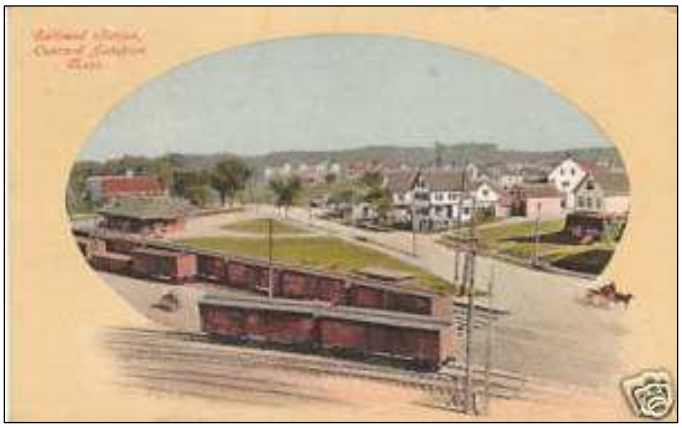
2.0 INVENTORY OF EXISTING CONDITIONS & TRENDS

To support the analysis and decision-making process necessary to advance the Master Plan, a detailed inventory of existing and planned conditions of West Concord was conducted. This included a review of land use trends, policies, regulations, historical documents, and other materials relevant to the village's future.

2.1 A Brief History of West Concord

The area we now call West Concord had been continually, if sparsely, settled since the 1680s, but until the 1880's, it lacked both the commercial development and social institutions on which to center a village. The current village evolved out of a triangle of three closely-linked villages that formed during the 19th century. The first cluster, "Westvale," grew around a succession of mills on the Assabet River, upstream (west-southwest) of the current village center. "Concord Junction" started as "Warnersville," a small hamlet associated with Ralph Warner's tub and pail factory on Nashoba Brook. The third village, the "Massachusetts Reformatory," built in 1878, has changed and grown over time and continues to have a large influence in the area.[1]

In the 1880s, the construction of a new railroad junction began a period of extensive industrial and agricultural development in the area. The influx of new workers associated with the expanding local industries created a need for housing in the immediate vicinity, as well as the stores, businesses, schools, and religious institutions necessary to support the new community. With construction of the West Concord School (now demolished) in 1886, the corner of Main Street and Church Street was established as the center of these village activities. Interestingly, the name "West Concord" was first used in connection with this school, which, along with the growing business community, helped to unite Westvale, Warnersville, and the Reformatory into the single village of West Concord that we know today.[2]



Historic Postcard of West Concord Junction in early 1900s

West Concord was officially designated as a separate village by vote of Town Meeting in 1928 and continued to thrive as Concord's commercial and industrial center through the first half of the twentieth century. New schools, churches, and Concord's first branch library were all constructed at the center of this village. As the area boomed and prospered, each of these institutions had the distinction of building architect-designed structures that uniquely reflected the architectural styles popular in that period. The eclectic mix of Queen Anne, Shingle, Spanish Revival, and Colonial Revival architecture, among others, distinguished this area from the rest of Concord and set the tone for West Concord's residential and commercial developments. While West Concord's prominence as an industrial center eventually faded with the decline of the railroads, the village itself has maintained its distinctive character and, as noted in response to the West Concord surveys, has evolved over time into a "funky, affordable, service-oriented" center of small, primarily locally-owned shops and residential neighborhoods.

First Postman in West Concord Junction in early 1900s

West Concord today reflects the diversity of the three original villages. Once the industrial heart of town, West Concord has gradually melded a unique identity, different from Concord's other two village centers.

[1] From the Village Centers Study, The Cecil Group, 2007
[2] From the West Concord Design Guidelines, Draft August 2009

2.2 Assessment of Relevant Planning Initiatives

An assessment of recent and on-going town planning initiatives was conducted as part of the West Concord Village Master Plan. These planning initiatives proved to be essential to understanding current development trends and future opportunities, traffic and circulation conditions, land use policies and regulation impacts, and infrastructure capacity and demands. Some of the key planning studies, reports, policies, and regulations are listed below:

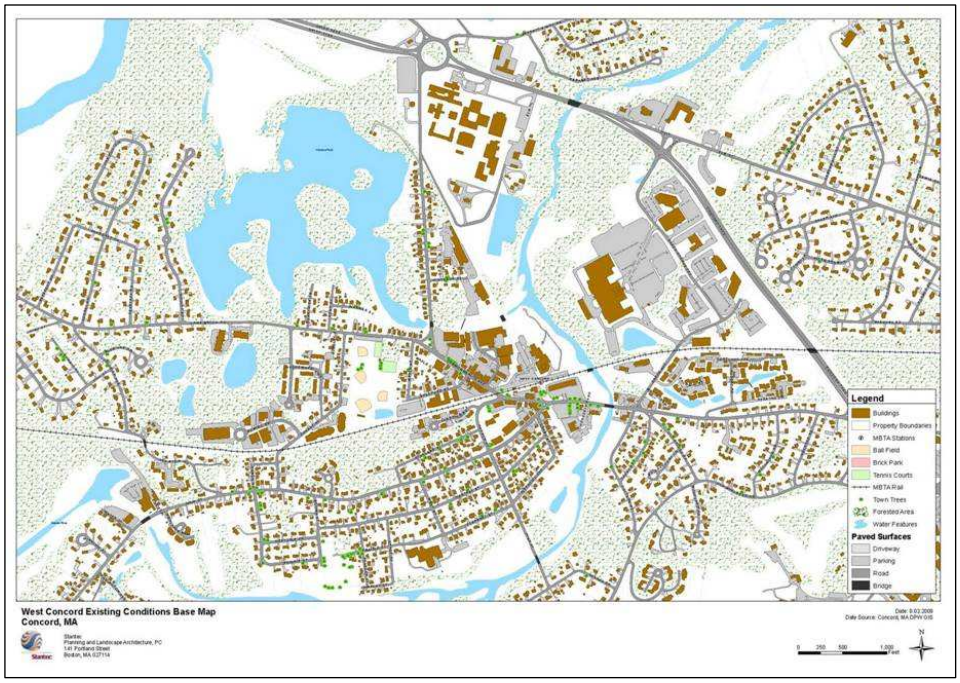
- West Concord Task Force meeting minutes, public survey results, and stated goals;
- 2005 Local Comprehensive Plan;
- 2007 Village Centers Study;
- Previous West Concord Village Studies;
- Concord Zoning, Site Plan, Subdivision Regulations;
- Draft West Concord Design Guidelines;
- 2005 Concord Wastewater Master Plan and Wastewater Task Force reports;
- The Bruce Freeman Rail Trail project reports and preliminary plans;
- Route 2 rotary improvements studies and preliminary plans; and
- Phase 3 plans for Route 62 improvements.

Some of the key planning themes identified in the 2007 Village Centers Study and by the West Concord Task Force are to preserve the character and feel of West Concord Village and to manage future development to retain the current village scale. A summary of these and other relevant planning initiatives is included in Appendix 1.

2.3 The Natural and Cultural Landscape

Physical Geography

The West Concord village center is located along Main Street and Commonwealth Avenue. Largely level to the north and enclosed to the south by rolling hills, this river valley area is primarily composed of well established neighborhoods. These hills and valleys have shaped historic development patterns and transportation corridors. Much of the local industry is well established in the valley near the Nashoba Brook and Assabet River, and traffic is primarily funneled onto Main Street (Route 62) and Commonwealth Avenue. These natural resources and historic development patterns limit potential opportunities to create alternative transportation routes and redistribute some of the traffic on Main Street and Commonwealth Avenue.



For larger version of this image see Appendix 5

Village Center Viewsheds

There are several attractive viewsheds in the village center, including:

- Looking west along Commonwealth Avenue from the hillside at the north end of the Harvey Wheeler Community Center parking lot
- Looking west along Commonwealth Avenue from Beharrell Street
- Looking east along Commonwealth Avenue from Kenneth Dunn Square
- Looking north over Warner's Pond from the dam
- Views along the Nashoba Brook and Assabet River
- Along Church Street between Commonwealth Avenue and Main Street
- Looking west along Main Street toward Junction Park

Village Development Patterns and Design Characteristics[3]

West Concord established its identity as a separate village and developed its current architectural character between the mid-1870s and the 1920s. Its architectural character is defined by those styles popular in the late 19th and early 20th centuries—Queen Anne, Shingle, Italianate, and Colonial Revival. Vernacular forms of these styles were used in the commercial construction that developed along Commonwealth Avenue and Main Street around the train depot, built in 1893, to serve the growing population. Just beyond the developing commercial thoroughfares, in close proximity to the transportation hub, are the 19th and early 20th century mills, storehouses, and industries which drove the fortunes of this community. Less formal than the typical village center, the structures are united more by their similarities in materials, scale, and orientation than by a common architectural style or design. This combination of elements gives West Concord an architectural character unique to this area of town that its residents value and are eager to retain.

Current Land and Property Uses

West Concord encompasses several residential neighborhoods as well as the commercial area along Main Street and Commonwealth Avenue and industrial areas along Bradford Street and Beharrell Street. Within the village, there are also several important civic buildings and open spaces.

Civic Institutions

West Concord includes several significant civic buildings including:

Loring N. Fowler Public Library – In 1918, residents of West Concord, feeling that the distance between West Concord and Concord Center limited their access to the library's collections, petitioned for a branch library. A year later, the West Concord Branch opened in one room of the West Concord Grammar School.

In 1928, through a bequest of Loring Nixon Fowler (1855–1921), the well-liked owner of a general store on Commonwealth Avenue in then-called "Concord Junction", the Library Corporation began the process of building a separate library on a lot at the corner of Main and Church Streets, purchased from the Town of Concord. This building was designed by architect Harry Little and was dedicated on May 18, 1930. Architect David Holdorf designed the subsequent expansion of the building in 1996[4]

Today, the Fowler Library serves patrons from West Concord and surrounding areas with a collection of nearly 50,000 volumes of books, books on CD, DVDs, newspapers, and magazines. Programming at the Fowler Library includes Friday Flicks at Fowler presented by the Friends of the Library, book discussion groups, and children's programs.

[3] West Concord Design Guidelines, Draft August 2009
[4] From the Town of Concord Public Library Website

Harvey Wheeler Community Center – This civic facility was originally constructed as a school in 1918 to serve the growing population in West Concord. Today, the Harvey Wheeler Community Center is used for many public purposes and community programs including the Concord Senior Center and Council on Aging.

West Concord Fire Station – The present fire station on Main Street was constructed in 1932 to replace the one that burned down on Commonwealth Avenue, where Twin Seafoods is located today.

Thoreau Elementary School – The Thoreau Elementary School, named after Henry David Thoreau, opened in 1951 at 29 Prairie Street and housed 155 students. At that time, the building included a kindergarten wing of two large rooms, joined by a covered walk to the main building of four classrooms and the administrative offices. Subsequent additions were made in 1955 and 1996. In 2004, the main building, except for the 1996 wing, was torn down. The Thoreau community was temporarily housed in the old Alcott school until 2006 when construction was completed of the new Thoreau School.

Other significant public and civic institutions in West Concord including the following:

- Concord Children's Center on Main Street
- Minuteman ARC on Main Street
- Concord Conservatory of Music
- West Concord Post Office on Beharrell Street
- West Concord Depot on Commonwealth Avenue
- Several religious institutions – West Concord Union Church (Main Street), the New Church of Concord (Church Street) and the offices for Holy Family Church (Church Street).

Open Space and Recreation

West Concord has several natural water features such as Nashoba Brook, Assabet River, and Warner's Pond. There are six (6) formal parks in the village that serve as popular public gathering spaces for passive and active recreational activities.

Junction Park – This small park is located on approximately ¼-acre of land adjacent to the West Concord Depot (originally built in 1893). The park was constructed in 1985 and intended to "redefine, preserve, and unite the Junction area and the natural beauty of the Assabet River." At the time, the park replaced an unsightly area of buildings and debris that was enclosed by a chain link fence. While Junction Park may not have fulfilled people's expectations, it has the potential to be an active focal point for the village center. There are several mature trees, benches, and landscaping in the park and a new stairway to West Concord Shopping Plaza was recently constructed. One of the primary design issues for the park is the poor definition of its edges. It is bordered to the north by the railroad tracks, to the south by heavily-trafficked Main Street, and by parking lots to the east and west. The Club Car Café, located in the Depot, does not relate as well as it could to the park and the landscaped area in the northeast corner of the park is not integrated into the park. There is little shading in the interior portion of the park and the brick surface is in need of repair. Future renovations should consider landscaping and furnishings that facilitate social interaction, infill development on the edges that interacts with the park, and regularly programmed civic gatherings such as a farmers market or entertainment.

Kenneth Dunn Square – This beautiful public space is named after Sergeant Kenneth Dunn. Born in 1918, Dunn and his family moved to West Concord in 1925. He attended school at Harvey Wheeler and was a member of the Concord High School class of 1936. Dunn was killed in World War II at Guadalcanal in 1942. He was the first West Concordian to fight in World War II. Each Memorial Day, citizens march from Percy Rideout Playground to Kenneth Dunn Square to honor veterans. The Square includes a memorial, a flag, stone benches, a flower garden, and several trees. Because of the sidewalk configuration and vehicular traffic pattern, pedestrian access to the memorial is difficult.

Percy Rideout Playground – The park and playground hosts a variety of active and passive recreational facilities for surrounding neighborhoods. The playground is named after Percy Rideout, who was killed in battle in France in World War I.

Cousins Park – This public park is located at the end of Prairie Street and is a key asset for the surrounding neighborhoods. The park includes fields, playground equipment, and community gardens and has frontage along the Assabet River.

Mandrioli Pocket Park – A small pocket park located on Commonwealth Avenue adjacent to the West Concord Supermarket property and on the south side of the railroad tracks, Mandrioli Park provides an attractive, well-landscaped oasis. While the park is underutilized at this time, there will be opportunities for increased activity when the Bruce Freeman Rail Trail is constructed along this portion of Commonwealth Avenue.

Proposed Parks and Open Space – The development of new parks, open space, and trails is one of the key recommendations of the West Concord Village Master Plan. There is also consensus that open spaces need to be made more visible, accessible, and connected to each other and the village center. The following is a list of existing and potential future parks, trails, and open spaces in West Concord.

Existing and Proposed Parks, Open Spaces, and Trails in West Concord

Name	Location	Appox. Size (acres)
Junction Park	Intersection of Main St and Commonwealth Ave	.25
Kenneth Dunn Square	Intersection of Laws Brook Rd and Commonwealth Ave	.062
Cousins Park	Off Prairie St	10.5
Percy Rideout Playground	Off Laws Brook Rd	11.0
Mandrioli Pocket Park	On Commonwealth Ave near RR tracks	.02
Warner's Pond and Warner's Pond Dam Park (proposed)	Off Commonwealth Ave at dam	77 and 0.25
Bruce Freeman Rail Trail (proposed)	Along former RR R-O-W	NA
Nashoba Brook Trail	Along brook	NA
Assabet River Trail (proposed)	Along river	NA
Domino Conservation Land	Between Laws Brook Road and Conant Street	20.83

Concord Public Works recently completed renovations on the old mill runways and dam on Warner's Pond and are currently working on plans for a pocket park at the south end of Warner's Pond along Commonwealth Avenue, which is a very attractive setting. Currently there is a grassy area and guardrail along the roadway. Pedestrian access to the park will have to be addressed as crossings here could be difficult with traffic merging between Commonwealth Avenue and Laws Brook Road. Any crossing should be located close to the Pail Factory Bridge and well marked including signage (with possible flashing light) and pavement treatments. The pocket park could also be connected to a new trail along the Nashoba Brook. Future walking trails and green spaces around Warner's Pond could also be tied into the pocket park.

