking structures, and
- In examining the figure / ground analysis and walking the study area, there has been very little “pad” type development within parking lots that have excess capacity. One example of a pad development is the AT&T Store at the North Windham Shopping Plaza (See images, below).



*Example of Unused Parking Area
with Pad Development Potential*



*Example of Pad Building Located Close to Street
(AT&T Store at the North Windham Shopping Plaza)*

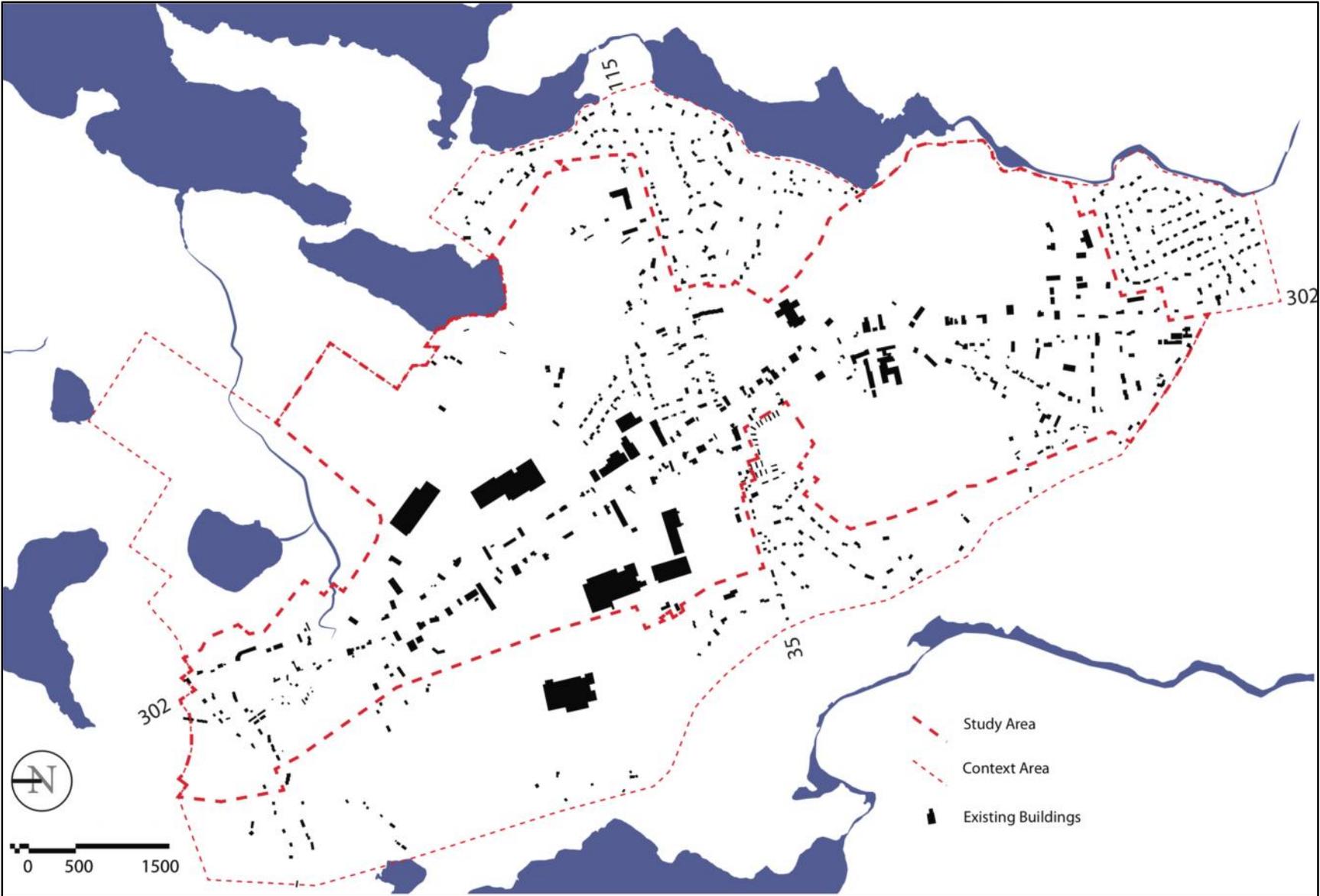


Figure 6: Figure / Ground Analysis

3.0 RECOMMENDATIONS

The recommendations in the Master Plan are based on the conditions and analysis in the existing conditions chapter, input from the public and the Advisory Committee. Each recommendation is intended to work together to create a North Windham mixed-use district that integrates transportation issues, economic development and the built environment. The implementation of this Master Plan through capital improvements, ordinance amendments, and development review applications has the potential to create a 21st Century Downtown. This “downtown” is one that will remain suburban in nature, but becomes a unified commercial district.

Each recommendation in the Plan includes a priority for completion. The priorities are divided into the following three (3) categories: Short-Term (1 to 5 years), Medium-Term (5 to 15 years), and Long-Term (15 years or longer). As projects are accomplished over time, the Plan will evolve to meet changes as they occur. As such, the timeframe for each priority is a recommendation will likely change over time. Regardless of when they are completed, the cumulative implementation of the Plan’s recommendations will achieve the vision of a welcoming, human scaled, mixed-use economy through the built environment and the accommodation of all modes of travel.

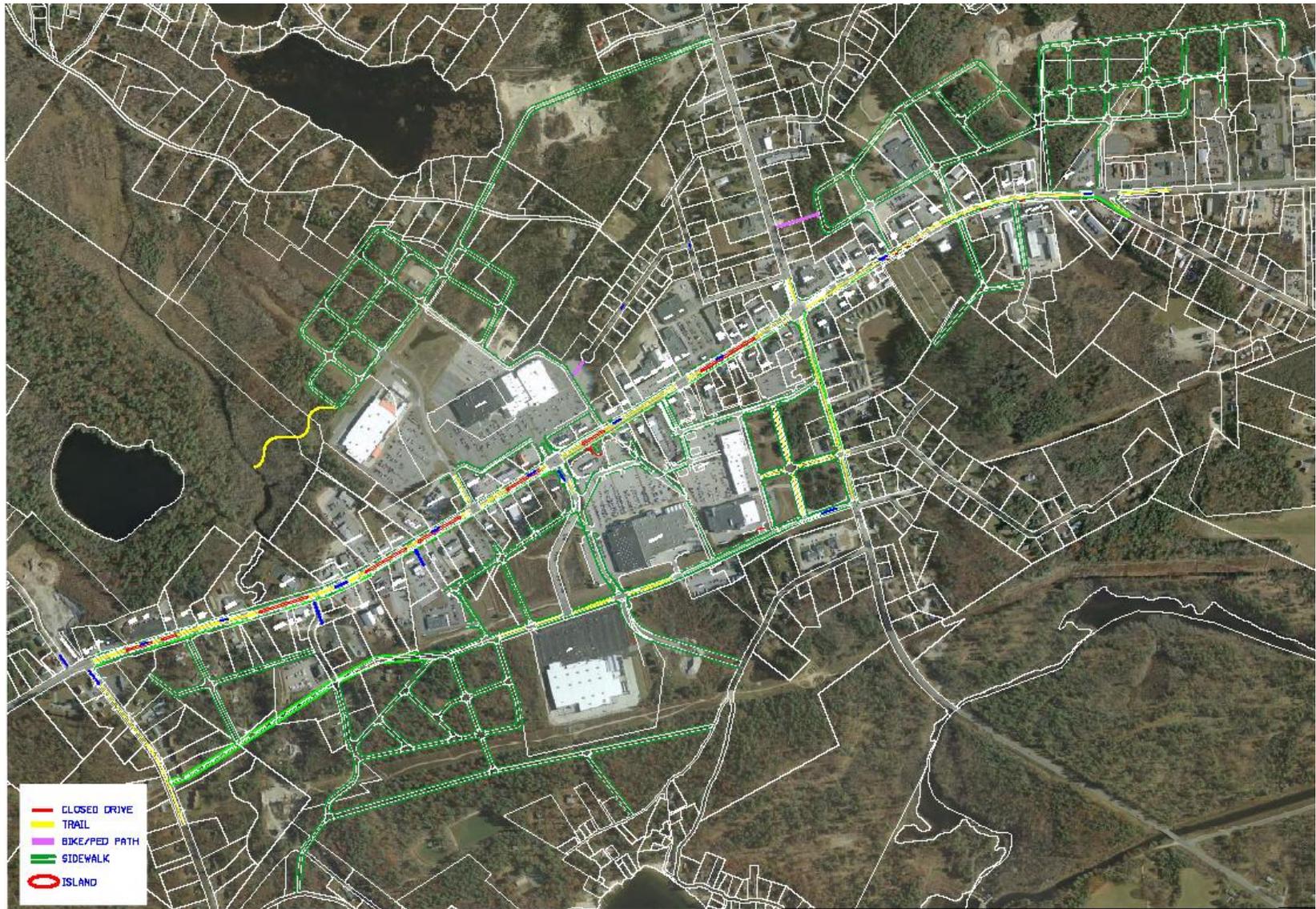


Figure 7: Overall Conceptual Master Plan Overlaid on Aerial Image

3.1 Transportation

3.1.a CSS / Complete Streets

Recommendation: Adopt a Complete Streets Policy

How: Revise ordinance / policy standards

Responsibility: Staff, Planning Board and Council

Priority: Short-Term

Implementation: As development / redevelopment occurs or as part of prioritized pedestrian improvements plan (grants, impact fees, TIF, CIP, bond)

The National Complete Streets Coalition recommends at a minimum the following Complete Street policy elements:

- Include a vision for how and why the community wants to complete its streets;
- Specify that pedestrians, bicyclists and transit passengers of all ages and abilities, as well as trucks, buses and automobiles are included in the planning and construction of transportation infrastructure;
- Applies to both new and retrofit projects, including design, planning, maintenance, and operations, for the entire right of way;
- Makes any exceptions specific and sets a clear procedure that requires high-level approval of exceptions;
- Encourages street connectivity and aims to create a comprehensive, integrated, connected network for all modes;
- Is adoptable by all agencies to cover all roads;
- Directs the use of the latest and best street design criteria and guidelines while recognizing the need for flexibility in balancing user needs;
- Directs that complete streets solutions will complement the context of the community;
- Establishes performance standards with measurable outcomes, and
- Includes specific next steps for implementation of the policy

Figures 8 through 12, below, illustrate different two types of Complete Streets and the nature of the adjacent development. This infill development situated close to streets or private drives can create new retail/commercial spaces while also providing access to the back of properties on Roosevelt Trail. This will enable the commercial establishments on Roosevelt Trail to shift their focus to the pedestrian environments off of the major arterials. This development pattern also has the potential to improve the traffic safety on Roosevelt Trail through the closure of a curb cut or a strategically placed esplanade. Figures 8 and 9 demonstrate that Complete Streets can greatly improve the function, safety and sense of place.



Figure 8: Existing Access Road from Route 35 to Shaw's Plaza



Figure 9: Existing Access Road from Route 35 to Shaw’s Plaza with a Conceptual Complete Street Retrofit

This figure illustrates a Complete Street supporting a mixed use “neighborhood” where there is enough land to support new development. This type of development would include commercial / retail on the first floor and professional and residential uses on the upper floor(s).



Figure 10: Bird's Eye View of Existing Access Road from Route 35 to Shaw's Plaza with a Conceptual Complete Street Retrofit



Figure 11: Existing Wal-Mart Parking Circulation Drive Connecting to Landing Road (McDonalds to the right)



Figure 12: Existing Wal-Mart Parking Circulation Drive with Complete Street Retrofit

This figure illustrates a less intense approach to a Complete Street. This is a retrofit of an existing parking lot, utilizing excess parking for small pad development.

3.1.b Access Management and Vehicular Improvements

Recommendation: Where feasible, from an access perspective, raised median islands are proposed (graphics in Appendix A illustrate the location of medians). These islands are designed to be 8-10 feet wide and can either be raised with landscaping or flush with a stamped material that will differentiate it from bituminous pavement.

Providing a raised median improves traffic safety and vehicle movement on arterial streets by reducing turning movements at driveways, providing a refuge space for pedestrian crosswalks, and changing the view of the street to calm vehicle speeds. A flush island (slightly raised material that has a contrasting color to pavement) will have some visual benefits, but will not restrict turn movements entering and exiting driveways.

Cost Estimate:

- Raised Median Island (10 feet): \$120 per LF
- Flush Median Island (10 feet): \$60 per LF

How: In conjunction with Roadway Construction / Development Projects
Responsibility: Staff, Planning Board and Council
Priority: Short-Term (Development Projects) to Long-Term (CIP and MaineDOT Projects)
Implementation: As developments occurs, CIP, and MaineDOT

Recommendation: No changes should be made to the lane configurations on Roosevelt Trail between River Road and Boody's Corner.

Roosevelt Trail south of Routes 115 / 35 currently consists of a four-lane roadway section with two lanes being provided in each direction. An analysis was conducted assessing the conversion to a three-lane section, where one through lane would be provided in each direction, with a center turn lane provided. Based upon a capacity analysis performed at the Roosevelt Trail / River Road intersection, poor operating conditions would result if only one through lane was provided. Given the distance between Route 115 / 35 and River Road, no changes to the existing four-lane roadway section are recommended at this time. Several recommendations are noted below:

Recommendation: River Road/Roosevelt Trail Intersection. Modify the existing traffic signal phasing so that southbound Roosevelt Trail vehicle left-turn movements onto Turning Leaf Drive have a protected phase (providing a green arrow phase so traffic can turn easily). This change will improve safety and reduce delay to vehicles turning left.

