Demonstration Locations

Prior chapters have reviewed design guidelines and developed policies and strategies for addressing the future transportation challenges facing the City of Norwalk. These efforts, combined with an extensive outreach efforts and analysis of development criteria, led to the development of a series of "Demonstration" projects for the City to consider. This chapter summarizes how the demonstration locations were selected, provides a brief discussion of the locations and why they are representative of many of the common issues and challenges facing the city, and provides guidance on how these various projects would compare against one another.

1.1 Overview

The city of Norwalk undertook this Plan in conjunction with the South Western Regional Planning Agency (SWRPA) and the Connecticut Department of Transportation (CT DOT) to develop a Transportation Management Plan that would serve as a blueprint for identifying a project's needs, developing context sensitive/multimodal solutions to those identified needs, and ultimately creating a process for prioritizing the project for the City.

The ultimate goals of this Plan is intended to provide guidance and direction for the City and provide templates for transportation resources that are planned, designed, and constructed; all with the goal of:

- Providing for the safety and convenience of all users of the roadway system including:
  - Pedestrians (including those who need assistance with mobility)
  - Bicyclists
  - Transit Users
  - Emergency Service Operators
  - Automobile Drivers
  - Commercial Vehicle Operations

- Facilitating multi-modal use of the system.
- Providing consistency with transportation plans and policies, environmental regulations, the community, the region, the state, and the Federal government.
- Being cost effective for the fiscally constrained realities of the current times we live in and for setting the groundwork for prioritizing future capital spending.

While the Plan itself is guided by the principles of ***Multimodal Considerations***, ***Context Sensitive Design***, and providing ***a Clear Development Process***; the City ultimately requested that a series of projects also be developed that would consider these guidelines and advance them through the process as "Demonstration" efforts.

The following section discusses the project demonstration locations. It includes a discussion of how specific locations were selected, which locations were selected, describes each location in some detail and presents the unique challenges associated with the project location and ultimately presents a potential solution for the location using the criteria presented in the Plan.

1.2 Selection of Demonstration Locations

At the outset of this process, the project team met with residents, business owners, city staff and department heads, and other stakeholders to gather extensive input on the real and perceived challenges and issues facing the transportation system in the City of Norwalk. Through this outreach effort, a consistent set of challenges and concerns were raised by all parties that ultimately formed the basis for selection of the Demonstration locations. A complete summary of the outreach efforts, the comments received, and the overall discussion is provided in the Appendix to this document.

After reviewing all the comments and discussions that took place, there were five general issues that tended to re-appear in the outreach efforts. Without referring to specific locations, these trends were broken down into the following groupings:

- **Operations** – this includes intersections and locations that exhibit excessive delays, congestion, and generally poor mobility for vehicular traffic. These are locations where the public perceived that improvements could be made, although in some cases the improvements were not obvious. It also includes locations where vehicles are being enticed to travel along roadways that are not intended to serve as through routes (cut-through traffic).
- **Safety-related** – this includes locations that have demonstrated unsafe safety statistics (high crash locations) or through perceived issues (including anecdotal comments such as, "cars are traveling at excessive speeds along a corridor"), and through locations that have historically been challenging to transportation professionals (including locations with poor sight lines, etc…).

- **Maintenance** – this includes locations that were highlighted as in need of repair, upgrade, or enhancement to some degree. In many cases, the pavement condition was the number one source of concern, but sidewalk and signage were also highlighted in these cases.
- **Bicycle/Pedestrian** – this includes locations that are either perceived to be poorly served by bike/ped amenities, have the potential to offer growth or enhancement to the pedestrian/bicycle community, and/or have traditionally been ignored in general.
- **Parking** – this includes locations where parking demand is perceived to be underserved for the area, and/or inappropriately provided.

Using these five groupings (along with a "miscellaneous" category to cover random comments unrelated to these five groupings), the project team reviewed each of the comments provided at the outreach sessions and located the issues on a map of the City of Norwalk. The graphic indicates that these challenges are located all throughout the city and when reviewed in a detailed fashion reveal that character of a certain neighborhood or portion of the city has a lot to do with the perceived issue/concern raised as part of the Plan. Using this information, the Project Advisory team identified 11 candidate roadway corridors and 13 candidate intersections within the City limits that exhibit one or more of the above transportation challenges.

Using this listing, the Project Team then reviewed each of the roadway corridor and intersection to provide a general cross-section of geographic diversity throughout the City, different contexts to the environment that it exists within, and those locations that offer unique challenges to the Community as a whole. Ultimately, this reduced the 11 candidate roadway locations down to 2 demonstration corridors and 5 demonstration intersections. The full listing of candidate roadways along with the selected demonstration locations is provided below:

1.2.1 Candidate Roadways

Attached at the end of this section is a figure showing where each of the specific candidate roadways and intersections are located within the City. The following were locations were selected and/or considered for demonstration 'status':

- *West Rocks Road [SELECTED AS A DEMONSTRATION ROADWAY]*
- *Washington Street/Fairfield Avenue [SELECTED AS A DEMONSTRATION ROADWAY]*
    - Main Street/Main Avenue
    - Richards Avenue/Rowayton Avenue
    - Taylor Avenue/North Taylor Avenue/Fillow Street
    - Flax Hill Road

- MLK Drive/West Avenue/Belden Avenue
- Route 1/Connecticut Avenue/Westport Avenue
- East Avenue [*Note: this location is under design already and will be scored in the PNF/PIF ratings at the end of this chapter*]
- Strawberry Hill Avenue
- Calf Pasture Beach Road

1.2.2 Candidate Intersections

Attached at the end of this section is a figure showing where each of the specific candidate intersections are located within the City. The following were locations were selected and/or considered for demonstration 'status':

- *Route 123/New Canaan Avenue at Bartlett Avenue/Ells Street [SELECTED AS A DEMONSTRATION INTERSECTION]*
- *Route 53/Newtown Avenue at Murray Street/Dry Hill Road [SELECTED AS A DEMONSTRATION INTERSECTION]*
- *West Avenue at Belden Avenue/Mott Avenue [SELECTED AS A DEMONSTRATION INTERSECTION]*
- *Taylor Avenue at Flax Hill Road [SELECTED AS A DEMONSTRATION INTERSECTION]*
- *Flax Hill Road at Richards Avenue/Rowayton Avenue [SELECTED AS A DEMONSTRATION INTERSECTION]*
  - Grist Mill Road at Belden Hill Road/North Seir Hill Road
  - Richards Avenue at West Cedar Street
  - North Taylor Avenue at Benedict Street
  - Maple Street at Route 1 (Van Buren Avenue)/Stevens Street
  - Highland Avenue at Soundview Avenue/Devils Garden Road
  - Route 123/Main Street at Route 1/North Avenue
  - East Avenue/Park Street at Wall Street/Hubbells Lane
  - Strawberry Hill Road at Tierney Street

1.3 Demonstration Location Screening

The transportation improvement strategies outlined in part 1 of the Plan were used to screen each of the selected Demonstration locations. In this process, each location was

screed through the evaluation process on the basis of its technical challenges and cross-referenced it with the public commentary that was received during our outreach efforts. The later was especially important in that it identified the "perceived" issue with each location ~ which was then compared to the technical review of the intersection to determine if the perception met the reality of the situation. In rare instances, estimates were used to assign a score on the PNF forms as the information was not readily available (funding sources, for example, were not explored in great detail). Similarly, some answers in the PIF forms were also estimated based on lack of real data (cost of improvements, for example). In these cases, the scores are highlighted in orange (instead of yellow) to call out the assigned score for each location.

The following is a summary of the screening performed at each of the locations. Where noted, alternatives have been developed and are presented at the end of hits section for each of the corridors and intersections selected.

1.3.1 Demonstration Corridors

1.3.1.1 Corridor 1: West Rocks Road/France Street/Park Street

This corridor forms a major connection between Downtown Norwalk to Route 7 and then to either I-95 or the Merritt Parkway. Land uses along the corridor are primarily single family residential with the West Rocks Middle School and All Saints Catholic School also fronting the corridor. As a commuter route, vehicular speeds tend to be high and out of context with the land uses along the corridor. Many gaps exist in the sidewalks, crosswalks are not well marked or in a state of disrepair where they exist, and bicycle facilities are nonexistent. The corridor is also a transit route, with bus service and transit stops along the corridor. Due to the presence of the schools, residences, and transit riders, pedestrian usage in the corridor is expected but not adequately accommodated.