The Bruce Freemen Memorial Rail Trail (BFRT) will provide another opportunity for recreation and intermodal travel along the former Old Colony Railroad right-of-way, which extends approximately 25 miles from Lowell to Framingham and was last used as an active rail line in 1993. The BFRT will run through the communities of Lowell, Chelmsford, Westford, Carlisle, Acton, Concord, Sudbury, and Framingham. The segment of the trail through West Concord is approximately 3.5 miles running from the MCI Concord Correctional facility to the Sudbury town line. Phase I of the trail (6.8 miles from Lowell to Westford) was completed in 2009. Phase II (13.1 from Westford to Sudbury, including Concord) is in the design stages. With the BFRT passing through West Concord, there is a valuable opportunity to tie the trail into the local historical, cultural and natural resources of the area, which will enhance the experience of people

using the rail trail.

The Nashoba Brook and the Assabet River are West Concord's two main watercourses and the most significant natural resources in the village center. The Assabet River has been designated a national Wild and Scenic River. These two watercourses provide valuable wildlife and water-protection corridors with a particularly scenic view at the confluence of the brook and the river. There are informal trails along both watercourses that could be organized into an attractive trail system providing public access and possibly canoe access to the Assabet River.

2.4 Land Use Transects in the Village

For the purposes of this Master Plan, the West Concord area is broken down into five (5) general subareas called transects. The transect areas are based on existing land use patterns, future development potential, and desired community planning objectives. They have been defined based on discussions with the West Concord Task Force, on-site observations, reviews of existing plans and regulations, and interviews with town officials. The following Transect Districts have been identified in the West Concord village project area:

- Village Industrial Transition Areas (VITA)
- Traditional Village Neighborhoods (TVN)
- Village Center Gateways (VCG)
- Village Center Core (VCC)
- Village Open Spaces (VOS)

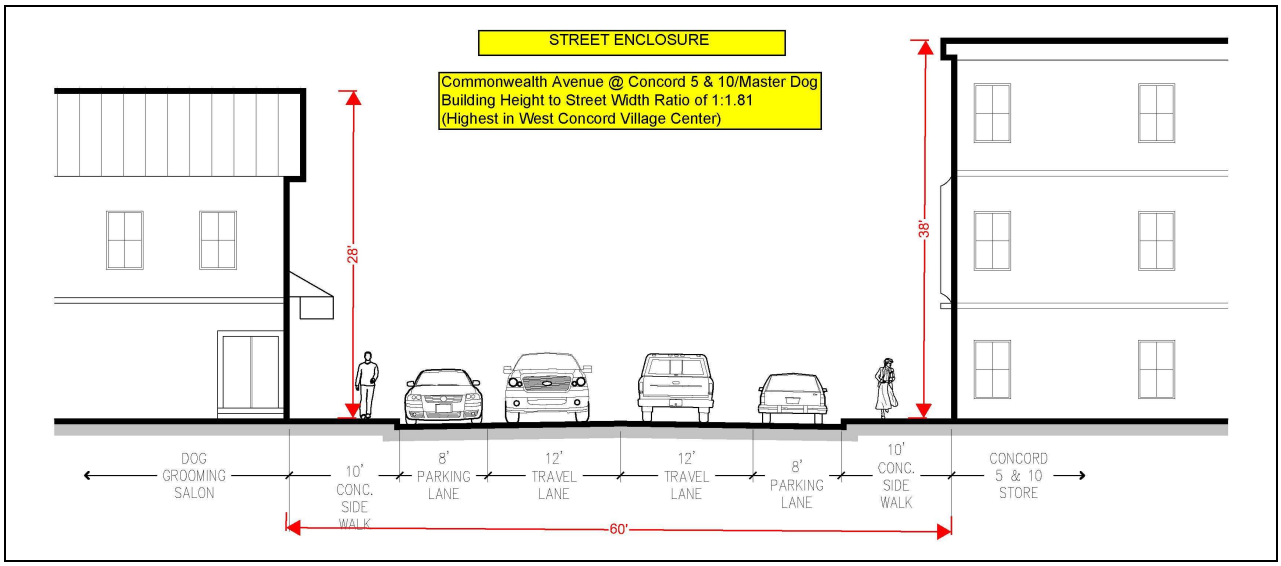
*A **transect** is a system of ordering human habitats in a range from the most natural to the most urban. A transect defines common physical characteristics of place and scale, density and intensity of land use, and urbanism. The **Transect Districts** identified in **West Concord Village** illustrates a full cross section of building use, density, height, and setbacks, other elements of the current development patterns and the relationship between private lots and building and the public streets and open spaces..*

Each of these transects has its own set of characteristics and role in the existing and future development of West Concord. The gateways, industrial transition areas, open spaces, and neighborhood transects support the village center by providing access and market opportunities to local residents, commuters, and visitors.

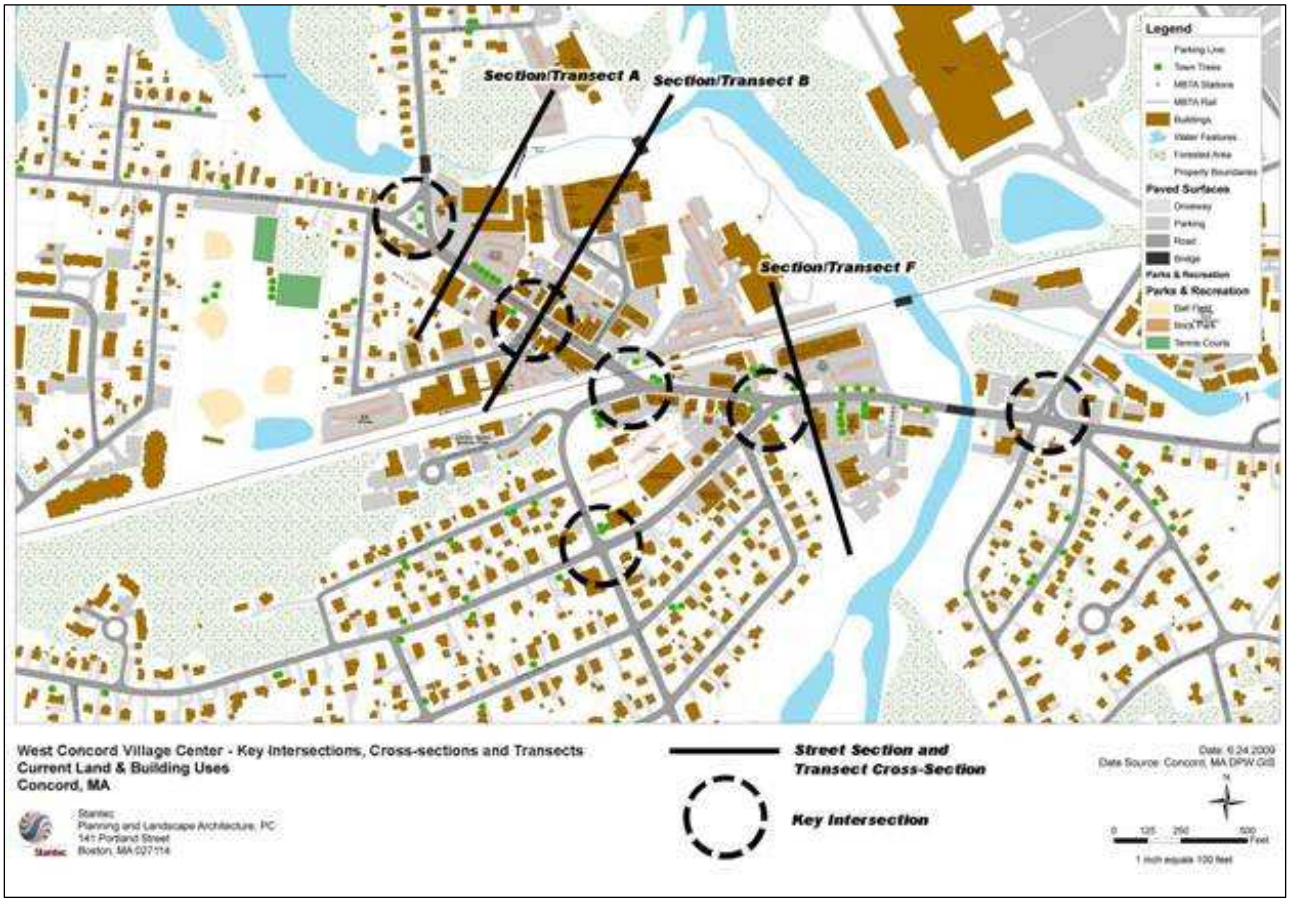
Village Center Core Transect

The Village Center Core (VCC) is centered on the Main Street and Commonwealth Avenue corridor between the Assabet River and Kenneth Dunn Square. The VCC is the oldest part of West Concord village and is characterized by what many would consider to be a traditional American small central business district development pattern. There are predominately 2- and 3-story buildings with short or no setbacks from the sidewalk. Most are constructed in traditional architectural styles using such materials as wood, brick, and stone. There is a consistent mix of uses both vertically and horizontally. First-floor retail spaces tend to have large, plate-glass windows, while upper-floor windows are vertically oriented and form regular patterns across the façade of the building.

The Village Center Core area along Main Street and Commonwealth Avenue has good **visual enclosure** of the street. Visual enclosure of streetscape occurs when bordering buildings are tall enough in relation to street width to block most of a pedestrian's cone of vision. The term "outdoor room" is sometimes applied to streetscapes that are so visually enclosed as to be room-like. The "walls" of the room are the vertical elements that bound and shape street spaces, typically buildings. By making a street more room-like, it becomes more pedestrian friendly because people like rooms; they relate to them daily in their homes and offices. Drivers respond to the sense of enclosure by slowing down, making the street that much more pedestrian-friendly. The Village Center Core area has an average building height-to-street-width ratio of 1:2.3 meaning that the average building height is about 26 feet and the span between buildings across the street is 60 feet. This ratio is typical of historic villages; a street enclosure of 1:2.0 and more generally creates an attractive pedestrian environment.



The Village Center Core is a place of convenience and necessity for West Concord and nearby communities. A large number of village neighborhood residents are within walking distance of the village center and can easily access necessary daily services such as the commuter rail, food, and household supplies, as well as public facilities such as the post office, library, schools, community center, and parks. Local residents are the village center's primary customer market. Unlike many small. villages and downtowns in New England, West Concord has been able to retain these important characteristics of necessity and remains a genuine and authentic village



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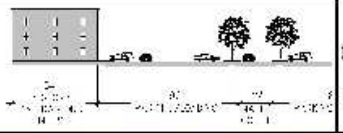
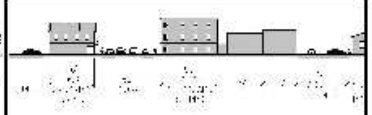
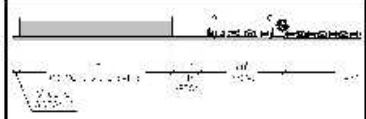
WEST CONCORD VILLAGE - LAND USE TRANSECTS

VITA Village Industrial Transition Areas	VCG Village Center Gateway	VCC Village Center Core	TVN Traditional Village Neighborhood	VOS Village Open Space
				
				
				
Predominate Current Zoning: Industrial (I), Limited Business (LB), Industrial Park (IP)	***Predominate Current Zoning:*** Business (B), Residence C (RC)	***Predominate Current Zoning:*** Business (B), Industrial (I)	***Predominate Current Zoning:*** Residence C (RC), Residence B (RB)	***Predominate Current Zoning:*** Residence B (RB), Residence C (RC), Industrial (I), Industrial Park (IP), Limited Business (LB), Business (B)
Description: This transect include several older industrial buildings and properties associated with the history of the Village. Examples include Bradford Furniture Mills off Bradford St., West Concord Forge and West Concord Clinic off Winthrop St., and the old railroad buildings off Behannel St. Common characteristics include rambling industrial spaces and significant expanses of pavement for parking and production. VITA also includes new developments on industrially zoned lands such as Junction Square (a conventional business park) and Concord Park (a modern assisted living complex). Potential future changes in the VITA may include significant redevelopment and reuse along Bradford Street and Behannel Street for mixed uses as well as housing and open space at the eastern end of Winthrop Street.	***Description:*** VCGs are the transitional areas between the West Concord neighborhoods and the Village Center core area. Village Center Gateways include the eastern portion of Main Street between Concord Green and the Assabet River, the Pine Street and Main Street intersection area, Commonwealth Ave from Winthrop St. to the triangle, Laws Brook Rd., from the park to the triangle. These corridor-based transects are fairly diverse in terms of building types, uses, signage and streetscapes as the transition is made between residential and commercial/mixed use areas. For the most part, gateway treatments and wayfinding signage are lacking.	***Description:*** The Village Center Core is the oldest part of West Concord. It is characterized by what many would consider to be a traditional and typical American small central business district development pattern. There are predominately 2 and 3 story buildings with short or no setbacks from the sidewalk. Most are constructed in traditional architecturel styles are materials including wood, brick and stone. There is a consistent mix of uses both vertically and horizontally. First floor retail spaces tend to have large, plate-glass windows, while upper floor windows are vertically oriented and form regular patterns across the façade of the building. The VCC is centered on the Main Street and Commonwealth Avenue corridor between Cottage Street and Kenneth Dunn Square.	***Description:*** This transect includes the oldest and best preserved traditional village neighborhood in Concord. Some model streets include Highland, Pine, Main (east of Pine), Riverside, Derby, Central, Maple, Cottage, Crest, Conant, Laws Brook, Pond, Winthrop, and Commonwealth (north of triangle). Future development potential is limited and should generally follow the established residential development patterns and characteristics including tree-lined streets, sidewalks, narrow frontages, modest setbacks, and traditional architectural styles.	***Description:*** This transect is interwoven with several others, and includes several natural resources, open spaces as well as active and passive recreational areas. These are scattered throughout the West Concord Village Area including Warner's Pond southern shoreline, Assabet River Corridor, Concord Child Center playground, Nashoba Brook, the triangle commons, Percy Rideout Playground, Depot Square, and Bruce Freeman Trail Corridor. Several open space enhancements and connections are attainable in the village area.

A Transect is a system of ordering human habitats in a range from the most natural to the most urban. The Transect defines common physical characteristics of place and scale, density and intensity of land use, and urbanism. The Transect Districts are similar to the land-use zones in conventional codes, except that in addition to the usual building use, density, height, and setback requirements, other elements of the existing or intended habitat are integrated, including those of the private lot and building and the fronting public streetscape.

