PARK ROAD - ROAD SAFETY AUDIT (RSA)

Quaker Lane South to Prospect Avenue

RSA Date: *October 24, 2023*

Contents

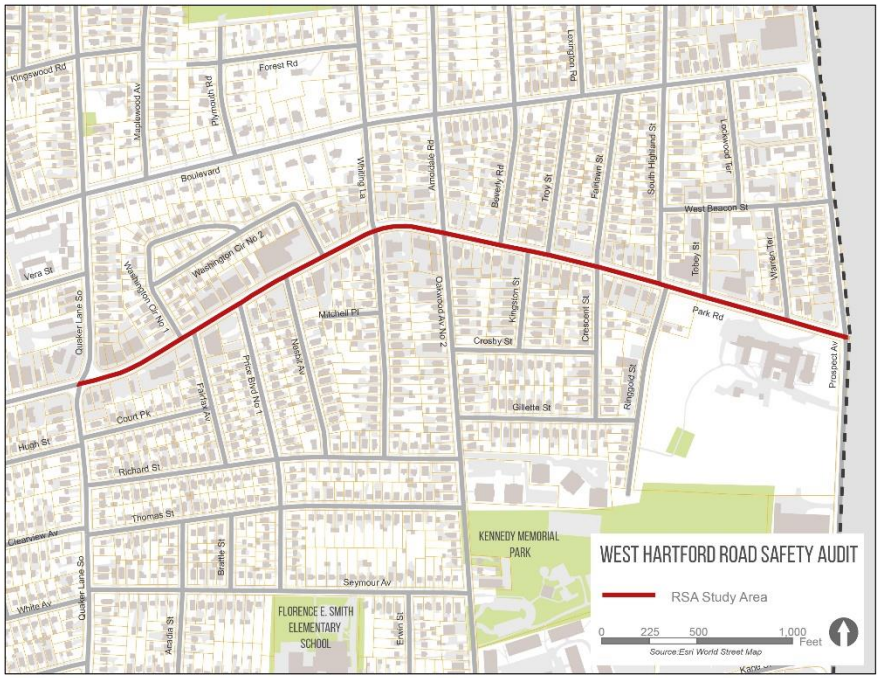
1. Introduction

This Road Safety Audit (RSA) was initiated by the Town of West Hartford during the development of the Vision Zero (VZ) Action Plan and took place on October 24, 2023. The study area was selected following a review of the High Injury Network (HIN) which was developed as part of the VZ Action Plan. This segment was identified as it is a town-maintained roadway with no current improvements yet in design with the highest weighted crash score.[1] Other segments which received a higher crash score within the HIN include New Britain Avenue between Wolcott Park and the Hartford City Line, New Park Avenue between 616 New Park and Prospect Avenue and North Main Street between Clifford Drive and Huron Drive. These other segments are either state-maintained roadways (New Britain Avenue, North Main Street north of Albany Avenue) or have recently completed or on-going projects in design (New Park Avenue and North Main Street at Albany Avenue and the North Main Street road diet south of Sims Road).

Additionally, this corridor received a $1.5M grant from the State of Connecticut for rehabilitation between South Quaker Lane and Prospect Avenue for Fiscal Year 2024. At the time of the RSA design work had yet to be initiated. This provides an opportunity to incorporate RSA recommendations into this project if feasible.

The study area for this RSA is shown in Exhibit 1-1.

Exhibit 1-1: Road Safety Audit (RSA) Study Area



Road Safety Audit: Definition and Purpose

A Road Safety Audit (RSA) is a systematic process that evaluates the safety performance of a road or intersection. The RSA process is a Proven Safety Countermeasure by the Federal Highway Administration (FHWA) and FHWA research has found that if recommendations from the RSA are implemented that crash reductions of up to 60% can be achieved.[2] The RSA team is composed of an independent and multidisciplinary team of experts who identify potential safety

[1] Weighted such that crashes resulting in fatality or serious injury were weighed 10-times higher other injury crashes. Refer to the Vision Zero Action Plan Appendix – Safety Assessment Results and Methodology

[2] https://highways.dot.gov/safety/proven-safety-countermeasures/road-safety-audit

issues and suggest countermeasures to mitigate them. An RSA considers the needs and perspectives of all road users, such as pedestrians, bicyclists, transit riders, motorcyclists and drivers as well as service vehicles. The RSA process includes:

- Identify Project Location
- Select RSA Team
- Conduct Pre-RSA Meeting
- Perform Field Reviews
- Report on Findings and Present Recommendations
- Town and Stakeholders Review RSA
- Incorporate Findings

The Road Safety Audit Team

The RSA team for this study was composed of 15 members including town staff, community stakeholders, and members of the consultant team.

Town Staff

- Duane Martin, PE – Director of Community Development
- Greg Sommer, PE – Town Engineer
- Jason McCabe, PE – Engineering Department
- John Phillips – Director of Public Works
- Adrienne Billings-Smith – Equity Coordinator
- Kristen Gorski – Economic Development Coordinator

Community Stakeholders

- Tracy Flater – Playhouse on Park & Park Road Association
- John Paindiris – Effie's Place Restaurant & Park Road Association
- Ed Pawlak – Pedestrian and Bicycle Commission Chair & Vision Zero Task Force Member
- Jay Stange – Vision Zero Task Force Member & BiCi Co.

Consultant Team (FHI Studio)

- Parker Sorenson, PE
- Rory Jacobson, AICP
- Nicholas Mandler, PE
- Marcy Miller, AICP
- Nicole Detora

2. Pre-Audit Meeting

A pre-audit meeting was conducted virtually on October 23rd, 2023, with all members of the RSA team. The pre-audit meeting was utilized to review RSA location, review existing conditions data collection including crash data, traffic data and roadway geometrics, discuss recent and on-going planning and construction within the study area, and to discuss potential countermeasures to consider in the study area. The pre-audit meeting presentation is included in the appendix. Highlights of the presentation include:

- The study area was identified as part of the safety analysis conducted for the Vision Zero Action Plan. This corridor was located on the High Injury Network and included within identified Transportation Equity Zones.
- The Town has received a $1.5M grant for rehabilitation of Park Road in this area and hopes to incorporate many elements of the RSA recommendations.
- The speed limit is generally 30 MPH on Park Road throughout the study area.
- The study area includes many restaurants and businesses and is surrounded by some of West Hartford's denser multi-family residential areas.
- One Park Road apartments is opening this year and includes nearly 300 apartment units.
- Existing lane widths are very wide at 15-feet. Typical lane widths are 10-12 feet depending on the context.
- Road surface and sidewalk surface conditions vary, with areas of poor surface conditions. Sidewalks throughout the study area are constructed with pavers. Heaving is prevalent, especially at driveways.
- A 5-year review of crashes between 2018 and 2022 found the following:
    - 140 total crashes
    - 9 crashes involving vulnerable users with 4 of these crashes involving bicyclists and 5 of these crashes involving pedestrians. All crashes resulted in at least one injury with one of these pedestrian crashes resulting in fatality.
    - The crash resulting in a fatality occurred on December 16th, 2018, at 8PM just east of the crosswalk at the signalized intersection of Oakwood Avenue (signal includes a functional exclusive pedestrian phase). Neither the crosswalk nor the pedestrian signal was utilized by the pedestrian. The pedestrian was struck by an eastbound motorist who was cited with a DUI.
    - Other pedestrian crashes occurred at South Quaker Lane (2), Beverly Road, and Prospect Avenue.
    - Three crashes involving bicyclists occurred between Kingston Street and South Highland Street. Appendix C of the Vision Zero Action Plan found that this area of Park Road ranked amongst the streets with the most bicycle crashes town-wide (Figure 6 in Appendix C).
    - Focus areas in terms of crashes include:
        - Crescent Street to Tobey Street
        - Intersection of Prospect Avenue

- Intersection of South Quaker Lane
- Intersection of Oakwood Avenue

Following the pre-audit meeting a discussion was held to note other areas of interest in the study area beyond the presentation. This includes:

- Much excitement on the opening of One Park Road on the southwest corner of Park Road and Prospect Avenue. Discussion on this development included:
  - Many residents appear to be young professionals or empty nesters
  - 30 of 295 units are deed restricted to families at 80% of AMI (Area Median Income)
  - As of the pre-RSA - 130 units were leased out
  - Lots of small dogs in the complex
- RSA participants noted that there are many young families waking in this area
- RSA participants noted that about 30 townhomes were built in last two years on Ringgold Street

Finally, the RSA study area was reviewed against the VZ Action Plan to note any town-wide safety issues identified by the Action Plan which may be applicable to the study area. These are presented and noted in Exhibit 2-1.

Exhibit 2-1: Applicability of identified safety issues from Vision Zero Action Plan within RSA Study Area

West Hartford Vision Zero – Identified Safety Issues	*Applicable in RSA Study Area*	*Location in RSA Study Area*	*Notes*
Speeding	Yes	Study Area	Based on RSA Feedback
Crashes Involving Vulnerable Users	Yes	Oakwood to Prospect, Quaker Lane	9 total crashes in 5-years (5 ped, 4 bike)
DUI / Distracted Crashes	Yes	Vicinity of Oakwood	DUI cited in crash resulting in pedestrian fatality
Crashes at 4-leg, Two-Way Stop-Controlled Intersections	-		
Angle Crashes at TWSC	Yes	South Highland Street	11 angle crashes in 5-years at S. Highland
Head-On Crashes	-		
Single Vehicle Crashes	-		
Crashes at Night	Yes	Oakwood to Prospect, Quaker Lane	4 of 9 (67%) vulnerable user crashes, 2 of 3 (67%) KSI crashes and 29% of all crashes occur at night (higher than town average – see VZ Plan)

3. RSA Assessment and Recommendations

The RSA assessment and recommendations are split into three sections, 1) corridor-wide findings and recommendations, 2) site-specific findings and recommendations, and finally 3) an overview table of which elements from the West Hartford Vision Zero RSA Field Considerations were applicable to the RSA study area.

Site-specific findings and recommendations provide photos, potential recommendations, and diagrams on potential changes in the corridor as appropriate. These are organized in the order of the RSA walk and broken down into areas most discussed during the RSA, and includes the following sections:

- Park Road at Prospect Avenue
- Park Road between Prospect Avenue and Oakwood Avenue
- Park Road at Oakwood Avenue
- Park Road between Oakwood Avenue and Nesbit Avenue
- Park Road between Nesbit Avenue and Quaker Lane
- Park Road at Quaker Lane

3.1. Corridor-Wide Findings

RSA Findings

Several themes were a topic of discussion throughout the study area during the RSA and included:

- Pedestrian accommodations and crossings throughout the study area.
- Bicycle accommodations throughout the study area
- Poor roadway and sidewalk surface condition throughout the study area. See Exhibit 3-1.
- Roadway pavement marking condition is missing or is in poor condition throughout the study area.
- Very limited speed limit signage throughout the study area.
- Parked vehicles hinder sightlines to driveways, intersections, and crosswalks throughout the study area due to parking close to these areas.

Pedestrian and bicycle accommodations are detailed further below.

Pedestrian Accommodations and Crossings

- Existing crosswalks are provided at the three existing signalized intersections within the study area (Park at Prospect Avenue, Oakwood Avenue, and South Quaker Lane). These intersections are approximately 2,100 feet apart (0.4-miles). This distance underscores the importance of intermediate crosswalks between these signalized intersections.
- There are currently two crosswalks across Park Road outside the signalized intersections noted above. These are located at Kingston Street and at Nesbit Avenue (Playhouse on Park). RSA participants noted that additional crosswalks are needed. RSA participants noted that existing crosswalk spacing is impractical to expect pedestrians to detour several minutes out of their way to cross at an established crosswalk.

- There are no crosswalks across any of the stop-controlled side streets within the study area. The Town of West Hartford generally does not stripe these crosswalks except on an as-needed basis (such as near schools, locations with crash history, or busier pedestrian areas).
- Generally, there are concerns for ADA in the study area including poor sidewalk surface condition particularly at driveways, curb ramps and pedestrian signal infrastructure.