A **Project Need Form** was completed for the West Rocks Road/France Street/Park Street corridor as a means of measuring the transportation needs of this location alongside other demonstration projects. Based on available information, this corridor scored a 48. The speeding issues along the corridor, lack of adequate pedestrian and bicycle accommodations, transit services, traffic volumes, and degree of public support contributed to this score.

Objectives along the corridor included the following:

- Create seamless pedestrian facilities;
- Create bicycle connection along corridor;
- Enhance the pedestrian realm through crosswalks and pedestrian signal heads;

- Enhance the transit riders realm with furnishings at stops; and
- Tame vehicular speeds to be more in context with the neighborhood and expected non-motorized travelers.

Exacerbating the issues are the topography and underlying geology of the corridor; hilly terrain and the presence of rock may make improvements infeasible in certain locations. In those instances, facilities may be consolidated on one side of the roadway and a safe crossing provided to connect the sides.

In accordance with the objectives listed above and the goals of the TMP, the following **recommendations** were developed:

- Establish continuous bicycle lanes on the corridor through a combination of lane diets and selective widening where feasible;
- Fill in gaps in sidewalk coverage to create continuous sidewalks on both sides of the entire corridor length where feasible;
- Enhance pedestrian crossings at intersections with establishment of high-visibility crosswalks and installation of pedestrian heads; and
- Enhance transit stops with benches and pullouts and shelters where feasible.

By following the above recommendations, the corridor can be rebalanced to accommodate foot and bicycle traffic with negligible additional delay to the motor vehicle traffic.

A **Project Initiation Form** was completed for the West Rocks Road/France Street/Park Street corridor to evaluate the effectiveness of the proposed solution (shown previously) at addressing identified needs/issues from the Project Need Form, assess the readiness level of the project, and evaluate project details. Completion of the Project Initiation Form results in a numerical score that can be compared to the scores of other demonstration projects in order to rank conceptual solutions against each other. Based on the conceptual plans developed to date, the proposed improvements for this corridor scored a 67. Improvements to safety and pedestrian/ bicycle accommodations coupled with no right-of-way impacts and minimal impacted to surrounding resources contributed to this score.

1.3.1.2 Corridor 2: Washington Street/Fairfield Avenue

The Washington Street/Fairfield Avenue corridor serves multiple roles: it is a primary commuter route into Downtown Norwalk, it serves as a commercial corridor offering goods, services, and employment to Norwalk residents and it serves as a "front door" for Downtown Norwalk to people arriving by both car and Metro North. For these reasons, it is important that the corridor be balanced between motorized and non-motorized travel, as there is a high expectation of pedestrian and cyclist activity within this corridor. Furthermore, this corridor should be designed as a "gateway" into Downtown, with signature streetscape elements that not only enhance the aesthetics of the corridor, but also serve a traffic calming purpose in changing driver behavior to slow down due to the presence of non-motorized traffic.

A **Project Need Form** was completed for the Washington Street/Fairfield Avenue corridor as a means of measuring the transportation needs of this project alongside other demonstration projects. Based on available information, the Washington Street/Fairfield Avenue corridor scored a 44 on the Project Need Form. The traffic volumes and access to transit services, activity centers, and commercial areas along the corridor contributed to this score.

Specific **objectives** for the design of this corridor included the following:

- Create a pedestrian scale and feel to the corridor through the use of materials and lighting, similar to the character of "Washington Historic East;"
- Develop a transition zone between the car-oriented areas to the west and the pedestrian-oriented Downtown;
- Reactivate the street in this gateway area of Downtown;
- Develop a bike facility to connect to Flax Hill Road; and
- Capitalize on open space opportunities to celebrate the "art" of the district.

To address these objectives and to make the corridor attractive to all users regardless of their mode of travel, the following **recommendations** were developed as illustrated in the concept sketch:

- Create a two-way 'cycle track' connection along Fairfield Avenue to Flax Hill Road through a lane diet to facilitate a bicycle connection to Flax Hill Road;
- Install specialty lighting under the Metro North Bridge to strengthen the connection between the arts district in SoNo to the western side of the bridge;
- Reconfigure plaza in front of 50 Washington Street tower to accommodate a farmers market, food vendors etc., creating a gathering space and center for the

District; Install public art in reclaimed pavement areas to serve as a gateway and an extension west of the SoNo Arts District; and

- Install pedestrian scale lighting and decorative sidewalks throughout the corridor.

These measures establish the area as a gateway to Downtown and an extension of the SoNo district, reenergizing this corridor while rebalancing the travel modes to safely and efficiently carry cars, buses, pedestrians, and cyclists.

A **Project Initiation Form** was completed for the Washington Street/Fairfield Avenue corridor to evaluate the effectiveness of the proposed solution (shown previously) at addressing identified needs/issues from the Project Need Form, assess the readiness level of the project, and evaluate project details. Completion of the Project Initiation Form results in a numerical score that can be compared to the scores of other demonstration projects in order to rank conceptual solutions against each other. Based on the conceptual plans developed to date, the proposed improvements for the Washington Street/Fairfield Avenue corridor scored a 41 on the Project Initiation Form. Improvements to safety and pedestrian/ bicycle accommodations coupled with minimal impacts to right-of-way or the surrounding resources contributed to this score.

1.3.2 Demonstration Intersections

1.3.2.1 Intersection 1: West Avenue at Belden Avenue/Mott Avenue

Located in Downtown Norwalk, this intersection is the most urban of the demonstration intersections. Adjacent uses include the City of Norwalk Library, City Transit Center, and a mix of retail and commercial uses. Wall Street is a historic retail "main street" corridor, complete with an intact street wall of buildings and on street parking; this street is currently underutilized from a retail standpoint due to relocation of many of the businesses, but the potential for redevelopment is strong. Given these uses, the pedestrian activity in this area is heavy, and expected to increase should Wall Street redevelop; however, the geometric characteristics and excess capacity of the streets encourage high vehicular speeds and create an environment that is not necessarily pedestrian-friendly. Additionally, there is a local perception of a lack of parking in the area, due to the fact that the streets are difficult for pedestrian to cross. The confluence of the roads, presence of high-speed slip lanes, one way streets, and excess pavement work together to confuse both the pedestrian and motorist, while the underutilization of the existing green space in the islands and deficient condition of the sidewalks and crosswalks add to the feeling that the area is not really comfortable for pedestrian use.

A **Project Need Form** was completed for the intersection of West Avenue at Belden Avenue / Mott Avenue as a means of measuring the transportation needs of this location alongside other demonstration projects. Based on available information, the intersection of West Avenue at Belden Avenue / Mott Avenue scored a 55 on the Project Need Form. The high pedestrian volumes coupled with a lack of accommodations, access to transit services, activity centers, and commercial areas along the corridor, and the degree of public support stated at the TMP public meetings and during the outreach efforts contributed to this score.

Specific **objectives** for this intersection were as follows:

- Reduce confusion for motorists and pedestrians;
- Reduce the perception of a parking problem by extending the walkshed;
- Enhance pedestrian safety;
- Enhance the connection for both motorists and pedestrians to and from the existing parking garage;
- Preserve vehicular operations through addition of turn lanes where necessary; and
- Right-size the streets.

This intersection had the potential to be a "signature" project due to the confluence of uses and context geared toward a walk-friendly urban core and the ability for travelers

to choose among various modes of transport available within the area. Specific **recommendations** for this intersection are as follows:

- Short Term Actions
    - Implement Complete Streets principles on all streets to rebalance travel modes;
    - Elicit a road diet (4 lanes to 3 lanes with spot medians) on West Avenue through the core area, add bike lanes and median/left turn lanes;
    - Reclaim/increase green space through elimination of right turn channels on Wall Street and West Avenue;
    - Enhance sidewalk width and repair sidewalks within area; and
    - Add pedestrian amenities such as high-visibility crosswalks and mid-intersection refuges.
- Long Term Actions
    - Add street network to enhance circulation and reduce block length, such as a new east-west connection between West Avenue and River Street;
    - Extend pedestrian connections to the River; and
    - Reconstruct Wall Street as a "festival street" (flush section between buildings with brick pavers) that can define the corridor as a local "main street" and walkable area.

