

Conceptual Traffic Calming and Pedestrian Improvements for Deerfield Center



***Submitted to:
Town of Deerfield, NH
Board of Selectmen***



Prepared by:





Table of Contents

Project History	1
Project Area	3
Town Center	3
Old Center Road South.....	5
Candia Road.....	12
Intersection Old Center Road South/Route 107/Candia Road.....	12
Route 107/43 (Raymond Road) - East of Old Center Road South	15
Route 107/43 (North Road) - West of Old Center Road South.....	17
 <u>Figures</u>	
◆ Deerfield Center Project Limits.....	4
◆ Old Center Road South: Streetscape/Traffic Calming Improvements.....	6
◆ Streetscape/Traffic Calming: Median Alternative and Roadway Realignment Alternative	10
◆ Proposed Deerfield Center Pedestrian System	11



Intersection Route 107/Old Center Road



SNHS Senior Housing



Old Town Hall



Philbrick James Library

Project History

The Deerfield Traffic Calming project evolved from the planning process that began with an October 2000 PlanNH Design Charrette. This project received citizen endorsement through funding approved at the 2003 Town Meeting. The primary objective was to generate traffic calming measures that could be incorporated into the design process of current construction projects in various stages of design or implementation. These projects included the Route 107 intersection realignment, a new municipal safety complex, and Old Center Road improvements associated with construction of the SNHS Deerfield Senior Housing. A secondary objective of the project was to develop a blueprint for a cohesive pedestrian system to improve connections among various Town Center destinations, enhanced by traffic calming. The project goal was to introduce traffic calming measures that enhance the pedestrian experience while preserving the Town's character, creating gateways to the Town Center that welcome motorists as they reduce vehicle speeds.

The impetus for developing traffic calming strategies in the Town Center was the collective desire to create a more pedestrian friendly environment. The PlanNH Design Charrette that took place in October 2002 provided a forum for Deerfield residents to generate a vision for their Town Center with the assistance of design and planning professionals. Recommendations were generated to encourage development of a more cohesive Town Center incorporating several guiding principles. A number of attributes were identified throughout the public discussions to provide the framework for developing a walkable community center, including historic character, a good mix of municipal, commercial and residential uses, and promoting the Town Center as a gathering place.

Residents also noted negative issues to be addressed, including inadequate parking and pedestrian/vehicular conflicts. Available parking spaces were insufficient at times to serve the Old Town Hall, three churches, Library, Community Center, and Bicentennial Field. Ballfield users who parked at the George B. White Building had to negotiate traffic to cross Raymond Road. During the Charrette, community members also described vehicular volumes and speed as a major deterrent to pedestrian activity along Old Center Road South and Route 107/43 between the Post Office on Raymond Road and the multifamily residential property on North Road.



Deerfield Baptist Church



Bandstand



Playground



Intersection - Center Road

Since October 2000, Deerfield has moved forward with several projects that follow recommendations developed during the charrette. A gazebo/bandstand was constructed in the open space behind the Firehouse, serving as a gathering space for community functions. The Town created a children's playground at the west side of this same open space, with access from the parking area near the current Public Works Facility. An elderly housing community was also recently completed on the north side of Old Center Road South, situating more residents in the heart of the community. All of these generate more pedestrian activity requiring a safer and better-defined system of pathways. The former Community Center building is in the final stages of rehabilitation for conversion to commercial use, to further enhance the vitality of the Old Center Road Streetscape.

Deerfield is currently in the design phase for two major projects providing opportunities to greatly improve pedestrian connections between Old Center Road South and destinations on Raymond Road. The first project is the Safety Complex to be located at the intersection of Routes 107/43 and Candia Road could accommodate sidewalks along Routes 107/43 and a realigned Candia Road to terminate at a new intersection with the entrance to the George B. White Building. The second project would reconfigure the intersection at Routes 107/43, Candia Road, and Old Center Road South. Intersection redesign should minimize vehicular conflicts with pedestrians through physical improvements that reduce traffic speed and provide clearly defined crosswalks. In both cases, it is imperative that Town Officials participate with project architects, engineers, and the NH Department of Transportation in guiding design to incorporate traffic calming techniques and pedestrian walkways into these projects. Most traffic calming techniques are typically executed in urban or suburban settings and not necessarily appropriate in a rural community, so it is important that proposed improvements fit with the rural character of the Town.

Deerfield recently partnered with New Hampshire Celebrates Wellness as part of the Livable, Walkable Communities Program to expand the vision for safe and connected walking, bicycling, and other recreation facilities on a Town-wide scale. Over the past several months, citizens participated in planning exercises to build awareness, assess community needs, map trails and pathways throughout Deerfield, and identify potential linkages. The purpose of this alliance was to promote accessible walking and bicycling, linking the entire Town to destinations in the Town Center.