Details on site-specific findings and recommendations are summarized in the subsequent sections.

Exhibit 3-1: Typical surface conditions in some areas of the study area on the brick paver sidewalk.

Bicycle Accommodations

- The corridor is abutted by bike lanes in either direction. Park Road to the west and Park Street to the east (City of Hartford) both have on-street bike lanes.
- RSA participants noted that bicycle facilities are needed in the study area. Some participants expressed interest in a parking-separated bicycle facility, two-way separated bike lane or other infrastructure aside from standard bicycle lanes.

RSA Recommendations

Corridor-wide recommendations include the following:

Quick-Build Recommendations (goal of <2 years):

- Install additional speed limit signage. Consider dynamic speed feedback signage. Consider locations near South Highland Street due to crash history at this location.
- Restrict parking within 25-feet of all crosswalks, intersections and stop-signs to meet state law requirements (Conn. Gen. Stat. Sec. 14-251). Implement restrictions with pavement markings and signage. This distance may be reduced to 10-feet when curb extensions (bumpouts) are provided. While existing parking spaces established prior to October 1, 2022 are grandfathered from the law, updating parking to comply with these guidelines will improve sightlines and safety at these locations. Consider quick-build materials to enforce restrictions as needed (e.g. quick-build bumpouts). See Exhibit 3-2 for an example.
- Retroreflective backplates on all signal heads throughout the study area. This is a Federal Highway Administration

(FHWA) Proven Safety Countermeasure to improve visibility of signals and reduce crashes at signalized intersections.[3] Refer to Exhibit 3-3 for an example.

Short-Term Recommendations (goal of 3 to 5 years):

- Flashing Yellow Arrow (FYA) on all protected-permitted left-turn signal heads in study area. This is found to reduce injury crashes approximately 22% and left-turn related crashes between 38 to 50%. Refer to Exhibit 3-4 for an example.

Exhibit 3-2: Example of quick-build bumpout which can discourage parking close to intersections.

Exhibit 3-3: Example of retroreflective backplate (Source: FHWA)

Exhibit 3-4: Example of Flashing Yellow Arrow (FYA) (Source: FHWA)

[3] https://highways.dot.gov/safety/proven-safety-countermeasures/backplates-retroreflective-borders

Pedestrian Accommodations and Crossings

Recommendations for pedestrian accommodations and crossings throughout the corridor include:

Quick-Build Recommendations (goal of <2 years):

- Two additional crosswalk locations are recommended. This reduces the distance between crosswalks to an average of 680-feet. Refer to Exhibit 3-5 for a location of crosswalks at traffic signals and other locations. The two proposed crosswalk locations include:
    - Park Road at Fairfax Avenue
    - Park Road at South Highland Street
- Crosswalks across all side streets at all intersections.
    - Crosswalks are not generally installed by the Town on side streets at two-way stop-controlled intersections except on a case-by-case basis. However, the following study area characteristics should be considered:
        - The study area is an active commercial area with moderate pedestrian activity due to the adjacent multi-family neighborhood and on-street parking which many patrons of Park Road businesses utilize.
        - The study area is identified as a Vision Zero Focus Area.
        - The study area was identified as an area with more crashes and higher severity during the pedestrian crash analysis. Other similar areas include Farmington Avenue in the Center, South Main Street in the Center, and New Park Avenue (VZ Action Plan, Appendix C - Figure 5).
- Upgrades to bring study area into ADA compliance. Note this work is currently underway by the Town as part of the grant received by the state. This includes:
    - Curb ramp improvements
    - Sidewalk surface improvements to remove tripping hazards, particularly at driveways
    - Pedestrian signal equipment at traffic signals and RRFBs.
- Improved pedestrian lighting, particularly on the south side of Park Road. The Town is currently implementing a lighting project which will address much of these lighting concerns.

Details on site-specific findings and recommendations are summarized in the subsequent sections.

Bicycle Accommodations

Quick-Build Recommendations (goal of <2 years):

- Based on available traffic data (8,300 vehicles per day, Speed Limit = 30 MPH), a **bicycle lane** or **buffered bicycle lane** is the facility type recommended by the CTDOT Complete Streets Controlling Design Criteria and Justification Process. The CTDOT guidelines are based on national standards and best practices and are intended for application on state highways and local roads. Based on the CTDOT guidelines, a separated facility is identified as a facility that “Exceeds Recommendation” given the context. This means that the facility may be considered for use but is a more

substantial facility than is otherwise required for the conditions.

- The existing curb-to-curb width of Park Road in the study area is 46-feet. This represents ***the minimum width recommended to support on-street bicycle lanes, travel lanes and parking on both sides of the street.*** An 11-foot travel lane would be more typical on main roads with regular usage by large vehicles such as buses and trucks. However, the 10-foot travel lane that is recommended, in combination with a 5-foot-wide bike lane, provides a combined operational space of 15 feet for motor vehicles and bicyclists. Reduction of either the parking lane width (8 feet) or the bicycle lane width (5 feet) ***is not*** recommended as this would position a bicyclist closer to the door zone of parked vehicles. The proposed cross section for the study area is provided in Exhibit 3-6.
- Alternative bicycle facilities were explored by the study team but were ultimately not included as a recommendation for the RSA based on the following information.
    - *One-way, parking-separated bicycle lanes* – This facility would place bicycle lanes between on-street parking and the curb on each side of the street. To mitigate the conflicts with opened doors of adjacent parked vehicles, an additional buffer between vehicles and the parking-separated bicycle lane is ***required***. Typically, this buffer is a minimum of 3-feet in width. A minimum curb-to-curb width of 54-feet would be required to accommodate this facility (assuming 11-foot travel lanes due to adjacency to on-street parking). Additionally, Park Road is lined with cross-streets and driveways that each present a potential point of conflict between turning vehicles and bicyclists. Parking-separated bike lanes would cause bicyclists to be more vulnerable to turning conflicts by shielding them from view of turning motorists and vice versa. Mitigation of this risk would require the elimination of parking of at least one vehicle length from both sides of all driveways (parking is already prohibited from the corner of cross-streets). This would result in a substantial reduction in the on-street parking capacity of Park Road.
    - *Two-way, parking-separated bicycle lanes* – This concept would place a single, two-way bicycle facility between on-street parking and the curb on ***one side*** of the street. Assuming two 5-foot-wide bicycle lanes, a single 3-foot wide buffer, an 8-foot wide parking lane, and 11-foot wide travel lanes (due to adjacency to on-street parking), the minimum curb-to-curb width for this facility is 51 feet. The existing roadway width is 5 feet too narrow to accommodate this facility. Additional constraints and concerns surrounding the use of this type of facility include:
        - *Specialized Signal System* – Two-way separated bicycle facilities require specialized traffic signal systems at all signalized intersections to safely process contraflow traffic. Such systems would require substantial enhancements to existing traffic signals and would likely result in reduction of level of service to all users including pedestrians. Alternatively,

bicyclists could be directed to sidewalks and required to dismount and use the pedestrian crossing phase at intersections, but this would be disruptive to bicycle travel and would introduce significant delay to bicyclists.

- *Safety Risks Associated with Contraflow Travel* – A two-way facility introduces contraflow bicycle travel (a bicyclist riding opposing traffic on that side of the roadway). This places bicyclists at intersections and driveways at greater risk of conflict with turning motorists who may not expect a bicyclist travelling from the opposing direction. For example, a motorist turning right onto Park Road from a side street will look to the left to avoid conflict with traffic and may not look for or expect a bicyclist to approach from their right. While this is an issue commonly presented by pedestrians walking opposite to traffic, pedestrians travel much slower and stop much quicker than bicyclists, providing both pedestrians and turning motorists more time to avoid this type of conflict.
- Research on bicycling safety indicates that bicyclist crash risk is greatest at intersections and even greater for bicyclists traveling in a direction opposite of traffic in the adjacent travel lane.[4] A reduction of bicyclist risk at intersections, including the intersection of driveways with Park Road should be a primary objective of the planning of bicycle facilities for Park Road.

- *Curb-separated bicycle lanes* – Commonly referred to as "cycle tracks" curb-separated bicycle lanes place bicycle lanes on the pedestrian side of the curb within the pedestrian realm of the right-of-way. These facilities can be one-way and located on both sides of the road or can be two-way and located on one side of the road. Two-way facilities introduce similar risks and challenges associated with two-way on-street separated bicycle facilities described above. Additionally, curb-separated bicycle lanes present the same sight-line challenges as parking-separated bicycle lanes, requiring mitigation at all intersecting driveways and roadways with a substantial reduction in on-street parking capacity and potentially requiring specialized traffic signal systems.

  The introduction of curb-separated bicycle lanes on Park Road is challenged by several constraints:

  - *Limited Right-of-Way:* The Park Road right-of-way is 66 feet wide through most of the corridor. This provides approximately 10 feet of space between

[4] Wachtel, A. and Lewiston, D. "Risk Factors for Bicycle-Motor Vehicle Collisions at Intersections." Institute of Transportation Engineers Journal, vol. 64, no. 9, 1994, pp. 30-35.

the right-of-way line and the face of curb. This space is currently occupied by wide sidewalks, utility poles, light fixtures, and other furnishings. At a minimum, a cross-section of 13 feet would be required to accommodate a 3-foot-wide door zone buffer/light pole/utility pole zone behind the curb, a 5-foot-wide bicycle lane, and a 5-foot-wide sidewalk (which would be a reduction in the width of the existing sidewalk). The right-of-way would need to be 6 feet wider (72 feet wide) to accommodate such a facility.

- *Conflicts with storefront parking*: Many storefronts along Park Road have parking areas located between the storefront and sidewalk. While this arrangement is not ideal, it is characteristic of Park Road. The introduction of a bicycle lane in the pedestrian realm adjacent to storefront parking would further crowd this space and place pedestrians between moving bicyclists and maneuvering cars.
- *Conflicts with pedestrians exiting vehicles parked on-street*: As a commercial corridor with retail and restaurants, Park Road has a high turnover of vehicles that are parked on-street. Pedestrians exiting a parked vehicle access the sidewalk directly from the passenger's side of the vehicle or by walking around the vehicle from the driver-side. The introduction of a bicycle lane between on-street parking and the sidewalk would result in frequent pedestrian crossings of the bicycle lane to access the sidewalk and to access parked vehicles.