By eliciting this slate of recommendations, this intersection and area has the potential to not only rebalance movement among the various modes of travel, but also to reposition the area for reinvestment with a "signature" infrastructure project leveraging public investment.

A **Project Initiation Form** was completed for the West Avenue at Belden Avenue / Mott Avenue to evaluate the effectiveness of the proposed solution (attached) at addressing identified needs/issues from the Project Need Form, assess the readiness level of the project, and evaluate project details. Completion of the Project Initiation Form results in a numerical score that can be compared to the scores of other demonstration projects in order to rank conceptual solutions against each other. Based on the conceptual plans developed to date, the proposed improvements to the intersection of West Avenue at Belden Avenue / Mott Avenue scored a 62 on the Project Initiation Form. Improvements to safety and pedestrian/ bicycle accommodations and projected reductions in vehicular speeds together with minimal impacts to right-of-way or the surrounding resources contributed to this score.

1.3.2.2 Intersection 2: Taylor Avenue at Flax Hill Road

While located in a predominately residential are, this intersection serves not only local vehicular traffic but also a healthy amount of "cut through" traffic as it is a continuous route that roughly parallels I-95 and US 1. Additionally, the intersection is proximate to the South Norwalk Metro-North Station as well as Flax Hill Park, which is attractive to both pedestrian and bicycle travel along these corridors. Currently, the intersection is two offset "T" intersections, causing queuing issues between the offset north-south legs when opposing vehicles desire to make a left turn onto Lowe Street. Characterized by large corner radii, the intersections encourage high vehicular speeds by turning vehicles at the expense of the pedestrian and bicycling environment. Furthermore, excess pavement could be reclaimed for planting opportunities to "green" the intersection area, which feels much wider than it actually is.

A **Project Need Form** was completed for the intersection of Flax Hill Road at Taylor Avenue and Flax Hill Road at Lowe Street as a means of measuring the transportation needs of this project alongside other demonstration projects. Based on available information, the intersections of Flax Hill Road at Taylor Avenue and Flax Hill Road at Lowe Street scored a 40 on the Project Need Form. Vehicular speeds, lack of adequate pedestrian and bicycle accommodations, traffic volumes, and heavy vehicle volumes contributed to this score.

Specific **objectives** considered in developing a program of enhancements for this demonstration project are as follows:

- Implement bicycle facility on corridor;
- Increase safety for vehicles, pedestrians, and cyclists;
- Rebalance roadways to a neighborhood scale;
- Create safe pedestrian crossings; and
- Install street trees where appropriate to create shade canopy.

Two **recommended** options were developed:

- Both options normalize the Lowe Street intersection into a 90-degree T-intersection and reclaim some of the pavement on the northeast quadrant for a green planted area,
- Elicit lane diets to add bike lanes, and
- Enhance the pedestrian crossings through high visibility crosswalks.

The options vary in the treatment of the Taylor Road intersection:

- The first considers a traffic signal, while
- The second option incorporates a roundabout at Taylor Road and Flax Hill Road.

The various treatments help rebalance the roadway to make it more user-friendly for pedestrians and cyclists, while improving the traffic operations by normalizing the intersections and mitigating the opposing left-turn blockage that currently occurs.

A **Project Initiation Form** was completed for the Flax Hill Road at Taylor Avenue and Flax Hill Road at Lowe Street intersection to evaluate the effectiveness of the proposed solution (attached) at addressing identified needs/issues from the Project Need Form, assess the readiness level of the project, and evaluate project details. Completion of the Project Initiation Form results in a numerical score that can be compared to the scores of other demonstration projects in order to rank conceptual solutions against each other.

Based on the conceptual plans developed for Option 1 and Option 2, the proposed improvements to the intersections of Flax Hill Road at Taylor Avenue and Flax Hill Road at Lowe Street scored a 70 on the Project Initiation Form. Improvements to safety and pedestrian/ bicycle accommodations coupled with minimal impacts to right-of-way or the surrounding resources contributed to this score.

1.3.2.3 Intersection 3: Flax Hill Road at Rowayton Avenue and Richards Avenue

Similar to the Flax Hill Road demonstration intersection located to the east, this area that encompasses two intersections and fronts primarily single family residential uses. The roadway serves a significant amount of traffic not related to the neighborhood, and must balance that movement with pedestrian and bicycle demand. The intersection configuration and angle is not 90-degrees, which compounds vehicular speeding as an issue; furthermore, the existing triangle configuration of the Rowayton Avenue intersection lends to potential motorist confusion.

A **Project Need Form** was completed for the intersection of Flax Hill Road at Rowayton Avenue and Flax Hill Road at Richards Avenue as a means of measuring the transportation needs of this project alongside other demonstration projects. Based on available information, the intersections of Flax Hill Road at Rowayton Avenue and Flax Hill Road at Richards Avenue scored a 41 on the Project Need Form. The lack of adequate bicycle, traffic volumes, and degree of public support contributed to this score.

Objectives for this demonstration project were articulated as follows:

- Increase the amount of lighting at the intersection;
- Make safety for all modes of travel the priority;
- Enhance and create new green space where possible, and incorporate green infrastructure where contextually consistent;
- Create a bicycle facility to enhance cyclist safety;
- Calm traffic speeds; and
- Return the roadway and intersection to a neighborhood scale.

The proposed reconfiguration of the intersection addresses the above concerns as shown in the illustration.

- Crosswalks were enhanced at both intersections using high visibility markings;
- The intersection of Richards Avenue was realigned to bring it into Flax Hill Road at a 90-degree angle and reclaim green space from the excess pavement; and
- A roundabout was developed to replace the awkward triangle configuration of the Rowayton Avenue intersection while preserving the trees in the center island.

Two configurations for bicycle facilities were developed: the first widens the roadway slightly to a 32-foot section in order to accommodate dedicated bicycle lanes. The second option maintains the 24-foot section while using sharrows to designate the shared condition of the bicycle facility and to alert motorists to the potential presence of cyclists.

Either option meets the objectives set forth for the demonstration project. One other concept alternative developed would incorporate a second roundabout at the Richards Avenue intersection, providing a tandem set of roundabouts in this location.

A **Project Initiation Form** was completed for the Flax Hill Road at Rowayton Avenue and Flax Hill Road at Richards Avenue intersection to evaluate the effectiveness of the proposed solution (attached) at addressing identified needs/issues from the Project Need Form, assess the readiness level of the project, and evaluate project details. Completion of the Project Initiation Form results in a numerical score that can be compared to the scores of other demonstration projects in order to rank conceptual solutions against each other.

Based on the conceptual plans developed for Option 1, the proposed improvements to the intersections of Flax Hill Road at Rowayton Avenue and Flax Hill Road at Richards Avenue scored a 70 on the Project Initiation Form. Improvements to safety and pedestrian/ bicycle accommodations coupled with minimal impacts to right-of-way or the surrounding resources contributed to this score.

Based on the conceptual plans developed for Option 2, the proposed improvements to the intersections of Flax Hill Road at Rowayton Avenue and Flax Hill Road at Richards Avenue scored a 64 on the Project Initiation Form. The difference between the two options is that Option 2 provides sharrows to assist in the bicycle routes, while Option 1 provides full bicycle lanes. Otherwise, the improvements are identical.

1.3.2.4 Intersection 4: Route 53 (Newtown Avenue) at Dry Hill Road and Murray Street

The intersection of Route 53 (Newtown Avenue) and Dry Hill Road/Murray Street is surrounded and fronted with single family residential land uses. The intersection is characterized by a significant amount of pavement, and almost constitutes an "intersection within an intersection" as both Murray Street and Dry Hill Road access Route 53 through a shared intersection.

The current configuration is confusing for motorists and perceived as unsafe, with significant confusion as to who has the right of way at the intersection between the Murray Street and Dry Hill Road approaches. Exacerbating the issue is the potential for pedestrians crossing the intersection and encountering turning vehicles on approaches that are extremely close together.