Deerfield Community Church



Old Center Road South



Old Center Road South Residence

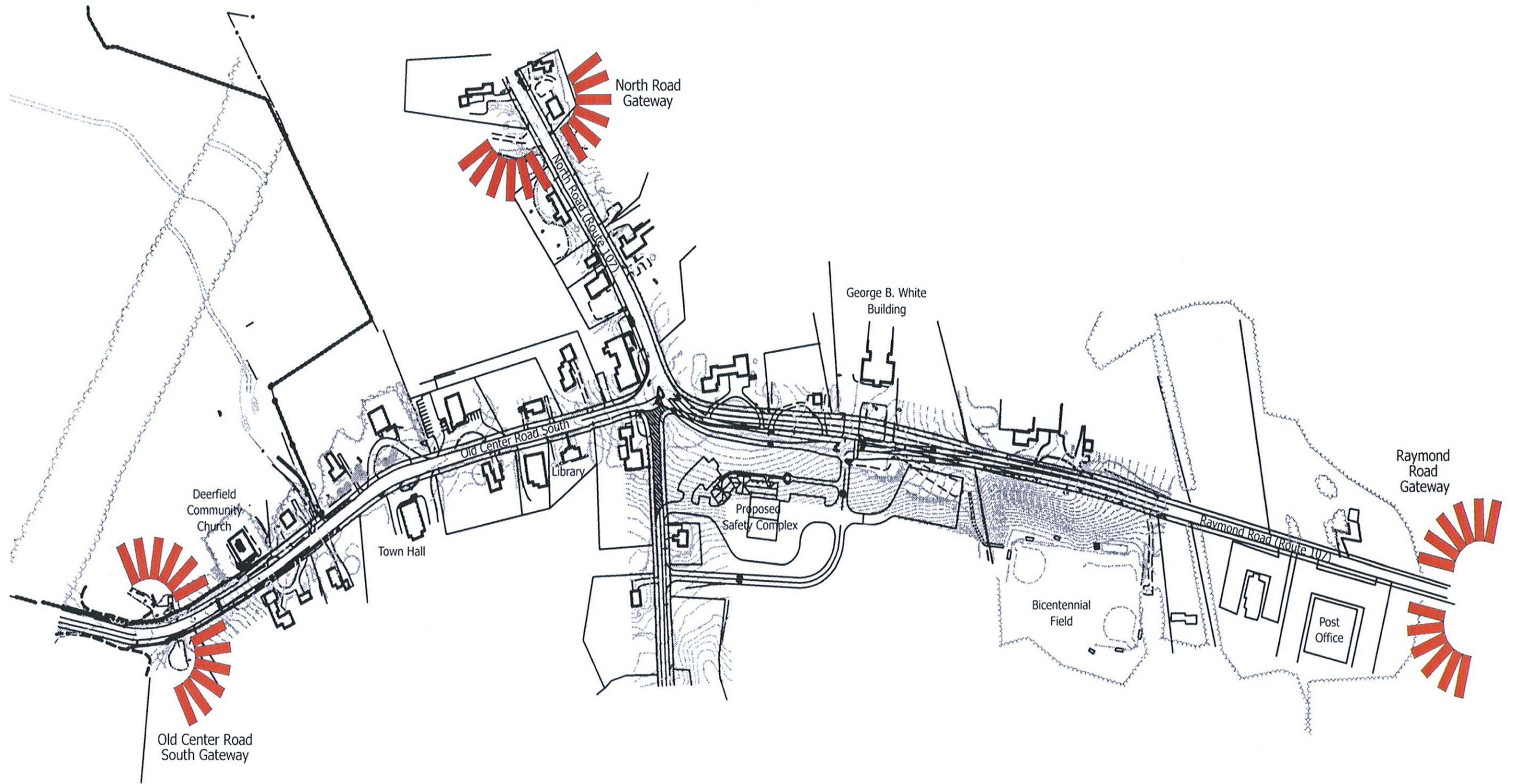
Project Area

Deerfield Town Center, defined or clarified during the Charrette process, radiates from a hub at the primary intersection of Raymond Road/North Road (Route 107) at Old Center Road South and Candia Road. Town Center limits extend to the Post Office on Raymond Road, the Deerfield Community Church on Old Center Road South, and just past the fourth property on North Road. Each location becomes a potential community gateway to transition from roadway to Deerfield Town Center.

Town Center

The streetscape character of Old Center Road South retains the wonderful qualities of a rural New England village, including a variety of historic structures with a blend of uses. These same characteristics are carried around the corner on North Road to include commercial and residential structures. The potential exists to continue an historic village theme in the architecture and setting of the Safety Complex proposed to anchor the streetscape east of the Route 107/Old Center Road/Candia Road intersection. Future improvements of the George B. White Building can include enhancements to the architecture, landscape, and pedestrian access to establish solid physical connections with the rest of Town Center. Incorporating strategically located parking areas throughout the Town Center with continuous and safe pedestrian routes will set the stage for a vibrant Community Center capable of attracting visitors and supporting local commercial activities. Overall community improvement objectives include:

- ◆ Creating a walkable Town Center with continuous and safe pedestrian routes to commercial, municipal, recreation, church, and residential destinations, between the Post Office and North Road businesses, as well as the SNHS Elderly Housing Community.
- ◆ Transforming the Town Center into a pedestrian friendly community environment where the road becomes the subordinate element to a cohesive pedestrian environment.
- ◆ Enhancing the visual integrity, economic viability, and overall community character; promoting Deerfield Town Center as a destination rather than drive-by community, as well as, celebrating the Town as a great place for citizens to gather, recreate, shop, or worship.