Cost Estimate: \$15,000

How: Town Project
Responsibility: Staff
Priority: Short-Term
Implementation: CIP/Other Local Funding Mechanism

Recommendation: Work with local business and property owners to modify driveway locations that are unsafe or unnecessarily contribute vehicle-turning movements in the corridor.

Unmanaged driveways can lead to safety problems and impede mobility along a roadway corridor. Roosevelt Trail, in the study area, currently has many driveways that are not compliant with State and National access management standards. As noted in Section 2.1.a, Roosevelt Trail is characterized as having high crash rates. It is likely that these deficiencies are directly linked to poor driveway design and/or location. Accordingly, the following actions are suggested to improve corridor mobility and safety (See Appendix A for graphics of possible driveway changes noted below). These actions will take place in coordination with property owners and as development (or re-development) takes place. An example of an access management alteration is the closing of a Roosevelt Trail driveway (where more than one driveway is provided) and providing a new inter-parcel connection to a rear roadway system that will allow connectivity to other businesses and access to traffic signals to help with making difficult maneuvers onto Roosevelt Trail.

- Close the driveway nearest the intersection at 746 Roosevelt Trail (Tax Map 67, Lot 39)
- Close the northerly driveway at 727 Roosevelt Trail (Tax Map 67, Lot 18)
- Close the northerly driveway at 711 Roosevelt Trail (Tax Map 67, Lot 23-1)
- Close the northerly driveway at 690 Roosevelt Trail (Tax Map 53, Lot 33A)
- Close the northerly driveway at 686 Roosevelt Trail (Tax
- Reconfigure the entry drive at 790 Roosevelt Trail (Tax Map 18A, Lot 48A-1)
- Close the northerly driveway at 815 Roosevelt Trail (Tax Map 70, Lot 11B)
- Close the southerly driveway at 835 Roosevelt Trail (Tax Map 71, Lot 6)
- Close the northerly driveway at 850 Roosevelt Trail (Tax Map 71, Lot 49A)
- Close the northerly driveway at 889 Roosevelt Trail (Tax

Map 53, Lot 33B)

- Reconfigure the driveway north of 772 Roosevelt Trail (Tax Map 70, Lot 1)
- Close the northerly driveway at 786 Roosevelt Trail; if a rear connection to Wal-Mart can be provided (Tax Map 70, Lot 5)

Map 18, Lot 19)

- Close the northerly driveway at 901 Roosevelt Trail (Tax Map 80, Lot 15A-1)

Cost Estimate:

- Closing a typical driveway and replacing the area with curbing, sidewalk material and landscaping is \$110 per LF.
- For a driveway that is 30 feet wide, the cost would be approximately \$3,300.

How: In conjunction Development Projects or through Town Improvements
Responsibility: Staff, Planning Board and Council
Priority: Short-Term (Development Projects) to Long-Term (Town Projects)
Implementation: As developments occurs and Town Projects

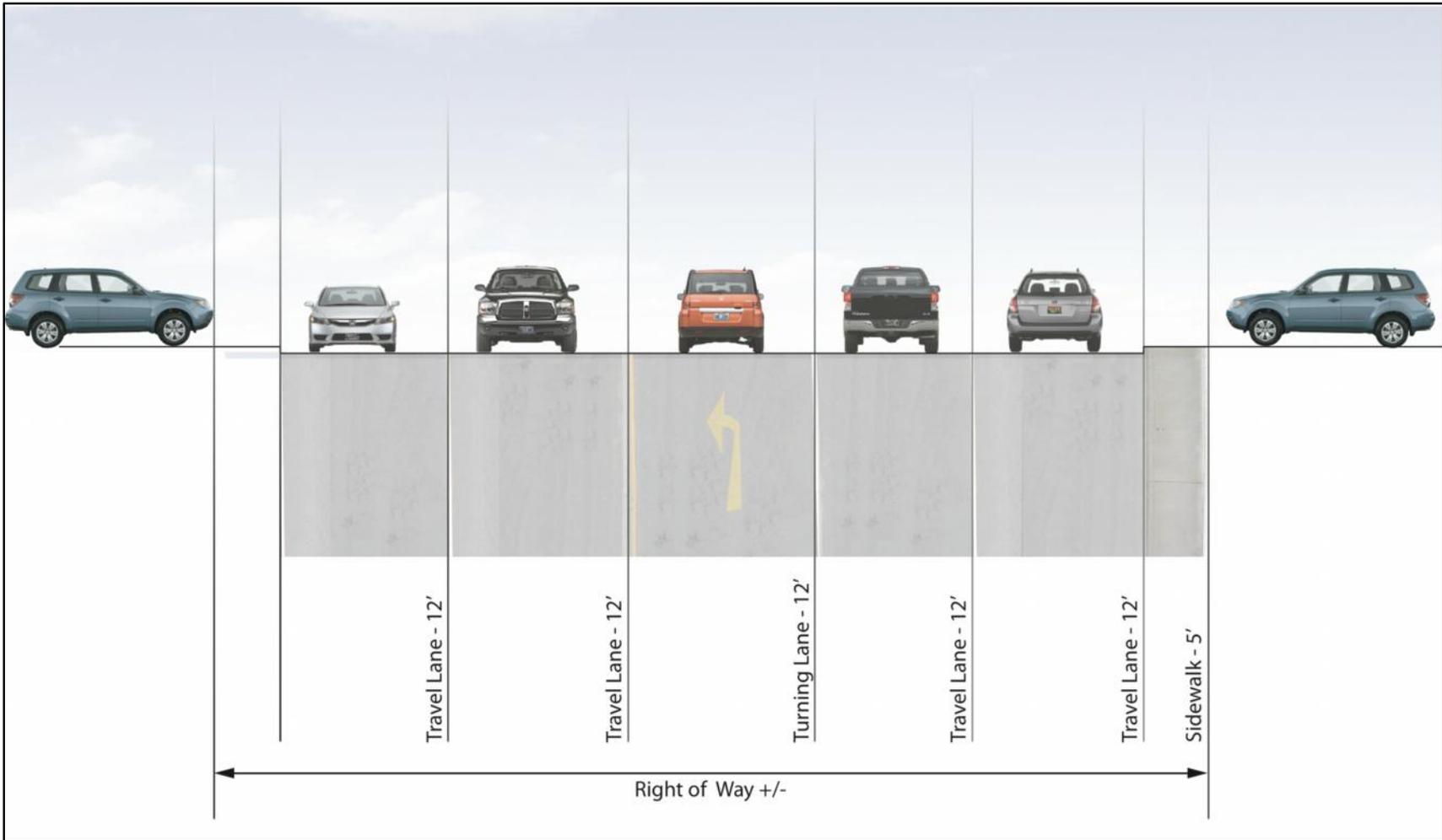
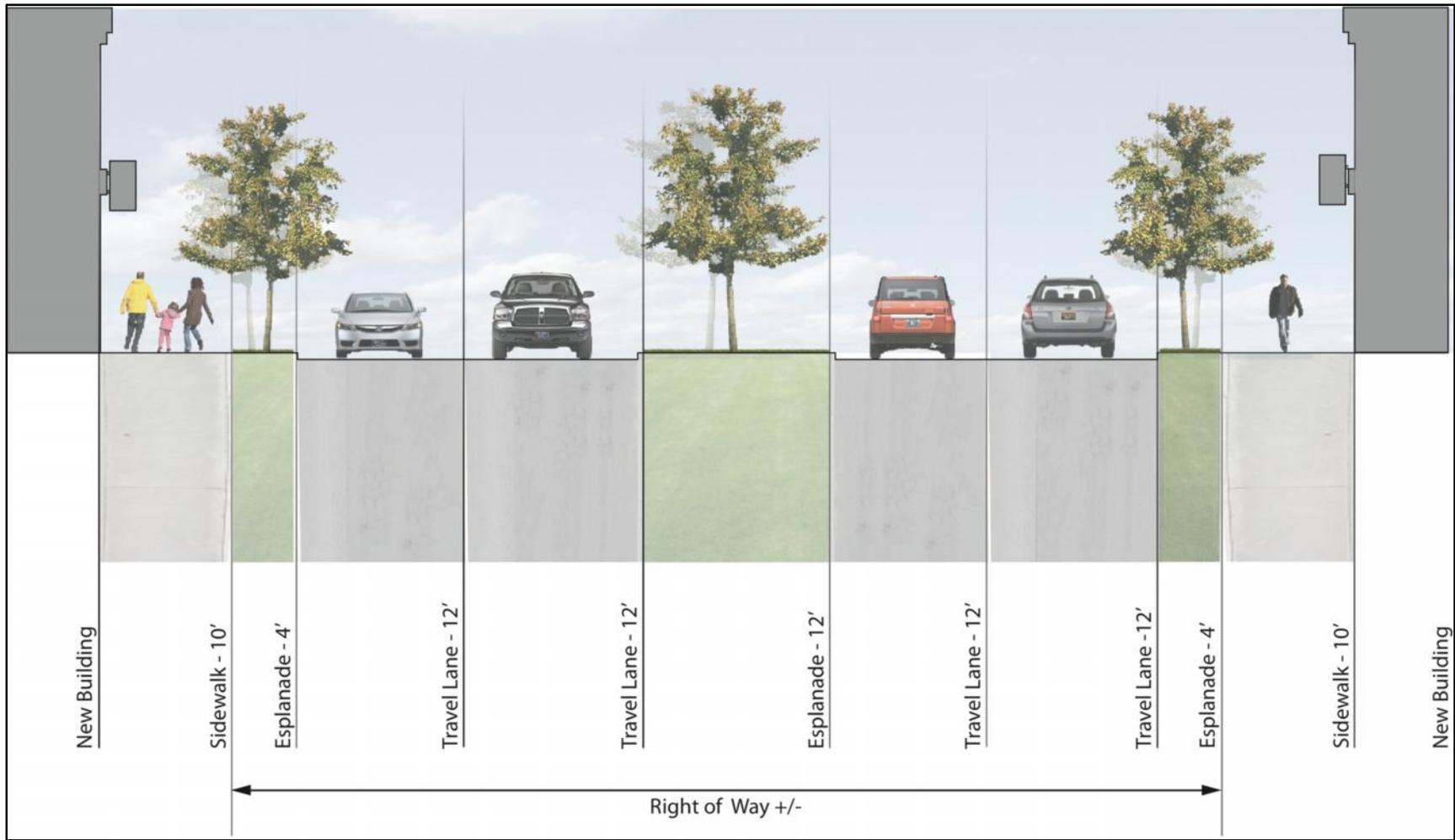


Figure 13: Existing Roosevelt Trail Cross-Section



*Figure 14: Conceptual Roosevelt Trail Cross-Section in Select Locations
(see plans in Appendix A for recommended location of esplanades)*

3.1.c Pedestrian / Bicycles

As discussed throughout the Master Plan, the implementation of a Complete Streets approach is based on a transportation system that accommodates all modes of travel. In conjunction with the other recommendations in the plan, the following improvements will make North Windham a more inviting commercial and civic center.

Recommendation: Sidewalks should be provided on both sides of Roosevelt Trail in the study area. Figures 7, 15, and Figures A1 to A3 in Appendix A, identify the areas in which sidewalk should be constructed as development occurs or funding becomes available.

Cost Estimate:

- Bituminous sidewalk (No Curbing): \$20 per LF.

How: In conjunction with Roadway Construction / Development Projects

Responsibility: Staff, Planning Board and Council

Priority: Short-Term (Development Projects) to Long-Term (CIP and MaineDOT Projects)

Implementation: As a development occurs, CIP, and MaineDOT The Town may wish to develop an funding system that collects money for the installation of continuous sections of sidewalk. This is preferable to each individual development building a disconnected sidewalk on its street frontage.

Recommendation: A sidewalk should be constructed on both sides of Tandberg Trail (Rte. 35) between Roosevelt Trail and Manchester Drive;

Cost Estimate:

- Bituminous sidewalk (No Curbing): \$20 per LF.
- Entire length of the project: \$56,320 (approximate).

How: In conjunction with Roadway Construction / Development Projects / Town Implementation

Responsibility: Staff, Planning Board and Council

Priority: Short-Term (Development Projects and Town Projects) to Long-Term (CIP and MaineDOT Projects)

Implementation: As developments occurs, CIP, and MaineDOT

Recommendation: A sidewalk should be constructed on the southeast side of Tandberg Trail (Rte. 115) between Roosevelt Trail and Emerson Drive;

Cost Estimate:

- Bituminous sidewalk (No Curbing): \$20 per LF.
- Entire length of project: \$58,640 (approximate).

How: In conjunction with Roadway Construction / Development Projects / Town Implementation
Responsibility: Staff, Planning Board and Council
Priority: Short-Term (Development Projects and Town Projects) to Long-Term (CIP and MaineDOT Projects)
Implementation: As developments occurs, CIP, and MaineDOT

Recommendation: The channelization island on the northeast side of the Landing Road/Roosevelt Trail intersection should be eliminated and a standard radius corner constructed. This will minimize high-speed turning movements that create a hostile bicycle/pedestrian environment;

Cost Estimate: \$5,000

How: Town Implementation
Responsibility: Staff, Planning Board and Council
Priority: Short-Term (CIP) to Mid-Term (CIP and MaineDOT Projects)
Implementation: CIP or MaineDOT

Recommendation: For all new road intersections, sidewalks should be provided on both sides and crosswalks should be installed at all intersection locations.

Cost Estimate:

- Bituminous sidewalk (No Curbing): \$20 per LF
- Painted crosswalk: \$1 per LF.
Typical Parallel Line and Block Design crosswalks will cost approximately \$60 and \$120, respectively assuming a 30-ft-wide crossing at the intersection.