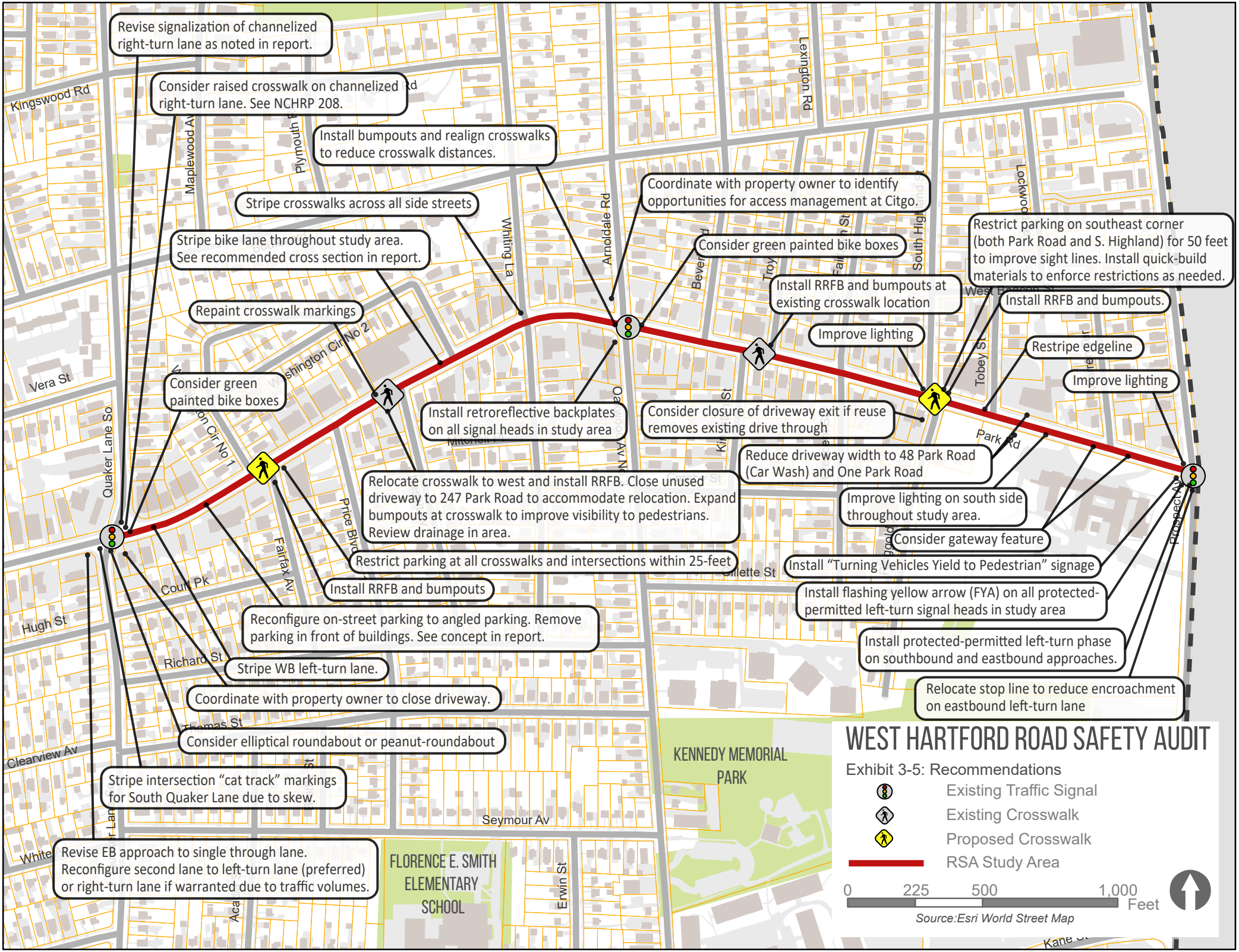
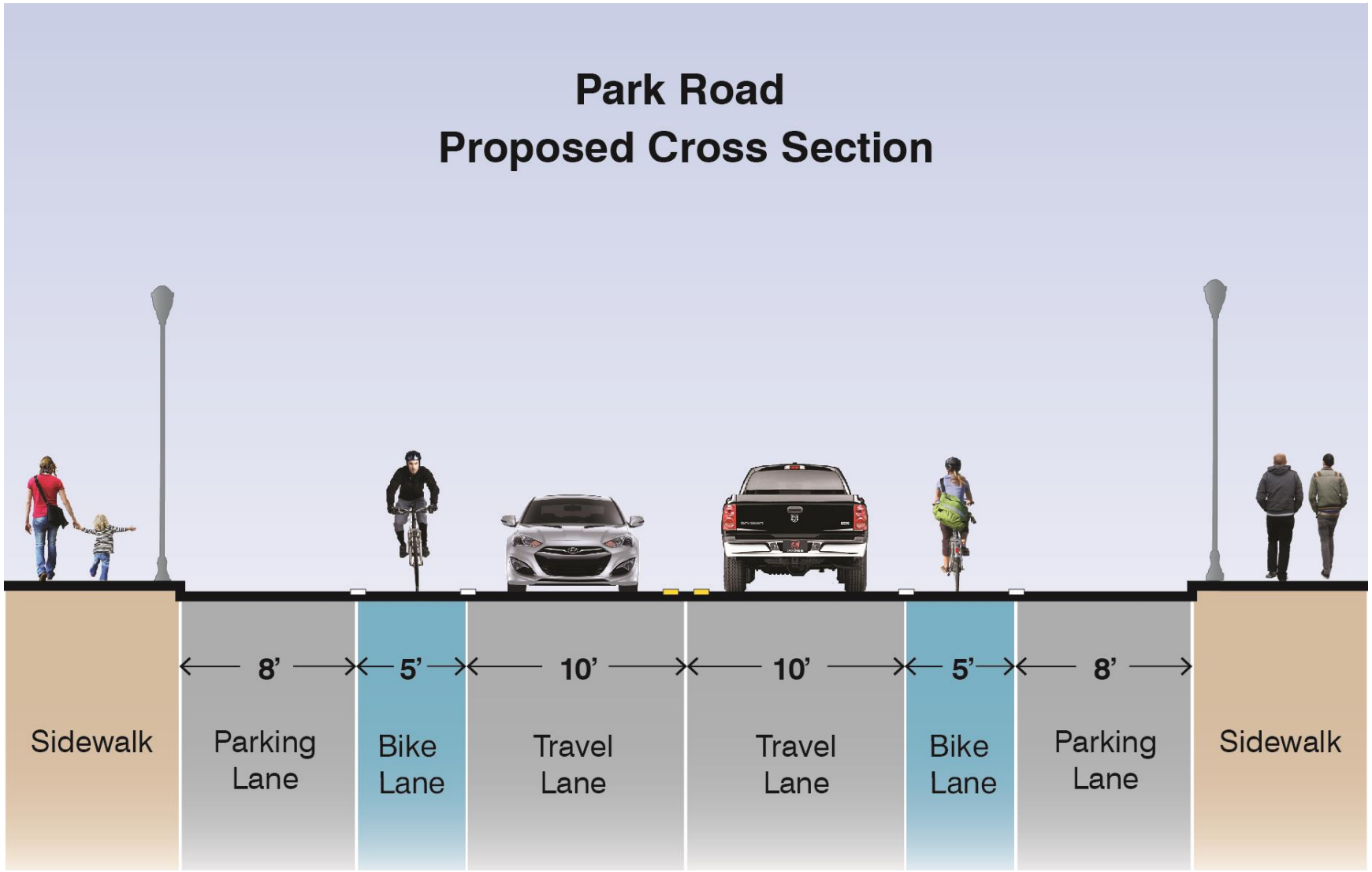

Revise signalization of channelized right-turn lane as noted in report.
Consider raised crosswalk on channelized right-turn lane. See NCHRP 208.
Install bumpouts and realign crosswalks to reduce crosswalk distances.
Stripe crosswalks across all side streets
Stripe bike lane throughout study area. See recommended cross section in report.
Repaint crosswalk markings
Consider green painted bike boxes
Install retroreflective backplates on all signal heads in study area
Relocate crosswalk to west and install RRFB. Close unused driveway to 247 Park Road to accommodate relocation. Expand bumpouts at crosswalk to improve visibility to pedestrians. Review drainage in area.
Restrict parking at all crosswalks and intersections within 25-feet
Install RRFB and bumpouts
Reconfigure on-street parking to angled parking. Remove parking in front of buildings. See concept in report.
Stripe WB left-turn lane.
Coordinate with property owner to close driveway.
Consider elliptical roundabout or peanut-roundabout
Stripe intersection "cat track" markings for South Quaker Lane due to skew.
Revise EB approach to single through lane. Reconfigure second lane to left-turn lane (preferred) or right-turn lane if warranted due to traffic volumes.
Coordinate with property owner to identify opportunities for access management at Citgo.
Consider green painted bike boxes
Install RRFB and bumpouts at existing crosswalk location
Improve lighting
Consider closure of driveway exit if reuse removes existing drive through
Reduce driveway width to 48 Park Road (Car Wash) and One Park Road
Improve lighting on south side throughout study area.
Consider gateway feature
Install "Turning Vehicles Yield to Pedestrian" signage
Install flashing yellow arrow (FYA) on all protected-permitted left-turn signal heads in study area
Install protected-permitted left-turn phase on southbound and eastbound approaches.
Relocate stop line to reduce encroachment on eastbound left-turn lane
Restrict parking on southeast corner (both Park Road and S. Highland) for 50 feet to improve sight lines. Install quick-build materials to enforce restrictions as needed.
Install RRFB and bumpouts.
Restripe edgeline
Improve lighting
Kingswood Rd
Lexington Rd
Maplewood Av
Plymouth Rd
Whiting La
Arnoldale Rd
South Highland St
Lockwood
Tobey St
Park Rd
Prospect Av
Vera St
Quaker Lane So
Washington Cir No 2
Washington Cir No 1
Price Blvd
Fairfax Av
Court Pk
Hugh St
Richard St
Thomas St
Clearview Av
Seymour Av
Erwin St
KENNEDY MEMORIAL PARK
FLORENCE E. SMITH ELEMENTARY SCHOOL
WEST HARTFORD ROAD SAFETY AUDIT
Exhibit 3-5: Recommendations
Existing Traffic Signal
Existing Crosswalk
Proposed Crosswalk
RSA Study Area
0 225 500 1,000 Feet
Source:Esri World Street Map

Exhibit 3-6: Cross section proposed for Park Road in the Study Area



3.2. Park Road at Prospect Avenue

RSA Findings

Pedestrian Accommodations

- Lighting in this area should be reviewed. In addition to corridor-wide observations of a lack in lighting on the south side, the intersection is poorly lit. Only one cobra-head style light is near the intersection but it is not above the intersection and is located to the northeast.

Pedestrian Crossings

- Curb ramps at crosswalks are expected to receive ADA upgrades such as tactile strips.
- Accessible Pedestrian Signal (APS) and pedestrian countdown signal heads are not installed at this intersection. These are expected to be included with the upcoming project.
- Dedicated right-turn lanes could pose a concern to pedestrians crossing the roadway if right-turning vehicles fail to stop at the stop line and overrunning crosswalk. See Exhibit 3-7.

Transit Accommodations

- The CT Transit eastbound bus stop is being relocated further to the west with a new bus shelter.
- The transit stop includes a bench and trash receptacles. It is expected that these amenities will be relocated to the new bus stop location.

Intersections

- The intersection was recently restriped to add dedicated left-turn lanes in the northbound, southbound, and eastbound direction. Previously, each of these approaches had two general purpose lanes.
- The eastbound left-turn lane is frequently encroached upon by turning vehicles such as northbound vehicles turning left and southbound vehicles turning right onto Park Road. See Exhibit 3-8.

Exhibit 3-7: View of Park Road and Prospect Avenue looking east. Note right-turning vehicle overran stop line

Exhibit 3-8: Existing lane configuration of the intersection of Park Road and Prospect Avenue. Note location of eastbound left-turn lane. (Source: Google Maps)

Site-Specific Recommendations

Quick-Build Recommendations (goal of <2 years):

- Relocate stop line for eastbound left-turn lane to west to reduce encroachment from turning traffic from Prospect Avenue.
    - This recommendation results in a “staggered” stop line similar to the eastbound approach at the intersection of North Main Street and Fern Street.
    - As an alternate to this recommendation, consider relocating the entire stop bar further to the west.
- Improve lighting at the intersection with additional pedestrian scale lighting on south side of street and additional cobra-head style overhead lighting over intersection.
    - Note – The Town has been underway with lighting upgrades in the entire corridor and is adding additional pedestrian lighting to the south side of Park Road throughout the study area. This project was not yet complete at the time of the RSA.
- Install “Turning Vehicles Yield to Pedestrian” sign on eastbound and northbound approach.

Short-Term Recommendations (goal of 3 to 5 years):

- Consider removal of dedicated eastbound right-turn lane if traffic volumes permit.
- Install protected-permitted left-turn phase on southbound and eastbound approaches.

Note – the layout of a roundabout was reviewed for this intersection and was found to have moderate-to-large impacts on southwest and northeast corners with smaller impacts on other corners. Due to impacts, a roundabout was dismissed as a viable option for this intersection.

3.3. Park Road between Prospect Avenue and Oakwood Avenue

RSA Findings

Pedestrian Crossings

- A crosswalk was previously considered at South Highland Street by the Town. RSA participants noted this would be a good location for a crosswalk due to connectivity to the north. Ideally, this would be on the east side of South Highland and connect to the west side of Ringgold Street. Bumpouts would be required to make this configuration feasible.
- The crosswalk at Kingston Street was installed in 2018. Sightlines appear to be sufficient and this was found to be a good location. Lighting at this location was noted by RSA participants as poor. This location could be a good candidate for bumpouts and an RRFB upgrade with high-intensity crosswalk lighting. Refer to Exhibit 3-9.