Deerfield Center
Project Limits

Old Center Road South



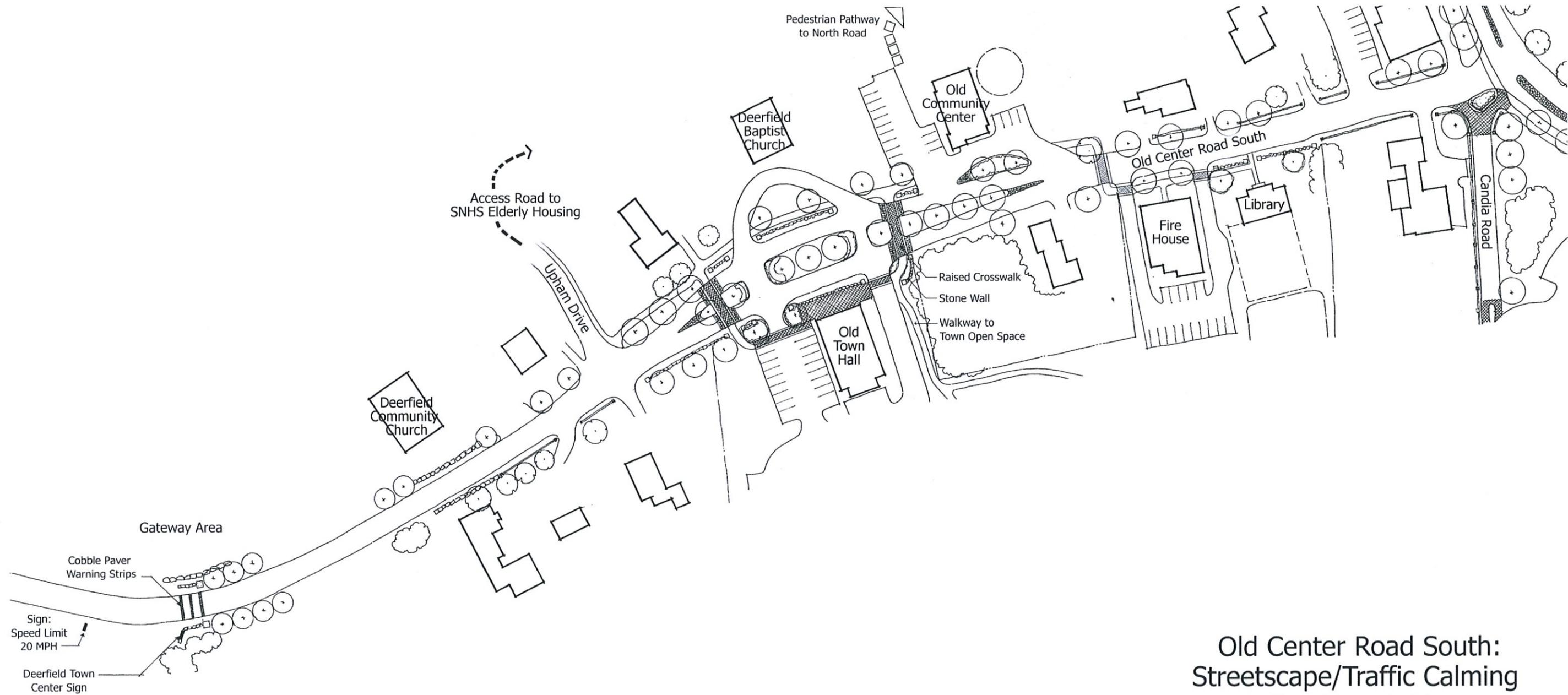
Library

The Town of Deerfield embraces this historic streetscape as the heart of the community, with recent expansions of public uses involving open space. The addition of the bandstand behind the current Firehouse provides a venue for community gathering. Construction of a playground in the Town fields across from the bandstand offers recreation for young residents and their caregivers. SNHS Elderly Housing has increased the presence of residents on the street, many with a desire to walk for recreation or to accessible destinations. Completion of the old Community Center as a new multitenant business space expands the dynamic energy of mixed uses along with the other public activities along the street, including the Library, Old Town Hall, and two churches.



Old Center Road South Speed Limit

There are several problems to be addressed before Old Center Road South can transform into a pedestrian friendly location. Through traffic on the street that detracts from a desirable level of safety and enjoyment is attributed to excessive vehicle speeds. Because there are no sidewalks, residents walk along the street and encounter conflicts at crossing points between destinations, which are not marked. Motorists travelling from the west are not put on notice that they have arrived in the Town Center prior to the Deerfield Community Church, placing pedestrians at a disadvantage. The posted 25-mph speed limit sign near the church is ineffective regarding speed reduction. A lack of adequate parking to serve the uses on this street is another concern. It is also desirable to provide strong physical connections between Old Center Road South and the commercial and recreation activities on Route 107.



Old Center Road South:
 Streetscape/Traffic Calming
 Improvements



**West Edge Town Center:
Old Center Road South**



Stone Wall



Town Hall Road

The following recommendations address traffic calming options that are appropriate for a rural setting:

- ◆ **Signs:** Place a sign at the western edge of the Town Center near the power line easement: 'Historic Deerfield Town Center' with 'Yield to Pedestrians' or similar sign; improve the warning signs along roadway to make motorists more aware of pedestrians, cyclists, and equestrians.
- ◆ **Reduce Speed Limit:**
 - √ Reduce the speed limit to 20 mph for the historic center.
 - √ Move speed limit sign back to power line easement to give motorists time to reduce speed before reaching edge gateway.
 - √ Incrementally reduce speed further west on road (from 30 mph to 25 mph to 20 mph).
- ◆ **Gateway Treatment:** Add pillars/posts, walls, fence, landscaping, signs, and colored or texture surface. Install warning strips prior to speed limit sign using a series of cobble strips or pavers.
- ◆ **Lane Width Reductions:**
 - √ Near Term:
 - Place pavement striping on both sides to reduce travel lanes width to 20 feet.
 - Remainder (3 feet each side) to be integrated into pedestrian/bicycle route.
 - √ Long Term:
 - Introduce median (Town Green) in front of Town Hall to divide road.
 - Plant trees in median.
 - Provides Pedestrian Refuge at point of conflict where vehicles turn into parking behind Town Hall.
 - Replace painted stripes with embedded white cobbles to mark travel way, or cobble 3-foot paved area both sides outside travel way.
- ◆ **Road Width Restrictions:** Introduce bump-out at a pedestrian crossing to Old Town Hall with a 'no-median' alternative or realign the road to force vehicles to slow down at the slight jog before the Town Hall crosswalk.



Old Center Road South - New Fence



Fence - Raymond Road



NHDOT Pedestrian Crossing Marker



Stamped Crosswalk

◆ **Landscaping:** Plant new street trees along right-of-way on both sides of street.