How: In conjunction with Roadway Construction / Development Projects / Town Implementation
Responsibility: Staff, Planning Board and Council
Priority: Short-Term (Development Projects and Town Projects) to Long-Term (CIP and MaineDOT Projects)
Implementation: As developments occurs, CIP, and MaineDOT

Recommendation: Upgrade existing signalized intersections so that pedestrians can cross all approaches. This will require the installation of crosswalks, ADA ramps, and pedestrian signal equipment.

Cost Estimate:

- Sidewalk Ramp -- \$2,000 per ramp
- Painted crosswalk cost is \$1 per LF. Typical Parallel Line and Block Design crosswalks will cost approximately \$60 and \$120, respectively, assuming a 30-ft-wide crossing at the intersection.
- Pedestrian Head, Push Button, and Post: \$4,000 per post

How: In conjunction with Roadway Construction / Development Projects / Town Implementation
Responsibility: Staff, Planning Board and Council
Priority: Short-Term; On-Going (phased approach)
Implementation: As developments occurs, CIP, and MaineDOT

Recommendation: Provide a landscaped esplanade (Where right-of-way will allow), so the pedestrian experience will be enhanced by a buffer and space.

Cost Estimate: \$45 LF for a 5-foot wide esplanade

How: In conjunction with Roadway Construction / Development Projects / Town Implementation
Responsibility: Staff, Planning Board and Council
Priority: Short-Term (Development Projects and Town Projects) to Long-Term (CIP and MaineDOT Projects)
Implementation: As developments occurs, CIP, and MaineDOT

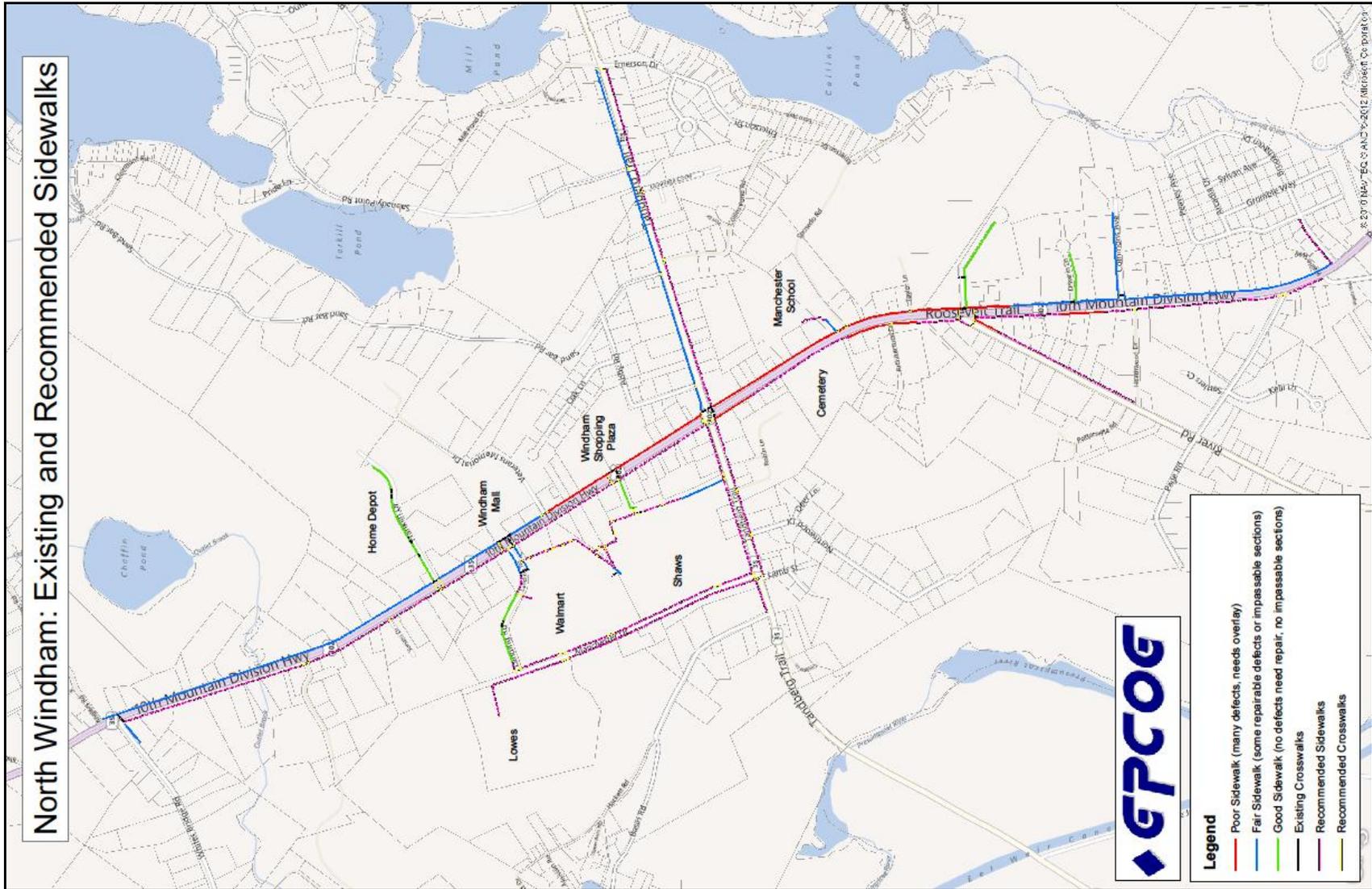


Figure 15: Existing and Recommended Sidewalk Network

3.1.d Conceptual Street Network and Location Efficiency

In looking at the potential build-out and retrofitting of the area, approximately 30 points of street or bicycle/pedestrian connectivity were identified – either extensions of existing roads or undeveloped frontage on existing roads (Figures 16 and 17). This number of potential points of connectivity is important because it suggests that there are multiple ways of creating neighborhood style mobility, density and uses. An increase in the street network’s connectivity creates a system referred to as, “Location Efficient.” This more efficient system provides more travel options, especially at the local street level. For more detailed information on the benefits of a location efficient street network, see Appendix C.

A *conceptual* build-out was prepared for the commercial core and the undeveloped lands surrounding the commercial core, keeping in consideration the baseline knowledge of environmental constraints. The purpose of this conceptual build-out is to demonstrate how a more efficient use of land can provide a wider range of development opportunities (see Figure 16, 17 and plans in Appendix A).

Both Figures 16 and 17 depict how open space should be integrated in the new neighborhoods. This can be passive or active open space or a combination of the two. This open space can be used to treat stormwater and provide habitat as a kind of ecological village commons.

Figure 15 illustrates a conceptual Master Plan where some of the connectivity between concept streets and existing streets is pedestrian only. While pedestrian only connections might be suitable for some locations, new neighborhoods should be required to have multiple connections to existing streets, creating a network that ideally does not require a vehicle to travel on one arterial to reach another arterial.

Existing and/or proposed permanent dead end streets or cul-de-sacs should only be allowed when street connectivity cannot be achieved due to the following barriers or issues. It should be noted that under this scenario, where vehicular connectivity can't be provided, bicycle and pedestrian connections should be included:

- Topography,
- Environmental constraints (protected resources),
- Existing development does not allow for the creation of a new street connection (frontage on an existing street),
- Trucks or heavy vehicles would significantly impact a residential neighborhood,
- The land-use / development type between the existing and proposed development is incompatible (although the adoption of a Conceptual Master Plan locating street types would control the type, scale and intensity of development, creating inherent compatibilities with new and proposed development), and

- The proposed street is a direct “bypass” or “parallel” road connecting two arterials, utilizing existing residential streets at both ends.

While this is only a conceptual build-out and does not represent a specific design, it does support the following recommendations:

Recommendation: Enable residential neighborhood development that will support the commercial core. This includes neighborhoods on the periphery of the commercial district and mixed-use developments within the commercial core;

How: Revise ordinance standards
 Responsibility: Staff, Planning Board and Council
 Priority: Short-Term
 Implementation: As development occurs

Recommendation: Retrofit existing parking lots with pedestrian friendly Complete Streets, buildings situated close to access drives, pad development, infill development and adaptive reuse;

How: Revise ordinance standards
 Responsibility: Staff, Planning Board and Council
 Priority: Short-Term
 Implementation: As development occurs

Recommendation: The street networks and the development should maximize connectivity and respond to an overall development pattern versus a typical disconnected lot-by-lot pattern with redundancies such as parking, stormwater facilities, curb cuts and driveways;

How: Revise ordinance standards
 Responsibility: Staff, Planning Board and Council
 Priority: Short-Term
 Implementation: As development occurs

Recommendation: Buildings should act as “urban architecture”, framing the public realm – the “outdoor room” – and defining the new and retrofitted Complete Streets;

How: Revise ordinance standards
Responsibility: Staff, Planning Board and Council
Priority: Short-Term
Implementation: As development occurs

Recommendation: The installation of streetscape amenities, the placement of utilities underground, and a reduction in the amount of, or elimination of, overhead traffic signs should be added to the Town’s capital improvement program/planning.

Cost Estimate:

- Placement of Utilities Underground: A recent “rough” cost estimate performed by Central Maine Power for another municipality produced a figure of \$5 million per mile of road. This did not include engineering, additional utilities, or the cost of secondary transformers. Within the study area, the length of Roosevelt Trail is 2.4 miles and Tandberg Trail is 1 mile. Due to the cost figures, the Town will need to prioritize areas within the district for this improvement.

How: Revise capital improvement plan
Responsibility: Town Council, Staff
Priority: Short-Term (Inclusion in CIP); Long-Term (Implementation)
Implementation: Town

Recommendation: Explore funding options such as the existing tax increment financing (TIF) district or the creation of a development/business improvement district.

How: Revise capital improvement plan
Responsibility: Town Council, Staff
Priority: Short-Term
Implementation: Town

Recommendation: Street blocks should be approximately 300 - 600 linear feet, creating three or four way intersections to maximize connectivity and create walkable, pedestrian-friendly neighborhoods. In addition, this block length makes an approximate grid of six 20,000 SF lots – similar in nature to Brookhaven.

The 300ft. to 600ft. linear foot long blocks have three primary advantages:

- Cars are required to stop at regular intervals, calming traffic by lowering speeds and making a driver more aware of the environment;
- The shorter distance between blocks creates network “porosity” or a higher ratio of road sections to intersections. This creates a more advantageous environment for walking and increasing travel options (in comparison to a cul-de-sac connecting to an arterial in order to reach another arterial), decreasing emergency response times and the delivery of city services (For more information on the topic of street network design, see Appendix C).
- By creating a block / intersection system, developable street frontage increases in a more traditional downtown development pattern.

How: Revise ordinance standards
Responsibility: Staff, Planning Board and Council
Priority: Short-Term
Implementation: Town and as development occurs

Recommendation: To improve the current and future level of service conditions at the Roosevelt Trail intersections with River Road and Tandberg Trail, the Town should continue to identify locations for lateral roads between River Road and Tandberg Trail/Route 35. The planning for a future lateral road should utilize the data in the “Service Road Study” that was completed in 2007. In keeping with public comment received during the public forums, the location of the lateral road should not impact existing residential neighborhoods.

How: Revise and build upon the, “Service Road Study,” completed in July 2007
Responsibility: Town Council, Planning Board, Staff
Priority: Long-Term
Implementation: Town, State and Federal Grants

Recommendation: Develop traffic calming standards to mitigate the effects of through traffic if connections are made to existing streets

How: Revise ordinance standards
Responsibility: Town Council, Planning Board, Staff
Priority: Short-Term
Implementation: Town