For larger version of this image see Appendix 5

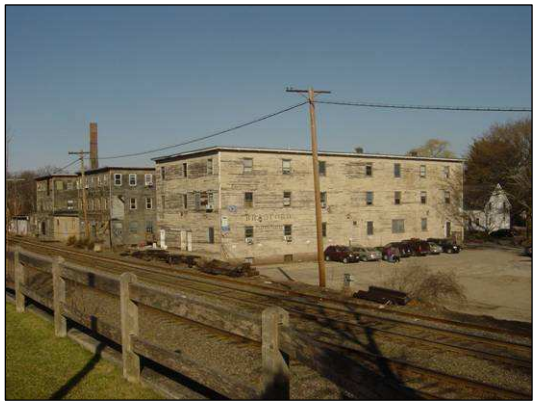
West Concord Village Transects Property Characteristics						
		Average				
Transect	No. of Properties	Net Area S.F.	Lot S.F.	Net FAR	Frontage	Year Built
Village Neighborhoods						
12 - 150 Central Street Neighborhood	31	2,126	9,089	0.25	83	1912
13 - 99 Highland Street Neighborhood	27	1,857	8,387	0.25	97	1908
1317 - 1394 Main Street Neighborhood	20	2,762	12,891	0.21	114	1891
11 - 91 Pine Street Neighborhood	14	2,046	26,721	0.22	131	1907
2 - 75 Pleasant Street Neighborhood	16	2,560	10,970	0.26	114	1952
3 - 99 Riverside Neighborhood	20	1,971	16,746	0.17	105	1926
Commonwealth Ave. Neighborhood	53	1,929	15,828	0.20	86	1900
Wedgewood Court Apartments	3	9,621	72,834	0.19		1968
Derby St. Neighborhood	15	3,741	23,505	0.24	109	1923
Conant St. Neighborhood	82	1,449	15,672	0.11	149	1986
Laws Brook Neighborhood	28	1,682	13,001	0.18	144	1912
Maple Street Neighborhood	13	1,798	11,374	0.17	123	1924
Warner's Pond Neighborhood	24	1,652	16,881	0.15	135	1938
Winthrop Street Neighborhood	5	2,058	11,495	0.21	103	1928
Village Industrial Transition Areas						
Beharell Street Comm-Ind. District	5	9,245	49,597	0.54	92	1933
Bradford Street Comm-Ind. District	5	17,384	34,558	0.35	157	1913
Winthrop Street Industrial District	7	9,918	166,471	0.14	121	1952
Village Commercial Districts						
Commonwealth Ave. Commercial District 1	31	6,991	30,596	0.37	110	1920
Comm. Ave./Main Street/Church St Comm. District 2	25	3,253	8,362	0.41	152	1921
Junction Square Business Park	39	1,611	128,132	0.05		1985
Main Street Commercial District 4	27	3,179	28,369	0.14	261	1957
Westgate Park Commercial District	3	8,820	37,086	0.22	147	1965
Baker Avenue Business Park	42	11,896	699,882	0.12		1983

Village Center Gateway Transects

Village Center Gateway (VCG) transects are the transitional areas between the West Concord neighborhoods and the Village Center Core area. Village Center Gateways include the eastern portion of Main Street between Concord Greene and the Assabet River, the Pine Street and Main Street intersection area, Commonwealth Avenue from Winthrop Street to Kenneth Dunn Square, Laws Brook Road from Percy Rideout Playground to Kenneth Dunn Square. These corridor-based transects are fairly diverse in terms of building types, uses, signage, and streetscapes as the transition is made between residential and commercial/mixed use areas. For the most part, gateway treatments and wayfinding signage are lacking.

Village Industrial Transition Areas (VITA)

This transect includes several older industrial buildings and properties associated with the history of the village. Examples include Bradford Furniture Mills off Bradford Street, West Concord Forge and West Concord Clinic off Winthrop Street, the former tannery building off Commonwealth Avenue, and the old railroad buildings, mills, and warehouses off Beharrell Street. Common characteristics include large industrial spaces and significant expanses of pavement for parking and production. VITA also includes new developments on land zoned for light industrial use such as Junction Square (a small office and business park designed to appear residential) and Concord Park (a modern assisted living complex). Potential future changes in the VITA may include significant rehabilitation and redevelopment along Bradford Street, Beharrell Street, and at the eastern end of Winthrop Street.



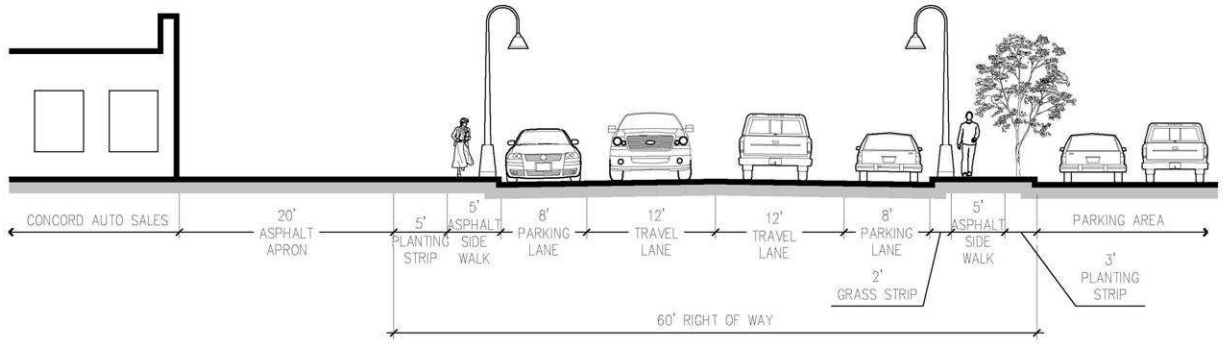
Village Open Spaces (VOS)

This transect is interwoven with several others and includes several natural resources, open spaces, and active and passive recreational areas. These are scattered throughout the West Concord village area including the southern and eastern shoreline of Warner's Pond, Assabet River corridor, Concord Children's Center playground, Nashoba Brook, Kenneth Dunn Square, Percy Rideout Playground, Junction Park, and the Bruce Freeman Rail Trail corridor. Several open space enhancements and connections are attainable in the village area. A full description of existing and proposed parks and open spaces is included in Section 2.3 above.

Traditional Village Neighborhood Transect

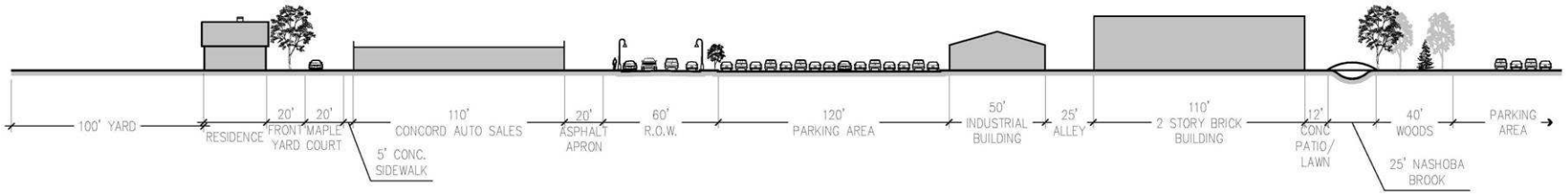
Surrounding the village center is a series of well established neighborhoods. This transect includes the oldest and best preserved traditional village neighborhoods in West Concord. Some typical neighborhood streets include Highland, Pine, Main (south of Pine), Riverside, Derby, Central, Maple, Cottage, Crest, Conant, Laws Brook, Pond, Winthrop, and Commonwealth (north of Kenneth Dunn Square).

WEST CONCORD - STREET SECTION AND TRANSECT CROSS-SECTION A



STREET SECTION A - COMMONWEALTH AVENUE NORTHBOUND VIEW

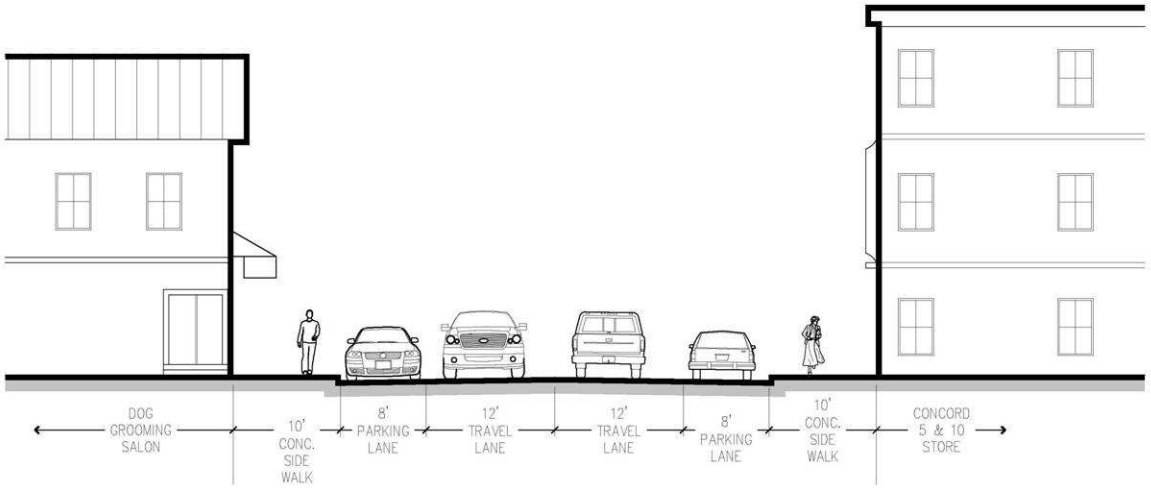
SCALE: 1" = 10'-0"



TRANSECT CROSS-SECTION A - COMMONWEALTH AVENUE NORTHBOUND VIEW AT CONCORD AUTO SALES

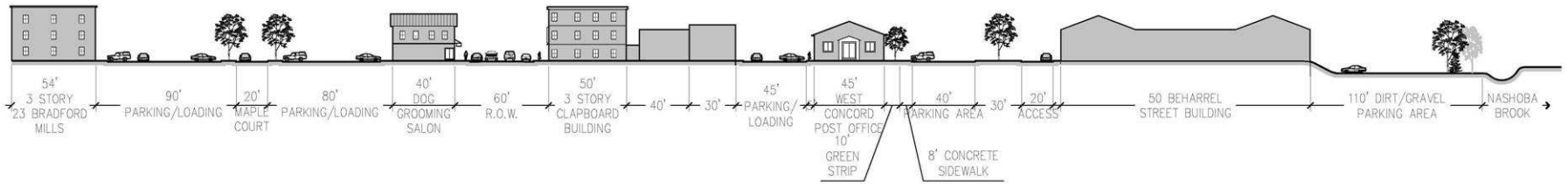
SCALE: 1" = 50'-0"

WEST CONCORD - STREET SECTION AND TRANSECT CROSS-SECTION B



STREET SECTION B - COMMONWEALTH AVENUE NORTHBOUND VIEW AT BRADFORD STREET

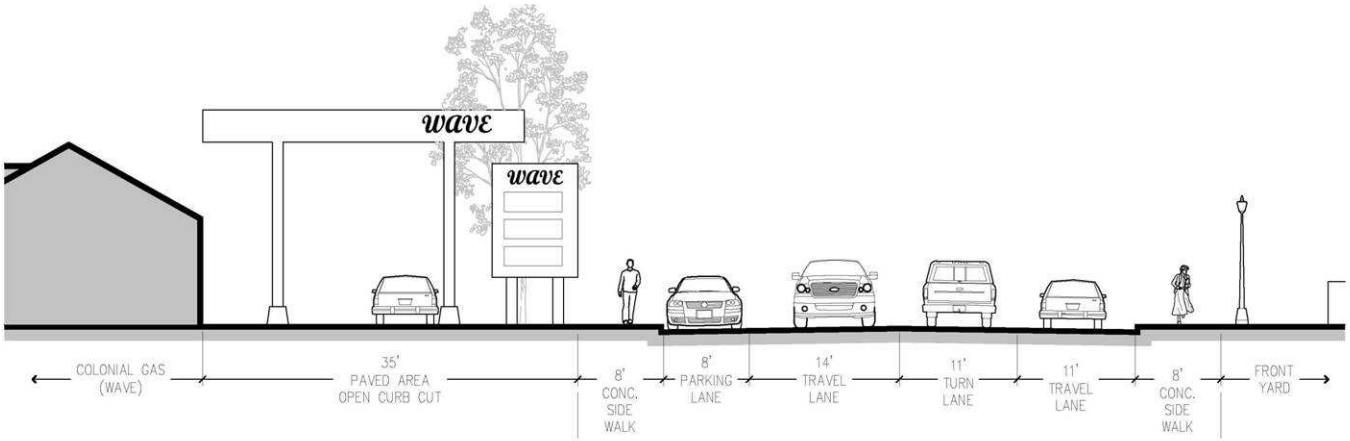
SCALE: 1" = 10'-0"



TRANSECT CROSS-SECTION B - COMMONWEALTH AVENUE NORTHBOUND VIEW AT BRADFORD STREET

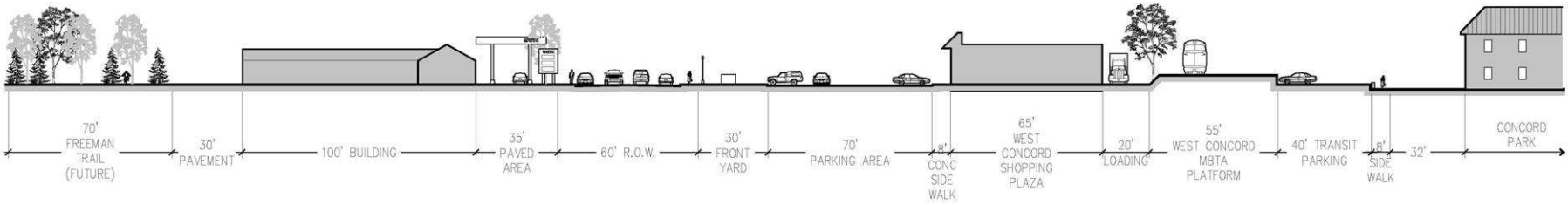
SCALE: 1" = 60'-0"