◆ **Edge Treatment:** Install walls/fences along right-of-way on both sides of street.

◆ **Crosswalks (Near Term Alternatives):**

√ Painted crosswalks using white stripe edges with solid color (red) field strategically located between key public destinations (Town Hall, Library, Elderly Housing).

√ Painted diagonal white or yellow stripes.

√ Use NHDOT 'Stop for Pedestrians' traffic markers

◆ **Crosswalks (Longer Term Alternatives):**

√ Stamped and colored asphalt crosswalks to add texture and focus motorists attention on the pedestrian crossing.

√ Brick or concrete pavers with granite cobble edges to achieve the same results with more natural materials.

√ Raised 'Speed Table' (22 feet) at crosswalk incorporating one of the above treatments.

◆ **Parking Opportunities:** Provide new parking behind old Town Hall (assume relocation of Public Works Garage to more appropriate location outside active Town Center) and Firehouse (assume relocation of emergency services to Safety Complex) to serve recreation activities, events, Library, and commercial uses in Town Center

◆ **Pedestrian Route (Surface Alternatives):**

√ Walk On Paved Shoulders:

– Define shoulders as place to walk.

– Expand paved shoulders or improve gravel shoulder surface to provide smooth walking surface 5 feet wide, with 3-foot road surface outside striping to function to separate pedestrians from vehicles (stamp/color asphalt to resemble cobbles).

– No impact on open drainage.

– Can be open in winter.



Old Town Hall - Backyard Lot



Old Center Road South



Open Space

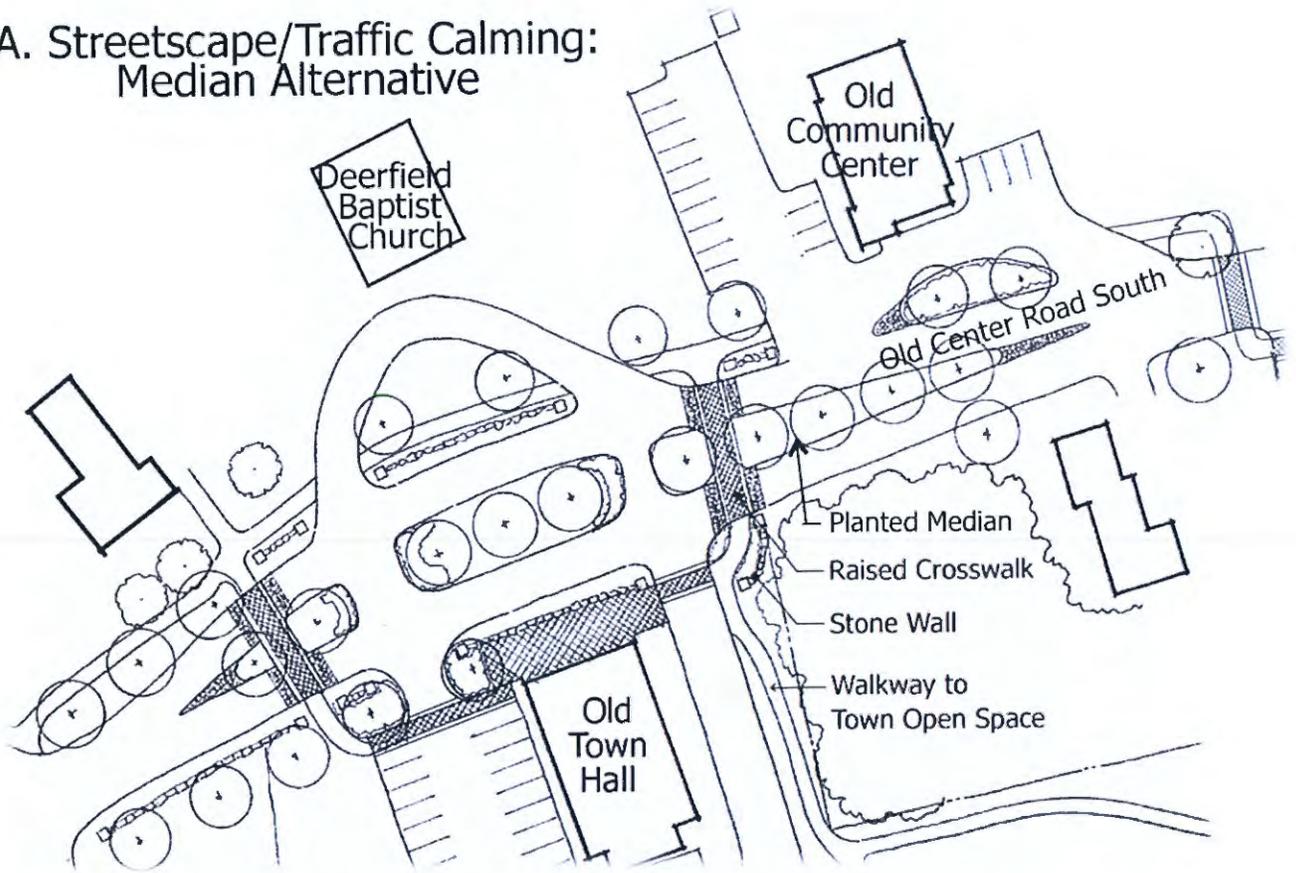
√ Sidewalks Setback With Grass Shoulders:

- Create grass shoulders (4 to 6 feet wide) near street (using National Park Service guidelines for stabilized grass shoulders) with stonedust/bituminous/concrete/or brick sidewalk set back behind shoulder at grade.
- Trees/landscaping/walls/fences located in greenway for more protection and reduction in peripheral field of vision for improved traffic calming.
- Minimal impact on open drainage.
- Hard surfaces plowable.