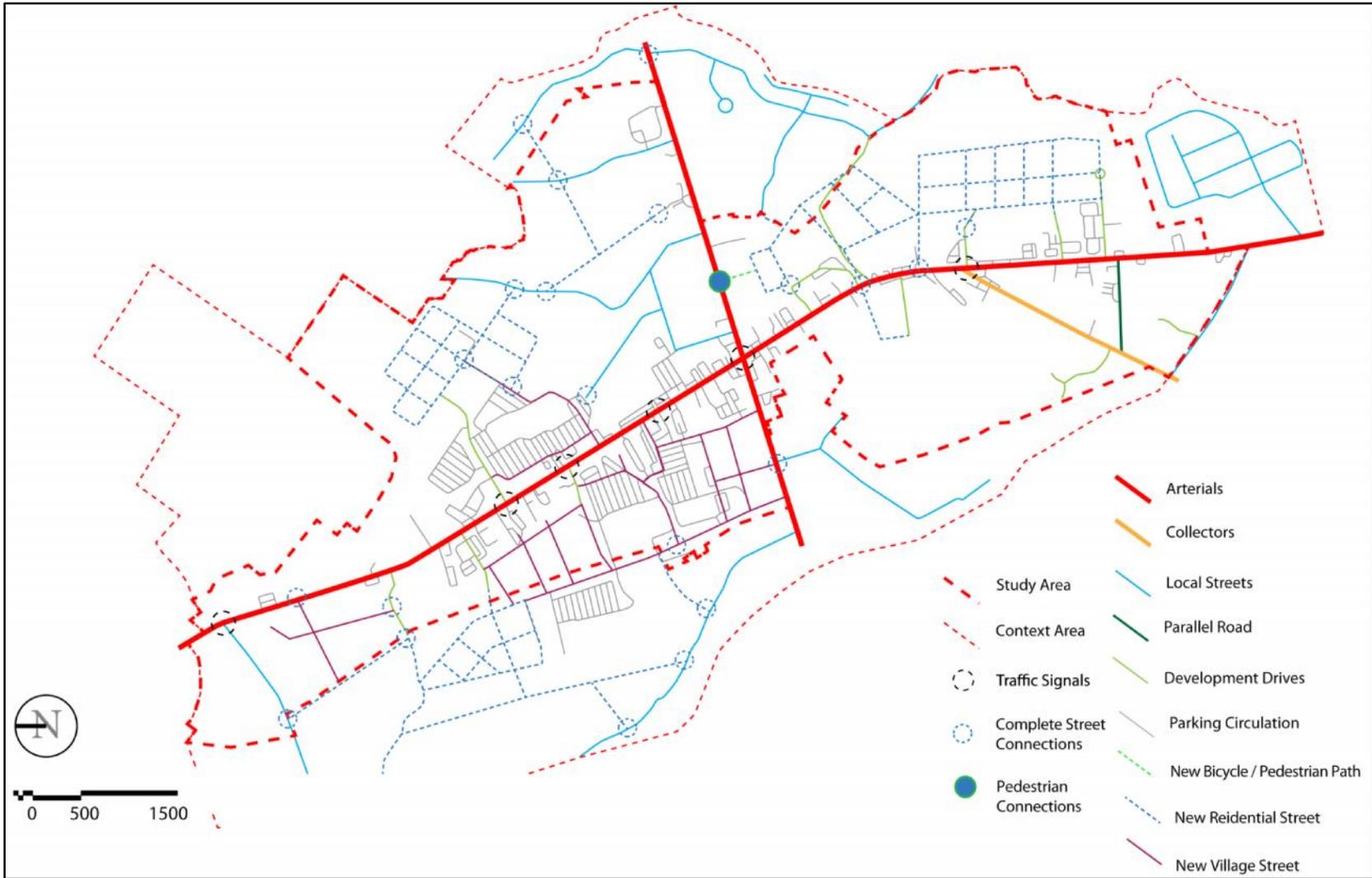


Figure 16: Conceptual Master Plan with Street Connections

(See Figures 18, 19, 20 for Conceptual Cross-Sections of Village, Residential and Gateway Street Types.)

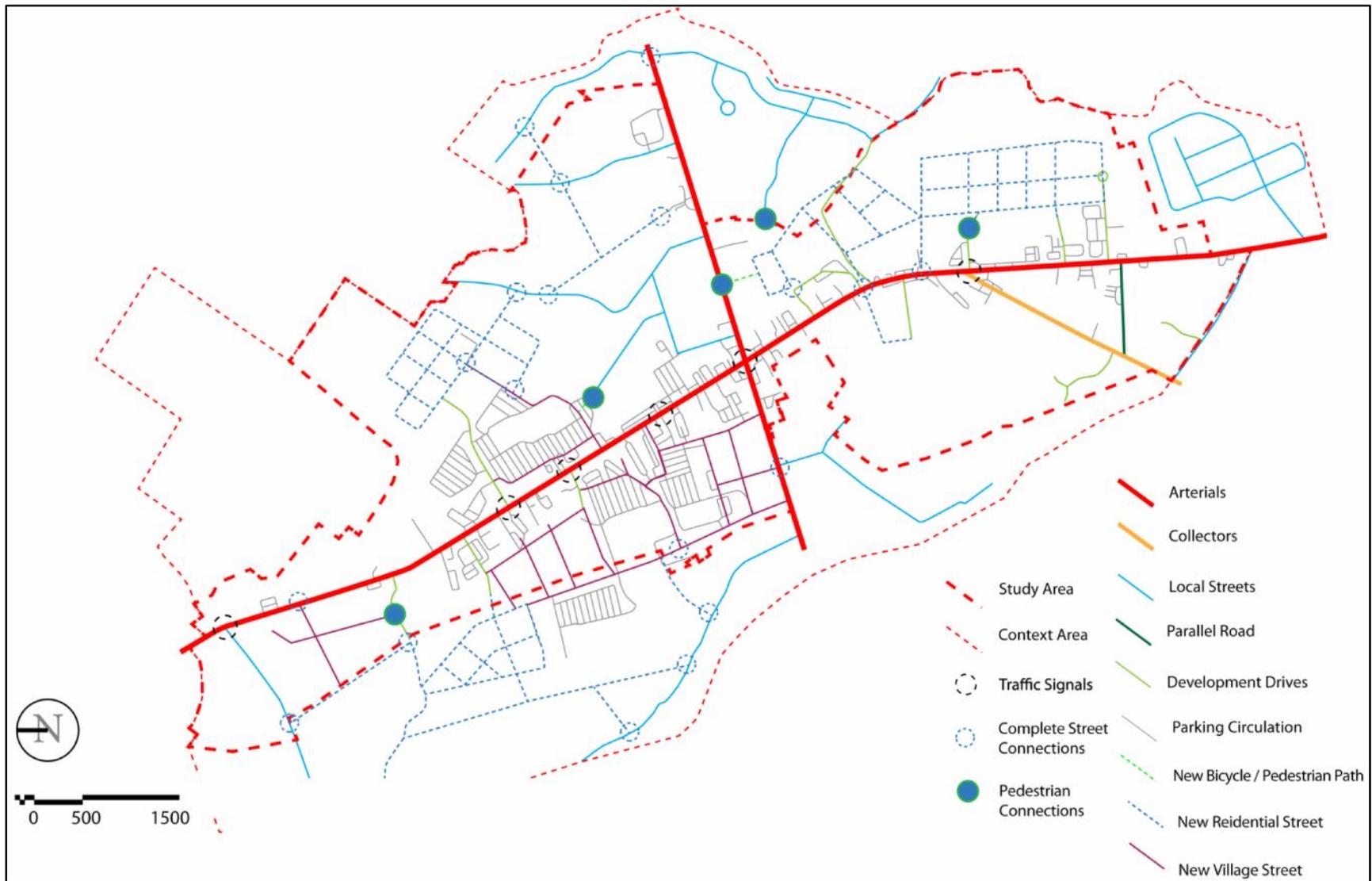


Figure 17: Conceptual Master Plan with Mix of Street Connections and Bicycle/Pedestrian Only Connections

3.2 Land Use and Standards

Section 2.2 of this Master Plan analyses the existing environmental constraints, zoning standards, land use character areas, and development patterns in the study area. The findings of this analysis identify a number of challenges and opportunities to implementing the vision for a more inviting commercial and civic center.

Challenges include the capacity of the area to support more septic systems, and zoning standards that are not reflective of the unique areas within the district and do not achieve an overall vision. Opportunities include the space for infill development, the redevelopment of existing parcels, remaining land that can be developed, and the remaining existence of unique character areas within North Windham.

Taking these existing conditions into consideration, the recommendations in this section propose a number of strategies that will help to achieve the type, pattern and scale of development that makes for a welcoming residential and commercial community.

Recommendation: Revise the Town’s parking standards to promote shared parking and Complete Streets.

Parking is key to the success of any community or commercial center. However, there are alternatives to large expanses of parking lots. These include the following:

- Require fewer off-street parking spaces for each type of use. Or, create maximum parking standards for each type of land use. If an applicant desires additional parking, require that data be provided to substantiate any increase.
- Develop shared parking standards that apply to all uses. If parking is not proposed to be shared, the applicant should demonstrate why there are no other alternatives.
- Require Complete Streets for new development rather than typical parking lot drive aisles and stalls. Further require that any additional parking spaces be placed behind buildings.

How: Revise ordinance standards
Responsibility: Staff, Planning Board and Council
Priority: Short-Term
Implementation: Town

Recommendation: The installation of a public sewer system can help to achieve the Master Plan’s goal of supporting existing development while promoting new commercial development. In particular, public sewer can increase the opportunities for commercial infill development on underutilized surface parking lots.

How: Bond, CIP, impact fees, TIF and grants
Responsibility: Staff, Planning Board and Council
Priority: Long-Term
Implementation: Town

Recommendation: Revise the Land Use Ordinance through the adoption of a Conceptual Master Plan for North Windham.

A Conceptual Master Plan for North Windham should be adopted that guides growth based on the desired form and pattern of development. The Conceptual Master Plan would represent the standards in the Land Use Ordinance, such as block lengths, Complete Streets, and the placement of buildings. The Concept Master Plan does not specify exactly where streets and connections will take place on a property – this happens as development occurs – but it does represent and embody the goals of the community. This is a proactive and developer friendly approach to land use planning because future development for the area has been “vetted” by the community in a more thoughtful manner than just looking at land use and not the overall built environment and character of an area. Use of the property is still a consideration, but scale and location of buildings takes on greater significance. In developing a Conceptual Master Plan and related standards, the Town is being “prescriptive” – clearly defining what is desired in a positive manner.

When one opens the existing Windham Land Use Ordinance, each zone is described by the intent and then is immediately followed by the allowable uses. Standards are scattered elsewhere in Site Plan Review, Subdivision Review, Performance Standards, Design Guidelines and Street Standards. There are more direct and streamlined approaches to promoting economic development and shaping the character of an area than the current processes and standards.

How: Revise ordinance standards
Responsibility: Staff, Planning Board and Council
Priority: Short-Term – NOTE: This recommendation, coupled with the street type recommendations, is of the highest priority in terms of guiding growth. A Form-Based Code, or very clear street, building, parking location and design standards (not guidelines), corresponding with the Conceptual Master Plan could be an efficient way to create a more walkable and inviting community center.
Implementation: Town

Recommendation: Revise the street standards in the Land Use Ordinance

Street standards should have a role in guiding development. Complex formulas like node to section ratios are probably not practical for North Windham. However, there should be standards for maximum block lengths and required connectivity (either Complete Street or pedestrian).

- How: Revised ordinance standards
- Responsibility: Staff, Planning Board and Council
- Priority: Short-Term
- Implementation: Town

Recommendation: Adopt standards for green infrastructure and energy efficient development

Standards for green infrastructure and energy efficiency should be required. Street trees, rain gardens and porous pavement reduce stormwater runoff. Light Emitting Diode (LED) streetlights use less energy, require less maintenance and have a longer lifespan than traditional lights. Concrete sidewalks made from recycled fly ash and street amenities made from recycled plastic or metal remove material from the waste stream and support emerging industries.

- How: Revised ordinance standards
- Responsibility: Staff, Planning Board and Council
- Priority: Short-Term
- Implementation: As development occurs

Recommendation: Incorporate the Master Plan into the Windham Comprehensive Plan

Aligning the Comprehensive Plan with the standards for the study area is essential. In addition, there should be incentives to encourage the Mission and Values statement for North Windham.

- How: Revised ordinance standards
- Responsibility: Staff, Planning Board and Council
- Priority: Short-Term
- Implementation: Town

Recommendation: Conduct economic modeling for the North Windham commercial district

Economic modeling is required to understand the realistic capacity for North Windham to transform into a 21st Century Downtown. This is an opportunity to initiate a conversation regarding the relationship between economic development, mobility and the built environment. Questions regarding future development in the district that economic modeling can help to answer include the following:

- What role does the Town have to play in guiding future commercial development besides implementing new policies and standards?
- Will a Complete Streets approach improve the commercial desirability of North Windham? Should the Town look for unique public / private partnerships to initiate a Complete Streets program.
- Should the Town work with landowners to make the private parking lot access roads into public streets? If not, how can the Town work with landowners to make these access roads into complete streets?
- Should the Town issue bonds to purchase lands or begin a street network in a strategic manner?

How: Feasibility Analysis
Responsibility: Staff, Planning Board and Council
Priority: Short-Term
Implementation: Town to cross-reference findings with recommendations in this Master Plan

Recommendation: Enable increased residential development in the study area.

- a) Higher residential densities should be considered than are currently allowed by the Town’s Net Residential Acreage formula or the State standard of half acre lots for septic systems. The addition of residences in the area will increase the amount of residents that can walk or bike to shops and services. Residential units also have the potential to turn North Windham into a 24-hour community.

How: Revise ordinance standards
Responsibility: Staff, Planning Board and Council
Priority: Long-Term – (The addition of new residential development may depend on the extension of public sewer)
Implementation: Town

b) Housing must become an allowable use throughout the area. On certain street types, like a mixed-use “Village Street” or a “Gateway Street” housing should not be allowed on the first floor. In residential areas all types of housing should be encouraged.

How: Revise ordinance standards
Responsibility: Staff, Planning Board and Council
Priority: Short-Term
Implementation: As development occurs

Incentives are available to promote housing in the North Windham “downtown. An example is “location efficient” mortgages. This type of mortgage is now available in a few select cities, but it could be calibrated to work at the level of a Regional Service Center in Maine. The Location Efficient Mortgage is described on the Natural Resources Defense Council website as follows:

By realizing that households in urban neighborhoods spend less on transportation, and therefore have more disposable income, than the national average, underwriting Location Efficient Mortgages® increases the borrowing capacity for people buying homes in urban communities. Standard loan underwriting recognizes that a buyer can afford to spend 28 percent of his or her gross monthly income on a mortgage payment; the Location Efficient Mortgage® increases this to up to 39 percent by recognizing transportation-related cost savings, thus increasing the size of the loan available to the consumer. A household earning \$50,000 a year, for example, can qualify for a \$163,000 mortgage under current lending practices; in today's competitive housing market that may not be enough. In compact, transit-accessible and pedestrian-friendly neighborhoods, if household members save \$200 per month on transportation over their suburban counterparts they can qualify for a \$213,000 home.

How: Revised lending practices
Responsibility: Town and State
Priority: Long-Term
Implementation: Lending agencies (for-profit and non-profit)

3.2.a Conceptual Character Areas / Future Growth Patterns

Who could have imagined one hundred years ago that North Windham would be home to numerous retail buildings and shopping plazas? The images from 1930 and 2007, below, demonstrate the significant transformation that has occurred over the last century.