WEST CONCORD - STREET SECTION AND TRANSECT CROSS-SECTION F



STREET SECTION F - MAIN STREET WESTBOUND VIEW AT WEST CONCORD SHOPPING PLAZA / COLONIAL GAS

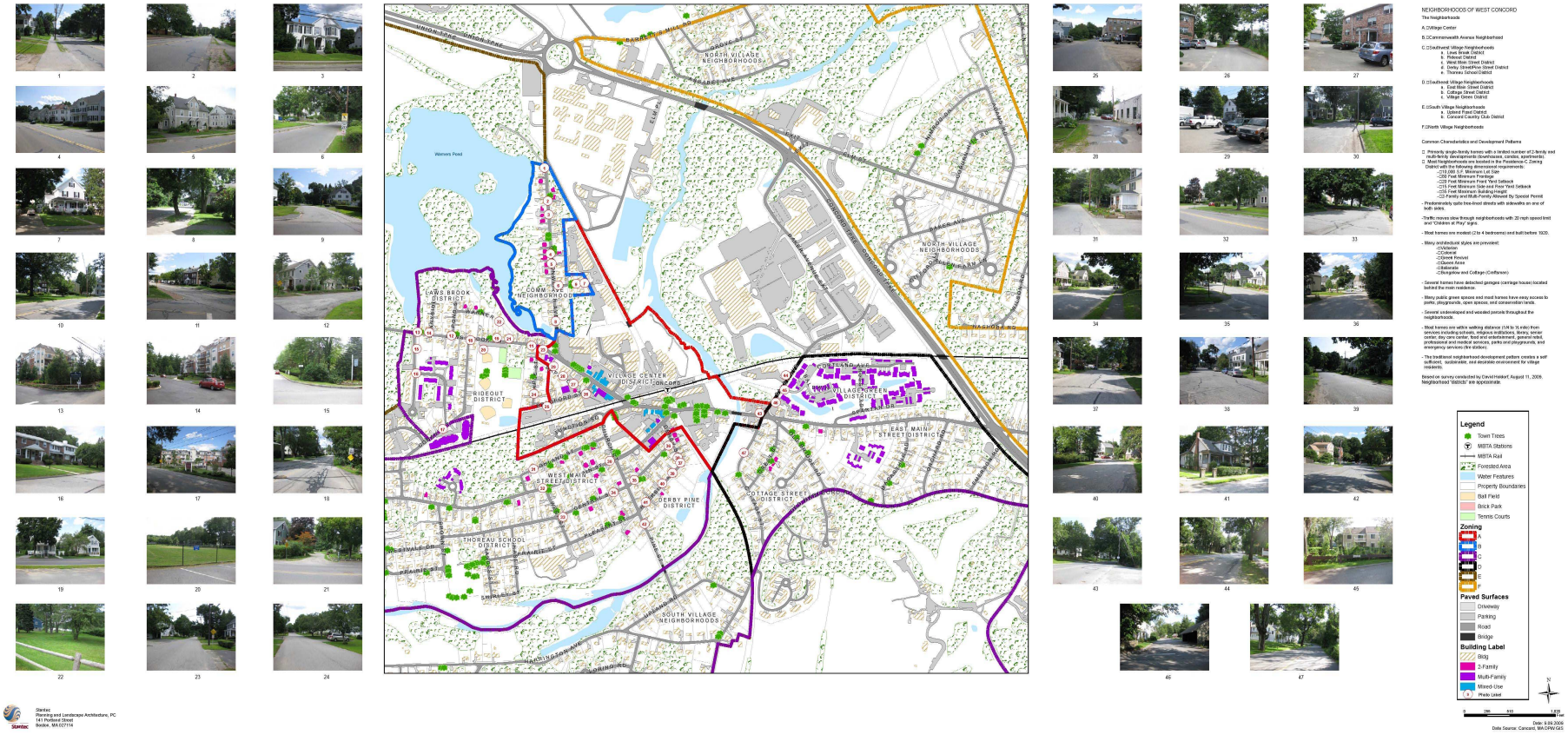
SCALE: 1" = 10'-0"



TRANSECT CROSS-SECTION F - MAIN STREET WESTBOUND VIEW AT WEST CONCORD SHOPPING PLAZA / COLONIAL GAS

SCALE: 1" = 40'-0"

NEIGHBORHOODS OF WEST CONCORD



For larger version of this image see Appendix 5

The West Concord neighborhoods are roughly divided into the following districts[5]:

- Village Center (residents living in the core area)
- Commonwealth Avenue (north of Kenneth Dunn Square)
- Southwest Village
  - Laws Brook District
  - Rideout District
  - South Main Street District
  - Derby Street/Pine Street District
  - Thoreau School District
- Southeast Village
  - East Main Street District
  - Cottage Street District
  - Concord Green District
- South Village
  - Upland Road District
  - Concord Country Club District
- North Village (area of Assabet Ave., Barretts Mill Rd. and Grove St.)

Through an assessment of property records and on-site observations, common characteristics and development patterns in the West Concord neighborhoods are as follows:

- Primarily single-family homes with a limited number of two-family and multi-family developments (townhouses, condos, apartments)
- Most neighborhoods located in the Residence-C Zoning District with the following dimensional requirements:
  - 10,000 S.F. Minimum Lot Size
  - 80 Feet Minimum Frontage
  - 20 Feet Minimum Front Yard Setback
  - 15 Feet Minimum Side and Rear Yard Setback
  - 35 Feet Maximum Building Height
  - 2-Family and Multi-Family Allowed By Special Permit
- Predominately quiet, tree-lined streets with sidewalks on one or both sides
- Slow traffic through neighborhoods with 20 mph speed limit and “Children at Play” signs
- Modest homes (2 to 4 bedrooms) built before 1920
- Many architectural styles
  - Victorian
  - Colonial
  - Greek Revival
  - Queen Anne
  - Italianate
  - Bungalow and Cottage (Craftsman)
- Several homes with detached garages (carriage house) behind the main residence
- Many public green spaces scattered throughout the neighborhoods, with generally easy access to parks, playgrounds, open spaces, and conservation lands from the homes
- Several undeveloped and wooded parcels throughout the neighborhoods
- Most homes within walking distance (0.25 to 0.5 mile) of services including schools, religious institutions, library, senior center, day care center, food and household supplies, general retail, professional and medical services, parks and playgrounds, and emergency services (fire station)

The traditional neighborhood development pattern in West Concord creates a self-sufficient, sustainable, and desirable environment for village residents.

[5] Based on survey conducted by David Holdorf, August 11, 2009. Neighborhood “districts” are approximate.

2.5 Transportation Conditions and Trends

Existing Local Conditions

West Concord bears the burden of commuter traffic during rush hours from neighboring towns as well as being an access point to the Route 2 rotary and a destination for the commuter rail station (the West Concord Depot and MBTA platform). The village center is served by Main Street (Route 62) in an east/west direction and Commonwealth Avenue in an east/west and north/south direction. This central corridor is the transportation and economic spine for the village center. Major Main Street intersections include Pine Street/Church Street, Commonwealth Ave. and Cottage Street/Baker Avenue. Major Commonwealth Avenue intersections include Laws Brook Road, Bradford Street, Beharrell Street, and the MBTA Commuter Lot/Concord Park access road. Together these streets form the major transportation network in the village center.

One of the key objectives of the Master Plan is to identify potential opportunities for roadway design and circulation changes to reduce traffic congestion and improve flow in the village center. Some focus points include the following:

- Improved traffic flow on Main Street and Commonwealth Avenue
- Improved circulation and connectivity on Beharrell Street, Maple Court, and Bradford Street
- Impact of increased traffic and change in intensity of use on Main Street, Commonwealth Avenue, Beharrell Street, Bradford Street, and Winthrop Street
- Improved access and egress at the commuter parking lot
- Reconfiguration of key intersections
    - Kenneth Dunn Square
    - Main Street and Commonwealth Avenue
    - Commonwealth Avenue and Church Street
    - Main Street and Cottage Street
- Upgrade traffic and railroad signals where needed
- MBTA commuter train platform alterations to prevent the train from blocking the intersection and creating traffic congestion on Commonwealth Avenue
- Exploration of options to ease congestion along Laws Brook Road
- Commuter cut-through traffic because of Route 2 congestion
- Local commuters' contribution to the peak-hour congestion
- Determination if business customers may be deterred by traffic congestion and the perception of limited parking

The Town is currently working with the state on Route 62 (Main Street) Phase 3 improvements which are being designed with state funds. This segment of improvements covers the area between Church Street easterly to Route 2. Specific areas of focus are such key intersections as:

- Main Street and Church Street
- Main Street and Commonwealth Avenue
- Cottage Street and Baker Avenue

Street Design Characteristics in the Village Center

Primary Streets – Primary village center streets were laid out during the 1800s including Main Street, Commonwealth Avenue, Beharrell Street, Bradford Street, and Church Street. Some of these older village streets are very attractive with sidewalks, mature street trees (in certain areas), narrow travel lanes, on-street parking, and traditional village development patterns. Other side streets in the village, such as Westgate Park and Junction Square, were constructed over the last 30 years.

West Concord Village Center Arterial Street Design		
Street Segment	**Approx. R-O-W**	**Design**
Commonwealth Ave: Junction Park to Church St	50 feet	2 10-foot lanes, 8-foot parking lanes on both sides, and 8 foot sidewalks on both sides
Commonwealth Ave: Church St to Bradford St	60 feet	2 12-foot travel lanes, 8-foot parking lanes on both sides, and 10-foot concrete sidewalks on both sides
Commonwealth Ave: Bradford St to Kenneth Dunn Square	60 feet	2 12-foot travel lanes, 8-foot parking lanes on both sides, and 4-foot asphalt sidewalks on both sides with planting strips
Commonwealth Ave: Kenneth Dunn Square to Route 2 Rotary	50 feet	2 12-foot travel lanes and 2 4-foot asphalt sidewalks with planting strips on both sides

Most of Commonwealth Avenue in the village center has public right-of-way of 60 feet on average with two 12-foot travel lanes and 10-foot concrete sidewalks on both sides. There are a limited number of street trees, due in part to the installation of utilities under the sidewalks particularly in the core area of Main Street and Commonwealth Avenue, limited street furniture (*e.g.*, benches, trash receptacles, bicycle racks, etc.), and few gateway treatments or visible wayfinding signage.

Circulation and Connectivity – Within the village center, vehicular and pedestrian circulation and distribution on side streets is somewhat limited. For example, Beharrell Street has no outlet and currently terminates at 50 Beharrell Street. Westgate Park, Junction Square Drive, the commuter parking lot, and Winthrop Street are also dead end streets with one access point. This lack of connectivity and circulation contribute to traffic congestion on Main Street and Commonwealth Avenue, particularly during weekday morning and afternoon rush hour when the MBTA commuter rail stops in West Concord.

Neighborhood streets south and west of the village center form a well connected grid pattern. Streets such as Main Street, Highland, Derby, Cottage, Central, Pleasant, Church, Conant, and Pine are all interconnected, helping to distribute and disperse traffic around and through the neighborhoods.

Aesthetic Appeal – The Village Center Core along Main Street and Commonwealth Avenue has more of a traditional development pattern with pedestrian orientation of buildings, on-street parking, and off-street parking located to the rear or side of the buildings (for the most part). Other side streets such as Westgate Drive, Bradford Street, Beharrell Street, and Junction Square Drive are more oriented toward auto access and have little or no on-street parking or sidewalks.

Balancing vehicle, rail, pedestrian, and bicycle access in the heart of a vibrant village center requires a holistic approach in formulating successful long-term solutions. Street design options in the village center must accommodate and balance the current and future needs of these various transportation modes while enhancing the identity, historic character, safety, security, and economic vitality of the community.

Traffic Volumes and Circulation

Main Street (state-numbered highway - Route 62) travels primarily in an east/west orientation through the village connecting to Commonwealth Avenue at Junction Park, which runs east/west through the village center and then in a northeast/southwest direction to Route 2. Main Street and Commonwealth Avenue are classified as minor arterial streets and primarily provide one lane in each direction with auxiliary lanes at cross street locations. Main Street and Commonwealth Avenue have the following characteristics:

Main Street and Commonwealth Avenue Characteristics		
Characteristics	**Main St.**	**Commonwealth Ave**
Functional classification	Minor arterial	Minor arterial
Truck traffic	Approx. 5%	Approx. 5%
Right-of-way	60 feet typical	60 feet typical
Sidewalks	Both sides 5–10 feet	
On-street parking	8–8.5 feet wide both sides, village core only	
Speed limit	30 mph	20 mph/30 mph
Traffic signals	At Rt. 2, Cottage St., Comm. Ave. and Church St.	At Main St.
Bicycle facilities	Permitted to share the road, no designated bicycle route or lane	

The Massachusetts Highway Department records traffic volumes at 23 stations in Concord including six (6) in West Concord as shown in the table below. Traffic data provided by state counting stations for West Concord (in gray) is limited. Most traffic counts were conducted in 2001 and show that Commonwealth Avenue in the village had an average daily traffic volume of under 9,000 vehicles. Traffic volumes on Route 62 (Main Street) fluctuated over the last 10 years with 13,600 vehicles per day (vpd) recorded in 2007.

Town of Concord Average Daily Traffic Volume Counts

STA#	ROUTE/STREET	LOCATION	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
S003	Baker Avenue	North of Main St				9,000						
S002	Belknap Street	West of Thoreau St.				1,700						
4166	Cambridge Turnpike	East of Rt. 24	6,300			7,200			6,200			6,200
S001	Commonwealth Ave.	South of Concord Rotary			8,600							
S004	Commonwealth Ave.	South of Rt 2.				8,900						
S005	Conant Street	West of Domino Drive				5,700						
0403 L	Route 2	0.2 Miles East of Concord Rotary	47,407	47,161	47,011	46,354	47,595	47,137		45,754	45,662	44,647
S002	Route 2	East of Rt. 126	48,000									
S008	Route 2	West of Concord Rotary									38,300	
S005	Route 2	West of Rt 126									42,800	
S004	Route 2	West of Rt 2A									46,900	
S007	Route 2	West of Rt. 62									36,300	
S001	Route 2	West of Sudbury Rd.	41,200									
S006	Route 2	West of Sudbury Rd.									43,200	
4003	Route 62	At Acton Line			13,900			11,100			13,600	
4890	Route 62	East of Elm Street									16,100	
S001	Route 62	West of Florio Dr									10,100	
S002	Route 62	West of Walden St									13,900	
S002	Route 117	At Lincoln Town Line			11,700							
S001	Sudbury Road	West of Rt. 2						7,700				
S001	Sudbury Road	West of Thoreau St.				8,700						
4891	Walden Street	South of Everett St									4,800	
S003	Walden Street	South of Hubbard Street									3,900	

Source: MassHighway

Existing and Projected Circulation and Turning Movements – Peak AM and PM hour turning movement counts in West Concord were prepared for the Massachusetts Highway Department in 2008.[6] The existing peak hour volumes are provided in Appendix 2. In addition, other information such as queuing, heavy vehicle traffic, and other general traffic operation observations were made throughout the village center.

Motor Vehicle Accidents – Accident reports were investigated to assess the safety history along roadways in West Concord Village. The accidents included in the current review collectively covered a 4 ½-year time period from January 1, 2004 through July 22, 2009. During this period, 240 intersection accidents were documented in the West Concord area.

[6] Route 2 Reconstruction at Concord Rotary, Secondary Area Corridor Analysis, Massachusetts Highway Department, Prepared by AECOM, April 29, 2009.