Road Facilities

- The driveway to One Park Road was noted as excessively wide, resulting in a pedestrian crossing of approximately 70-feet. This is similar to the crossing distance to cross Park Road at the intersection of Prospect Avenue. See Exhibit 3-10.
- The driveway of 48 Park Road (car wash exit) is very wide at approximately 60-feet. This could be narrowed while accommodating the existing vehicular traffic patterns. See Exhibit 3-11.
- The roadway lacks a gateway feel into West Hartford that is much more apparent on Farmington Avenue. There is opportunity to coordinate with the townwide wayfinding project for a possible solution.
- Park Road eastbound in the area of Crescent Street is downhill. RSA participants noted this can lead to an increase in vehicular speeds and should be considered in countermeasure selection.

Intersections

- The intersection of Park Road and South Highland Street was identified in the crash analysis as a focus area. This street has higher volumes than other non-signalized streets in the study area due to its north-south connectivity. South Highland is signalized just to the north at Boulevard and at Farmington Avenue. Sightlines are challenging between vehicles entering Park Road and vehicles approaching from the east (see Exhibit 3-12). Cars frequently park in prohibited areas and park too close to the intersection to access adjacent businesses. Bumpouts should be pursued to enforce the parking prohibitions.
- Lighting at the intersection of Park Road and South Highland appears to be poor. The closest streetlight is east of Ringgold Street.

Pavement Markings

- Pavement markings between Prospect Avenue and South Highland Street are in very poor condition or not present. This area is perceived as especially wide due to relatively limited on-street parking demand and no edge lines. Refer to Exhibit 3-13.

Exhibit 3-9: Crosswalk at Kingston Street looking north

Exhibit 3-10: Driveway to One Park Road which measures approximately 70-feet

Exhibit 3-11: Driveway to 48 Park Road which is approximately 60-feet

Exhibit 3-12: Sight line from the stop line at South Highland Avenue looking east towards Park Road

Exhibit 3-13: View of Park Road looking west towards the intersection with South Highland Street

Site-Specific Recommendations

Quick-Build Recommendations (goal of <2 years):

- Restripe edge lines between South Highland Street and Prospect Avenue (currently in progress by town).
- Install crosswalk, bumpouts, and RRFB with high intensity crosswalk lighting at the intersections of South Highland Street and Kingston Street. Refer to Exhibit 3-15 and Exhibit 3-16 for examples of an RRFB. See Exhibit 3-14 and Exhibit 3-17 for a concept layouts.
- Restrict parking on southeast corner of Park Road and South Highland Street within ***50-feet*** of the intersection. While this restriction exceeds state law, the existing on-street parking was found to obstruct sightlines. This recommendation eliminates one additional parking space from Park Road and South Highland Street. Consider quick-build materials to enforce parking restrictions as needed.
- Improve street lighting with a new cobra-head style light at the intersection of South Highland Street.
- Improve pedestrian lighting on south side of roadway (currently in progress by town).

Short-Term Recommendations (goal of 3 to 5 years):

- Reduce driveway width to One Park Road by reducing the curb radius.
- Reduce driveway width to 48 Park Road (car wash).
- Consider gateway features such as a median island, street trees, or other streetscape elements near Warren Terrace. Reduced on-street parking demand in this area may allow for flexibility to use underutilized on-street parking. Include this location as part of the townwide wayfinding project to incorporate a uniform solution with other gateways into town.
- Consider closure of driveway exit of old bank on Ringgold Street if reuse removes existing drive-thru.

Exhibit 3-15: An example of RRFB (Source: CTDOT)

Exhibit 3-16: An example of a crosswalk high intensity light integrated with an RRFB at night on Fern Street. Note – The yellow flashers are not activated in this photo to demonstrate the crosswalk light

Exhibit 3-14: Concept for bumpouts and crosswalk for the intersection of Park Road, South Highland Street, and Ringgold Street

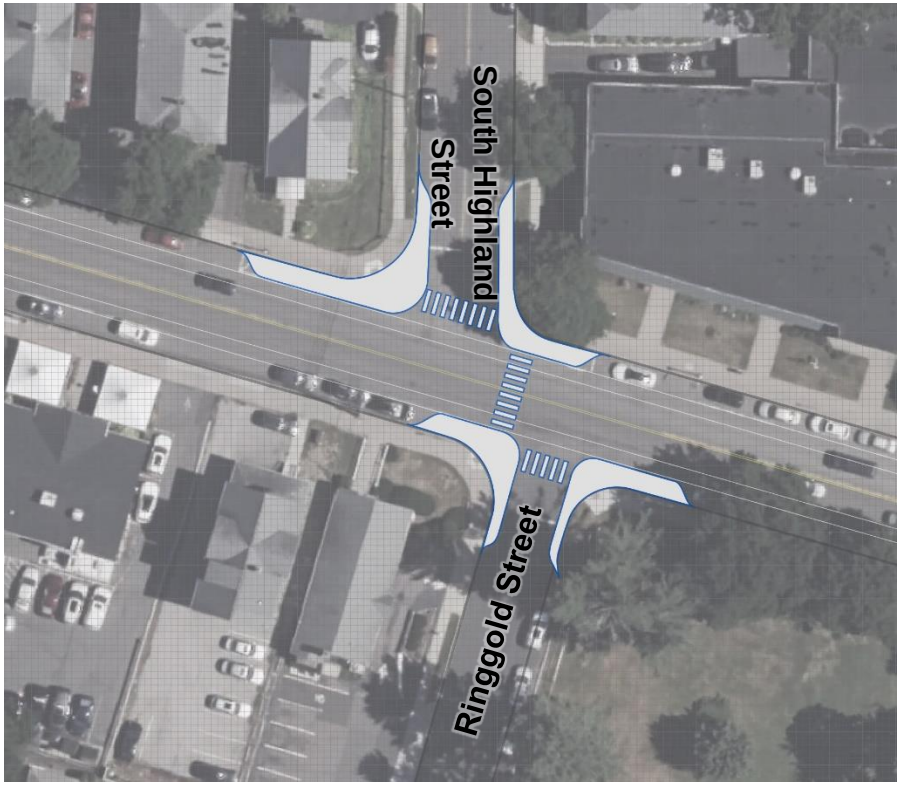
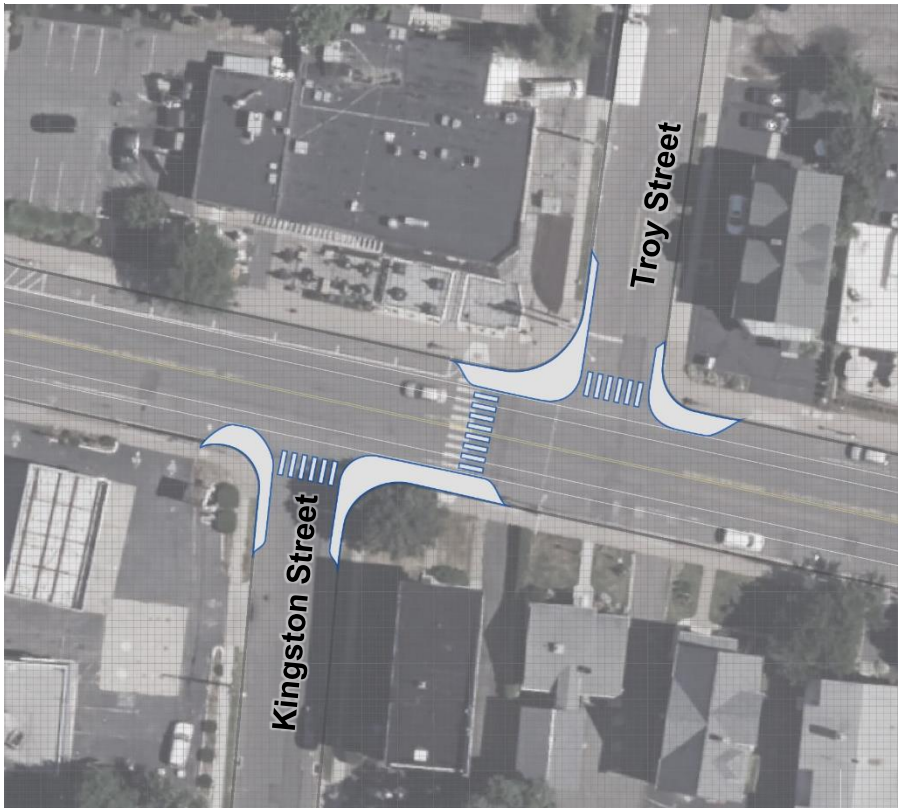


Exhibit 3-17: Concept for bumpouts and crosswalk for the intersection of Park Road, Kingston Street, and Troy Street



3.4. Park Road at Oakwood Avenue

RSA Findings

Pedestrian Crossings

- This intersection has a crossing guard during school days. Whiting Lane Elementary School is located just north of Boulevard on Whiting Lane while Florence E. Smith school is located approximately ½-mile to the south, off Oakwood Avenue.
- This intersection was noted as one of the more comfortable intersections to cross as a pedestrian. See Exhibit 3-18 for an image of the intersection.
- The crash resulting in pedestrian fatality occurred just east of this location outside the crosswalk. Note the signal includes a functional exclusive pedestrian phase. Neither the crosswalk nor the pedestrian signal was utilized by the pedestrian.

Intersections

- Vehicles were noted as parking too close to the intersection, and obstructing sight lines to crosswalks.
- The southbound approach lane is approximately 18-feet wide. The width of this lane can encourage vehicles to double-up or pass, which was of concern to some RSA participants.
- The CITGO gas station has three driveways of significant width. This may be an area for access management.

Exhibit 3-18: View of Park Road intersection with Oakwood Avenue. View looking northwest

Site-Specific Recommendations

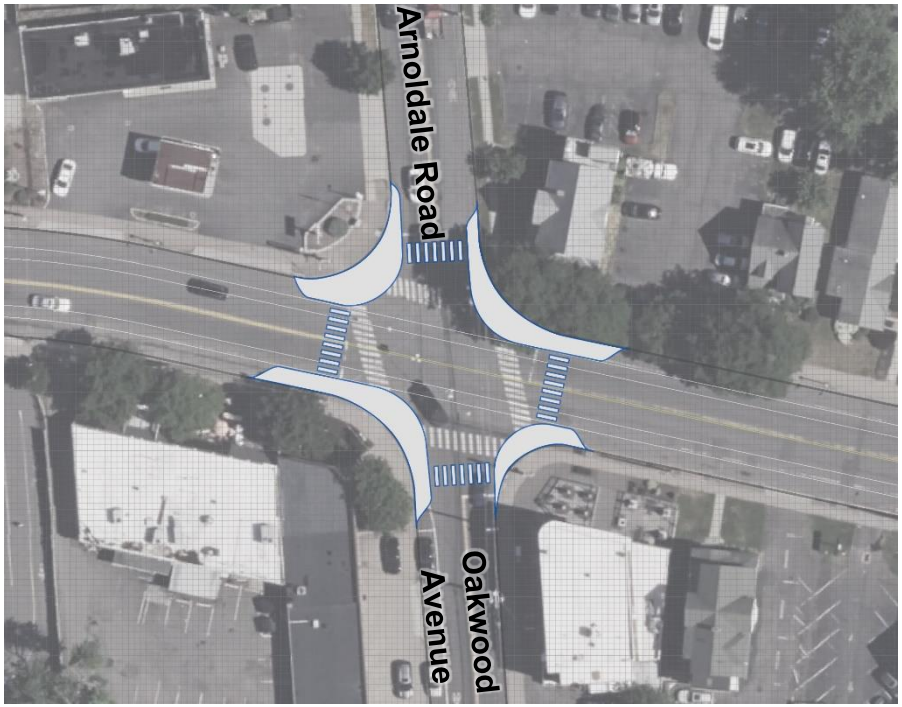
Quick-Build Recommendations (goal of <2 years):

- Restrict parking within 25-feet of crosswalk to meet state law requirements. Consider quick-build materials to enforce parking restrictions as needed.
- Consider green painted bike boxes.
- Install bumpouts and realign crosswalks to reduce crosswalk distances. See Exhibit 3-19 for a concept.