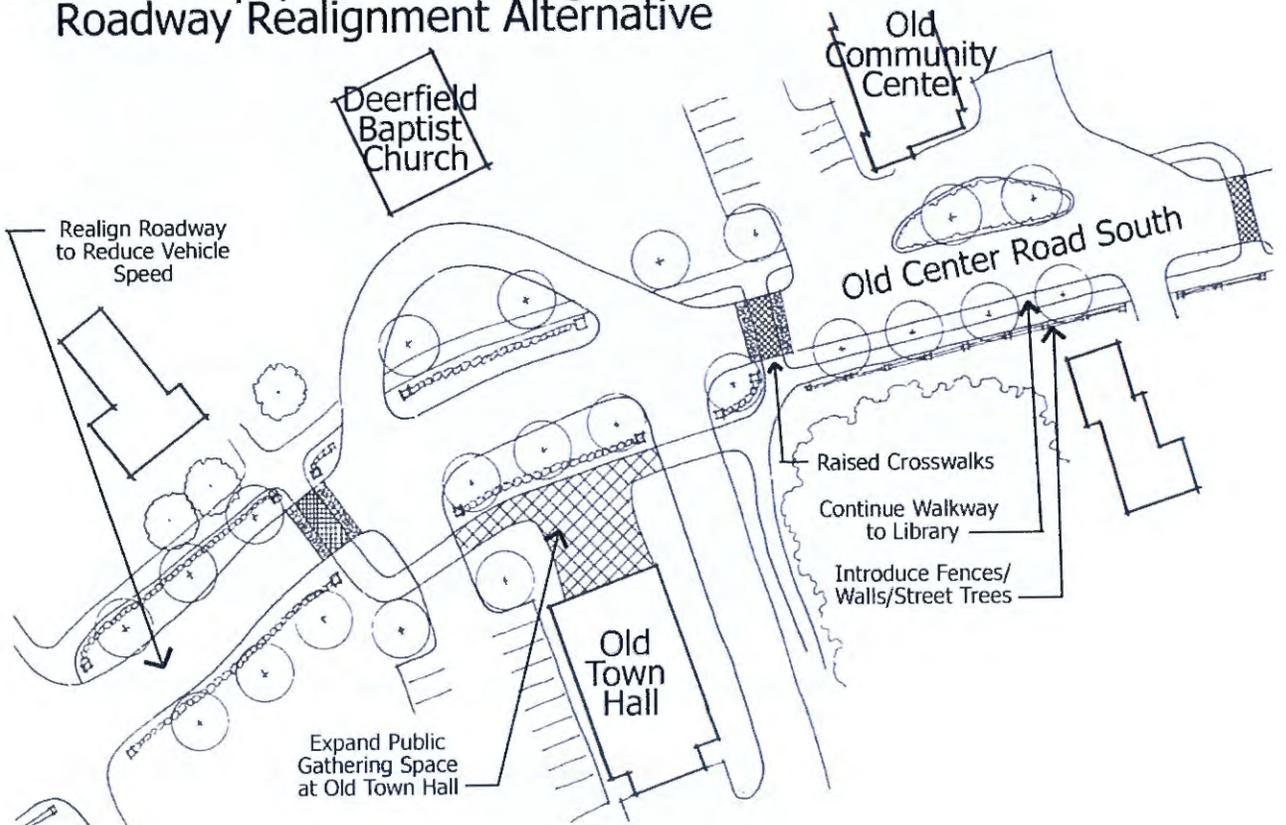
◆ **Pedestrian Connections to Community Amenities:**

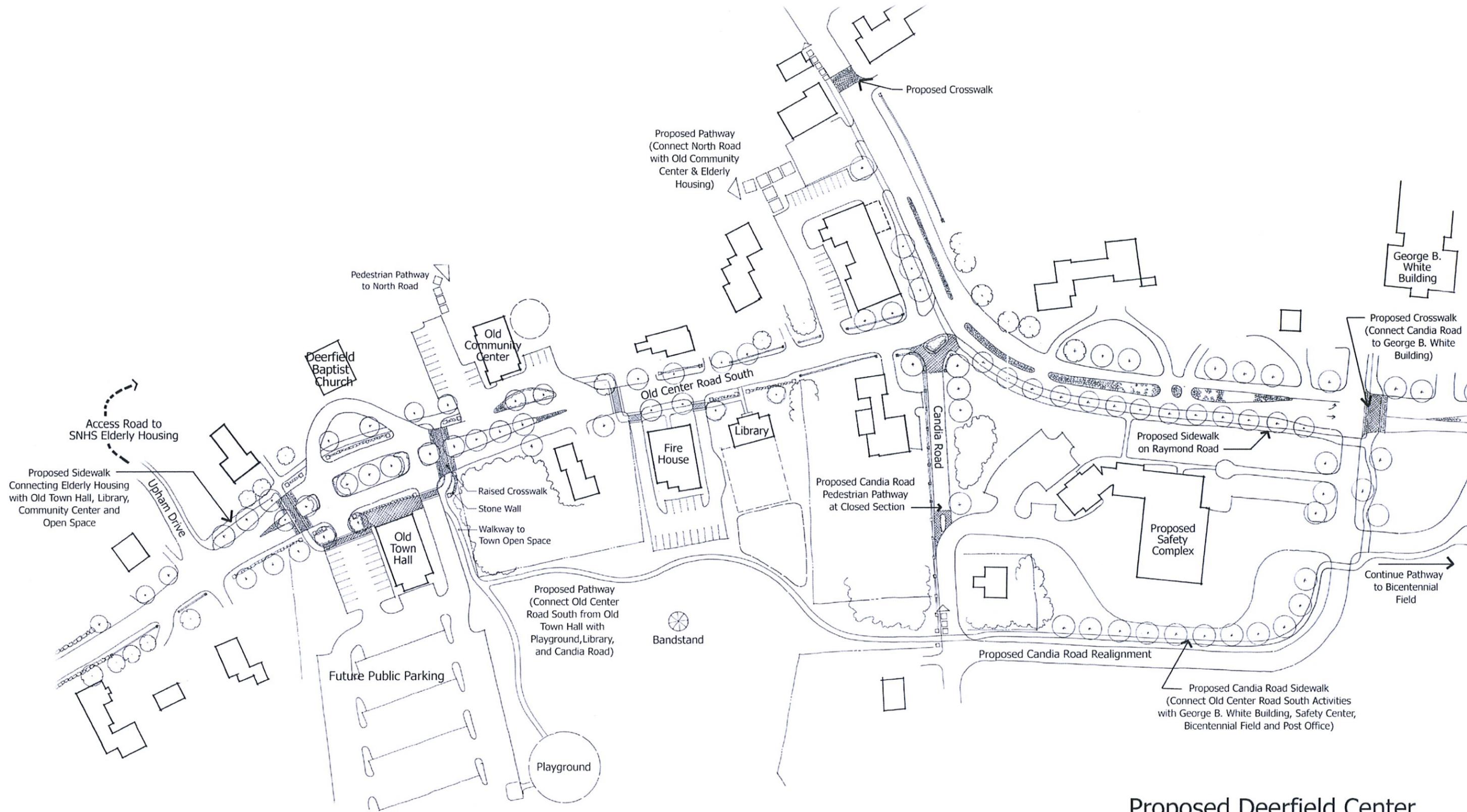
- √ Playground: Provide accessible route to nearby parking, Bandstand, Library, and Old Center Road South.
- √ Bandstand: Connect with Playground, Library, accessible parking behind Firehouse, and develop new connection to Candia Road.
- √ New Pathway to Candia Road: Expand pedestrian system to include pathway connection to Candia Road to loop to closed segment and new Candia Road alignment.
- √ Open Space: Retain Open Space south of Bandstand and Playground.