A **Project Need Form** was completed for the intersection of Newtown Avenue (Route 53) at Dry Hill Road and Murray Street as a means of measuring the transportation needs of this project alongside other demonstration projects. Based on available information, the intersection of Newtown Avenue (Route 53) at Dry Hill Road and Murray Street scored a 33 on the Project Need Form – the lowest score of all demonstration projects. Contributing to this low score are a lack of activity or commercial centers in the vicinity coupled with low pedestrian and bicycle volumes.

Objectives in developing the design concept for this intersection were twofold:

- rework the intersection to enhance safety for all modes (perceived and real);
- keeping any enhancement in character and scale with the surrounding neighborhood.

As shown in the illustration, two **recommended** options were developed, with both clearing the confusing configuration at the intersection with Route 53:

- Option 1 creates a square at the intersection, separating inbound and outbound traffic into two approaches. The square acts as an internal "roundabout" and distributes traffic to and from Dry Hill Road and Murray Street by moving the conflict point between the roads to the east, outside of the conflict area of the mainline Route 53. This configuration also affords an opportunity to create a gateway and planting area for the neighborhood.
- Option 2 simplifies the intersection by teeing Dry Hill Road into Murray Street just east of the Route 53 intersection. It requires a three lane approach on the Route 53 intersection to alleviate queuing from turning vehicles blocking the adjacent intersection, and may require future signalization of the intersection with Route 53. Like Option 1, reclaimed excess pavement can be planted and utilized as a gateway or open space opportunity for the neighborhood.

Both options address the design objectives and are in keeping with the overall guiding principles of the Traffic Management Plan.

A **Project Initiation Form** was completed for the Newtown Avenue (Route 53) at Dry Hill Road and Murray Street intersection to evaluate the effectiveness of the proposed solution (attached) at addressing identified needs/issues from the Project Need Form, assess the readiness level of the project, and evaluate project details. Completion of the Project Initiation Form results in a numerical score that can be compared to the scores of other demonstration projects in order to rank conceptual solutions against each other.

Based on the conceptual plans developed for Option 1 and Option 2, the proposed improvements to the intersection of Newtown Avenue (Route 53) at Dry Hill Road and Murray Street scored a 48 on the Project Initiation Form. Improvements to safety and pedestrian/ bicycle accommodations coupled with minimal impacts to right-of-way or the surrounding resources contributed to this score.

1.3.2.5 Intersection 5: Route 123 (New Canaan Avenue) at Bartlett Avenue and Ells Street

Route 123 connects between the Merritt Parkway to the west and Route 7 to the east, and this intersection at Bartlett Avenue and Ells Street is a neighborhood commercial node, with small retail and restaurant uses adjacent. Geometrically, the intersection is 5 legs, and offset with Bartlett Avenue intersecting at a skewed angle. Driveways to the businesses consist of elongated aprons, contributing to the overall lack of access management in the intersection area. There is also a bus stop on the west approach of the intersection along Route 123, and pedestrians utilizing transit must navigate this confusing intersection with vehicle conflicts in multiple directions. Additionally, the corridor does not have dedicated bicycle lanes, which could be utilized by residents and commuters.

A **Project Need Form** was completed for the intersection of New Canaan Avenue (Route 123) at Bartlett Avenue/Ells Street as a means of measuring the transportation needs of this project alongside other demonstration projects. Based on available information, the intersection of New Canaan Avenue (Route 123) at Bartlett Avenue/Ells Street scored a 51 on the Project Need Form. The high pedestrian volumes coupled with a lack of accommodations, access to commercial areas along the corridor, and high traffic volumes contributed to this score.

Specific **objectives** in developing a palette of design solutions included the following:

- Provide access management within the area of the intersection;
- Increase pedestrian safety and enhance crosswalks;
- Reduce conflicts for all modes of travel; and
- Provide a dedicated bicycle facility.

As shown in the concept illustration, all objectives were met with a series of construction and policy **initiatives/recommendations**:

- The intersection of Ells Street would be "T'ed" up to meet a realigned Bartlett Street at a normal 90-degree intersection.
- Bartlett to the south would also be realigned into a 90-degree approach.
- Consideration of an all-red pedestrian phase would simplify crossings of the intersection, and enhanced crosswalks would be incorporated to increase motorist awareness of pedestrians.
- A bike lane could be developed through right-sizing the travel lanes to 11 feet, and channelizing the turn lanes.
- Finally, driveway consolidation should be accomplished through redevelopment of the fronting parcels to better define realms for the vehicles accessing the businesses.

The comprehensive approach adheres to the principles of Complete Streets in making the facilities safe and efficient for all users, and affording true alternatives about travel choice within the area.

A **Project Initiation Form** was completed for the New Canaan Avenue (Route 123) at Bartlett Avenue/Ells Street intersection to evaluate the effectiveness of the proposed solution (attached) at addressing identified needs/issues from the Project Need Form, assess the readiness level of the project, and evaluate project details. Completion of the Project Initiation Form results in a numerical score that can be compared to the scores of other demonstration projects in order to rank conceptual solutions against each other.

Based on the conceptual plans developed to date, the proposed improvements to the intersection of New Canaan Avenue (Route 123) at Bartlett Avenue/Ells Street scored a 70 on the Project Initiation Form – the highest score of all demonstration projects. Improvements to safety, pedestrian/ bicycle accommodations, and vehicular operations; projected reductions in vehicular speeds; and minimal impacts to right-of-way or the surrounding resources contributed to this score.

1.4 Evaluation Summary

Based on the evaluations of each demonstration location, the resulting Project Need Form and Project Initiation Form ratings are summarized below (actual forms are in the Appendix to this section). As this information is reviewed, it's important to consider that each location is first rated on need and then the actual concept plan that has been developed is rated on its ability to address that need. Project locations that do not have a well defined need will likely not get continue into the design process. Conversely, project locations that have a well defined need and have a high score attached to them will more likely advance into the design stage.

The East Avenue project was not included as a demonstration location because the design process had advanced further than other projects selected and it was agreed upon that this corridor would not benefit by allocating project resources to 'redesign' the plan. However, it should be noted that this project is seen as a vital step to improve mobility for all modes of transportation within this area of the City. This project is currently under design, has funding allocated to it, and includes the following improvements:

- Widening of the East Avenue railroad underpass from 2-lanes to 4-lanes and increasing the height of the crossing;
- Widening of East Avenue with associated intersection improvements from Winfield Street (Route 136) to the I-95 Exit 16 ramps; and
- Sidewalk and streetscape improvements.

1.4.1 Project Need

Of the five intersections and two corridors reviewed, the prioritization of each locations needs are defined in Exhibit 1-1 below. Full Project Need Forms are included as an attachment to this document.

Exhibit 1-1 Project Need Form Score Summary

Location	Project Need Form Score	Notes
Roadway Corridors		
West Rocks Rd / France St / Park St	48	Speeding; transit services; lack of ped/bike facilities; high traffic volumes; public support.
Washington St / Fairfield Ave	44	High traffic volumes; transit services; access to activity centers/commercial areas.
East Ave	54	Ped/bike crashes; transit access; high traffic volumes; access to commercial areas; funding.
Intersections		
West Ave @ Belden Ave/ Mott Ave	55	Adjacent to priority development site; high ped volumes; transit, parking needs; public support.
Flax Hill Rd @ Taylor Ave/ Lowe St	40	Speeding; lack of ped/bike facilities; high traffic and heavy vehicle volumes.
Flax Hill Rd @ Rowayton Ave/ Richards Ave	41	Lack of ped/bike facilities; high traffic volumes; public support.
Newtown Ave (Rt 53) @ Dry Hill Rd / Murray St	33	Safety; lack of ped/bike facilities.
New Canaan Ave (Rt 123) @ Bartlett Ave / Ells St	51	Lack of ped/bike facilities; high traffic volumes; access to activity centers/commercial areas.

As Exhibit 1-1 indicates, when comparing the five demonstration intersections, the West Avenue at Belden Avenue/Mott Avenue location scored the highest (55) with respect to project need. This location is followed closely by New Canaan Avenue (Route 123) at Bartlett Avenue/Ells Street (51). The lowest scoring location was Newtown Avenue (Route 53) at Dry Hill Road & Murray Street (33). Similarly, the roadway corridors included East Avenue (54), followed by the West Rocks Road/France Street/Park Street corridor (48) and then the Washington Street/Fairfield Avenue corridor (44).