Short-Term Recommendations (goal of 3 to 5 years):

- Coordinate with property owner to identify opportunities for access management at CITGO (northwest corner of intersection of Park Road and Arnoldale Road. Consider closing east driveway along Park Road and reducing other driveway widths.

Exhibit 3-19: Concept for intersection of Park Road and Oakwood Avenue



3.5. Park Road between Oakwood Avenue and Nesbit Avenue

RSA Findings

Pedestrian Crossings

- The crosswalk just west of Nesbit Avenue (across from Playhouse on Park) is well utilized by patrons of area businesses. However, the visibility to the crosswalk was noted as a concern due to parking and truck-loading right up to the crosswalk. The crosswalk is constructed of decorative brick but lacks crosswalk markings on the east side due to recent repaving. The effect of the decorative material was discussed as these materials offer less contrast over standard crosswalk markings during nighttime conditions. There is an actuated LED sign for the crosswalk, however this predates more modern, and highly visible RRFB systems. See Exhibit 3-20 and Exhibit 3-21 which shows this crosswalk and the concerns noted.
- The driveway to 247 Park Road (European Motors) appears to be unused. This property is served by two driveways on Nesbit Avenue as well.

Exhibit 3-20: Crosswalk west of Nesbit Avenue at Playhouse on Park. View looking north.

Exhibit 3-21: Crosswalk west of Nesbit Avenue at Playhouse on Park. View looking east. Note parked vehicle in front of unused driveway to 247 Park Road.

Site-Specific Recommendations

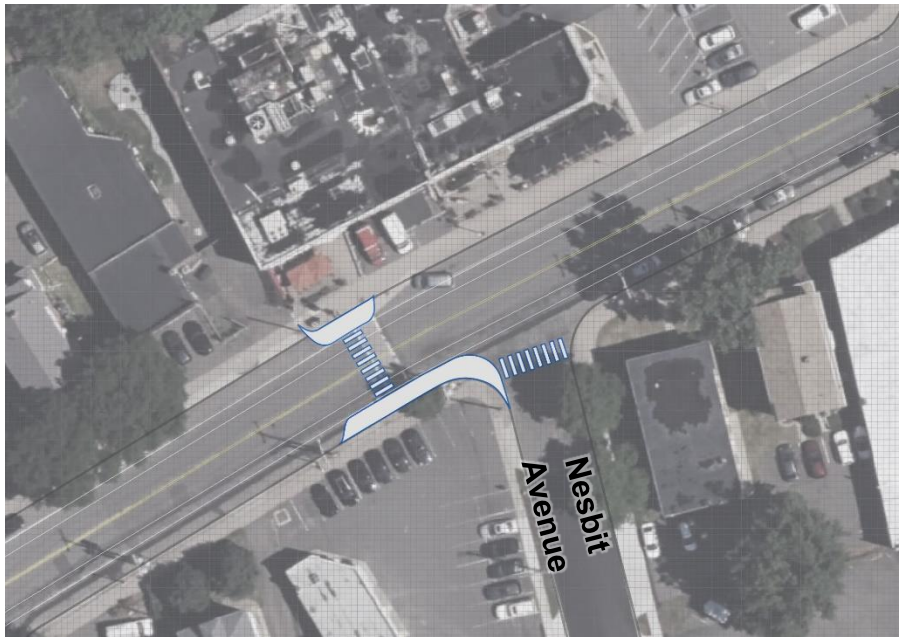
Quick-Build Recommendations (goal of <2 years):

- Repaint crosswalk markings.
- Restrict parking within 10-feet of curb extension to meet state law standards

Short-Term Recommendations (goal of 3 to 5 years):

- Relocate crosswalk to west and install RRFB with high intensity crosswalk lighting. Close unused driveway to 247 Park Road to accommodate relocation. Expand bumpouts at crosswalk to improve visibility to pedestrians. Review drainage in area. Refer to Exhibit 3-22.
    - This concept eliminates 2 on-street parking spaces which are currently utilized but which would not be compliant with state law (if they were not grandfathered) which prohibits parking within 10-feet of a crosswalk when a curb extension is installed.

Exhibit 3-22: Concept for bumpouts and crosswalk for the intersection of Park Road and Nesbit Avenue



3.6. Park Road between Nesbit Avenue and South Quaker Lane

RSA Findings

Pedestrian Accommodations

- This section of Park Road has many properties with parking located in a narrow strip between the sidewalk and building. On many properties there is insufficient space for vehicular movement without encroachment to the sidewalk. This frequently results in vehicular movements across the sidewalk area. The parking areas between 312 and 328 Park Road are particularly close to the curb. Vehicles were observed in this location maneuvering into and out of these spaces over the curb. These same areas are permitted on-street parking spaces and could pose a potential obstruction for vehicles backing out of these spaces. Refer to Exhibit 3-23 and Exhibit 3-24.
- The usage of brick pavers generally delineates the pedestrian space well, however, some properties have incorporated brick pavers for parking areas as well (e.g. 314 Park Road, at left of photo in Exhibit 3-23). The use of the same material for both sidewalk and parking in these locations is confusing in some cases for pedestrians and drivers alike who may not be able to distinguish between parking areas and sidewalk.

Exhibit 3-23: View of front parking at 312 Park Road and adjacent properties. Note vehicle maneuvering over curb and sidewalk out of parking space.

Exhibit 3-24: View of front parking at 320 Park Road. Note lack of maneuvering room for parked vehicles. On-street parking is permitted in this area just to the left of this photo.

Site-Specific Recommendations

Quick-Build Recommendations (goal of <2 years):

- Install crosswalk, bumpouts, and RRFB with high intensity crosswalk lighting at the intersection of Washington Circle and Fairfax Avenue. See Exhibit 3-25.

Long-Term Recommendations (goal of 6 to 10 years):

- Eliminate off-street parking between 312 and 328 Park Road and convert on-street parallel parking to on-street angled parking. This concept accommodates approximately 20 parking spaces. Note – off street parking requirements may need to be modified or exempted in zoning code requirements. See Exhibit 3-26.

Exhibit 3-26: Concept for bumpouts and crosswalk for the intersection of Park Road, Washington Circle, and Fairfax Avenue.

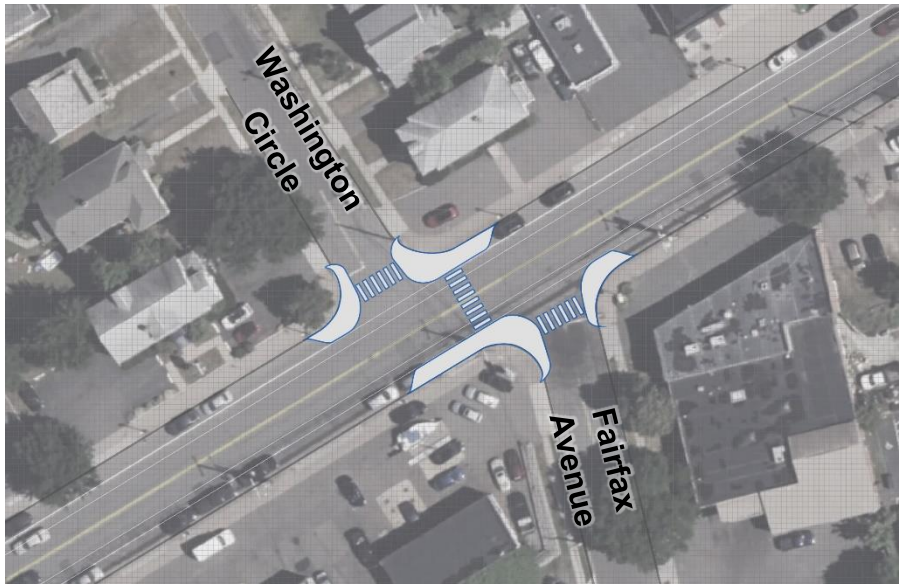
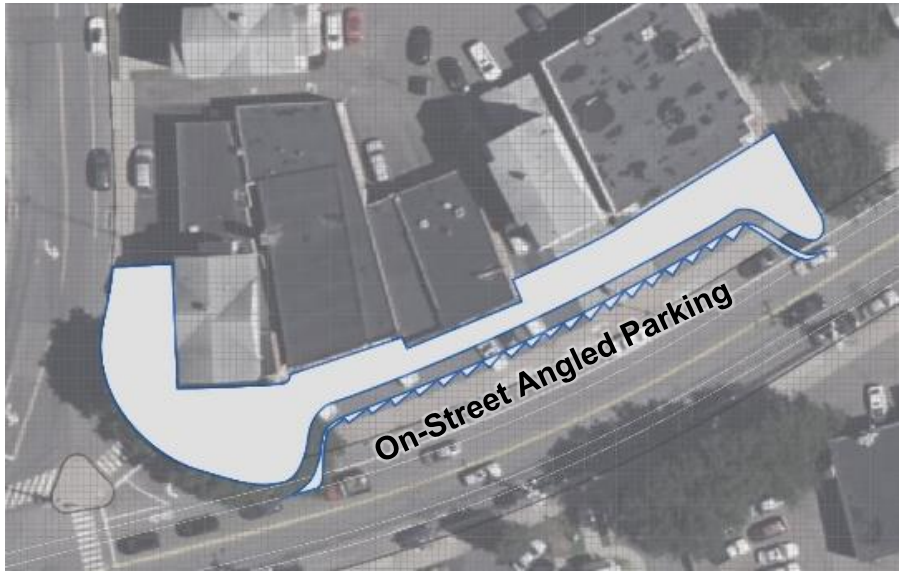


Exhibit 3-25: Concept to add additional on-street parking with angled parking. Concept accommodates approximately 20 parking spaces. Bike lane could be considered between parking and storefronts (subject to further design)



3.7. Park Road at South Quaker Lane

RSA Findings

Pedestrian Accommodations

- The driveway to 337 Park Road (Park Lane Pizza) obstructs an otherwise wide, comfortable pedestrian area on the southeast corner of the intersection. This driveway is redundant to 2 driveways located on South Quaker Lane and appears to be lightly utilized and frequently blocked by one or two parked vehicles. See Exhibit 3-27 for this location.

Pedestrian Crossings

- The crosswalk across the westbound channelized right-turn lane is missing pedestrian signal heads. This leads to potential conflict between vehicles and pedestrians. For example, a vehicle may have a green light but a pedestrian may believe they have right-of-way and continue across the crosswalk. This was observed during the RSA and photographed in Exhibit 3-28.Exhibit 3-29 shows this location from the other side of the intersection.

Intersections

- Park Road to the west was recently resurfaced and striped with two through lanes despite only having one receiving lane. This can cause lane assignment confusion for motorists.
- The westbound approach includes a wide westbound lane. This was recently reduced from a two-lane approach during the resurfacing project to the west. However, the wide lane was observed during the RSA as a passing lane.
- South Quaker Lane is skewed through the intersection. See Exhibit 3-30 which shows the intersection looking north and the skew of South Quaker Lane.
- In addition to the conflicts of the westbound channelized right-turn lane and the crosswalk, this lane configuration was observed to be confusing for motorists between right-turning vehicles and left-turning vehicles from Park Road eastbound. Left-turning vehicles were observed failing to yield to right-turning vehicles even though right-turning vehicles have right-of-way. This confusion is likely caused from this conflict point being located approximately 100-feet north of the intersection center.

Exhibit 3-27: Pedestrian space on the southeast corner of the intersection at South Quaker Lane is interrupted by a driveway to 245 Park Road.

Exhibit 3-28: Pedestrian crosses westbound channelized right-turn lane despite approaching vehicle having a green light. There is no clear pedestrian signal to indicate otherwise.