N. Windham Looking North - 1930



N. Windham Looking North - 2007

When North Windham was a farming community at the crossroads of Roosevelt Trail and Tandberg Trail, few could have predicted the extent of development that was to come. In the same way, it is hard to look at the conditions in North Windham today and visualize a future commercial and civic center that includes mixed-use commercial/residential buildings, and a scale and pattern of development that creates pedestrian scaled environments for shopping and dining. The goal of this Master Plan is to carefully integrate existing and new uses to give the area both the “form” and “function” of a new type of suburban downtown.

A conceptual plan for the future of the character areas was established by overlaying the land use character diagram (Figure 4) on the concept master plan (Figures 16 and 17). This results in a vision of the Commercial 1 zoning district with four (4) distinct character areas that are shown in Figure 18. The four areas are as follows:

- Village Center
- Northern and Southern Gateways, and
- Residential Neighborhoods on the periphery of the suburban downtown.

It is recommended that these areas find expression in built form by utilizing different street types rather than land “uses”. By designing specific street types for each of the character areas, a predictable form, pattern, scale and intensity of development can be achieved. In other words, by combining roads designed to serve the function of the character area and a set of standards for the location and scale of buildings, the uses will follow the resulting built environment. The types of roads that are appropriate for each character area are found in Figures 19 to 21, below.

Recommendation: Residential Neighborhoods

The Residential Neighborhood streets are narrow, slowing cars and have fewer streetscape features. These are quiet neighborhoods like Brookhaven, but provide connectivity. Connectivity can be in the form of new streets, or paths dedicated to pedestrians and bicyclists. In addition to a range of residential uses (single-family, duplex, multi-family), low impact uses such as home occupations should be allowed. Figure 19 depicts a Residential street.

How: Revise ordinance standards
 Responsibility: Staff, Planning Board and Council
 Priority: Short-Term; Ongoing
 Implementation: As development occurs

Recommendation: Village Center

The Village Center has new or retrofitted Complete Streets supporting mixed-use development. Buildings are placed on the front property line, ample sidewalks support foot traffic, cafes and the display of goods, streetscape amenities, street trees, on-street parking, bike lanes, bump-outs and crosswalks. Village streets support varying types of adjacent development, be it a mixed-use neighborhood, an infill parcel or a parking lot retrofit with pad buildings lining the street. Residential uses are recommended for the first floor and above. Figure 20 depicts a Village Center street.

How: Revise ordinance standards
 Responsibility: Staff, Planning Board and Council
 Priority: Short-Term; Ongoing
 Implementation: As development occurs

Recommendation: Northern and Southern Gateways

The Gateways maintain the capacity of Roosevelt Trail, but introduce Complete Street / Form-Based Code features that create a sense of place and are the most visible transformation as a revitalized “21st Century Downtown” as approached from the north and the south. Figure 21 depicts the type of street design that would characterize a transformed Gateway. This vision of the arterial places buildings close to the right-of-way, provides pedestrian amenities, minimizes curb cuts through shared driveways and strategically places esplanades to maintain traffic flow and improve the visual quality of Roosevelt Trail.

- How: Revise ordinance standards
- Responsibility: Staff, Planning Board and Council
- Priority: Short-Term; Ongoing
- Implementation: As development occurs