Assuming these projects were the only projects in front of the City (the full list of project is included in the Appendix), it would indicate that the intersection of West Avenue at Belden Avenue/Mott Avenue should be prioritized from a City resource perspective as it has the greatest need for improvement.

1.4.2 Project Initiation

Conceptual improvements were developed to address the demonstrated needs identified for each of the five intersections and two corridors reviewed. A Project Initiation Form was completed for each location to evaluate the effectiveness of the project at addressing identified needs/issues from the Project Need Form, assess the readiness level of the project, and evaluate project details. Completion of the Project Initiation Form results in a numerical score that can be compared to the scores of other

demonstration projects in order to rank conceptual solutions against each other. A summary of the Project Initiation scores is included in Exhibit 1-2 below. Full Project Initiation Forms are included as an attachment to this document.

Exhibit 1-2 Project Initiation Form Score Summary

Location	Project Initiation Form Score	Notes
Roadway Corridors		
West Rocks Rd / France St / Park St	67	Improved safety; ped/bike accommodations; minimal impact to ROW/resources.
Washington St / Fairfield Ave	41	Improved safety; ped/bike accommodations; minimal impact to ROW/resources.
East Ave	69	Improved safety; ped/bike accommodations; vehicular operations; funding; project plan development; minimal impact to resources.
Intersections		
West Ave @ Belden Ave/ Mott Ave	62	Improved safety; ped/bike accommodations; speed reduction; minimal impact to ROW/resources.
Flax Hill Rd @ Taylor Ave/ Lowe St	70	Improved safety; ped/bike accommodations; minimal impact to ROW/resources.
Flax Hill Rd @ Rowayton Ave/ Richards Ave	70	Improved safety; ped/bike accommodations; minimal impact to ROW/resources.
Newtown Ave (Rt 53) @ Dry Hill Rd / Murray St	48	Ped/bike accommodations; minimal impact to ROW/resources.
New Canaan Ave (Rt 123) @ Bartlett Ave / Ells St	70	Improved safety; ped/bike accommodations; vehicular operations; speed reduction; minimal impact to ROW/resources.

As Exhibit 1-2 indicates, when comparing the demonstration intersections, conceptual improvement for three of the five locations scored very highly (70):

- Flax Hill Road at Taylor Avenue/Lowe Street;
- Flax Hill Road at Rowayton Avenue/Richards Avenue; and
- New Canaan Avenue (Route 123) at Bartlett Avenue/Ells Street.

West Avenue at Belden Avenue/Mott Avenue location followed closely (62). Similar to the project need evaluation, the lowest scoring location was Newtown Avenue (Route 53) at Dry Hill Road & Murray Street (48).

The roadway corridors included East Avenue (69), followed by the West Rocks Road/France Street/Park Street corridor (67) and then the Washington Street/Fairfield

Avenue corridor (41). As East Avenue is currently under design and has funding already allocated to it from State and local resources, it scored highly.

Assuming these projects were the only projects in front of the City, it would indicate that improvements to the intersections of Flax Hill Road at Taylor Avenue/Lowe Street; Flax Hill Road at Rowayton Avenue/ Richards Avenue; and New Canaan Avenue (Route 123) at Bartlett Avenue/Ells Street should be prioritized from a City resource perspective as these projects would address identified needs. When compared with the other projects developed as part of this effort, the East Avenue project continues to be the priority project for the City.

1.4.2.1 Cost Estimates

In addition to the actual scores, the City requested that conceptual cost estimates be provided for each of the Alternatives. These cost estimates were based on the conceptual alternatives developed for the project (shown later in this chapter) and are based on Connecticut DOT standard pricing formulas and include escalation factors for engineering cost (8% of total estimated construction costs), contingencies (10%), incidental items (25%), and utilities (2%). Right of way acquisition was <u>not</u> included in these costs.

Exhibit 1-3 Cost Estimate Summary

Location	Project Cost Estimate	Notes
Roadway Corridors		
West Rocks Rd / France St / Park St	$19,375,000	Assumes $1,250 per linear foot of corridor (total corridor length = 15,500 ft)
Washington St / Fairfield Ave	$4,521,000	
Intersections		
West Ave @ Belden Ave/ Mott Ave	$6,265,000	
Flax Hill Rd @ Taylor Ave/ Lowe St (alt 1)	$2,147,000	
Flax Hill Rd @ Taylor Ave/ Lowe St (alt 2)	$1,881,000	
Flax Hill Rd @ Rowayton Ave/ Richards Ave (alt 1)	$2,436,000	As shown in the graphic
Flax Hill Rd @ Rowayton Ave/ Richards Ave (alt 2)	$675,000	As shown in the graphic
Newtown Ave (Rt 53) @ Dry Hill Rd / Murray St (alt 1)	$1,523,000	
Newtown Ave (Rt 53) @ Dry Hill Rd / Murray St (alt 2)	$940,000	
New Canaan Ave (Rt 123) @ Bartlett Ave / Ells St	$1,494,000	

Demonstration Roadway

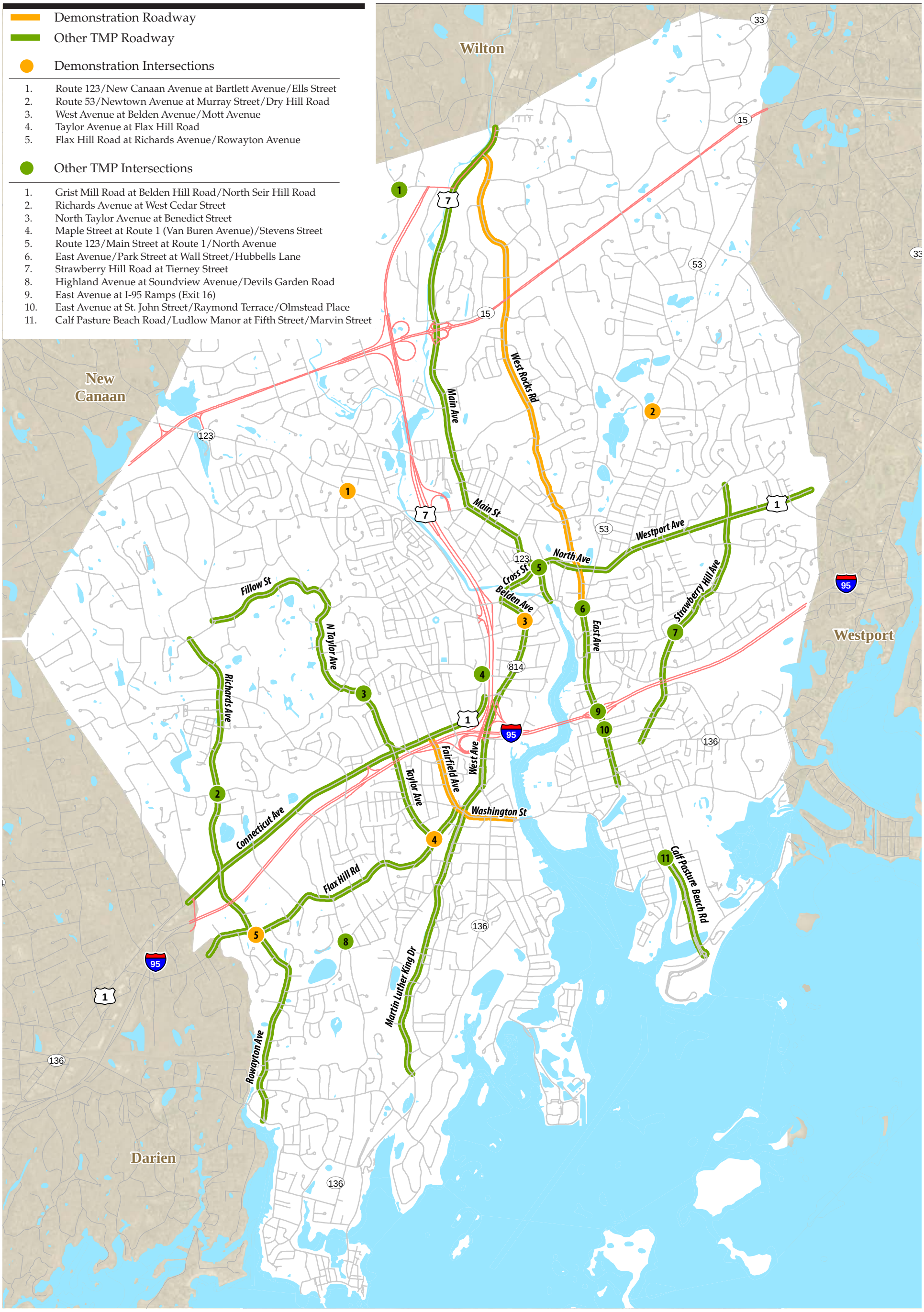
Other TMP Roadway

Demonstration Intersections

1. Route 123/New Canaan Avenue at Bartlett Avenue/Ells Street
2. Route 53/Newtown Avenue at Murray Street/Dry Hill Road
3. West Avenue at Belden Avenue/Mott Avenue
4. Taylor Avenue at Flax Hill Road
5. Flax Hill Road at Richards Avenue/Rowayton Avenue