Exhibit 3-29: The westbound channelized right-turn lane at Park Road and South Quaker Lane.

Exhibit 3-30: View of intersection of Park Road and South Quaker Lane view looking northwest.

Site-Specific Recommendations

Quick-Build Recommendations (goal of <2 years):

- Consider green painted bike boxes.
- Stripe intersection “cat track” markings for South Quaker Lane due to skew.
- Revise eastbound approach to single through lane due to single receiving lane on opposite side of intersection. Reconfigure second lane to left-turn lane (preferred) or right-turn lane (only if warranted by traffic volumes).
- Stripe westbound left-turn lane.
- Remove signal head for westbound channelized right-turn lane and replace with yield signage on both sides of channelized right-turn lane. Replace stop line with yield line.

Short-Term Recommendations (goal of 3 to 5 years):

- Consider raised crosswalk across westbound channelized right-turn lane based on recommendations of NCHRP 208. This recommendation addresses both concerns identified in RSA (conflicts between right-turning vehicles and pedestrians, and conflicts from westbound right-turning vehicles and eastbound left-turning vehicles)

Long-Term Recommendations (goal of 6 to 10 years):

- Consider an elliptical roundabout or a peanut-roundabout for this intersection. Evaluate property impacts during concept design especially to the northwest (Shell Gas Station) corner, and southeast (Park Lane Pizza) corner.

3.8. RSA Field Considerations Checklist

West Hartford Vision Zero – RSA Field Considerations	*Item Identified or Discussed by RSA Participants?*
Pedestrian Accommodations	
Sidewalks (width, grade, condition, drainage, buffer, etc.)	Yes
Sidewalk connectivity **	Yes
Lighting	Yes
Amenities (benches, trash receptacles, etc.)	Yes
Pedestrian Crossings	
Crossing times and distance **	Yes
Signage	Yes
Pavement markings **	Yes
Detectable warning devices (signal) **	Yes
Adequate sight distance	Yes
Wheelchair accessible ramps (grades, orientation, tactile warning strips, etc.)	Yes
Pedestrian refuge at islands	
Distance between crossings **	Yes
Bicycle Accommodations	
Bicycle facilities (design, location and condition)	Yes
Gaps **	Yes
Separation from traffic	Yes
Conflicts with on-street parking **	Yes
Pedestrian conflicts	
Bicycle signal detection	
Visibility	Yes
Roadway speed limit	Yes
Bicycle signage / markings	Yes
Shared lane width	
Shoulder condition / width	
Traffic volume	Yes
Heavy vehicles	
Pavement condition	Yes
Debris	
Transit Accommodations	
Location	Yes
Signage	Yes
Seating / Covers	Yes
Pedestrian connectivity **	Yes
Road Facilities	
Access points	Yes
Drainage	
Tapers and lane shifts	Yes
Roadside clear zone / slopes	
Guide rails / protection systems	
Capacity issues	

West Hartford Vision Zero – RSA Field Considerations	*Item Identified or Discussed by RSA Participants?*
Road Surface Condition	
Pavement (excessive roughness or rutting, potholes, loose material)	Yes
Edge drop-offs	
Drainage issues	
Intersections	
Geometry	Yes
Sight distances **	Yes
Traffic control devices	Yes
Safe storage for turning vehicles	
Exclusive right turn lanes **	Yes
Signals	
Visibility	
Operation	
Timing **	
Safe placement of equipment	
Proper sight distance	
Adequate lane capacity	
Signage	
Correct use	Yes
Clear messaging	
Good placement for visibility	
Adequate retro-reflectivity	

West Hartford Vision Zero – RSA Field Considerations	*Item Identified or Discussed by RSA Participants?*
Pavement Markings	
Correct and consistent with MUTCD	
Lane widths **	Yes
Adequate visibility	
Condition	Yes
Snow storage	
Edgelines provided	Yes
Driver Behavior	
Compliance with speed limits **	Yes
Sight distance adequacy	Yes
Safe passing opportunities	
Distractions	
Unaware of pedestrians / cyclists	Yes
Miscellaneous	
Weather impacts	

***** Identified by Vision Zero Task Force as a common or persistent issue in West Hartford***

4. Appendices

Appendix A – Pre-RSA Presentation

Appendix B – RSA Materials

Appendix A – Pre-RSA Presentation

PARK ROAD ROAD SAFETY AUDIT

PROSPECT AVENUE TO QUAKER LANE

WEST HARTFORD VISION ZERO

WEST HARTFORD 1854

FHI studio

OCTOBER 2023

INTRODUCTIONS

AGENDA

1. Welcome and Team Introductions
2. Study Purpose and Goals
3. Study Area
4. Review of Site-Specific Data and Issues
5. Next Steps for Tomorrow’s Site Visit Audit

PURPOSE AND GOALS OF THE ROAD SAFETY AUDIT

Safety assessment of existing walking and biking routes

Improve transportation network for all users

Identify the issues that may discourage or prevent walking and bicycling

Identify next steps, evaluate feasibility of proposed improvements, and potential funding sources.

PURPOSE AND GOALS OF THE ROAD SAFETY AUDIT

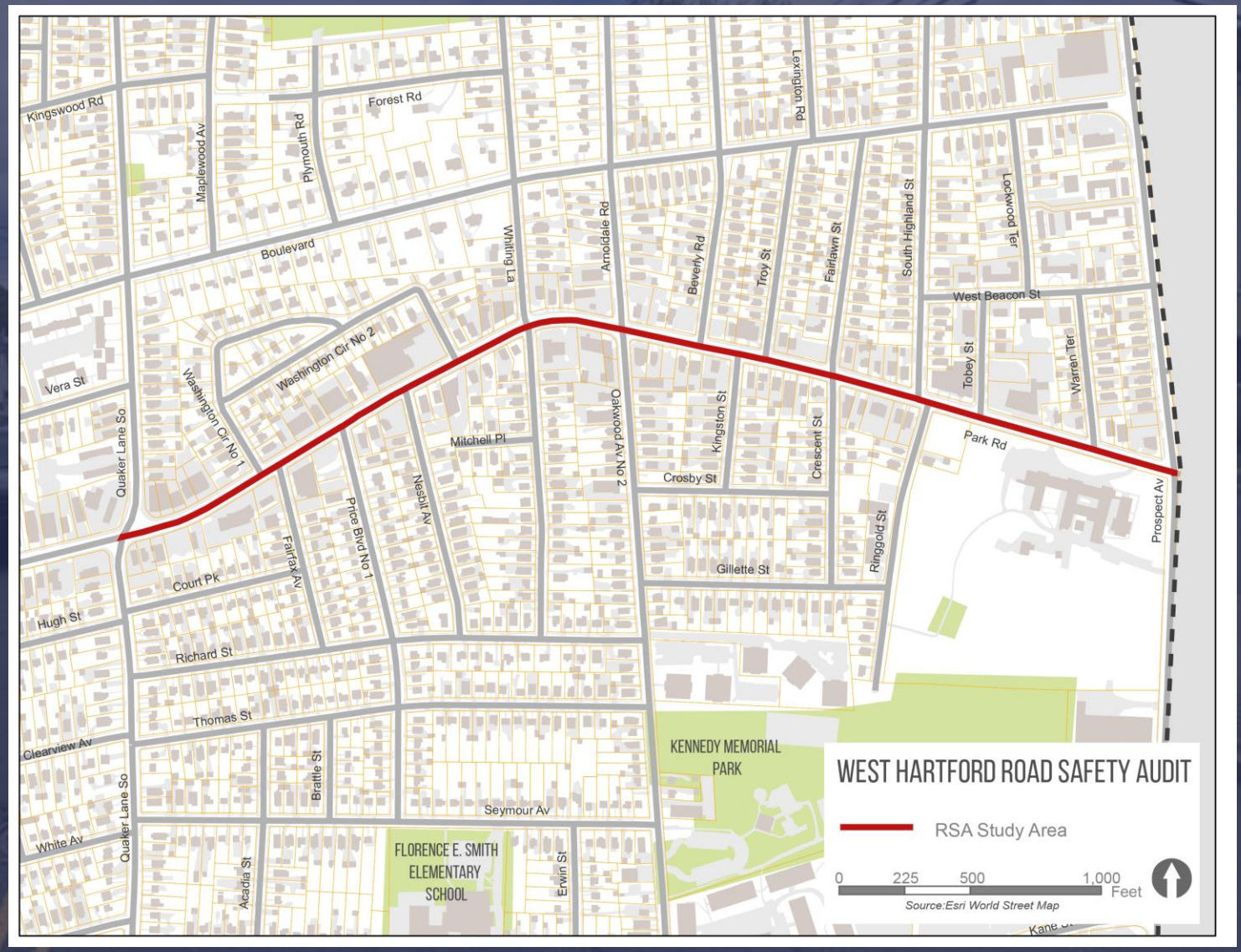
- Upcoming rehabilitation work of Park Road

DELIVERABLES

- Existing Conditions Data Collection
- Pre-Audit Meeting
- Field Audit
- Post Audit Meeting
- Road Safety Audit Report