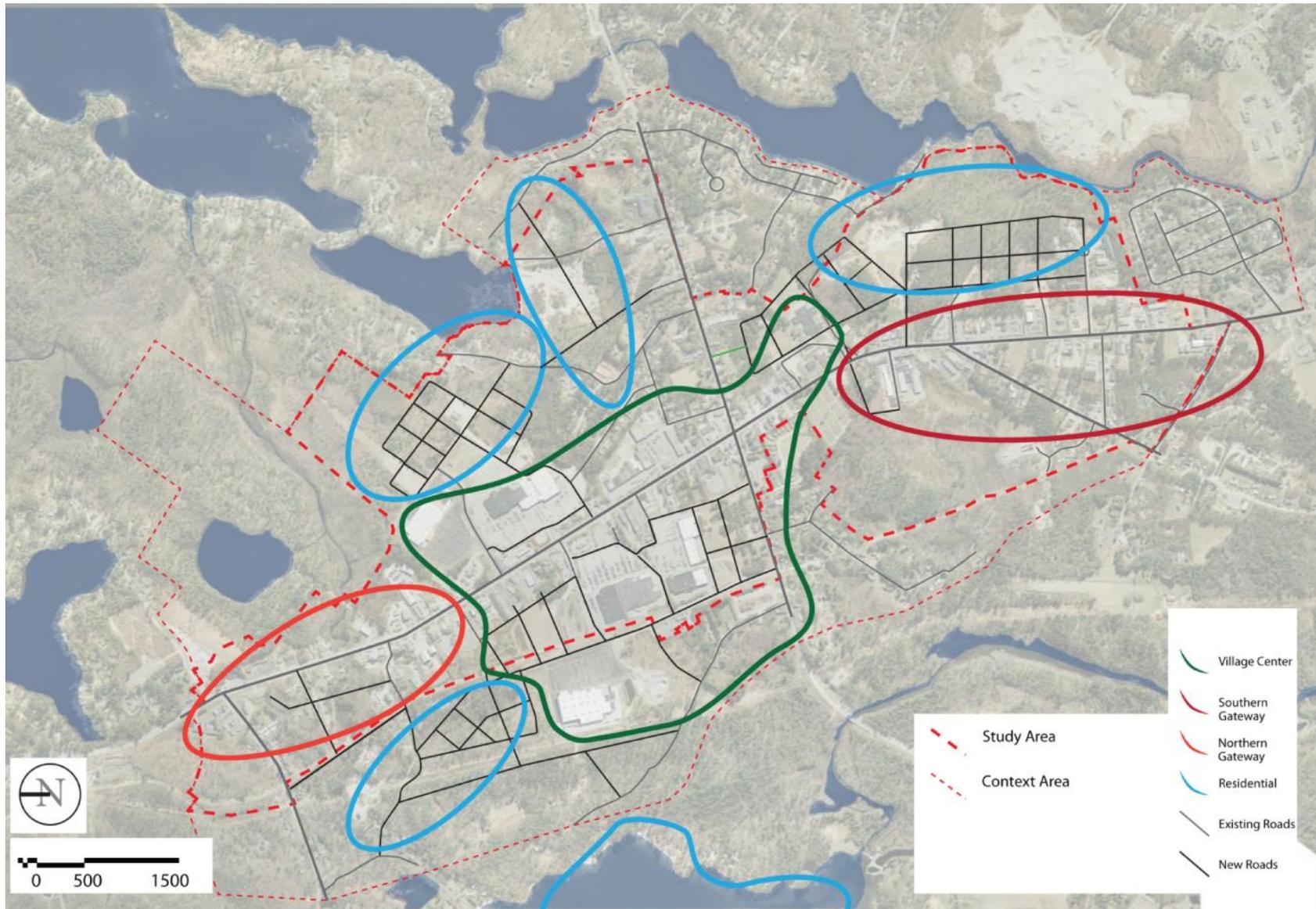


Figure 18: Conceptual Location of Character Areas

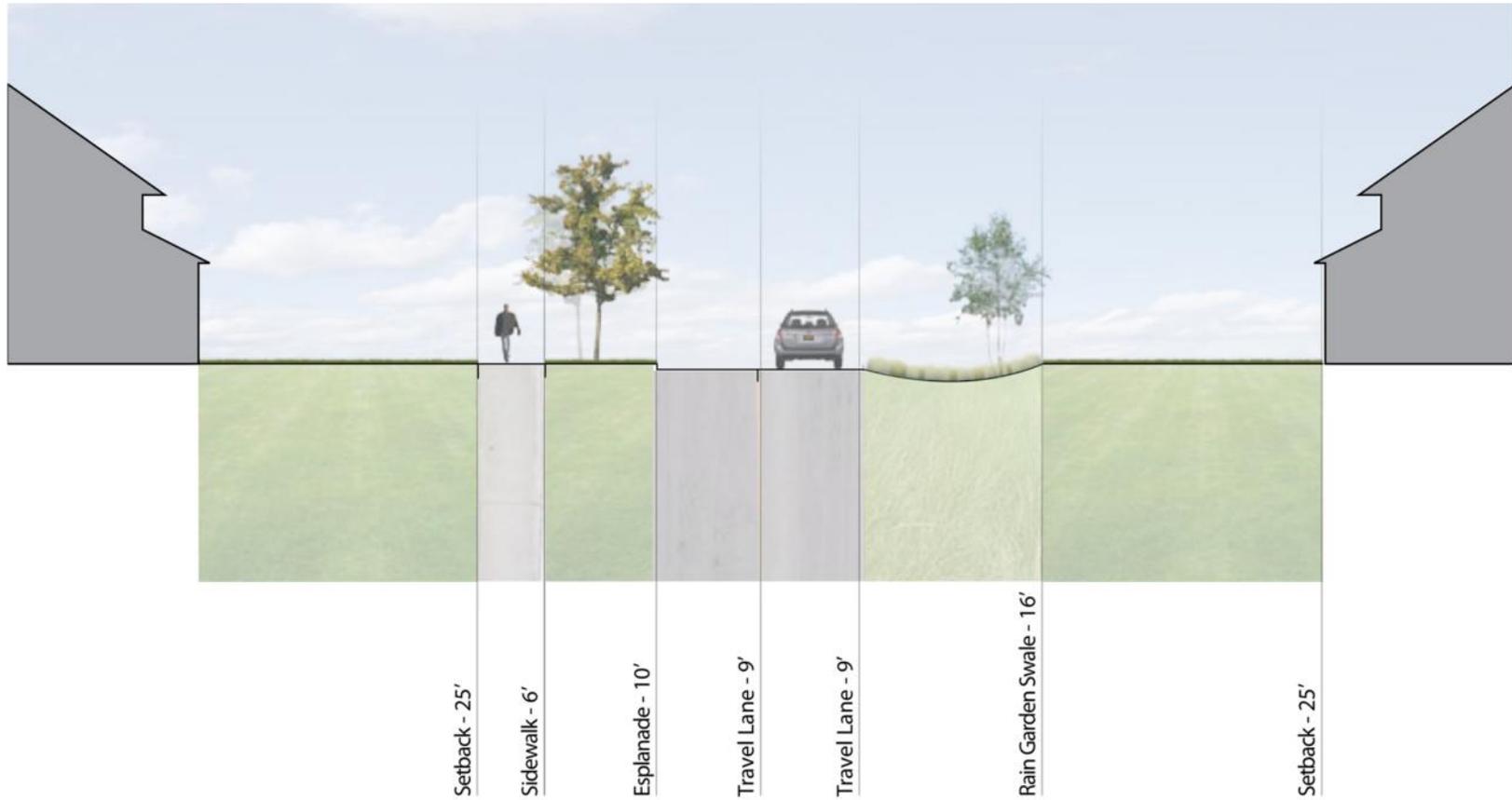


Figure 19: Conceptual Residential Street Type

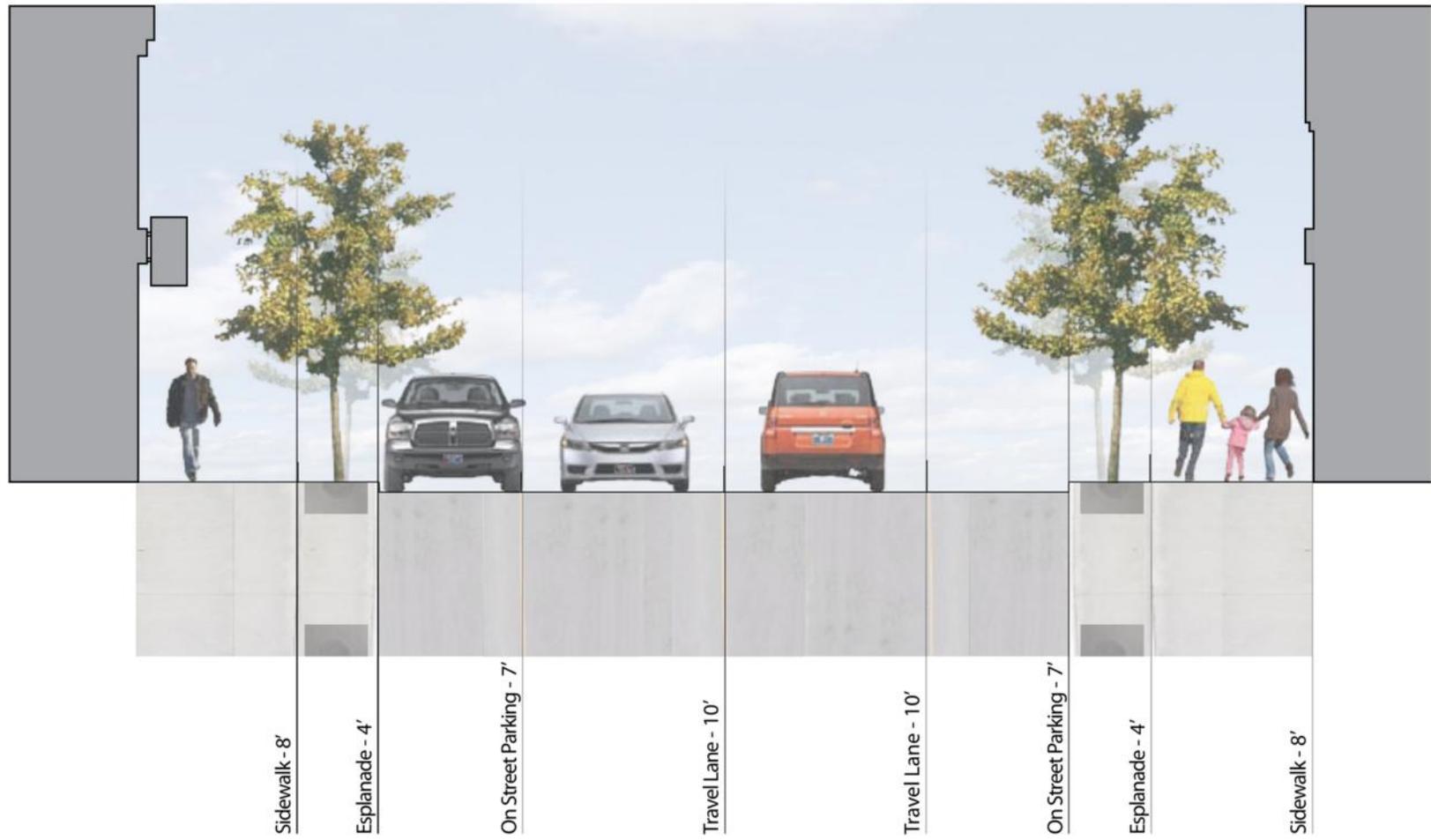


Figure 20: Conceptual Village Center Street Type

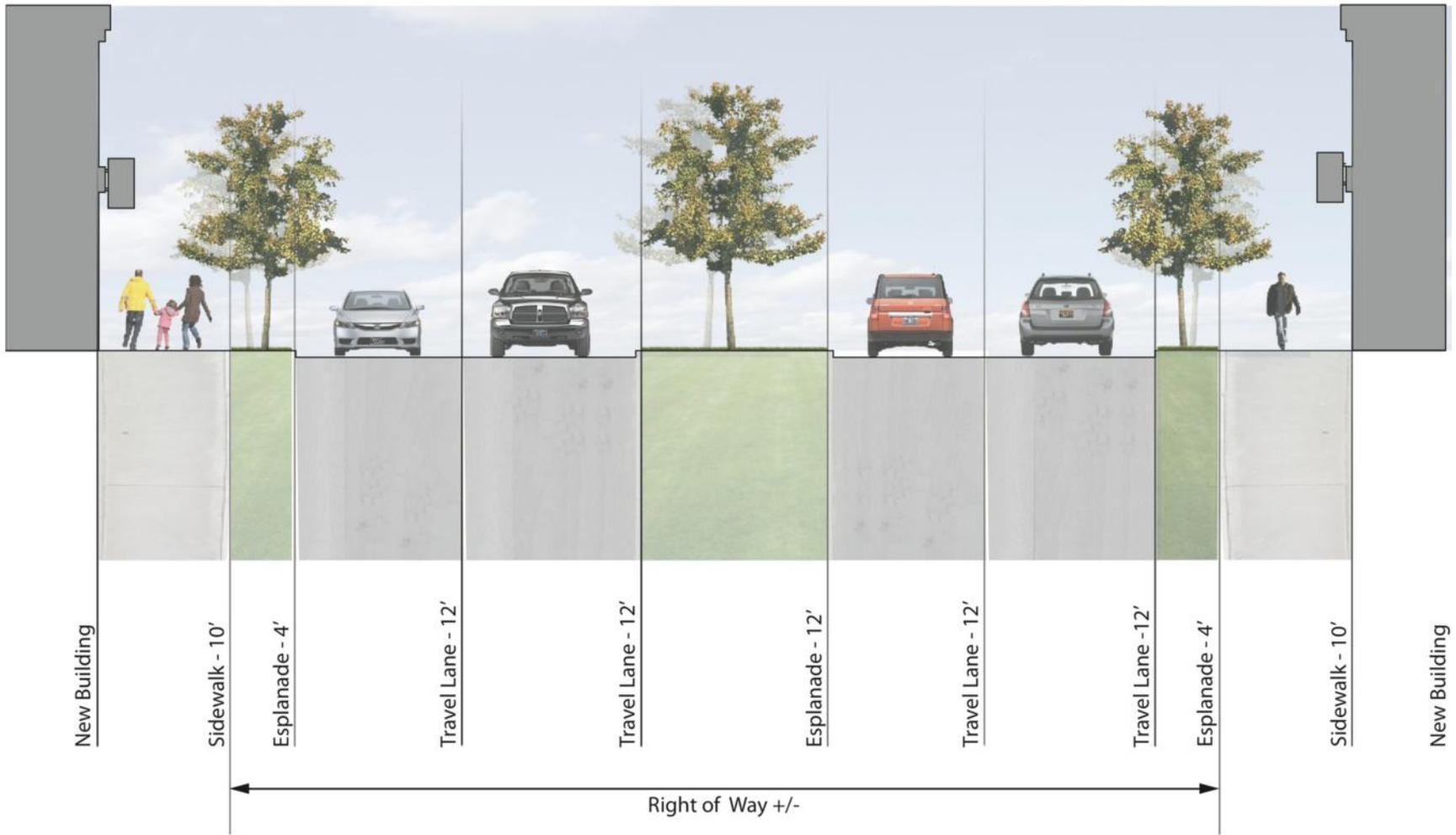


Figure 21: Conceptual Roosevelt Trail Gateway Street Type

Appendix A: Catalog of Existing Transportation Conditions

This information was gathered during the Advisory Committee's field walk and through a review of the study area by the project consultants. This information, and the included maps, forms the basis for many of the recommendations in Section 3 of the plan.

- Intersection of Roosevelt Trail and River Road
 - No crosswalks or signal equipment is provided for pedestrian movements across Roosevelt Trail.
 - A crosswalk is provided on Turning Leaf Drive, but signal equipment is not provided.
 - A sidewalk is only provided on the east side of Roosevelt Trail.

- Intersection of Roosevelt Trail and Route 115/35
 - Crosswalks and pedestrian signal equipment are provided on the southerly and easterly legs of the intersection.
 - A sidewalk is provided on the east side of Roosevelt Trail.
 - A sidewalk is provided on the west side of Roosevelt Trail from the intersection southerly to just south of Dunkin Donuts.
 - Sidewalks are provided on both sides of Routes 115.
 - No sidewalks are provided on Route 35.
 - A sidewalk is located on the western side of the access from Route 35 to Staples

- Intersection of Roosevelt Trail and Shaw's Drive
 - Crosswalks are provided on the southerly and easterly legs of the intersections.
 - Crosswalks and pedestrian signal equipment are provided.
 - A sidewalk is provided on the south side of the Shaw's Drive.

- Intersection of Roosevelt Trail and Landing Drive
 - Crosswalks and pedestrian signal equipment are provided on the southerly and easterly legs of the intersection.
 - A sidewalk is provided on the east side of Roosevelt Trail.
 - A sidewalk is provided on the southerly side of Landing Drive to an existing crosswalk.
 - A sidewalk is provided on the southerly side of the entrance to the Windham Mall.

- Intersection of Roosevelt Trail and Whites Bridge Road
 - A crosswalk and pedestrian signal equipment is provided on the southerly leg of the intersection.
 - A sidewalk is located on the east side of Roosevelt Trail.
 - A short sidewalk is located on the south side of Whites Bridge Road (to the first driveway)

- Manchester Drive
 - Sidewalks are not provided.

Field Walk Notes - May 2, 2011

Roosevelt Trail north of Route 115:

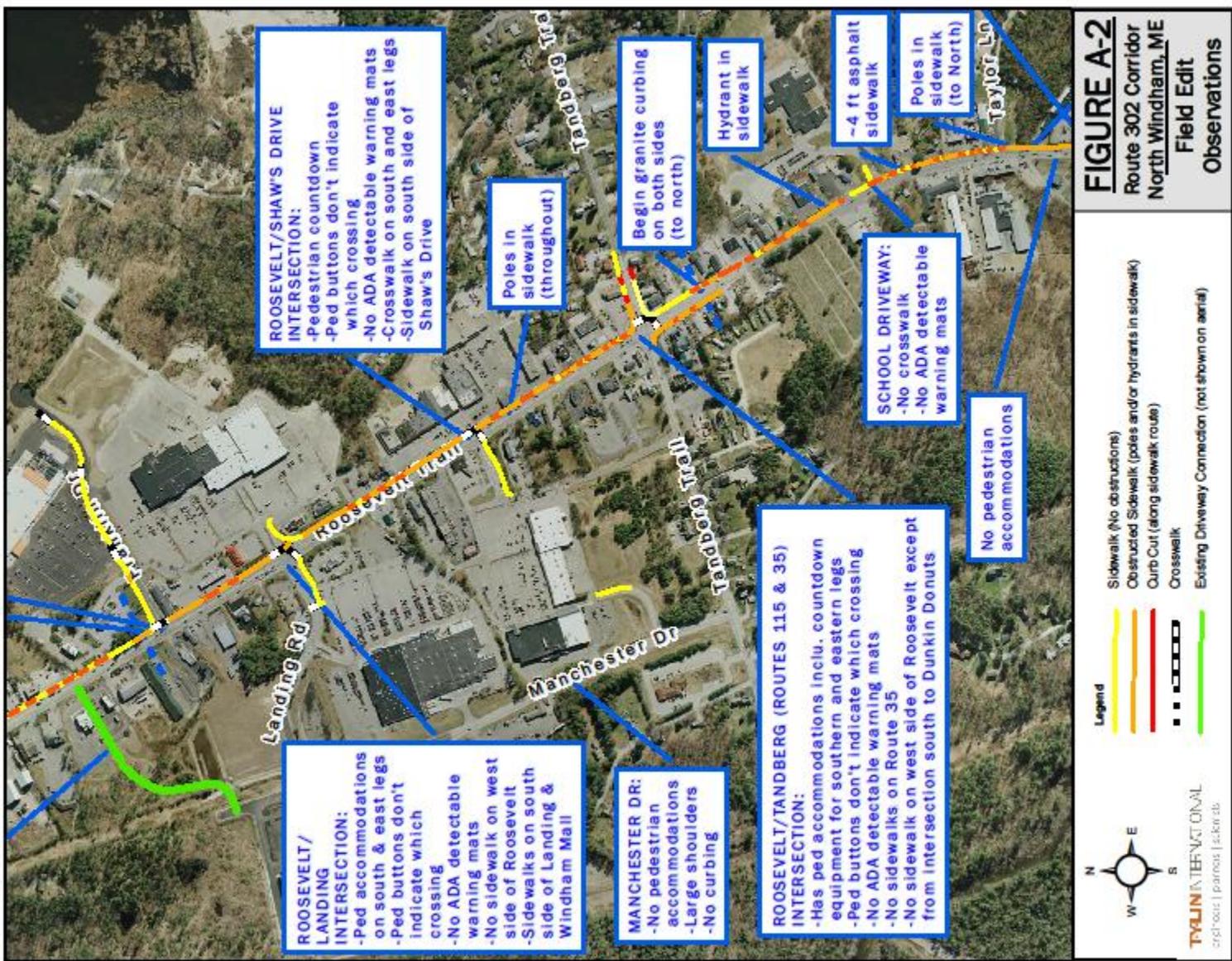
- | | |
|--|--|
| <ul style="list-style-type: none"> ▪ Requiring Barriers to be landscaping, not just Jersey, ▪ Utility Lines, ▪ Portable Message Board sign clutter, ▪ Unmaintained landscaping, ▪ No Sidewalk in front of T.D. Bank, ▪ North Windham Shopping Center- Unified façade design, ▪ Slow down 302 traffic, ▪ Wide entrance at S. of N. Windham Shopping Plaza, ▪ Close Middle N. Windham Shopping Mall Entrance, ▪ Strategic Barrier Locations- ex. Southern N. Windham Shopping Plaza Entrance, ▪ Shaw's Light, <ul style="list-style-type: none"> ○ Shaw's Side- No Crosswalk, but refuge ○ Plaza side – No crosswalk, but no refuge ○ Good ▪ Landscaping next to Gorham Savings, ▪ B of A & AT & T Cables could add a lot to the area, ▪ Sidewalks, ▪ Plaza-Poor traffic stacking is flow in front of Hoggy's, ▪ Tree on plaza side of entrance, | <ul style="list-style-type: none"> ▪ Remove Cobra Heads, ▪ Saw 6 cyclists – 4 on sidewalk; 2 one on shoulder, ▪ Raised Platform berms that screen the lower part of cars, ▪ Verbal abuse for being a pedestrian, ▪ Slip lane @ mall could be looked at, ▪ Good landscaping @ Windham Mall, ▪ Ped Signal at Mall- Long Delay, ▪ Trees along Landing Road, ▪ Pizza Hut ground cover is raised, ▪ Remove directional overhead signs, ▪ 1 or 2 uniform improvements – ex landscaping, ▪ Screening of dumpsters and heating units, ▪ Amt of traffic to Cross Rd, ▪ No sidewalks on drive btw Wal-Mart & McDs, ▪ New bldg site in Wal-Mart satellite parking, ▪ Ped connection to Grotto, ▪ Flow or private road btw Shaw's & Wal-Mart, ▪ Curb removed next to Rock Plaza at access to Wal-Mart, ▪ Sidewalk ends into dirt leading from 35 to Staples |
|--|--|