A. Streetscape/Traffic Calming:
Median Alternative



B. Streetscape/Traffic Calming:
Roadway Realignment Alternative

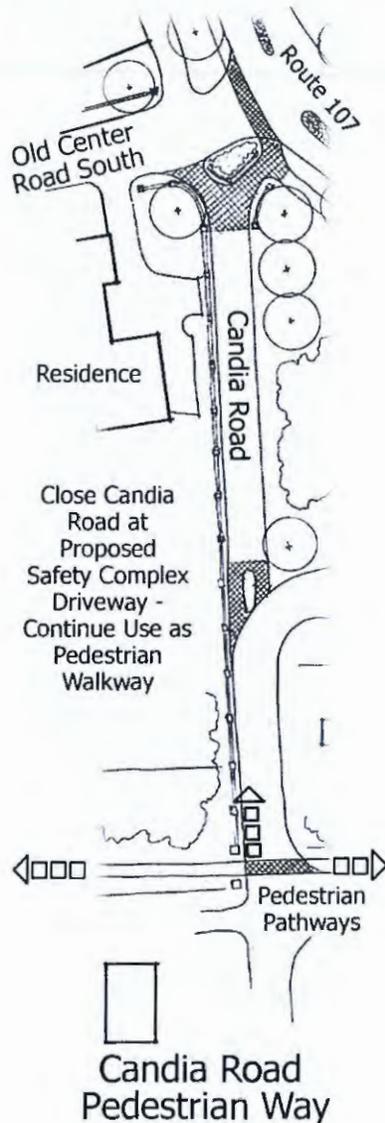




**Proposed Deerfield Center
Pedestrian System**



Candia Road



Candia Road

Implementation of the Safety Complex plan provides an opportunity to realign Candia Road to terminate across from the George B. White Building driveway, creating a new four-way intersection for controlled access to both sites. The remainder of the old Candia Road alignment can be incorporated into the pedestrian system as an alternative route.

- ◆ **Revise Alignment:** Per Scheme III, by the Turner Group for Route 107 intersection improvements, reroute Old Candia Road around proposed Safety Complex to terminate at Raymond Road intersection across from the George B. White Building.
- ◆ **Pedestrian Connection:** Close Candia Road to vehicular traffic from new driveway to Safety Complex to Old Center Road and convert to a pedestrian walkway (open for bicycles and horses). Use landscaping and surface treatment at both ends as pedestrian gateways.
- ◆ **New Sidewalks:** Construct a new sidewalk along the realigned segment of Candia Road to connect with a new sidewalk across the frontage of the proposed Safety Complex, a crosswalk to the George B. White Building, and a continued pathway east to access Bicentennial Field, accessible to a proposed ballfield adjacent to the Safety Complex and new field parking.

Intersection Old Center Road South/Route 107/Candia Road

The center of Deerfield is designated by the intersection of Old Center Road and Candia Road at Route 107, which is Raymond Road to the east and North Road to the north. Improvements should punctuate the role of this intersection as the Town Center hub both visually and functionally. Traffic should be controlled to deliberately force motorists to reduce speeds and take notice of the Town Center. The significance of pedestrian access and safety through the intersection should also be addressed as part of the design. Realignment of Candia Road would improve the intersection by eliminating a set of turning movements at a skewed angle. The following addresses alternative recommendations for improvements:

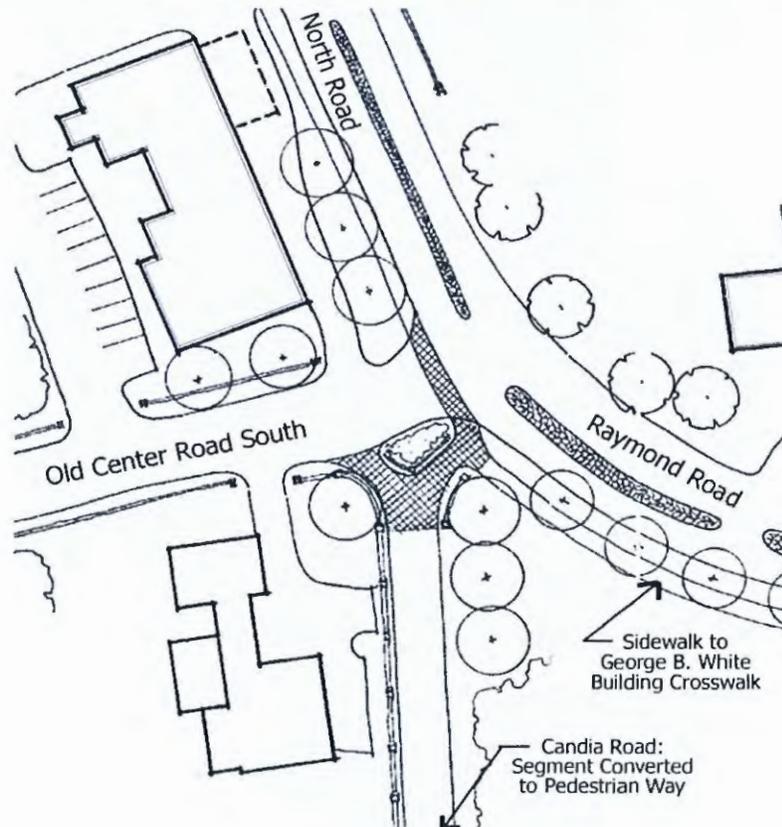


North Road at 107/Old Center Road Intersection

◆ **Intersection Improvement with Old Center Road:**

- √ Restrict road width at intersection and force slower turning movements using smaller radius at both corners.
- √ Do not provide a dedicated right turn lane from Old Center Road South; provide 6-foot bike lane instead.
- √ Incorporate cobbles in place of turn lane dividers and other striped areas as appropriate.
- √ Provide crosswalk connecting both sides of Route 107 over Old Center Road South.
- √ Include community design elements in the adjacent landscape to tie intersection to Gateway theme using walls, fences, posts, and landscaping.

Intersection Improvements

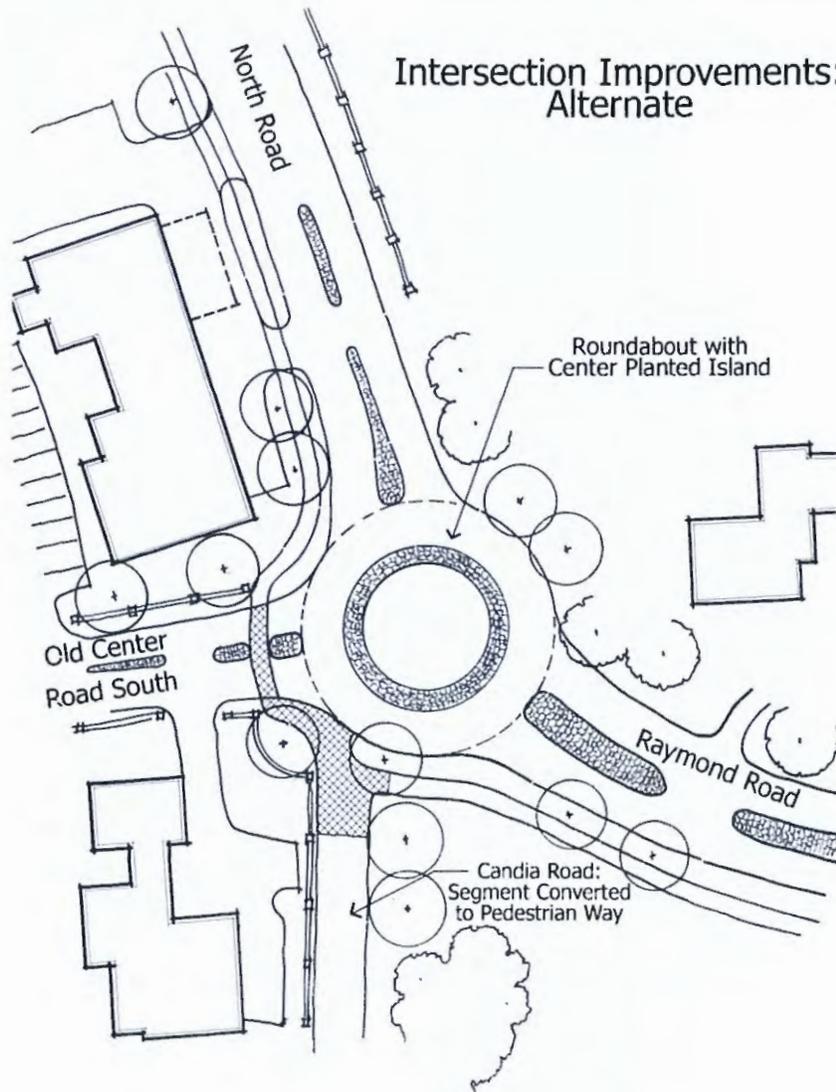




Roundabout

◆ **Intersection Improvement Alternative:**

- ✓ Introduce a roundabout to control the flow of traffic through the intersection and mark the intersection as the hub of the Town Center.
- ✓ Landscape the center island and include community design elements.
- ✓ Use cobbles around the perimeter of the island to attractively increase paved surface area for truck turning movements.
- ✓ Maintain primary response route function of roadway.