STUDY AREA

- Park Road between Prospect Avenue (Town Line) and Quaker Lane

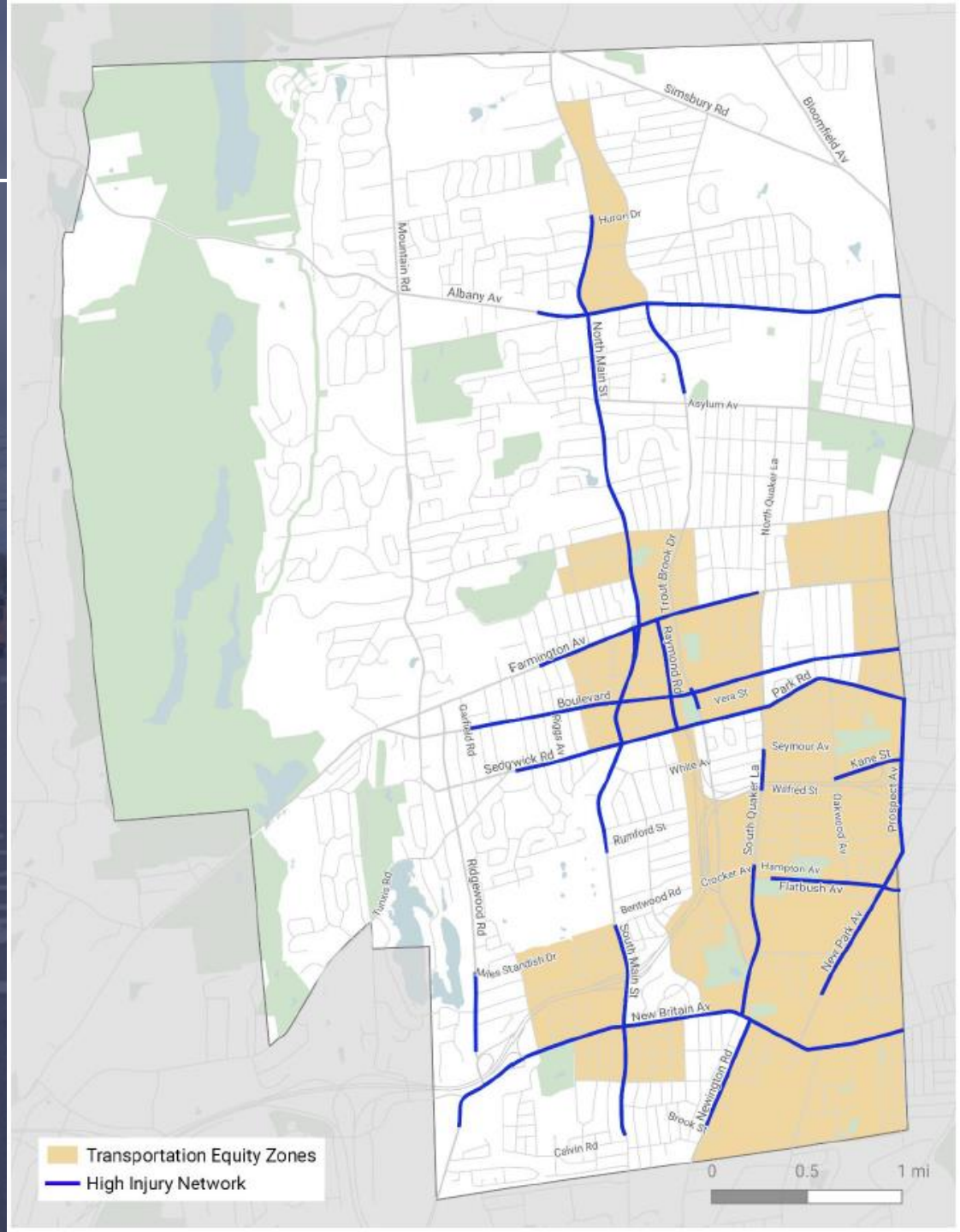


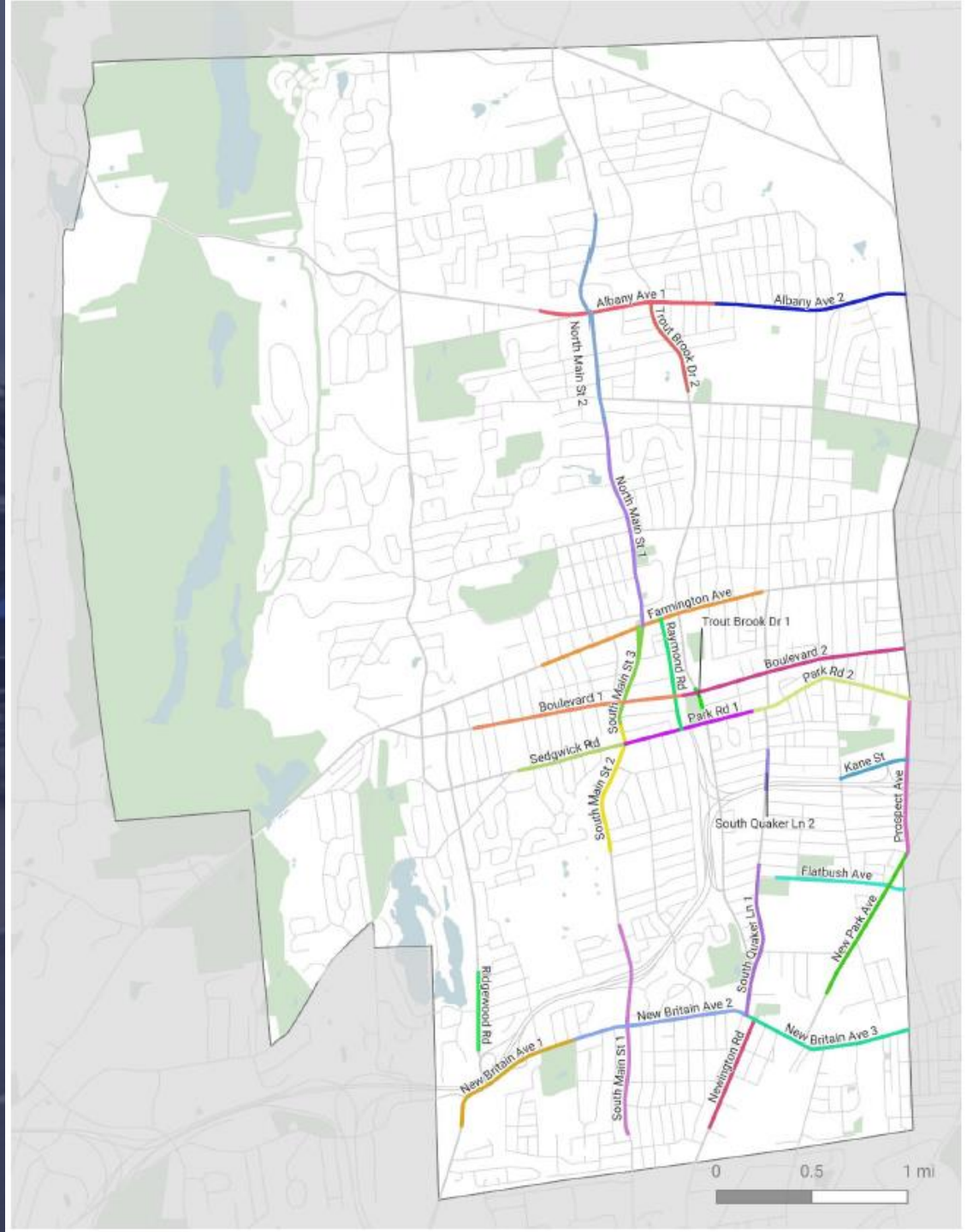
STUDY AREA IDENTIFICATION

- West Hartford High Injury Network
- Within Transportation Equity Zones
- Upcoming rehabilitation work

STUDY AREA IDENTIFICATION

- West Hartford High Injury Network
- Within Transportation Equity Zones
- Upcoming rehabilitation work

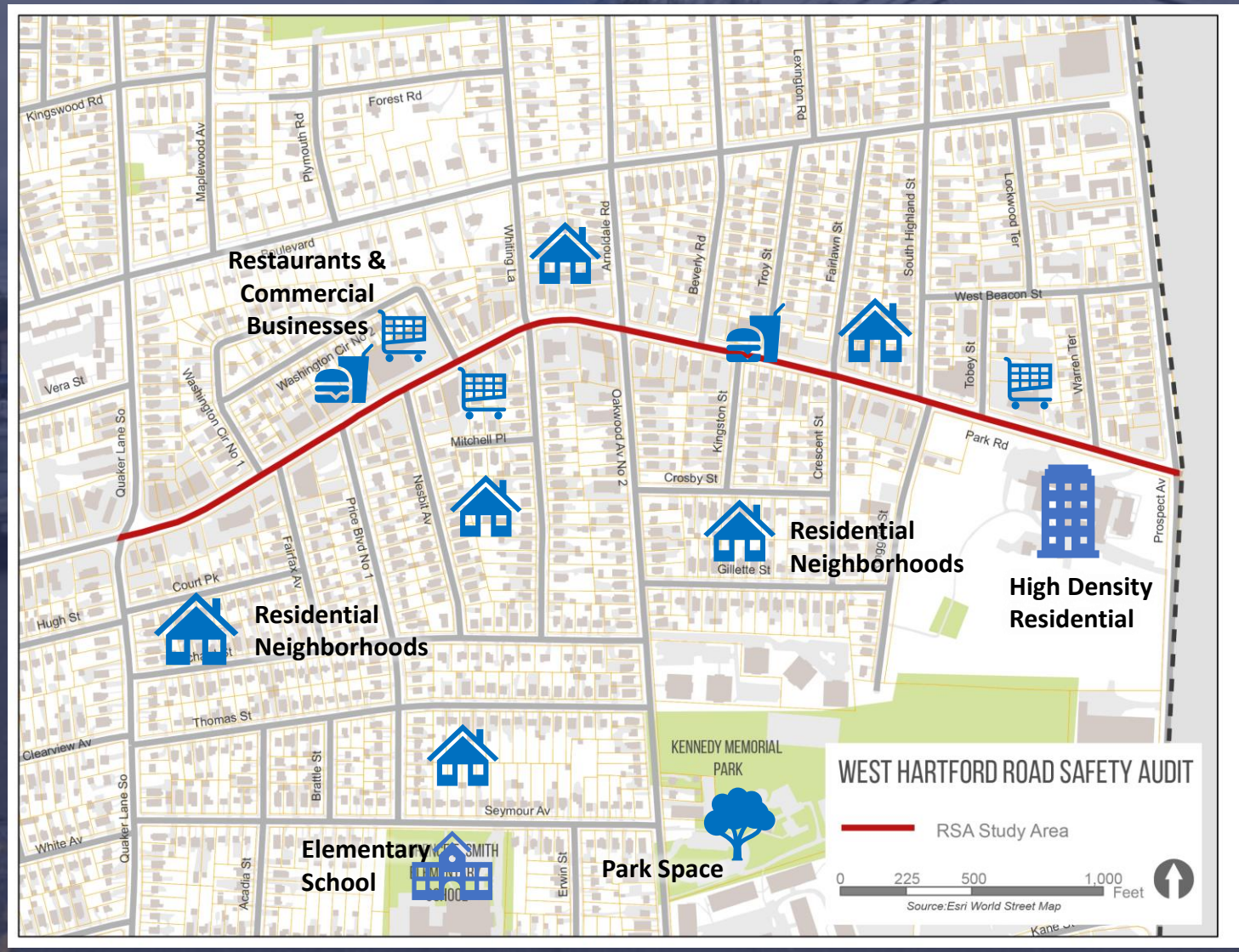




HIN Segment	Fatal/Serious Injury Crashes	Other Injury Crashes	Weighted Crash Score	Length (mi.)
New Britain Ave 3	1	121	131	0.9
New Britain Ave 2	1	106	116	0.9
New Park Ave	2	89	109	0.8
North Main St 2	3	75	105	1.1
Park Rd 2	3	57	87	0.9
Prospect Ave	0	82	82	0.8
South Main St 1	1	69	79	1.1
Albany Ave 1	1	60	70	0.9
Boulevard 2	3	40	70	1.2
Farmington Ave	1	56	66	1.2
South Main St 3	2	46	66	0.7
Albany Ave 2	3	35	65	1
South Quaker Ln 1	3	34	64	0.8
Boulevard 1	1	53	63	1.1
Park Rd 1	1	53	63	0.7
New Britain Ave 1	0	58	58	0.8
North Main St 1	1	42	52	1.1
Flatbush Ave	1	41	51	0.7
South Main St 2	1	40	50	0.7
Trout Brook Dr 2	2	30	50	0.5
Newington Rd	1	31	41	0.6
Sedgwick Rd	1	27	37	0.6
Raymond Rd	0	35	35	0.6
Kane St	0	31	31	0.4
Trout Brook Dr 1	0	15	15	0.1
Ridgewood Rd	0	7	7	0.4
South Quaker Ln 2	0	4	4	0.2

POINTS OF INTEREST

- Residential neighborhoods
- One Park Road Apartments (292 units)
- Restaurants and businesses