West Concord Traffic Accidents by Intersection, 01.0.04-07.22.09					
Street	Intersecting Street	Total Accidents	Street	Intersecting Street	Total Accidents
Beharrell St.	Commonwealth Ave	6		Baker Ave	10
Bradford St	Commonwealth Ave	1		Brown St	1
Church St.	Commonwealth Ave	5		Church St.	6
	Main Street	6		Commonwealth Ave	11
Commonwealth Ave	Beharrell St.	6		Conant Street	9
	Bradford St.	1		Concord Tpke	28
	Church St.	5		Cottage Street	6
	Concord Tpke	4		Edgewood Rd	2
	Laws Brook Rd.	10		Forest Ridge Rd	3
	Main Street	11		Harrington Ave	3
Conant St.	Laws Brook Rd.	1		Macarthur Rd	1
	Main Street	9		Old Bridge Rd	1
Concord Tpke	Commonwealth Ave	4		Orchard Rd	2
	Main Street	28		Pine St.	7
Cottage Street	Main Street	3		Pond Lane	1
	Main Street	6		Water St	1
	Old Marlboro Rd	3		West St	1
Harrington Ave.	Main Street	3		Westgate Dr	1
	Old Marlboro Rd	2		Westgate Park	5
Laws Brook Rd.	Commonwealth Ave	10		Winslow St	1
	Conant Street	1	Old Bridge Rd	Main Street	1
Westgate Park	Main Street	1		Old Marlboro Rd	2

Source: Concord Police Department

Seasonal Fluctuations – Traffic data provided by the state indicated there is a seasonal fluctuation on village streets with lower-than-average volumes during the summer months and higher-than-average volumes in the fall. This fluctuation is supported by the lower occupancy rates observed in on-street parking spaces and off-street parking lots.

Cut-Through Traffic – A portion of existing traffic generated from communities west of West Concord chooses to avoid Route 2 and the Concord Rotary by cutting through the village primarily along Main Street and Laws Brook Road. According to a recent study[7], the typical traffic pattern for these motorists is to exit Route 2 eastbound at either Hosmer Street or School Street, travel along Laws Brook Road and Commonwealth Avenue to Main Street or Laws Brook Road to Hillside Ave. to Main Street, and access Route 2 eastbound at the Main Street/Route 2 intersection. Other cut-through traffic in the village is also destined for the commuter parking lot and the businesses on Baker Avenue.

To gain an understanding of how many vehicles travel through West Concord to avoid the Concord Rotary, an origin-destination study was conducted in May 2008 during the peak morning traffic period determined to be 7:15 to 8:45 AM. The results are included in the table below.

Summary of AM Peak Time Cut-Through Traffic in West Concord				
Origin Observation Location	Number of Vehicles Observed	Number/Percent Observed on Main St. EB Turning Left onto Baker Ave.	Number/Percent Observed on Main St. EB Continuing to Rt. 2	Number/Percent Total "Cut-Through" vehicles
Hosmer St. Southbound	247	6 / 2.4%	52 / 21.1%	58 / 23.5%
School St. Southbound	180	10 / 5.6%	47 / 26.1%	57 / 31.7%
Source: Rt. 2 Secondary Corridor Study, April 2009				

[7] Route 2 Reconstruction at Concord Rotary, Secondary Area Corridor Analysis, Massachusetts Highway Department, Prepared by AECOM, April 29, 2009.

According to the origin-destination study, approximately 115 vehicles are cutting through West Concord along Main Street and Commonwealth Avenue during the 7:30 to 8:30 AM peak hour. Approximately 50 percent of this traffic originated from Hosmer Street and School Street southbound and are motorists turning off Route 2 to avoid the Concord Rotary.

Commuter Rail

The MBTA commuter station is a critical part of the transportation infrastructure in West Concord village center. Local as well as regional residents rely on the West Concord station as a convenient means of getting to and from work. There are currently 16 inbound trains and 17 outbound trains along the Fitchburg line that make weekday stops in West Concord. Inbound passengers from West Concord are estimated to be 460 daily into North Station in Boston.

West Concord and Surrounding Area Commuter Statistics, Winter 2007

Town	Miles to Porter Square	Schedule AM Peak Min. to Porter Square	Miles to North Station	Schedule AM Peak Min. to North Station	Inbound Trains	Daily Boardings	Station Parking	Observed Utilization	Bicycle Parking
South Acton	21.9	43	25.3	54	18	873	300	99.3%	83
West Concord	***18.5***	***38***	***21.9***	***49***	***17***	460	191	94.8%	10
Concord	***16.6***	***34***	***20.0***	***45***	***17***	432	91	133%	10
Lincoln	13.3	28	16.7	39	17	329	161	N/A	N/A

Source: MBTA

The number of vehicles traveling to and from the train station during the morning and evening peak hours can cause temporary traffic congestion. Traffic congestion can become exacerbated when the train blocks Commonwealth Avenue at the intersections of the parking lot and of Church Street. This occurs on a regular basis and, for eastbound trains, is caused by the engine stopping in the intersection to allow the two handicapped accessible cars to line up with a fairly short raised platform at the handicapped ramp. This issue could be resolved by extending the raised platform further east by about 30 feet so that trains could pull further forward. For westbound trains, railroad crossing gates are tripped before the station so all vehicular traffic on Commonwealth Avenue must wait while passengers unload. A traffic safety issue is created at the intersection of the commuter lot and Commonwealth Avenue as cars exit and enter. Significant back-ups in the commuter parking lot are created during the evening peak hour because there is only one access point and one exit lane onto Commonwealth Avenue. A similar pattern occurs at the Church Street intersection.

The following table was prepared by Mass Highway and illustrates the current circulation patterns including traffic volumes on streets and at intersections in West Concord Village. Projected future changes in circulation patterns and traffic counts are based on regional traffic projections prepared by Mass. Highway combined with Alternate 5 (preferred scenario) for redesigning the Route 2 rotary on the north end of Commonwealth Avenue.

West Concord Traffic Patterns – 2008 and Projected to 2030

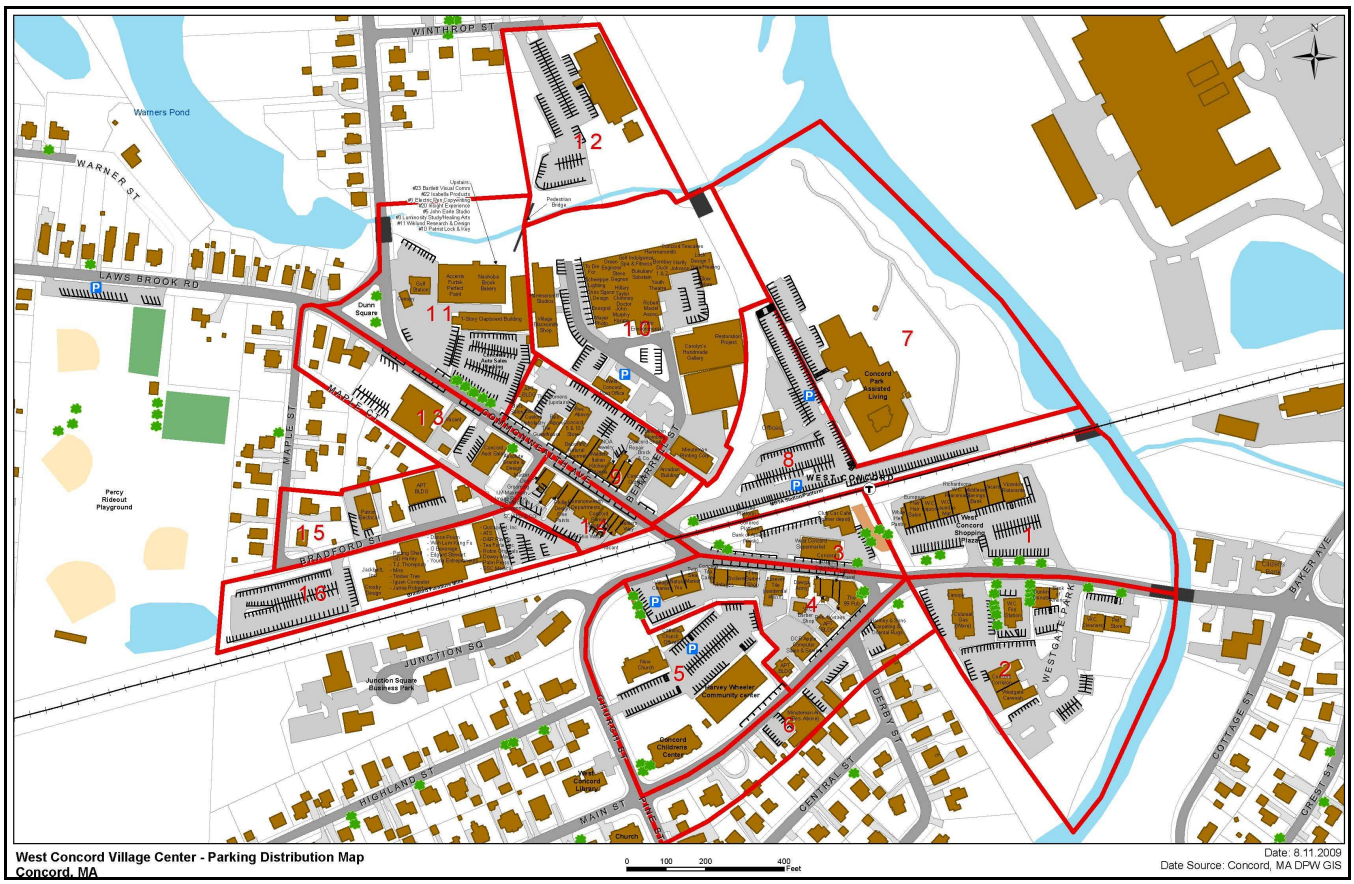
Location	2008 AM Peak (7:30-8:30 AM)	2008 PM Peak (7:30-8:30 AM)	2015 AM Peak No Build (7:30-8:30 AM)	2015 PM Peak No Build (7:30-8:30 AM)	2030 AM Peak No Build (7:30-8:30 AM)	2030 PM Peak No Build (7:30-8:30 AM)	2015 AM Peak Rotary Alternate 5 (7:30-8:30 AM)	2015 PM Peak Rotary Alternate 5 (7:30-8:30 AM)	2030 AM Peak Rotary Alternate 5 (7:30-8:30 AM)	2030 PM Peak Rotary Alternate 5 (7:30-8:30 AM)
Route 2 @ Rotary - East Bound										
Eastbound	1,945	1,355	2,209	1,412	2,377	1,483	2,685	1,436	2,728	1,516
Westbound	1,165	1,968	1,313	2,378	1,405	2,509	1,393	2,726	1,483	2,923
Route 2 @ Rotary - West Bound										
Eastbound	2,426	1,480	2,727	2,617	1,573	2,743	3,310	1,733	3,424	1,874
Westbound	1,304	1,980	1,457	1,552	2,905	1,666	1,291	2,395	1,379	2,593
Commonwealth Ave. @ Rt. 2 Rotary										
Southbound toward Village	232	342	272	268	281	291	329	336	373	378
Northbound toward rotary	321	535	323	486	312	495	318	416	349	433
Estimated Combined Peak Hour Traffic Volume (PHTV) on Comm. Ave. South of Rotary	**553**	**877**	**595**	**754**	**593**	**786**	**647**	**752**	**722**	**811**
Commonwealth Ave. @ Laws Brook Road										
From Commonwealth Ave. Southbound										
Southbound toward Village	109	163	114	171	126	188	126	171	126	188
Westbound onto Laws Brook Rd.	87	130	91	136	100	150	91	136	100	150
From Commonwealth Ave. Northbound										
Northbound toward Rotary	76	383	80	401	88	442	80	401	88	442
Westbound onto Laws Brook Rd.	91	352	95	368	105	406	95	368	105	406
From Laws Brook Road Eastbound										
Northbound on Comm. Ave toward rotary	251	165	263	173	289	190	263	173	289	190
Eastbound on Comm. Ave toward Village	520	143	544	150	600	165	397	150	457	165
Estimated PHTV. on Laws Brook Rd. at Comm. Ave	**949**	**790**	**993**	**827**	**1,094**	**911**	**846**	**827**	**951**	**911**
Estimated Combined PHTV. on Comm. Ave. North of Laws Brook Rd.	**523**	**841**	**548**	**881**	**603**	**970**	**560**	**881**	**603**	**970**
Estimated Combined PHTV. on Comm. Ave. South of Laws Brook Rd.	**796**	**1,041**	**833**	**1,090**	**919**	**1,201**	**698**	**1,090**	**776**	**1,201**
Commonwealth Avenue @ Main Street (Rt. 62)										
From Commonwealth Ave Eastbound										
Eastbound onto Main Street (Thru)	398	250	416	262	459	288	269	262	316	288
Westbound onto Main Street	6	37	6	39	7	43	6	39	7	43
From Main Street Westbound										
Westbound on Comm. Ave (Thru)	184	636	193	666	212	733	193	666	212	733
Southbound onto Main Street	268	548	280	573	309	632	280	573	309	632
From Main Street Southbound										

Northbound on Comm. Ave toward village	-	0	0	0	0	0	0	0	0	0
Eastbound onto Main Street (Thru)	630	437	659	457	727	504	659	457	727	504
Est. Combined PHTV on Comm. Ave. West of Main St.	**582**	**886**	**609**	**928**	**671**	**1,021**	**462**	**928**	**528**	**1,021**
Estimated Combined Peak Hour Traffic Volume on Main St. South of Comm. Ave.	**904**	**1,022**	**945**	**1,069**	**1,043**	**1,179**	**945**	**1,069**	**1,043**	**1,179**
Estimated Combined Peak Hour Traffic Volume on Main St. East of Comm. Ave.	**1,480**	**1,871**	**1,548**	**1,958**	**1,707**	**2,157**	**1,401**	**1,958**	**1,564**	**2,157**
Main St. @ Cottage St./Baker St. Ext.										
From Main Street Eastbound										
Northbound onto Baker St. Ext.	120	68	126	71	138	78	126	71	138	78
Eastbound onto Main Street (Thru)	854	534	894	559	985	616	747	559	842	616
Southbound onto Cottage St.	58	74	61	77	67	85	61	77	67	85
From Main Street Westbound										
Northbound onto Baker St. Ext.	86	29	90	30	99	33	90	30	99	33
Westbound onto Main Street (Thru)	343	844	359	883	396	973	359	883	396	973
Southbound onto Cottage St.	3	3	3	3	3	3	3	3	3	3
From Baker St. Ext. Southbound										
Westbound onto Main Street	51	158	53	165	59	182	53	165	59	182
Eastbound onto Main Street	39	73	41	76	45	84	41	76	45	84
Southbound onto Cottage St.	67	106	70	111	77	122	70	111	77	122
From Cottage Street Northbound										
Westbound onto Main Street	90	173	94	181	104	200	94	181	104	200
Eastbound onto Main Street	10	3	10	3	12	3	10	3	12	3
Northbound onto Baker St. Ext.	108	30	113	31	125	35	113	31	125	35
Est. Combined PHTV on Main St. West of Cottage St.	**1,516**	**1,851**	**1,587**	**1,936**	**1,749**	**2,134**	**1,440**	**1,936**	**1,606**	**2,134**
Est. Combined PHTV on Main St. East of Cottage St.	**1,363**	**1,519**	**1,426**	**1,589**	**1,572**	**1,750**	**1,279**	**1,589**	**1,429**	**1,750**
Est. Combined PHTV on Baker Ave at Main St..	**471**	**464**	**493**	**484**	**543**	**534**	**493**	**484**	**543**	**534**
Est. Combined PHTV on Cottage St. at Main St	**308**	**356**	**322**	**371**	**356**	**410**	**322**	**371**	**356**	**410**
Main St. @ Old Bridge Road										
From Main Street Eastbound										
Eastbound onto Main Street (Thru)	780	616	816	645	899	710	669	645	756	710
Southbound onto Old Bridge Rd.	151	27	158	28	174	31	158	28	174	31
From Main Street Westbound										
Westbound onto Main Street (Thru)	411	819	430	857	474	944	430	857	474	944
Southbound onto Old Bridge Rd.	3	1	3	1	3	1	3	1	3	1
From Old Bridge Road Northbound										
Westbound onto Main Street	21	57	22	60	24	66	22	60	24	66
Eastbound onto Main Street	15	11	16	12	17	13	16	12	17	13
Estimated Combined Peak Hour Traffic Volume on Main St. West of Old Bridge Rd.	**1,212**	**1,492**	**1,268**	**1,562**	**1,397**	**1,720**	**1,121**	**1,562**	**1,254**	**1,720**