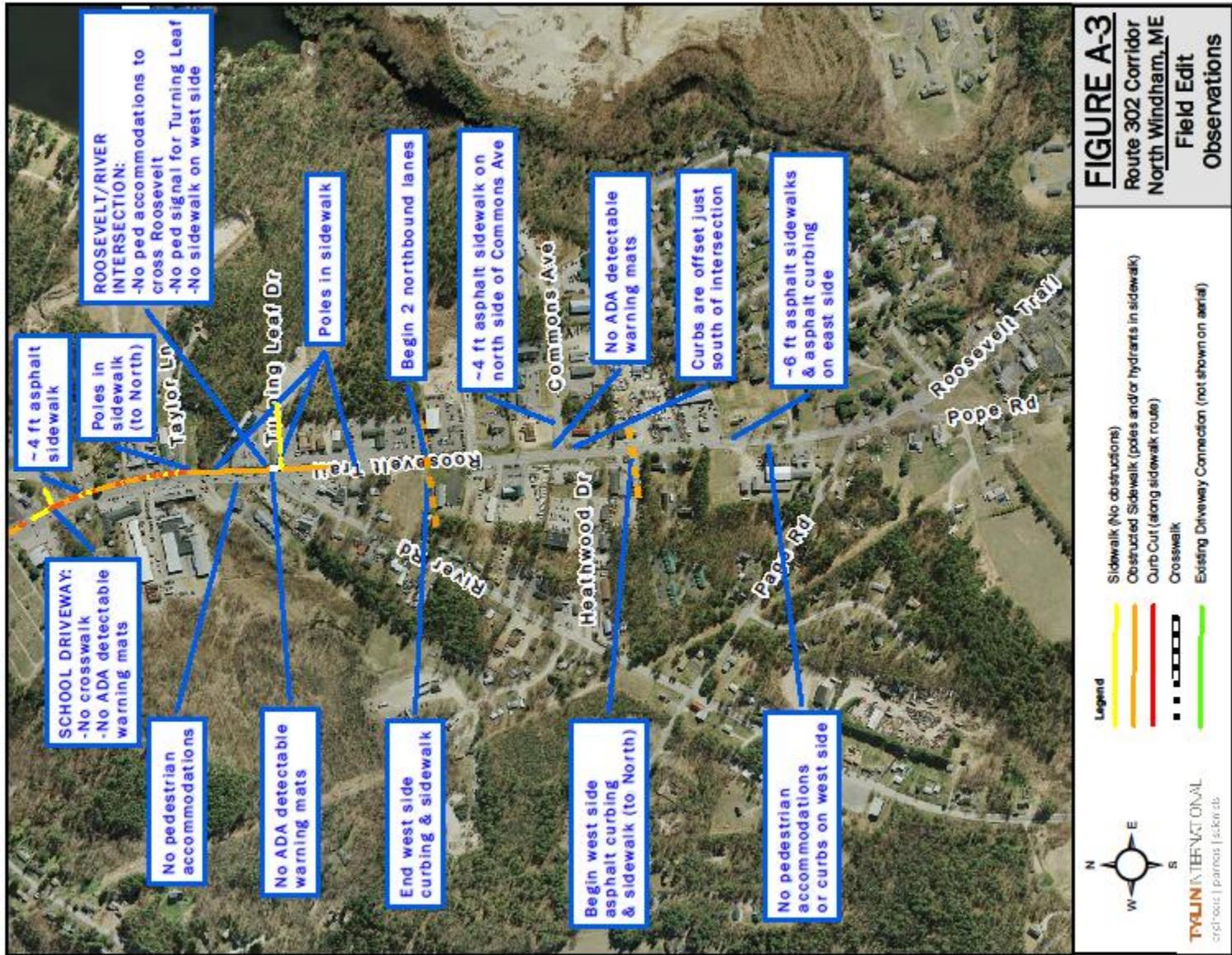
Roosevelt Trail south of Route 115:

- Poor pedestrian connections from rear parking lot to Boody's Corner
- No Sidewalk on west side of Roosevelt Trail
- No crosswalk between Steakhouse and Cumberland Farms
- Like Steakhouse Building in front with parking in rear
- Driveways at Irving are unsafe
- Left-turn onto Route 115 backs up
- Crosswalks are only provided on two approaches at Boody's Corner
- Landscape design is good at Walgreens and at building on southwest corner
- Right-turn movements conflict with pedestrians
- Short green phase for left onto Route 35
- Wayfinding signage is poor for route destinations
- Cars stop in crosswalk
- Vehicles cut-through Cumberland Farms and the Chamber parking lots
- Signage at Walgreens is not bad
- A buffer should be considered between road and sidewalk
- Island at Walgreens driveway is not ADA compliant and allows for illegal movements
- There is no designated pedestrian path through Amato's Parking lot.
- A sidewalk is provided on west side from Boody's Corner to rental center
- Cemetery is a major constraint. Sight lines leaving is poor
- Route signs poor
- A crosswalk should be considered between school and daycare
- Sidewalk into school is on the wrong side and ends half way into site
- School zone pavement markings not visible
- Parking at Levinsky's is problematic. Sign/tree blocks sight distance. Cars park on Roosevelt Trail
- Trash is a big problem
- Sebago Shops is a good example of design, even though parking is provided in front. Landscaping, ornamental lights are good
- Shared driveway at Sebago Shops is a good example
- No pedestrian signals for crosswalk
- Left turn phase into Shops is needed
- Refuge island on River Road is good for pedestrian refuge
- The group was unsure if sidewalks should be extended down River Road or down Roosevelt Trail on west side
- Temp signs should be better managed
- Snow storage needs to be better managed
- Sidewalks are not available due to driveways
- Pedestrian push button (one button) leads to inefficiencies
- A sidewalk should be provided on Route 35

Field Edit Observation Figures A-1 to A-3







Appendix B: Public Meeting Notes

A. Public Forum - May 12, 2011

Group #1

Areas of Concern:

- Intersection of River Road and Route 302- Need left signal for Southbound traffic turning from Route 302 onto Turning Leaf Drive
- Route 302 - Smart light technology would account for inbound morning commuters and afternoon outbound commuters. (Ex. Florida)
- Mall Area: Pedestrians walk through parking areas to avoid walking along the sidewalk on Route 302

Areas that are Successful:

- Manchester Drive to Route 115 - Good vehicular traffic flow
- Chaffin Pond Park: Nice park in the commercial district

Areas with Potential for Development:

- Change Plan's name from "Downtown" to "?" Brand Name for Effort? (Suggestion "Community Village")
- Use impact fees & TIF Districts for infrastructure improvements in the commercial district.
- Mall traffic light: Allow free right turns from Route 302 due to stacking potential
- Don't send traffic to front of Wal-Mart. Rather, use road between Wal-Mart and McDonald's
- Allow buildings to focus away from Route 302

- The Route 302 sidewalk feels unsafe due to vehicular speed and turning traffic from just after River Road intersection to just past the Windham Mall area.
- Route 115 Intersection to just after the Mall area: The commercial area is split into two (2) sides by Route 302.
- Traffic uses Abby Lane neighborhood as a cut-through from Route 115 to Route 302.
- Shaw's? Parking lot: Timing/Markers

- Corner of 115 & 302- Park/recreation land located at the Manchester School

- Install traffic calming near Routes 115 & 302 intersection
- Utilize Design Guidelines to implement recommendations on the 21st Century Plan
- Construct a connector road between the Mall and Windham Shopping Plaza
- Add more shoulder on Route 302
- The civic area on Route 302 between Route 115 & River Road needs better connections across Route 302

Group #2

Areas of Concern:

- B + P + V- Intersection after mall on Route 302
- Intersections along Route 302: B & P
- Sandbar Road- & Route 115 Intersection: B, P & V
- River Road & Route 302 Intersection: B + P + V
- Signage for Biking-Off Route 115- Walgreen's side of the road.
- Not a friendly sidewalk-Off Route 115 – Walgreen's side of the road.

Areas that are Successful:

- Route 115 toward Gray: Good Biking
- Route 302- Walgreen's side of Route 302 toward River Road intersection:
 - Commons Ave
 - Shop & Soby?
 - Walgreen's

Areas with Potential for Development:

- Large wooded area behind Home Depot- Zoned Commercial
- Large Wooded area behind the Windham Mall: Zoned Residential
- Windham Mall section of Route 302: Utilities Underground
- Village Center on Routes 115 & 35
- Mixed use parcel near Shaw's Plaza

- No place to stop & rest- Off Route 115 – Walgreen's side of the road
- Route 302 toward River Road-
 - Sidewalk Biking.
 - Farm? Station
 - Above Ground Utilities
- Route 115?- Shaw's/Wal-Mart side of Route 302-Left hand side labeled: "Overall Ugly"

- Route 115? - Wal-Mart side of Route 302- Right hand side of the road- "Banks look good"
- Route 302 heading towards the mall from Route 115:
 - Gorham Savings
 - Norway Savings
 - Chaffin Pond?

- Walgreen's Corner of Route 302
- Area on Walgreen's side of Route 302
- Opposite Walgreen's side of Route 302 closer to River Road intersection: Additional Drive
- Public Transit ←-→ Portland North
- Internal Shuttle

Group #3

Areas of Concern:

- Levinsky's tough pedestrian area
- River Road & Route 302: Merge too short
- Danger: Manchester School
- Access to Walgreens
- Dangerous to go left onto: (Sandbar Road?)
- Too Many Curb Cuts
- Façade ugly; inadequate landscaping
- Left-hand storage lane inadequate
- Sidewalks, great idea, but can town afford to maintain

Areas that are Successful:

- Good Design- No Parking up front (Gorham Savings?)
- Chaffin Pond Park:
 - First Need Pedestrian Village then:
 - Coffee shop
 - Shop local
 - Encourage walkability
 - Encourage mixed use development
 - Village needs a park

Areas with Potential for Development:

- Consider frontage roads- Route 302 Near Mall and Wal-Mart
- Municipal center? (Near fire station & Manchester School)
- Create design standards for buildings/materials
- Local Garden club, village downtown improvement

- Vacancies for businesses
- No crosswalks Route 302 after Windham Mall
- Need traffic light intersection Route 302 with Home depot access road
- More Fire Station improve
- Aesthetically offensive
- Whites Bridge Anglers Road
- Pettingill Road dangerous

- Fighting an uphill battle trying to develop into what we're not- South Windham Village
- Sewer Development for infill development
- Identify retail needs for shopping/entice cluster developer
- Continue Manchester Road to bypass Windham

Group #4

Areas of Concern:

- Follow the recommendations of the Comprehensive Plan
- Funnel / In and Out
- No pedestrian sidewalks in many locations
- Lights/Crosswalks
- Lack of Crosswalks
- Conflict w/ traffic volume

Areas that are Successful:

- Incremental changes that have happened overtime (Manchester, Norway, Pizza Hut buffering)
- Sidewalk down 115 from continuing care – but then no connectivity once in the area. Residents would be happy to get to area to see activity.

Areas with Potential for Development:

- Another Spur by Raymond end – but the lake is in the way
- Under/over tunnels
- Study land uses in relation to vision
- More parcel to parcel connectors
- Minimize curb cuts and create left turn control esplanades in select locations on 302

- Walk lights longer
- Town budget
- Commercial area bury utilities
- Improve River Road intersection
- Traffic calming

- More connectivity, such as Manchester Drive
- Green buffer at Windham mall

- Create connections to existing adjacent neighborhoods for cars and pedestrians
- Create new neighborhoods on back lands – range of housing types
- Coordinate with sewer study
- Transit

B. Public Meeting to Present Draft Plan - September 22, 2011

- Speeding on Manchester Drive. This type of roadway must not be allowed in residential neighborhoods.
 - Strong support from audience for this point.
- Better enforcement of speed limits and the running of red lights at intersections should be a priority.
 - This will encourage pedestrian safety
- Granite curbing should be installed on Roosevelt Trail
- Zebra striping on shoulders would promote walking.
- The proposed island in front of Pet Quarters should be shortened. Traffic backs up in this area as a result of the traffic lights.
- Collins Pond Area:
 - New development will have an adverse environmental impact on the pond and will add more nitrates to residential drinking water wells.
 - New roads will increase the amount of polluted stormwater runoff entering the pond.
- Northwood Drive:
 - Neighborhood does not want additional street connections. In other words, the neighborhood should remain a dead-end road.
 - Additional roads and new development will impact the area wetlands, Black Racer Snake and Bald Eagle nesting habitat.
 - Increased cut-through traffic will impact existing homes in the neighborhood.
 - Proposed left-hand turn onto Architectural Drive will cause backups and increase risk of collisions on Roosevelt Trail.
- Connections are necessary to provide access for local traffic.
- State of Maine will have to pay for improvements in the corridor. Who will pay for the roads behind businesses on Roosevelt Trail?
- Bicycling in the district is not currently feasible.
 - Connections between neighborhoods could be for pedestrians and bicyclists only.
- Public transportation:
 - Offer service to Portland
 - Offer a shuttle service within the commercial district
- A buffer should be required between development on Turning Leaf Drive and the Collins Pond neighborhood.
- More traffic on residential streets will discourage walking in the neighborhoods.
- What are the options for connections like Manchester Drive on the East side of Roosevelt Trail?
 - This would reduce the number of trips that have to use Roosevelt Trail for stops at multiple businesses.
 - Parking lots should be interconnected. For example, the Windham Mall and the Windham Shopping Plaza.
- The installation of center islands on Roosevelt Trail will decrease traffic flow.
- Studies have shown that tree planting in the district will reduce criminal activity and stormwater runoff.
- Any improvements should provide for adequate snow removal.
- The plan should show the location of parks and trails.
- Could pedestrian bridges be installed at major intersections?
- Utilities in the district should be placed underground.