Route 107/43 (Raymond Road) – East of Old Center Road South



George B. White Building



Bicentennial Field



Cemetery Gate

The segment of Route 107 (Raymond Road) east of the intersection fronts several destination uses, including the parcel slated for the proposed Safety Complex. Across from this parcel on the north side of the road, the George B. White Building contains Town Offices, the Police Station, and a variety of businesses. East of the Safety Complex parcel is Bicentennial Field, which is situated at the bottom of a steep slope below the street. Ballfield parking is provided on an inadequate gravel area along the frontage of the Safety Complex lot and down the slope to a lower level area closer to the field. Pedestrians access Bicentennial Field by way of a long set of stairs. There is a driveway east of the field providing limited emergency and handicap access. The Post Office is located a short distance east of Bicentennial Field next to another commercial building. Several residential properties are interspersed between these uses on both sides of the street, along with a cemetery on the north side.

Raymond Road is lined with numerous beautiful farms, homes, and properties; however, there is no gateway noting the transition to Deerfield Town Center as motorists travel northwest toward the Route 107/Old Center Road South intersection. During the Charrette, residents identified the Post Office as the eastern edge of the Town Center. The following recommendations address options for establishing a gateway and transforming this part of the Town Center into a cohesive Town Center, including a pedestrian friendly environment:

- ◆ **Gateway Treatment Before Post Office:** Inform motorists that they are approaching the Town Center by creating distinctive arrival space through the addition of pillars/posts, walls, fence, landscaping, signs, colored or texture surface; install warning strips prior to speed limit sign using a series of cobble strips or pavers, possibly in combination with 'dragons teeth' or graduated width paint markings as a visual cue.



Raymond Road - View South to Post Office Driveway



Raymond Road - View North to George B. White Building Driveway



Raymond Road - View North to Bicentennial Field Frontage



Bicentennial Field Access Stairs

- ◆ **Signs:** Place sign at eastern edge of center before Post Office: 'Historic Deerfield Town Center' with 'Yield to Pedestrians' or similar sign; improve the warning signs along roadway to make motorists more aware of pedestrians, cyclists, and equestrians.
- ◆ **Reduce Speed Limit:**
 - √ Reduce speed limit to 25 mph for the Town Center.
 - √ Place a sign about 500 feet east of the Post Office to give motorists time to reduce speed before reaching gateway.
 - √ Provide warning sign further east noting reduced speed.
- ◆ **Lane Width Reductions:**
 - √ Taper lane widths to minimum 11 feet at gateway and maintain to western gateway.
 - √ Use embedded white cobbles in place of painted stripes to mark lanes.
- ◆ **Bicycle Lanes:** Include adequate bicycle lanes on both sides of the street .
- ◆ **Sidewalks:**
 - √ Extend a walkway from intersection through the front of the Safety Complex property, set back 8 to 10 feet from street, connecting to parking lot for Bicentennial Field and new intersection of Candia Road at the George B. White Building.
 - √ Construct pathway to connect walk along new Candia road segment to Bicentennial Field. Continue pathway along base of slope at ball field to eastern driveway at Route 107. Develop sidewalk between ball field driveway and Post Office.
- ◆ **Crosswalk:**
 - √ Develop substantial crosswalk to the George B. White commercial center at new intersection with Candia Road.
 - √ Provide safe crossing environment for many children at child care facility and using Bicentennial Field.
- ◆ **Landscaping:** Plant new street trees along right-of-way on both sides.



Raymond Road at Bicentennial Drive



North Road



North Road - View to Gateway



North Road Commercial

◆ **Edge Treatment:**

- √ Install walls/fences along right-of-way on both sides.
- √ Use reinforced stone walls as guardrails where needed.

Route 107/43 (North Road) – West of Old Center Road South

There are several businesses and a multifamily residential property just north of the Route 107/Old Center Road South intersection. These properties and uses are very much a part of the Town Center foundation, and should be integrated into the pedestrian system for cohesive connections with Old Center Road South and Raymond Road activities. Reorganization of parking and access on one or two of the lots, combined with establishing off-street pedestrian links to the SNHS Elderly Housing Community and the former Community Building, would expand pedestrian route options.

- ◆ **Gateway Treatment at West End:** Inform motorists that they are approaching the Town Center by creating distinctive arrival space through the addition of pillars/posts, walls, fence, landscaping, signs, colored or texture surface; install warning strips prior to speed limit sign using a series of cobble strips or pavers, possibly in combination with 'dragons teeth' or graduated width paint markings as a visual cue.

- ◆ **Signs:** Place sign at western approach to Town Center: 'Historic Deerfield Town Center' with 'Yield to Pedestrians' or similar sign; improve the warning signs along roadway to make motorists more aware of pedestrians, cyclists, and equestrians.

◆ **Reduce Speed Limit:**

- √ Reduce speed limit to 25 mph for the Town Center.
- √ Place a sign about 500 feet west of Town Center edge to give motorists time to reduce speed before reaching gateway.
- √ Provide warning sign further noting reduced speed.

- ◆ **Lane Width Reductions:** Taper lane widths to minimum 11 feet at gateway and maintain to eastern gateway.



North Road - Multifamily Residential



North Road: Nursing Home Property

- ◆ **Crosswalk:** Locate crosswalk at intersection with Old Center Road South, or between multifamily housing and Art Gallery properties to provide safe pedestrian crossing for residents.

Additional Pedestrian Connection Opportunities

- ◆ **New Pathways:**

- √ Develop connection behind Art Gallery to Elderly Housing.
- √ Extend pathway from Old Center Road South behind Nursing Home property to connect with Art Gallery.

- ◆ **New Parking (Private Lots):**

- √ Create a parking area behind Nursing Home to serve current and long-term uses.
- √ Develop cross parking easement agreements to encourage visitors to visit multiple commercial attractions.