Estimated Combined Peak Hour Traffic Volume on Main St. East of Old Bridge Rd.	**1,206**	**1,446**	**1,262**	**1,514**	**1,390**	**1,667**	**1,115**	**1,514**	**1,247**	**1,667**
Estimated Combined Peak Hour Traffic Volume on Old Bridge Rd South of Main St..	**190**	**96**	**199**	**101**	**218**	**111**	**199**	**101**	**218**	**111**
Route 2 @ Main Street (Route 62)										
From Route 2 Eastbound										
Eastbound on Route 2 (Thru)	1,692	1,287	1,941	1,469	2,061	1,574	2,293	1,606	2,268	1,735
Southbound onto Main St. toward WC	19	18	8	0	8	0	1	0	1	0
From Route 2 Westbound										
Westbound on Route 2 (Thru)	1,137	1,443	1,332	1,680	1,432	1,698	1,399	1,952	1,511	2,039
Southbound onto Main St. toward WC	323	442	292	699	314	640	265	620	286	653
Northbound onto Main St. toward Concord Center	6	66	0	0	0	0	0	0	0	0
From Main Street Southbound										
Westbound on Route 2	10	16	11	38	11	43	12	99	12	150
Southbound onto Main St. toward WC (Thru)	139	360	144	317	150	383	121	319	128	341
Eastbound on Route 2	3	16	0	0	0	0	0	0	0	0
From Main Street Northbound										
Westbound on Route 2	11	4	0	1	0	3	0	0	0	0
Northbound onto Main St. toward Concord Center (Thru)	429	235	512	298	497	307	469	275	518	282
Eastbound on Route 2	407	388	522	385	502	405	382	311	370	333
Estimated Combined PHTV on Rt 2 South of Rt 2.	**1,328**	**1,447**	**1,478**	**1,700**	**1,471**	**1,738**	**1,238**	**1,525**	**1,303**	**1,609**
Route 2 @ Baker Ave. Ext. (Route 62)										
From Route 2 Eastbound										
Eastbound on Route 2 (Thru)	1,702	1226	1,892	1,319	2,015	1,425	2,242	1,464	2,226	1,594
Northbound onto Baker St. Ext.	460	212	528	170	578	179	736	206	856	216
Southbound onto Baker St. Ext. toward WC	241	40	307	63	311	62	332	63	342	64
From Route 2 Westbound										
Westbound on Route 2 (Thru)	1,081	1,418	1,274	1,636	1,372	1,661	1,342	2,036	1,457	2,167
Northbound onto Baker St. Ext.	77	45	69	84	71	83	68	16	65	23
From Baker Ave Southbound										
Westbound on Route 2	1	7	0	0	0	0	0	0	0	0
Southbound onto Baker Ave. Ext. toward WC (Thru)	145	50	207	120	206	129	205	55	198	50
Eastbound on Route 2	5	18	6	10	6	10	6	10	5	9
From Baker Ave. Ext. Northbound										
Westbound on Route 2	64	247	69	280	81	281	64	311	64	313
Northbound onto Baker Ave. (Thru)	42	88	66	184	75	180	41	167	48	168
Eastbound on Route 2	4	61	51	140	46	140	46	132	37	131
Est. Combined PHTV on Baker St. South of Rt. 2	**496**	**486**	**700**	**787**	**719**	**792**	**688**	**728**	**689**	**726**

2.6 Parking Distribution and Capacity

An evaluation of aerial photography, site plans, and on-site observation indicates that public and private parking is generally adequate and well distributed around the village center. In total, there are an estimated 1,420 formal (lined) public and private parking spaces in the village center. For the purpose of analysis, parking inventory districts were created to determine where parking capacity and needs may need to be addressed in the future. The parking distribution by district is identified on the map and table below.



Public Parking – Public parking in the village center, both on-street and off-street, is generally well distributed. There appear to be relatively few off-street public parking spaces available to the general public but the overall ratio of parking to building square footage is still reasonable and on target for a small village setting. The public parking lot on Church Street next to the Village Cleaners appears to be underutilized. One issue may be the lack of directional signage to indicate to motorists that public parking is available in this lot as well as in others around the village center.

The largest public parking lot in the village center is the West Concord commuter parking lot. Of the 219 total spaces, 146 are controlled by MBTA for area-wide commuters. They estimate that these spaces are 80 - 90% occupied on an annual basis with demand peak hours between 6:30 and 9:30 AM. The town has allocated 74 spaces in this lot for local commuters and sells semi-annual permits for $50 to Concord residents who may park all day in the unnumbered spaces in the lot. Each permit is also valid for one or two cars. There are only 25 parking spaces in this lot allocated for general business use. These spaces, like the on-street spaces, are metered for 3-hour parking. Again, the signage is insufficient.

In the village center, the historic building pattern should be preserved with as much public on-street and off-street parking as possible for general use by local businesses, services, civic/institutional uses, and residents. Key parking issues as West Concord grows will be the connection of public and private parking areas, management of public and private spaces to facilitate a higher turnover of spaces primarily intended for customer use, and designation of longer-term remote spaces for

local employees and commuters. The meters which allow 12 free minutes of parking are a much appreciated but perhaps under-publicized convenience.

West Concord Village Center Public and Private Parking Inventory		
Parking District & Estimated Parking Count	**Description**	**Est. No. of Spaces**
District 1	**West Concord Shopping Center**	
Public Parking/On-Street		0
Public Parking/Off-Street		0
Private Parking/Lined		92
Private Parking/Unlined		0
Estimated Total		**92**
District 2	**Main St. South Side between Assabet River and Junction Park**	
Public Parking/On-Street		0
Public Parking/Off-Street		0
Private Parking/Lined	DD, BOA, PetSource, Wave, Westgate PK	125
Private Parking/Unlined		UND
Estimated Total		**125**
District 3	**Comm. Ave. North Side between Junction Park and RR Crossing**	
Public Parking/On-Street		15
Public Parking/Off-Street		0
Private Parking/Lined	WC Supermarket, Club Car Café	31
Private Parking/Unlined		UND
Estimated Total		**46**
District 4	**Portion of Main St., Church Street, and Comm. Ave.**	
Public Parking/On-Street (Comm. Ave)	South Side Comm. Ave	14
Public Parking/On-Street (Church St)	South Side Church St.	5
Public Parking/Off-Street (Church St.)	Next to Cleaners	18
Private Parking/Lined		30
Private Parking/Unlined		UND
Estimated Total		**67**
District 5	**Portion of Main St. and Church Street**	
Public Parking/On-Street (Main St.)	North Side	16
Public Parking/Off-Street (WC Ctr)	Shared Public Lot at HWCC	118
Private Parking/Lined		0
Private Parking/Unlined		0
Estimated Total		**134**
District 6	**Main St. South Side between RR ROW and Pine St.**	
Public Parking/On-Street (Main St.)		0
Public Parking/Off-Street		0
Private Parking/Lined		30
Private Parking/Unlined		UND
Estimated Total		**30**
District 7	**Concord Park Assisted Living**	
Public Parking/On-Street		0
Public Parking/Off-Street		0
Private Parking/Lined		35
Private Parking/Unlined		0
Estimated Total		**35**
District 8	**Commuter Lot**	
Public Parking/On-Street		0
Public Parking/Off-Street/MBTA-EOT		114
Public Parking/Off-Street/Res. Commuters		74
Public Parking/Off-Street/3-Hrs	In front of platform	25
Public Parking/Off-Street/Handicapped	In front of platform	6
Private Parking/Lined		0
Private Parking/Unlined		0
Estimated Total		**219**

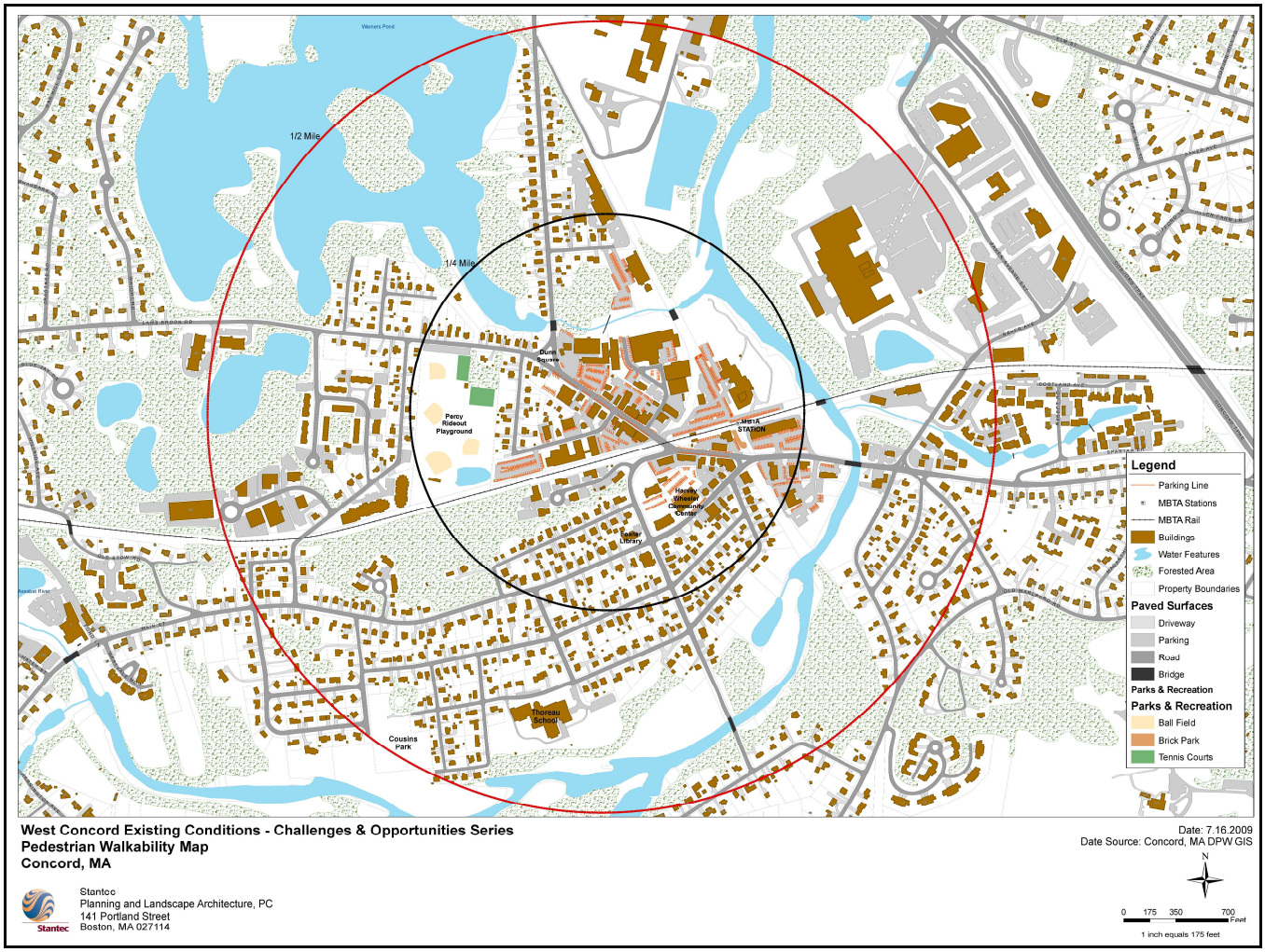
District 9	**Comm. Ave. North Side between RR Crossing and Concord Auto Parking Lot**	
Public Parking/On-Street	Commonwealth Ave. North Side	16
Public Parking/Off-Street		0
Private Parking/Lined		60
Private Parking/Unlined		UND
Estimated Total		**76**
District 10	**Beharrell Street Area**	
Public Parking/On-Street		0
Public Parking/Off-Street	Post Office	33
Private Parking/Lined	Need count of private spaces	UND
Private Parking/Unlined	Need count of private spaces – gravel parking areas	UND
Estimated Total		**33**
District 11	**Comm. Ave. north side at auto sales lot**	
Public Parking/On-Street		8
Public Parking/Off-Street		0
Private Parking/Lined	Concord Auto Sales Lot	105
Private Parking/Unlined	Est. 150x150 @ 300 SF/Space	75
Estimated Total		**188**
District 12	**Winthrop St. South Building**	
Public Parking/On-Street		0
Public Parking/Off-Street		0
Private Parking/Lined/Hart	Part of 55 Winthrop St.	70
Private Parking/Lined/Collins	Part of 152 Commonwealth Ave.	30
Private Parking/Unlined	Est. 100x100 @ 300 SF/Space	33
Estimated Total		**133**
District 13	**Comm. Ave. South Side between Maple St. and Bradford St.**	
Public Parking/On-Street		14
Public Parking/Off-Street		0
Private Parking/Lined		UND
Private Parking/Unlined		UND
Estimated Total		**14**
District 14	**Comm. Ave. South Side between Bradford St. and RR Crossing**	
Public Parking/On-Street		10
Public Parking/Off-Street		0
Private Parking/Lined		15
Private Parking/Unlined		UND
Estimated Total		**25**
District 15	**Bradford St. North Side between Maple Ct. and Maple St.**	
Public Parking/On-Street	Informal	0
Public Parking/Off-Street		0
Private Parking/Lined		30
Private Parking/Unlined		UND
Estimated Total		**30**
District 16	**Bradford St. South Side between Maple Ct. and PR Playground**	
Public Parking/On-Street	Informal	0
Public Parking/Off-Street		0
Private Parking/Lined	Bradford Mills Near Playground	125
Private Parking/Unlined	Bradford Mills Near Maple Court	52
Estimated Total		**177**
Estimated Total Parking in Village Center		**1,420**

Private Parking Lots – While there are some locations that may be at capacity during certain times of the year and on certain days, the majority of private commercial developments were observed to have ample parking available for local and visiting customers. Some specific locations where a shortage of spaces was observed included the wedge between Commonwealth Avenue and Main Street west of the intersection, and the south side of Commonwealth Avenue between the railroad tracks and Bradford Street. On-site observations also indicated that private parking connectivity and coordination is good on the

north side of Commonwealth Avenue between Beharrell Street and the driveway to 114 Commonwealth Avenue. Other private parking lots in the village center, however, tend not to be interconnected, which may result in more curb cuts and lost efficiency.