C. Public Forums Held on September 6th, 17th, and 20th – Summary of Comments Grouped by Issue

Street Connectivity

1

- Connectivity will make the roads less safe for walking
- Ñ1 Change current character and nature of existing neighborhoods
- Ñ1 People won't invest in their neighborhood properties
- Ñ1 If Northwood Drive were connected to 302 it would destroy that neighborhood
- Ñ1 NASCAR wannabees looking for a shortcut
- Ñ1 Don't see how building a road through our neighborhood helps the people there
- Ñ1 Would result in rising taxes
- Ñ1 Preservation of peace and quiet
- Ñ1 Connecting parking lots
- Ñ1 Committee members and consultants should visit the neighborhoods in question
- Ñ1 Extra traffic will compromise safety
- Ñ1 The plan should show specific types of neighborhoods
- Ñ1 Inconsistent application of connectivity within the study area
- Ñ1 Cut-throughs would cause instability in our neighborhoods
- Ñ1 Don't see the sense in some of the bike paths
- Ñ1 There is no one community perspective and a "community perspective" shouldn't be represented as such
- Ñ1 The plan jeopardizes our retirement
- Ñ1 The neighborhood is unified against connections, with good reason, yet the committee doesn't seem to care
- Ñ1 Feel like our concerns have been ignored
- Ñ1 Our neighborhood is not a clean slate
- Ñ1 Our street is currently narrow - Afraid that our road will be opened up to larger vehicles and faster traffic
- Ñ1 Like the previously proposed bypass, not in the currently proposed plan
- Ñ1 Important that what was said before gets heard
- Ñ1 Bottleneck at proposed corner of Northwood Drive and Route 35
- Ñ1 It's bad for my child
- Ñ1 Concern that the plan would put more pressure on other roads
- Ñ1 Concern about property being taken by eminent domain
- Ñ1 Concern about wetland properties
- Ñ1 Mistrust that roads will be properly posted with speed signs
- Ñ1 Want my street to stay safe for biking and walking my dog
- Ñ1 Network of roads will channel traffic into Collins Pond
- Ñ1 Concern is bringing vehicular traffic through our neighborhoods
- Ñ1 Concern about property values – values will go down with new roads and more traffic
- Ñ1 We don't make good use of the roads we've got
 - We should do a better job maintaining current roads
- Ñ1 Even with form-based zoning, this plan will increase traffic on roads other than on 302

- It was insulting for people to hear from a council member that their opinions didn't matter
- Ñ1 Instead of bonding for capital improvements, use sinking funds

Commercial to Residential Transitions

1

- Concern about lack of space will result in destroying the neighborhood
- Well-developed buffers between commercial and residential areas
- Lack of conformance to current codes, buffers in particular. Perhaps new buffers won't be enforced.
- Commercial development too close to residential areas

Traffic Safety and Volume

- Pedestrian safety
 - Traffic too fast and careless
 - Traffic lights unsafe
- Need to slow down traffic - enforcement is important

Environment

- Phosphorous run off into the ponds
- Concern about wetland properties
- The plan lacks large tracts of undeveloped open space

- Ñ1 The Planning Board has disallowed a specific connection between Basin Road and Manchester Drive
 - Developer would not make connection because Basin Road was unimproved

- Commercial development is encroaching on residential neighborhoods
 - Commercial development should not be allowed to encroach on traditional residential neighborhoods
- Present ordinances don't leave property owners with much protection
 - This type of planning and the ordinances that would go with it, would offer protection
 - Commercial use would be more limited

- Sometimes it's impossible to turn left on 302 – something has to be done
- We all believe that 302 needs to be fixed

- Windham is losing its rural character as a result of uncontrolled development
 - Would like more green space and smaller businesses
- Parking lots affect water quality of nearby wells

Bicycle and Pedestrian

- Sidewalks on 302
- Crosswalks should have more time for crossing
- Don't see the sense in some of the bike paths
- Bike lanes in the roads would help
 - Easier on all new roads is easier than on existing roads.
 - May not be possible on 302.
- Make 302 more pedestrian friendly
- Every place in North Windham is driver-friendly
- Could any thought be given to pedestrian-only or pedestrian-heavy areas
- A sidewalk to Basin Road would be very helpful – that sidewalk would be a connection between Manchester Drive and Basin Road
 - Granite curbing on Route 35 between Route 302 and Basin Road
 - Two tenths of a mile – half the distance that was installed Route 115 across town

Transit

- More public transit is needed

Funding

- Tax dollars that go into a TIF don't go into the general fund. We need to be sure we are not putting too much into the TIF.
- Commercial development does not, by itself, result in lower property taxes

Ongoing Maintenance

- Trash along the roads needs to be cleaned up on a regular basis
- Bike paths and walkways need to be constructed well and well maintained
- Concern that there won't be money to do so
- It looks beautiful on paper but it's going to take maintenance and clean-up
- Connected roads need to be policed for trash

Implementation

- Our ordinances have also resulted in unwanted development patterns – we need to change some of them

Urban Design

- Not all buildings need to be hard to the road – some setbacks or curved sidewalks or even a pine tree here and there would be good

Growth Management

- If we don't manage growth, "the balloon will blow up"
- We have suffered from uncontrolled growth in the past

Appendix C: Key Concepts Supplemental Information

Context Sensitive Solutions

Following is a quote from the Context Sensitive Solutions Organization website (the “Statement of Purpose and Need” is the same as a “Mission and Values Statement”):

The statement of purpose and need under the CSS process is reflective of not only a transportation needs assessment, but also of a statement of environmental values, and community values. In addition to "purpose and need", there are other approaches to broadly identify problems for CSS projects, to create visions, and to establish project goals or criteria, which can later serve as measures for evaluating the project upon its completion.

Identifying the right problems from the beginning is key and it's half the battle. The problem needs to be defined as broadly as possible to address all aspects of the qualities and characteristics of CSS.

The process of Problem Definition can help you to:

- Facilitate an understanding with communities
- Provide an opportunity to mobilize a community partnership around place
- Engage in "non-traditional" activities
- Construct a "catalytic" process

In summary a CSS approach is a step-by-step process:

- What is the context?
 - National Highway System Arterial
 - ✓ Focus = mobility through region
 - Regional Arterial
 - ✓ Focus = mobility through region and access to property
 - Local Mobility
 - ✓ Focus = integrating mobility and land use as part of a placemaking process

- It's about the process
 - A community effort to define the issues and develop responsible and innovative solutions
- Result = not just engineering for cars
 - Alternative modes (walking, biking)
 - Mixed-use zoning
 - The creation of street networks providing a framework for development and connectivity
 - Buildings that complement the street networks, create pedestrian-friendly environments and promote a range of economic development opportunities

- How do you get there?
 - Incremental change (both short-term and long-term) where the whole is greater than the sum of the parts:
 - ✓ New policies, zoning and standards
 - ✓ A guiding Concept Master Plan for the location of streets
 - ✓ New and retrofitted Complete Streets
 - ✓ Architecture that defines the public realm
 - ✓ Visual improvements
 - ✓ Redevelopment and / or adaptive reuse of aging properties
 - ✓ Introduction of infrastructure (sewer) to support existing land uses and increased densities
 - ✓ Access management (medians and the select closure of curb cuts)
 - ✓ Lighting and other streetscape components
 - ✓ Crosswalks, bike lanes
 - ✓ Planting strips, trees, flower beds
 - ✓ Identification of infill and redevelopment opportunities
 - ✓ Planning for phased and interconnected development surrounding the commercial core and corridor

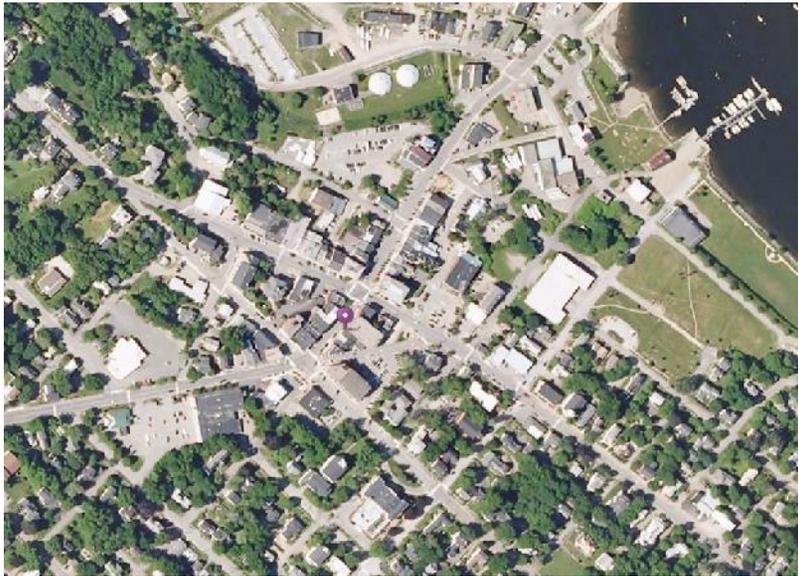
Floor Area Ratio (FAR) and Form-Based Codes

A recent study, entitled “The Effect of Multi-Use Development and Infill Development on Trip Generation Rates”, found that in Maine, a typical suburban mall has a floor area ration of .15 and a typical small downtown, such as Belfast has a floor area ratio of .4 (Floor Area Ratio – FAR – is the ratio of the floor area of a building to the area of the lot on which a building is located. A FAR of 1:1 means that a single story building can cover an entire site, a two-story building can cover half a site or a four story building can cover a quarter of a site). However, FAR is not such a straightforward calculation because other parameter such as parking ratios, maximum building height and required setbacks need to be taken into account.

In general, a higher floor area ratio percentage in Maine means that buildings are two to three floors, there is a predominance of local businesses, streets include parking and sidewalks and there is a higher concentration of mixed-uses – the basic ingredients for a vibrant downtown. Malls tend to have lower floor area ratios because the buildings are one floor and more than half the parcel is typically required for parking and setbacks.

It is important to note that FAR is a useful metric for analyzing development, but it is not recommended as a zoning tool for creating predictable development patterns and built forms. FAR standards have proven to be an ineffective tool for shaping the desired built environment. Form-Based Codes or specific design standards (not guidelines) are a method communities are currently utilizing to prescribe (not proscribe) the built environment.

The images below illustrate that downtown Belfast could fit into just part of the big box core of North Windham. North Windham will never achieve this level of urbanity – and that is not the goal of this Master Plan – but there are opportunities where infill development, redevelopment or different proposed “street types” can achieve the character, mix of uses and a FAR similar to downtown Belfast.



Downtown Belfast: FAR of .40 +/-



“Downtown North Windham – Big Box Core”: FAR of .15 +/-

Location Efficient Design

The term “location efficient” is used to describe interconnected neighborhoods as an analogy to an “energy efficient” home. While it is understood that this Master Plan is not creating what is called a “transit-oriented development”, which is more urban in nature (versus a suburban transformation as presented in this Master Plan) and sustains public transit, a discussion paper entitled the “Transit Oriented Development: Moving From Rhetoric to Reality”, provides a good overview of the benefits of location efficiency. The beneficial aspects are worth reviewing because they can be used as sound principles for policy changes, metrics and design standards.

The fundamental aspect to location efficient design is that it provides options. Many of the following advantages of location efficient design might be easier to apply to lifestyle choices in an urban versus a suburban setting, however they reflect the Values and Mission Statement and are worthy of consideration:

- Increased mobility options (bike, pedestrian, connectivity, less car ownership)
- Reduced transportation costs
- Increased retail opportunities (quality, quantity and diversity);
- Ability to live, work and shop in the same area;
- Increased homeownership rates (location efficient mortgages);
- Diversity of housing types reflecting regional mix of incomes and family structures;
- Greater range of affordable housing options;
- Housing types with lower parking ratios;
- Leveraging option for public transit by increasing housing density;
- Improved air quality;
- Less gasoline consumption;
- Decreased congestion / commute burden;
- Increased access to local activities;
- Improved access to public space (Figure 12);
- Improved public realms – “Complete Streets”;
- Better health and public safety (pollution-related illnesses, less traffic accidents);
- Better economic health (income, employment);
- Higher tax revenues from increased retail sales and property values;
- Higher return on investment for developers;
- Easier employee access to local jobs;
- A balance between “quality of life” and “financial return”;
- Less loss of farmland and open space (guide growth to the study area through policies and incentives), and
- A more suitable regional and sub regional balance between jobs and housing

Street Network Design

The white paper, “The Shape of Sustainable Street Networks for Neighborhoods and Cities” by Wesley Marshall and Norman Garrick outlines basic criteria and metrics on the value of understanding the “section” (road segments between intersections) and “nodes” (intersections). The authors do not take at face value the latest belief that more connectivity is better, but after reviewing more than a hundred communities found that places (neighborhoods and the conglomeration of neighborhoods into a greater interconnected area) do benefit from a higher section to node ratio. While most subdivision ordinances have standards for dead end lengths, some communities are now requiring minimum section to node ratios, typically between 1.2 and 1.4.

Standish recently adopted a Form Based Code using street types as the organizing principle for development rather than “land uses”. Different street types shape the character of the neighborhood and support the appropriate scale of adjacent development, which often controls use. “Uses” are still relevant in the coding of an area as certain uses would not be desired for a range of reasons. Standards for the various street types also include standards for the adjacent development such as maximum building setback (built-to-line), orientation, location of entrances, height, square feet of window per floor and other aspects of a building form that contribute to a vibrant pedestrian realm. Street / ROW standards may include items such as on-street parking, sidewalks, block lengths, streetscape components (lighting, trees, benches, etc.), shared driveways as well as required connections to existing roads and paper street connections to adjacent properties.