Other TMP Intersections

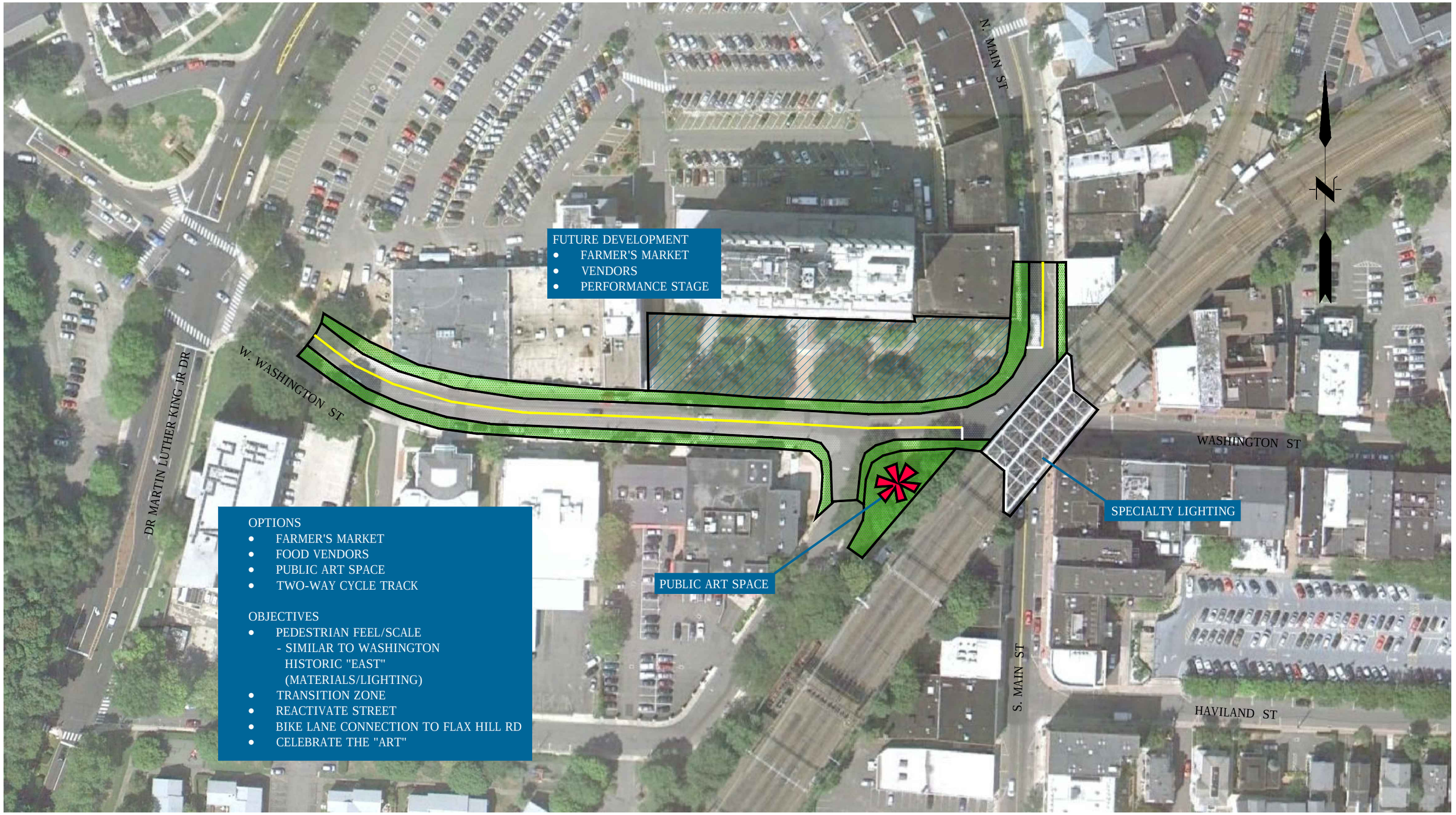
1. Grist Mill Road at Belden Hill Road/North Seir Hill Road
2. Richards Avenue at West Cedar Street
3. North Taylor Avenue at Benedict Street
4. Maple Street at Route 1 (Van Buren Avenue)/Stevens Street
5. Route 123/Main Street at Route 1/North Avenue
6. East Avenue/Park Street at Wall Street/Hubbells Lane
7. Strawberry Hill Road at Tierney Street
8. Highland Avenue at Soundview Avenue/Devils Garden Road
9. East Avenue at I-95 Ramps (Exit 16)
10. East Avenue at St. John Street/Raymond Terrace/Olmstead Place
11. Calf Pasture Beach Road/Ludlow Manor at Fifth Street/Marvin Street



Vanasse Hangen Brustlin, Inc.

TMP Roadways and Intersections
Norwalk Transportation Management Plan
Norwalk, Connecticut