2.7 Pedestrian and Bicycle Amenities

Overall, the pedestrian environment is good in the West Concord village center; it has the potential to be excellent. As depicted on the West Concord Walkability Map below, most neighborhood residents are within a comfortable quarter-to-half-mile walk to local facilities and services including the central business district, MBTA station, fire station, Fowler Library, Harvey Wheeler Community Center and Senior Center, Concord Children's Center, Percy Rideout Playground, the Thoreau School, and Cousins Park. Furthermore, the neighborhoods are generally connected by sidewalks.



For larger version of this image see Appendix 5

Bicycle access in West Concord is more challenging. There are no dedicated bike routes or lanes in the village center and bicyclists are required to ride with the flow of traffic or dismount and walk their bikes along the sidewalk. Riding along Main Street and Commonwealth Avenue can be challenging with narrow travel lanes (11 to 12 feet) and on-street parking.

The number and location of bike racks in the village current are as follows:

- Fowler Library – 1, pretty old, grid style
- Thoreau School – 10 circles in a row in front of building
- MBTA Station – 5 thick U in a row
- Rideout – 3, U style (added in Fall 2009)
- Junction Park – 2, U style (added in Fall 2009)

Bikeracks in West Concord			
			
Fowler Library	*Junction Park*	*MBTA Parking Lot*	*Rideout Park*

Enhancing pedestrian and bicycle movement throughout the village area is important to local residents. Specifically, improving the streetscape and providing safe levels of lighting are key issues. Some local observations include the following:

- Trails and walkways connecting the Baker Avenue industrial park area to West Concord Center along the Nashoba Brook and Assabet River would greatly enhance pedestrian and bicycle accessibility. This includes the proposed Bruce Freeman Rail Trail and the possibility of a pedestrian bridge over the Assabet River, parallel to the MBTA commuter rail.
- Improved lighting to side streets (such as Bradford Street and Beharrell Street) and nearby neighborhoods would enhance safety and encourage walking.
- Multi-modal connections including pedestrian access to public and private parking lots and open spaces are needed. Some specific locations include pedestrian connections to Percy Rideout Playground, Kenneth Dunn Square, and the commuter parking lot.
- More bicycle racks should be strategically placed throughout the village center.

2.8 Streetscape Conditions

Attractive streetscapes create a safe pedestrian environment as well as appealing public streets that support business development and private investment. The quality of the existing streetscape in the village center is limited, with only a few street trees in the core area along Main Street and Commonwealth Avenue. A consistent scheme of streetscape improvements is needed that is specifically designed to balance vehicle mobility with pedestrian safety and enjoyment. Specifically, this would include more viable crosswalk and traffic-calming treatments on the primary streets, such as Main Street, Commonwealth Avenue, Beharrell Street, Bradford Street, and Laws Brook Road. Design elements would include additional pedestrian-level ornamental lighting, new sidewalks where needed, new street trees, benches, trash receptacles, planters, directional and gateway signage, informational kiosks, bulb-outs (curb extensions), center medians, and other enhancements. Streetscape improvements would also improve pedestrian access to parking lots, neighborhoods, and points of public interest.

Sidewalks –There are 8-to-10-foot wide concrete sidewalks on both sides of Commonwealth Avenue in the core area between Junction Park and Bradford Street. Sidewalks of 4-to-5 feet extend further east on Main Street and north of Commonwealth Avenue connecting the surrounding neighborhoods. Most sidewalks in the village center are in relatively good condition with the exception of the asphalt sidewalks on Commonwealth Avenue between Bradford Street and Laws Brook Road, which are in need of repair. Other locations around West Concord where the sidewalks feel unsafe because they are very narrow are the Main Street bridge over the Assabet River, the Pail Factory Bridge over Nashoba Brook, Beharrell Street, Cottage Street, and the south side of Laws Brook Road (which is used for parking at Rideout). Poor drainage makes some of these sidewalks icy in the winter and sidewalks that are less than 5 feet wide are too narrow to be plowed by the Town's equipment.

Street Trees – There are several large mature trees in the West Concord neighborhoods and along the Main Street corridor

between the Assabet River bridge and Junction Park. Predominate species include Norway maples, American elm, hornbeam, pin oak, Norway spruce, and honey locust. Along Commonwealth Avenue in the core area between Junction Park and Kenneth Dunn Square, there are very few street trees (an exception are the honey locusts in front of 74, 114, and 120 Commonwealth Avenue, and the ornamental crabapple in front of 101 Commonwealth Avenue). Part of the reason for the lack of street trees is that the electrical utilities are located underground and within the sidewalk on the south side of Commonwealth Avenue. However, the sidewalks on the north side of Commonwealth Avenue at 10 feet are wide enough to include tree pits (typically 3 x 3-foot placed at the curb line), but parking meters, light posts, window awnings, below grade meter pits and the location of door openings make siting trees in the sidewalk very challenging. New curb extensions along Commonwealth Avenue could also provide another opportunity to install street trees.

All new street streets planted in the core area along Main Street and Commonwealth Avenue should be carefully located so as not to block doorway, window, and sign visibility. They may be best situated where buildings are joined together at a common wall or where parking is located in front of the building. Additionally, existing street trees that are low branching should be pruned up to 10 feet to improve visibility, such as in front of 114 Commonwealth Avenue.

Lighting – Attractive gooseneck ornamental street lights are located on both sides of Commonwealth Ave from Kenneth Dunn Square to Junction Park. These light fixtures should be extended onto side streets such as Beharrell Street, Bradford Street, Laws Brook Road (to Percy Rideout Playground), and Main Street and Church Street (to Fowler Library) to provide safe levels of pedestrian-oriented lighting throughout the village center. New fixtures should have fully recessed bulbs to minimize glare and spillage. The CMLP has recently installed low energy use metal halide fixtures. They have also evaluated the option of using LED fixtures but determined that the payback schedule was 60 years and did not justify the investment at this time.

2.9 Infrastructure and Utilities

Public Water and Wastewater – The vast majority of West Concord village center and the surrounding neighborhood are served by public water and sewer service. Based on current sewer system flows, however, there is insufficient capacity at the existing Concord Wastewater Treatment Plan (WWTP) to meet current wastewater flow allocations for implementation of Phases 3 and 4 of the 2004 Comprehensive Wastewater Management Plan (CWMP). This includes future development and redevelopment in the West Concord village area.

According to the 2005 Long Range Plan and the 2007 Integrated Planning Initiative (IPI), projected development (based on current zoning) will result in approximately 400,000 gallons per day of additional wastewater demand and allocation. A large share of this would be generated by potential development in West Concord. In addition to expanding the 1.2 mgd capacity of the Concord WWTP, the IPI has taken a proactive approach to allocating future wastewater demand from future development proposals. This includes focusing on village center development, supporting economic development, meeting affordable housing goals, balancing water flows between watersheds, and encouraging on-site septic treatment in non-service areas.

As capital planning for wastewater infrastructure and these initiatives take effect, future development and redevelopment in the West Concord village center may have to turn to alternative wastewater treatment options. Some examples may include on-site retaining systems with release into the public sewer system during non-peak hours, and package treatment plans that provide tertiary treatment and in-ground release systems that can be accommodated in relatively small areas including below parking lots. Innovative approaches to reducing wastewater and should also be considered.

Electrical Utilities – West Concord has a unique advantage in that electrical utility wires are underground along much of Main Street and Commonwealth Avenue, reducing some of the visual clutter along these main streets. Building on this advantage, the Concord Municipal Light Plant (CMLP) has installed decorative street lighting with extensions for hanging plant baskets or banners.

Street tree planting – Concord Public Works Parks and Tree crews have worked with interested residents to develop a planting plan and install a number of trees in locations along Commonwealth Ave. (in front of the 99 Restaurant, near the West Concord Supermarket, in front of the former Chrysler dealership parking lot). As these streets are redesigned to implement traffic-calming, pedestrian safety measures, there may be opportunities to increase the number of street trees in the public right-of-way.

2.10 Business and Industry

There are an estimated 180 employers in the West Concord village center. Many of the businesses are locally-owned and operated. They provide a mix of necessities and unique services and products that is valued by neighborhood residents.

West Concord Employer Characteristics

District	Estimated No. Of Employers	Square Feet	Ave. S.F. Per Employer
Public, Civic and Institutional Uses	11	224,306	20,391
Beharrell Street Comm-Ind. District	28	48,947	1,748
Bradford Street Comm-Ind. District	24	75,532	3,147
Comm. Ave. Commercial District 1	37	124,252	3,358
Comm. Ave./Main Street/Church St Comm. District 2	15	40,771	2,718
Junction Square Commercial District	40	61,220	1,531
Main Street Commercial District 4	17	43,749	2,573
Westgate Park Commercial District	2	8,820	4,410
Winthrop Street Industrial District	6	59,506	9,918

Businesses in the core area along Main Street and Commonwealth Avenue include a mix of small retailers, eating places, and personal and professional services. These are mostly small operations with an average range of 2,500 to 3,500 square feet. Over the last several years there appears to be growing clusters of related products such as the natural foods and food-product businesses and home decoration and improvement businesses.

There are several large parcels of older industrial buildings with large parking lots in the Beharrell Street, Bradford Street and Winthrop Street areas. The buildings house a range of creative businesses and many entrepreneurs who need low-cost space. These industrially-zoned areas have served as business start-up locations for many years and have launched several successful local businesses. Further discussion is needed concerning the potential for mixed-use redevelopment (currently allowed by special permit), increasing flexibility for business uses, coordinating parking, and providing better traffic/pedestrian circulation. There is a sense of urgency within the community because several large and very important parcels have recently been sold or offered for sale, which could significantly change West Concord. Future development must balance the old buildings and patterns with the new development to keep a broad mix of businesses that exists today and continues to foster small business entrepreneurship.

Affordable business space is a pivotal issue for West Concord and a key reason the village has so many small, locally-owned, artistic and entrepreneurial businesses. Based on interviews with local property owners, the estimated ranges of rents today in key areas are as follows:

- $10–22/square foot in the Winthrop Street area
- $7–14/square foot in the Beharrell Street area
- $7–14/square foot in the Bradford Street area

Local property and business owners estimate that a net rate of $10 to $15 per square foot is needed to maintain affordability.

Preserving a stock of the lower-cost buildings such as some of the older buildings on Beharrell Street, Commonwealth Avenue, Bradford Street, and Winthrop Street is critical. Keeping West Concord Center economically sustainable and diverse while preventing the erosion of the town's tax base is a key goal of the community. Potential methods to expand business development and mixed-use opportunities should be considered such as providing incentives for property owners to add a second or third story to their building, allowing outdoor cafes, encouraging new entertainment uses that will provide for expanded evening use, and encouraging more mixed-use development (i.e., retail, office, housing) to energize the center.

2.11 Existing Regulatory Framework

An evaluation of village land use regulations was made to determine how they may impact economic development and mixed uses currently and in the future as building renovation and redevelopment occurs in West Concord. (A full analysis of land use regulations as they apply to West Concord is included in Appendix 4.) A particular emphasis was placed on the Business and Industrial zoning districts in the village center. This evaluation was used as a baseline for comparison to existing property and land use characteristics to determine how well they fit existing and desirable land use patterns.

This review of the existing regulatory framework serves as a foundation for future regulatory amendments that better fit the community's vision for appropriate growth and development of the village center. A particular focus was made on the scale and character of future development in keeping with the current village patterns, walking and bicycling enhancements, open spaces, parking, and traffic circulation.

Concord Zoning Bylaw

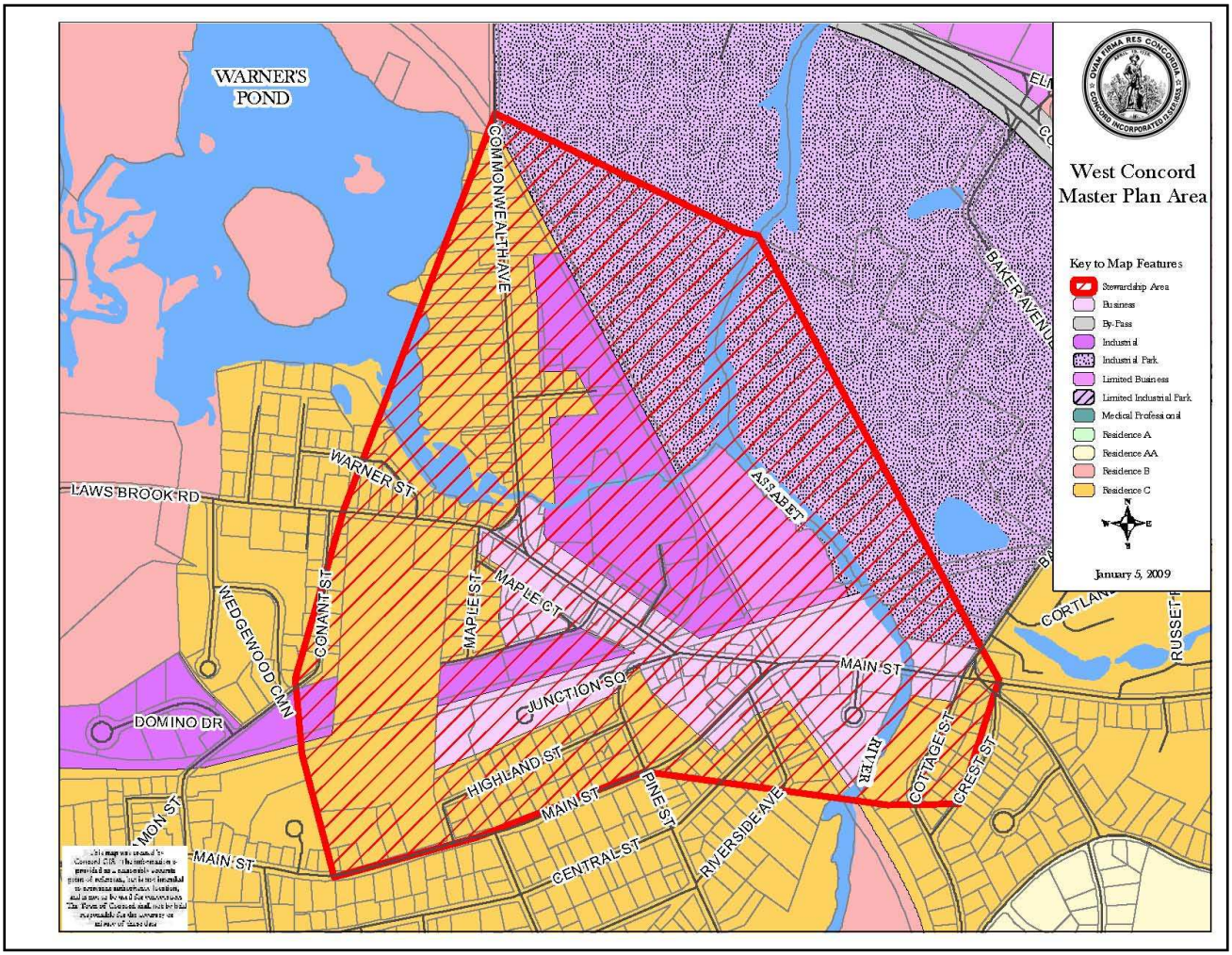
Applicable Zoning Districts – The Concord Zoning Bylaw and Map include the following zoning districts in West Concord :

- Business
- Industrial
- Limited Business (#8 – Concord Park)
- Industrial Park
- Residence C

The primary zoning district for the core area of the village center is **Business** which extends along Main Street and Commonwealth Avenue from the intersection of Main Street/Baker Avenue in the east to Laws Brook Road in the west. Also included in this district is Westgate Park, Junction Square (a small office and business park), and the center portion of Maple Court where an apartment complex and two single-family homes are located.