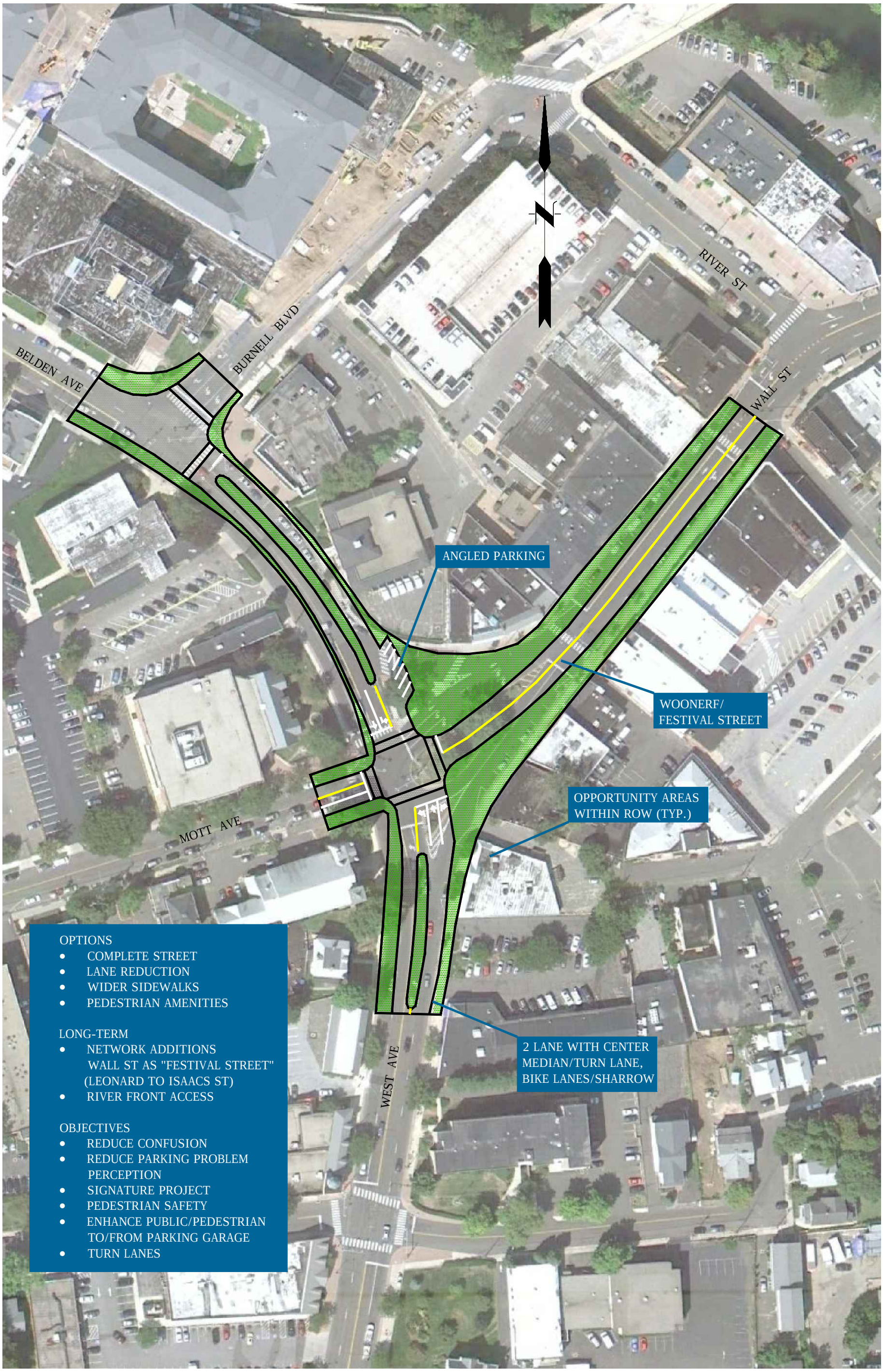
0 1500 3000 Feet



W WASHINGTON ST
NORWALK, CT.

FUSS&O'NEILL
146 HARTFORD ROAD
MANCHESTER, CONNECTICUT 06040
860.646.2469
www.fando.com

VHB Vanasse Hangen Brustlin, Inc.



WEST AVE @ BELDEN & MOTT AVE
NORWALK, CT.

FUSS&O'NEILL
146 HARTFORD ROAD
MANCHESTER, CONNECTICUT 06040
860.646.2469
www.fando.com

VHB Vanasse Hangen Brustlin, Inc.

OBJECTIVES

- BIKE LANE
- SAFETY
- NEIGHBORHOOD SCALE
- STREET TREE PROGRAM
- PEDESTRIAN CROSSINGS

TAYLOR AVE

FLAX HILL RD

OPPORTUNITY AREAS WITHIN ROW (TYP.)

FLAX HILL RD

HAMILTON AVE

LOWE ST

TAYLOR AVE @ FLAX HILL RD OPTION 1
NORWALK, CT.

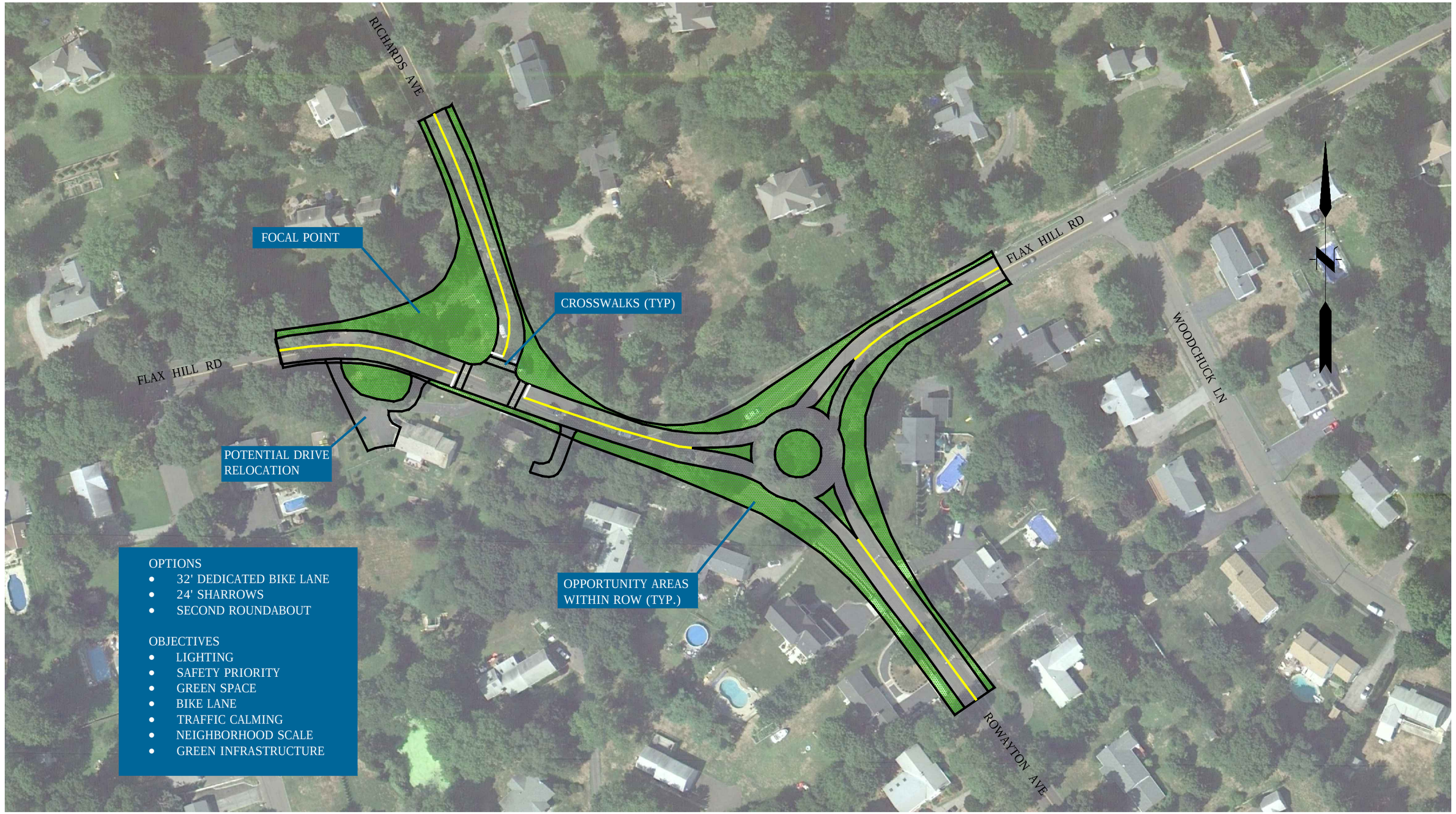
FUSS&O'NEILL
146 HARTFORD ROAD
MANCHESTER, CONNECTICUT 06040
860.646.2469
www.fando.com

VHB Vanasse Hangen Brustlin, Inc.

TAYLOR AVE @ FLAX HILL RD OPTION 2
NORWALK, CT.

FUSS&O'NEILL
146 HARTFORD ROAD
MANCHESTER, CONNECTICUT 06040
860.646.2469
www.fando.com