The **Industrial** district in West Concord includes the properties along Beharrell Street and mill buildings along the east side of Bradford Street. Industrial zoning also extends across the Nashoba Brook to the north to include the older industrial buildings at the east end of Winthrop Street, and on Conant Street and Domino Drive near Rideout Playground. **Industrial Park** zoning is located to the east side of the former Colony railroad right-of-way and encompasses MCI-Concord and the business parks along Baker Avenue and Baker Ave. Extension.

The **Limited Business** #8 zoning district covers only one property, Concord Park assisted living, which is located north of the commuter rail line, east of the proposed Bruce Freeman Rail Trail, south of Nashoba Brook and west of the Assabet River.



For larger version of this image see Appendix 5

The **Residence C** district covers the traditional village residential neighborhoods located south of the village center, west along Laws Brook Road, north along Commonwealth Avenue, and east along Main Street from the Cottage Street/Baker Avenue intersection to Route 2.

For the purpose of this analysis, the focus is on the two primary zoning districts in the village center – Business and Industrial.

Definitions – Definitions are contained in Section 1.3 of the Concord Zoning Bylaw. These definitions are clear but some (such as for residential uses) do not correspond directly to the use table under Section 4 of the zoning bylaw. Only "single-family dwelling" is listed as being permitted by right in the Business District but not allowed in the Industrial District. Single-family detached homes in the Business District would potentially be in conflict with business, industrial, and higher density residential uses well established in the village center. They would also be out of character with this traditional development pattern (small lots and large buildings) and scale of the village center. Multi-family structures (such as townhouses) could fit into the village center on the fringe areas creating a transitional area between the central business districts and surrounding neighborhoods but do not appear to be allowed in the Business District. There is a provision under Section 4.2.3 that would allow residential uses, such as multi-family structures, by right if combined with business uses.

Allowable Uses – Section 4 of the Concord Zoning Bylaw classifies principal uses and identifies the specific zoning districts where they are permitted by right, by special permit, or not permitted. Pertaining to the Business and Industrial Districts in the village center, the bylaw should facilitate an appropriate vertical and horizontal mix of uses, with commercial uses of public interest primarily occupying ground floor space. Sections 4.2.3 *Combined Business/Residence* and 4.2.4. *Combined industrial/business/residence* provide an opportunity for mixed use and higher density residential forms such as townhouses in

West Concord village center. The provisions in these sections ensure that a development is both mixed use and mixed income. However, 4.2.3.1 does not provide a range or percentage of the square footage in commercial and residential use. This may result in developments being predominately residential with only a token amount of commercial space.

The town should consider an upper and lower range of mixed uses involving residential. The on-site open space requirement in section 4.2.3.3 may be too high at twice the residential gross floor area (gfa). These developments would typically be higher density with a limited amount of space on site to provide quality and useable open space unless green roofs are incorporated into the design which should be recommended specifically. Another option would be to allow for off-site public open space within the village center that would benefit the community as well as the tenants of a new development. The town should consider additional definitions and classifications for different forms of multi-family dwellings in the village center, such as townhouses and artists lofts.

Others observations of allowable uses as they pertain to the village center are as follows:

- Residential compound (4.2.5), residential cluster development (4.2.6), and planned residential development are all permitted in the Business District but appear to be intended for more rural areas than the village center.
- The town should identify specific municipal uses that would not be appropriate in the village center such as storage and maintenance facilities.
- The definition for "retail" covers a significant variety of shops. The town should consider breaking retail down into more specific types and possibly size limitations, non-formula-based businesses, and other performance standards that address the specific compatibility issues that may occurs with certain types of retail businesses.
- The town should consider size and non-formula restrictions for restaurants. Additionally, outdoor dining should be clearly allowed and encouraged in the village center.

Dimensional Requirements – The Concord Zoning Bylaw has very flexible dimensional standards for the West Concord village center in terms of lot size, yards, and frontage. However, this does not ensure development that is in keeping with the historic development pattern that is so essential to the village. In addition to minimum (or no) standards, maximum standards are needed in certain areas as described below. Traditional development characteristics for similar types of small downtowns and village centers to West Concord village center are as follows:

- Floor Area Ratio (FAR) – 2:1 to 3:1
- Minimum Lot Size – 4,000 to 7,000 s.f.
- Frontage – 25 to 75 feet
- Depth – 60 to 100
- Building Height – 25 to 45 feet (2 to 4 stories)
- Front Setbacks – None unless used for patio or sidewalk extension; civic uses 10 to 20 feet
- Side Setbacks – 0 to 15 feet typically used for pedestrian or vehicle access

Specific dimensional standards as they pertain to West Concord village center are as follows:

- Frontage (Section 6.2.3) – The West Concord Business District has no frontage requirement but this is a critical dimension in village centers that the Planning Board should be aware of in the development review process. In order to encourage and enhance pedestrian activity, lot widths should be fairly narrow so that people can walk past multiple storefronts in a short distance rather than a long stretch of blank walls or parking areas. A general rule of thumb is that the building frontage or façade should change every 8 seconds for a pedestrian to maintain and capture their interest. At an average rate of 3.5 feet per second this would convert to about 28 feet of frontage. Lot widths in traditional village centers, such as West Concord, should range from 25 to 50 feet with the goal of maintaining a continuous line of building fronts to the extent possible. (In many small village centers, lot widths have been as narrow as 20 feet across.) In addition to reducing the minimum lot size and widths, the zoning regulations should mandate a maximum lot width (or a building segmentation every 50 to 75 feet) to prevent new structures from being too wide and out of scale with the traditional development patterns.

- Required Front, Side, and Rear Yards (6.2.6 through 6.2.8) – In keeping with the traditional development pattern in this historic village center, a goal for West Concord is for buildings to extend to or align with the sidewalk. Any setback

should be controlled and performance standards included so that this front setback area is an extension and enhancement to the sidewalk (such as a terrace for outdoor dining or sitting area). Side lot areas should abut the neighboring building unless there is a specific purpose for setback such as to create access to the rear of the building or other public enhancements such as parking or outdoor activities. Minimum front setbacks should be set at 0 feet (or a "build to" line) and maximum setbacks should be 10 to 15 feet (i.e., residential and institutional uses).

- Height (Section 6.2.11) – The maximum building height of 35 feet is largely consistent with the current development patterns in the village center. However, a minimum height should also be required. For example a height of about 15 feet with a front façade elevation of 18 feet allows buildings that are only one story tall to achieve enough height and bulk to reinforce the existing village center development patterns and continue to frame and enclose the street.

  The tallest building in the Business District in West Concord is the Concord 5&10 at 38 feet and the Bradford Street Mills are the tallest buildings in the Industrial District. The current zoning allows for a maximum height of 35 feet in both districts except under sections 4.2.3.4 and 4.3.2.5 where the Board of Appeals may grant a special permit up to 40 feet under certain considerations. The town should consider an additional step-back provision such as in the Medical-Professional District where a building shall not exceed 35 feet in height unless such portion sets back from each street and boundary line an amount equal to the sum of (1) the applicable minimum yard requirement and (2) 2 feet for each foot of height in excess of 35 feet, provided that in no case shall any portion of a building exceed 45 or 50 feet in height. This would provide an increase in height in the village center without creating a street enclosure that might be considered too high. It may also be tied to specific design requirements that control the building wall and elevation facing the street to ensure that they are pedestrian oriented with openings and articulation.

- Maximum Lot Coverage (Section 6.2.12) – Lot coverage requirements are minimal in West Concord village center. Dimensional coverage requirements in traditional downtowns are largely unnecessary and disruptive to the traditional development patterns. Density is desired in these areas and most open spaces in village centers are more formal public spaces such as commons, gardens, or pocket parks. Floor area ratios are a more appropriate method of controlling development pattern and density in a village center environment.

- Other dimensional and design standards – The town should consider additional requirements for the village center to address the openings and appearance of the building. A "fenestration ratio" defines the amount (as a percentage) of window openings on the building's façade (i.e., a blank wall has a fenestration ratio of 0). Windows, especially retail display windows, greatly contribute to a positive pedestrian environment. Attractive window displays are a key issue in West Concord village center as many of the traditional storefronts have been altered, there are closed blinds in several locations, and others are not attractively decorated. Attractive window displays give people a reason to walk by. At night, lit displays add a secondary level of lighting to the street, improving the ambiance and enhancing a feeling of security.

  Traditional downtowns have very high fenestration ratios on the first floor, usually on the order of 70 to 80%. Fenestration ratios should be incorporated into the zoning regulations particularly for the front facades and first floors. This should be required for all new buildings and older buildings should be restored over time to bring back the original façade openings and architectural details.

Off-street Parking and Loading Requirements (Section 7.7.2) – If the current parking standards were applied retroactively in the village center, it would probably render a much less dense development pattern. Parking standards for new development should be based on the differences in needs and demands for specific combinations of uses in the village center. Parking management and enforcement is also important in the village center. As redevelopment and revitalization occurs over time, it will become increasingly important that on-street parking spaces be available primarily to customers with a shorter time limit to encourage the turnover of parking spaces. On the other hand, employee and long-term parking should be encouraged to utilize the outer areas of off-street parking.

Table IV in Section 7.7.2.1 includes the minimum parking spaces required by use and other provisions as they pertain to the Business and Industrial District in the village center. The following issues have been identified below:

- Joint parking facilities (Section 7.7.2.4) do not provide a specific reduction for residential uses.
- Mixed-use facilities (Section 7.7.2.6) do not provide a reduction factor for mixed-use buildings (i.e., residential and business) where parking is naturally shared and peak demand hours typically differ. A separate table should be added to calculate the reduction factor for mixed use such as is used in the **SmartCode**.
- Off-street parking should be specifically prohibited in the front yard of any building in the village center and only allowed in the side yard when it is well landscaped in front. Minimum side yard setbacks on Main Street and Commonwealth Avenue should be 0 feet to allow and encouraged shared and inter-connected parking lots.
- The town should consider expanding this requirement to also allow for parking on abutting parcels with direct access to the primary parcel.
- The parking reduction standards do not factor the use of public on- or off-street parking spaces for business and residential uses, which is typically used as a reduction factor in downtown and village zoning. Another common reduction factor for required on-site parking in village centers is to establish a parking fund and allow for a fee per space to be paid in lieu of private parking.
- The town may want to consider the designation of spaces for cars used in common by tenants in the building or in the village center, such as Zip Car spaces.
- The landscaping, drainage, and curbing requirements (Sections 7.7.4.8 and 7.7.4.9) do not specifically provide for sustainable site design and low-impact development (LID) techniques such as pervious pavers, bioretention areas and bioswales, rain gardens, xeriscaping, and rain water collection systems. More specific parking lot landscaping and screening standards should be provided to ensure shading, pedestrian access, and buffering from certain neighboring uses.

*The **SmartCode** is a model transect-based (of "form-based) development code created by Duany Plater-Zyberk and Company (DPZ) in 2003 based on two decades of research and implementation. The model SmartCode is an open source document available for public use and applicable to all scales of land planning and regulation. It is intended for local calibration to local town, villages or neighborhood. As a form-based code, the primary objective of the SmartCode is to keep towns compact and rural lands open, while reforming the destructive sprawl-producing patterns of separated use zoning.*

Subdivision Regulations

The Subdivision Regulations establish the process for subdividing and developing property in the village including the design and provision of streets, sidewalks, and utilities (sections 6.7 through 6.10). While the current street and sidewalk design may be appropriate in certain portions of the village, it may not be in others. The design requirements for new streets or buildings fronting existing streets in the West Concord village center should be specific to the goal balancing traffic flow, convenient parking, and pedestrian orientation.

More specific design standards should be created for different areas of the village center such as along Main Street Commonwealth Avenue, Bradford Street, and Beharrel Street. The street, sidewalk, and utility design standards should apply to new private developments as well as public capital improvement programs to existing street reconstruction carried out by the town and new street construction that may be done by a private developer. Specific construction standards that should be addressed are as follows:

- There are no specific requirements for street trees, green strips, or tree pits in residential and business districts that apply to West Concord. More specific public and private area landscaping standards need to be developed and included in the subdivision regulations for commercial districts.
- There are no specific provisions for on-street parking in non-residential districts such as along Main Street and Commonwealth Avenue.
- Curbing requirements call for a low-profile, modified Cape Cod berm, which is not appropriate in the village center where granite curbing is needed.
- There is a minimum curb radius of 30 feet (which does not promote good pedestrian circulation) but no maximum.
- The 6-foot concrete sidewalk requirement is appropriate for most of the village center but should be 10 feet along Main Street and Commonwealth Avenue as is typical along most of the corridor and with a pedestrian-oriented district.
- There are no specific provisions for curb cut design or access management techniques.

- There are no low-impact design (LID) standards that would allow for stormwater and water quality control measures such as pervious pavement, grass pavers, bioswales, stormwater planters, and similar applications.

West Concord Design Guidelines (Draft)

These draft design guidelines were written by the Planning Department based on information from the 2001 Concord Historic Master Plan and Design Guidelines for Concord Center. The draft document is very comprehensive and provides excellent direction to existing property owners and future developers. Some specific suggestions to enhance these guidelines are as follows:

- In addition to front yard setbacks, the guidelines should consider a build-to-line for different types of uses (e.g., Commercial, Res., Civic, etc);
- Scale and massing should be controlled primarily through floor area ratios (FAR) and frontage;
- There should be minimum as well as maximum height guidelines;
- More specific sustainable building, low-impact design (LID) infrastructure, and possibly a LEED-NC evaluation for new development should be considered;
- A "complete streets" design hierarchy should be included to guide the town and developers on appropriate street, streetscape, and sidewalk design as they relate to adjacent buildings and uses;
- Landscaping guidelines should define placement, preferred species, planting specs, and maintenance;
- The guidelines should include a section on definitions and terms;
- Design standards should be provided for public and publicly-oriented open spaces;
- Sign guidelines should be included (currently under review by a local working group); and
- These guidelines could become standards if coupled with a Smart Growth Overlay Zone (Chapter 40R) in West Concord village center.