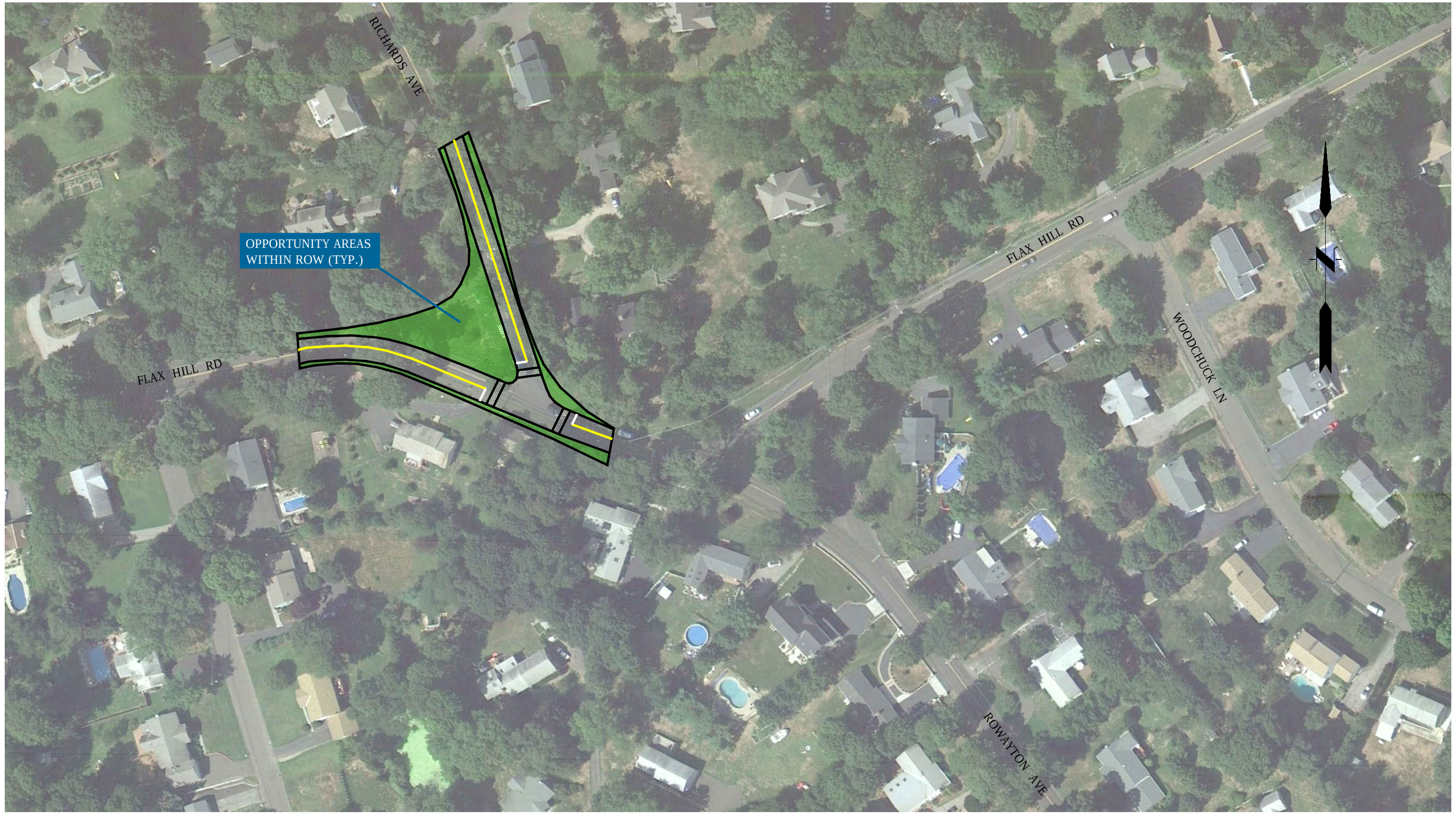
VHB Vanasse Hangen Brustlin, Inc.



FLAX HILL ROAD @ ROWAYTON AVE & RICHARDS AVE OPTION 1
NORWALK, CT.

FUSS&O'NEILL
146 HARTFORD ROAD
MANCHESTER, CONNECTICUT 06040
860.646.2469
www.fando.com

VHB Vanasse Hangen Brustlin, Inc.



FLAX HILL ROAD @ ROWAYTON AVE & RICHARDS AVE OPTION2
NORWALK, CT.

FUSS&O'NEILL
146 HARTFORD ROAD
MANCHESTER, CONNECTICUT 06040
860.646.2469
www.fando.com

VHB Vanasse Hangen Brustlin, Inc.

ROUTE 53 @ DRY HILL RD & MURRAY ST OPTION 1
NORWALK, CT.

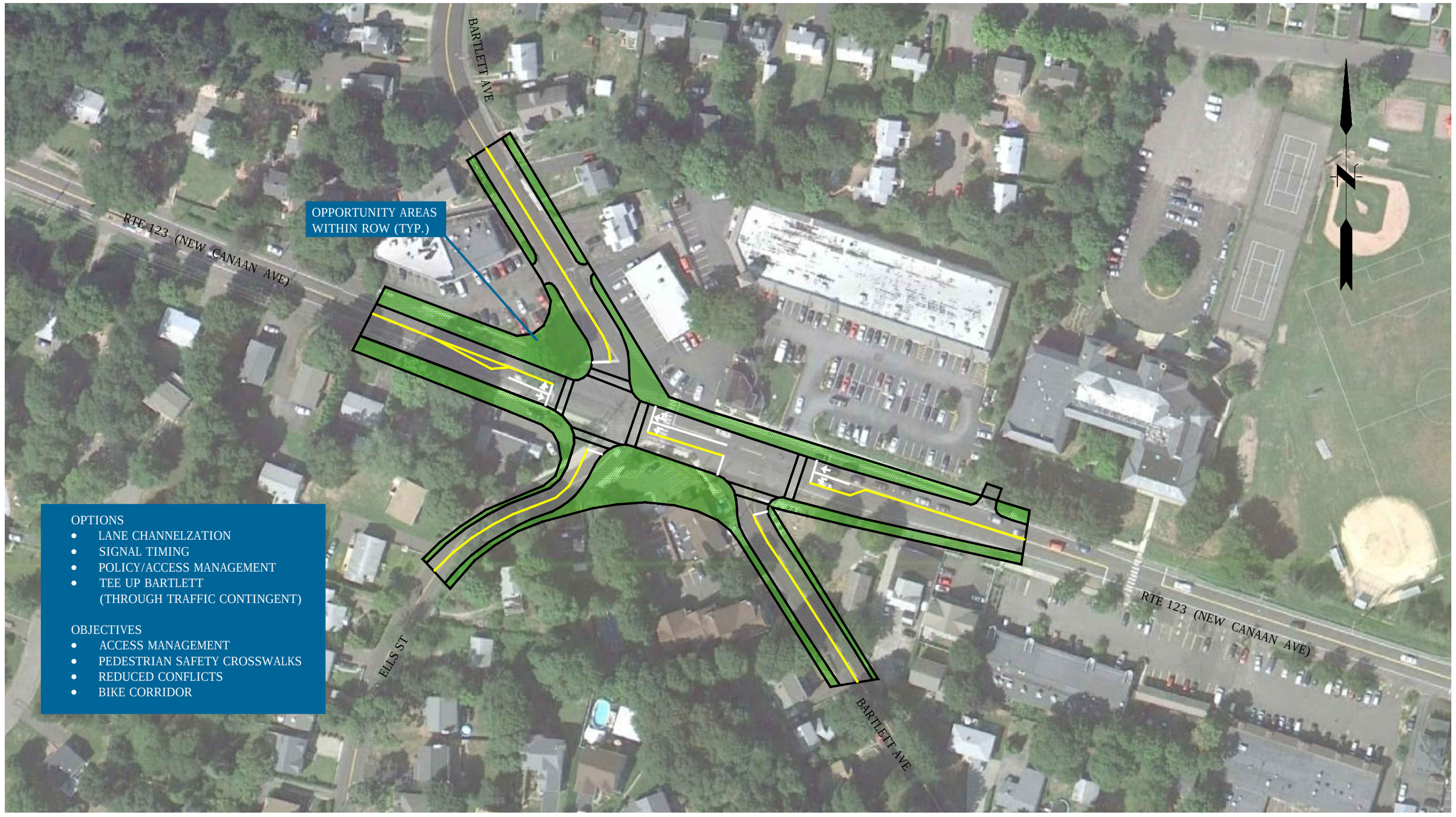
FUSS&O'NEILL
146 HARTFORD ROAD
MANCHESTER, CONNECTICUT 06040
860.646.2469
www.fando.com

VHB Vanasse Hangen Brustlin, Inc.

ROUTE 53 @ DRY HILL RD & MURRAY ST OPTION 2
NORWALK, CT.

FUSS&O'NEILL
146 HARTFORD ROAD
MANCHESTER, CONNECTICUT 06040
860.646.2469
www.fando.com

VHB Vanasse Hangen Brustlin, Inc.



ROUTE 123 @ BARTLETT AVE & ELLS ST
NORWALK, CT.

FUSS & O'NEILL
146 HARTFORD ROAD
MANCHESTER, CONNECTICUT 06040
860.646.2469
www.fando.com

VHB Vanasse Hangen Brustlin, Inc.