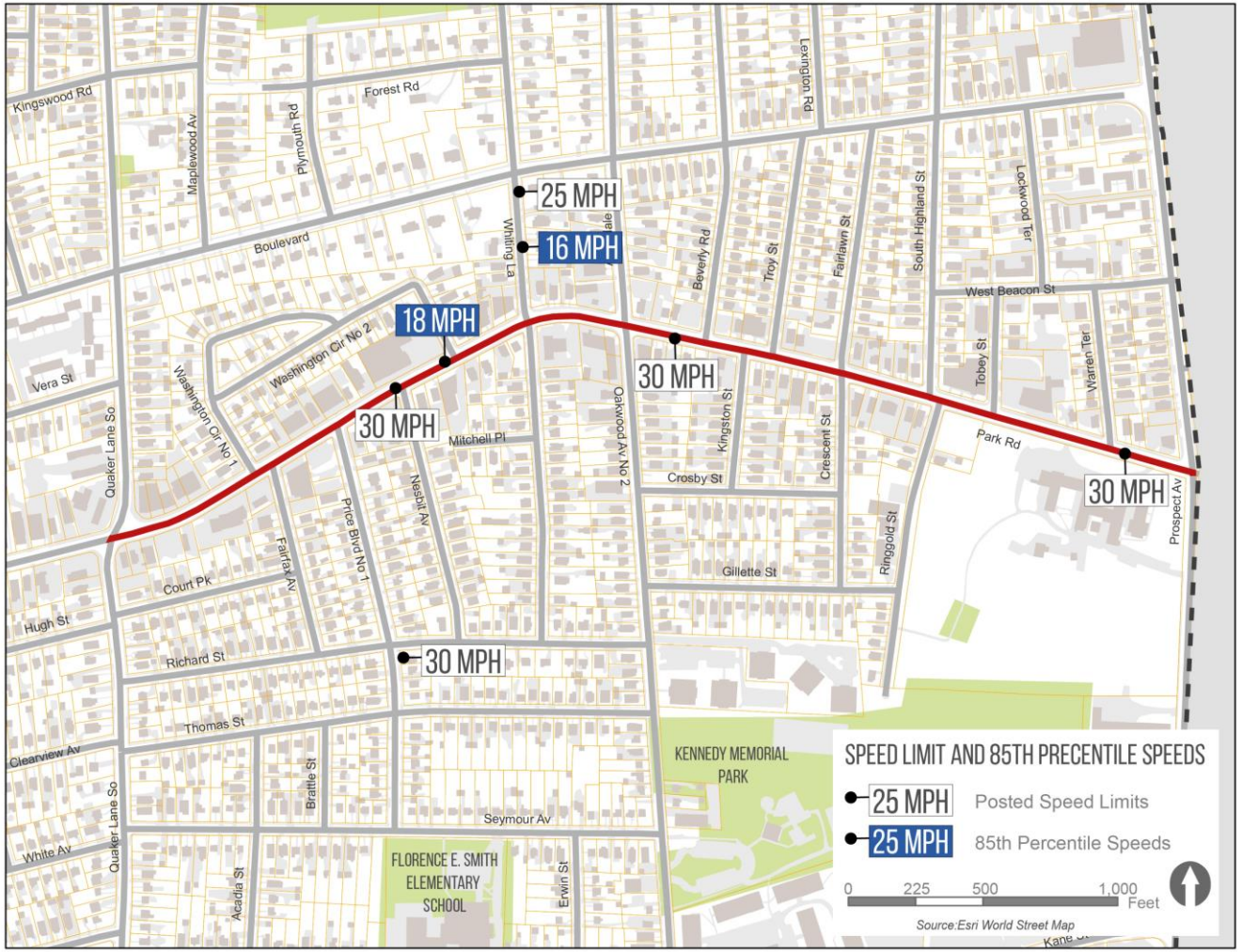


TRAFFIC VOLUMES

- Appox. 8,300 vehicles per day on Park Road (2018)

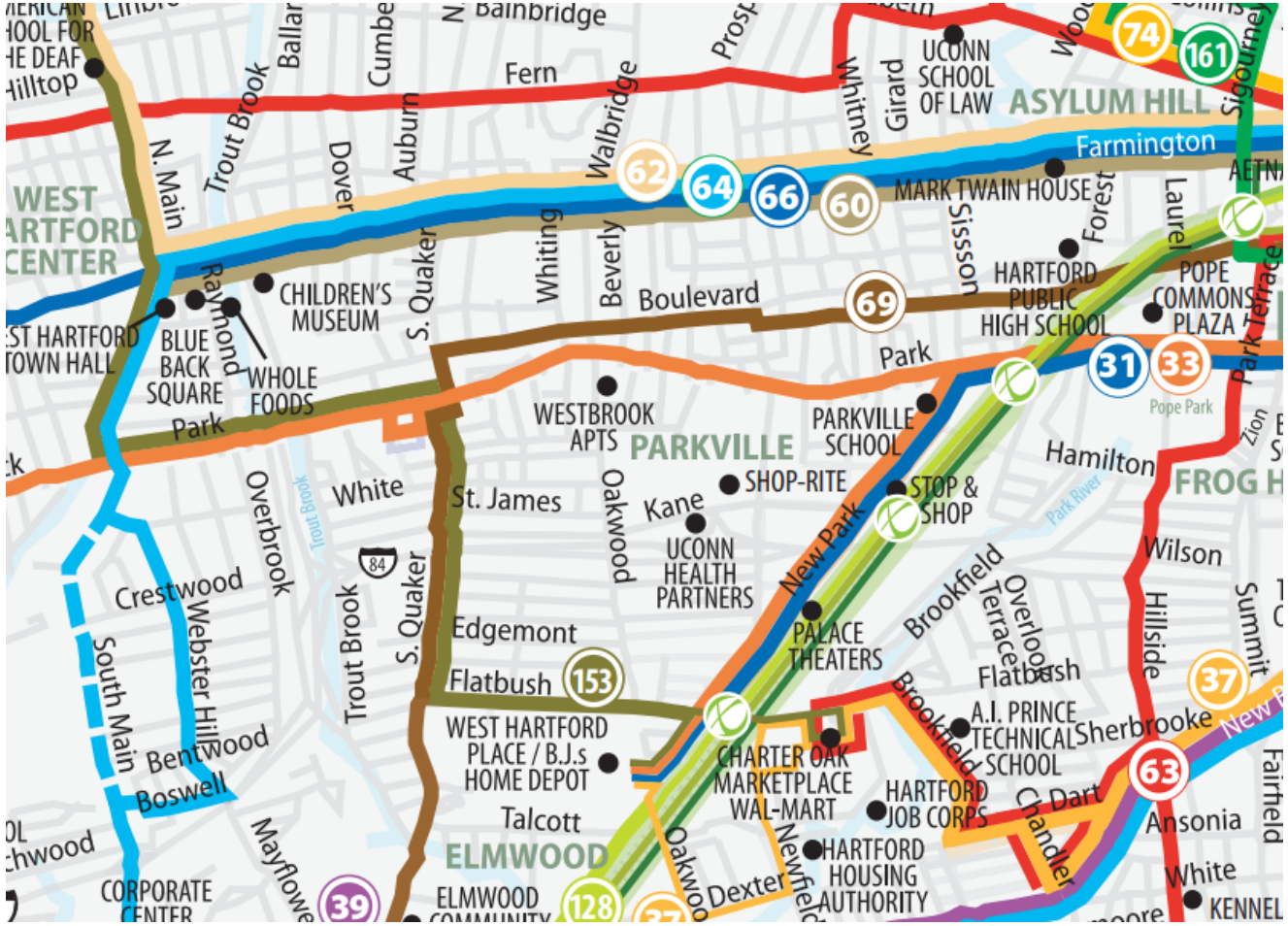
TRAFFIC SPEED LIMITS

- Speed limit in study area is 30 MPH
- 85th percentile speeds of 18 MPH but count location is near signalized intersection.



TRANSIT NETWORK

- Park Road – Route 33
  - About 20 Minute Headways
- Other Nearby Routes –
  - Route 69, 153



ROADWAY GEOMETRY

West Hartford Vision Zero - Park Road
Street Inventory

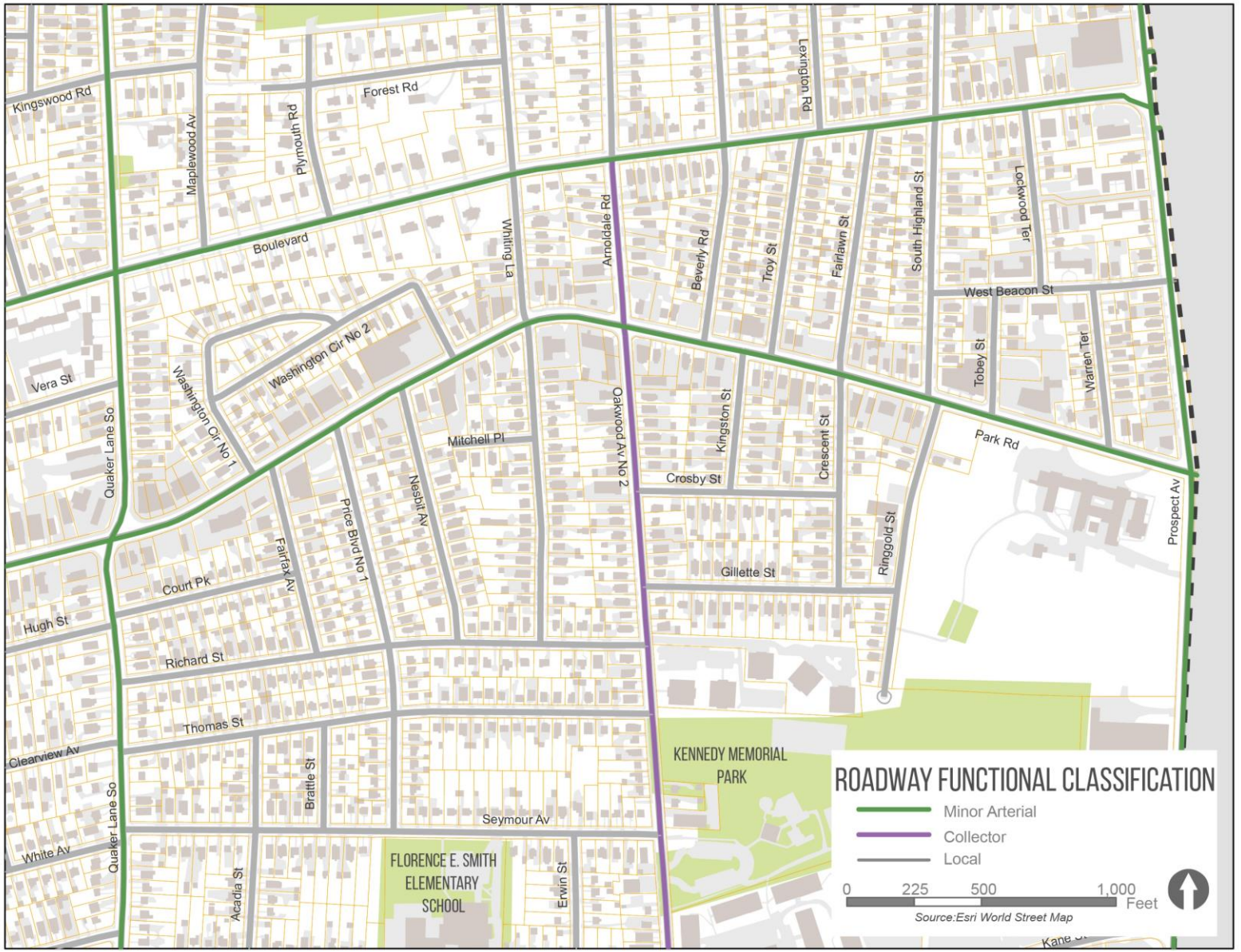
Road	From	To	Distance	Functional Classification	Speed Limit	Direction	Lanes	Lane Width	Sidewalk Type	Sidewalk Width	Sidewalk Condition	ADA Ramps Present	ADA Ramps Compliant	Curb	Parking	Parking Width	Notes
Park Road	Quaker Lane	Oakwood Avenue	2,080'	Minor Arterial	30 mph	EB	1	15'	Brick	9'	Good	Yes	Typ. No	Granite	Yes	7.5'	One mid-block crossing with actuated flashers
						WB	1	15'	Brick	8'	Good	Yes	Typ. No	Granite	Yes	7.5'	Bike lane begins west of Quaker Ln
Park Road	Oakwood	Prospect Avenue	2,140'	Minor Arterial	30 mph	EB	1	15'	Brick and Concrete	7'-8'	Poor-to-Good	Yes	Typ. No	Granite	Yes	7.5'	One mid-block crossing
						WB	1	15'	Brick	8'	Good	Yes	Typ. No	Granite	Yes	7.5'	Eastbound turn lanes at Prospect Ave

*CONDITION - "Good" is Serviceable Condition that meets current design standards. "Fair" is generally serviceable, but may need minor repairs, or may not completely align with current design standards. "Poor" is not serviceable, and generally inadequate for continued long-term use.

Highlighted cells indicate values which may warrant further investigation

FUNCTIONAL CLASSIFICATION

- Park Road is Arterial
- Quaker & Prospect are arterials as well
- Oakwood Ave is collector



CRASH ANALYSIS

2018 - 2022

Year	Fatality	Serious Injury	Minor Injury	Possible Injury	Property Damage Only	Total
2018	1	1	4	5	21	**32**
2019			4	4	16	**24**
2020		1	8	9	17	**35**
2021			6	5	14	**25**
2022			5	7	12	**24**
Total	**1**	**2**	**27**	**30**	**80**	**140**

CRASH ANALYSIS

2018 - 2022

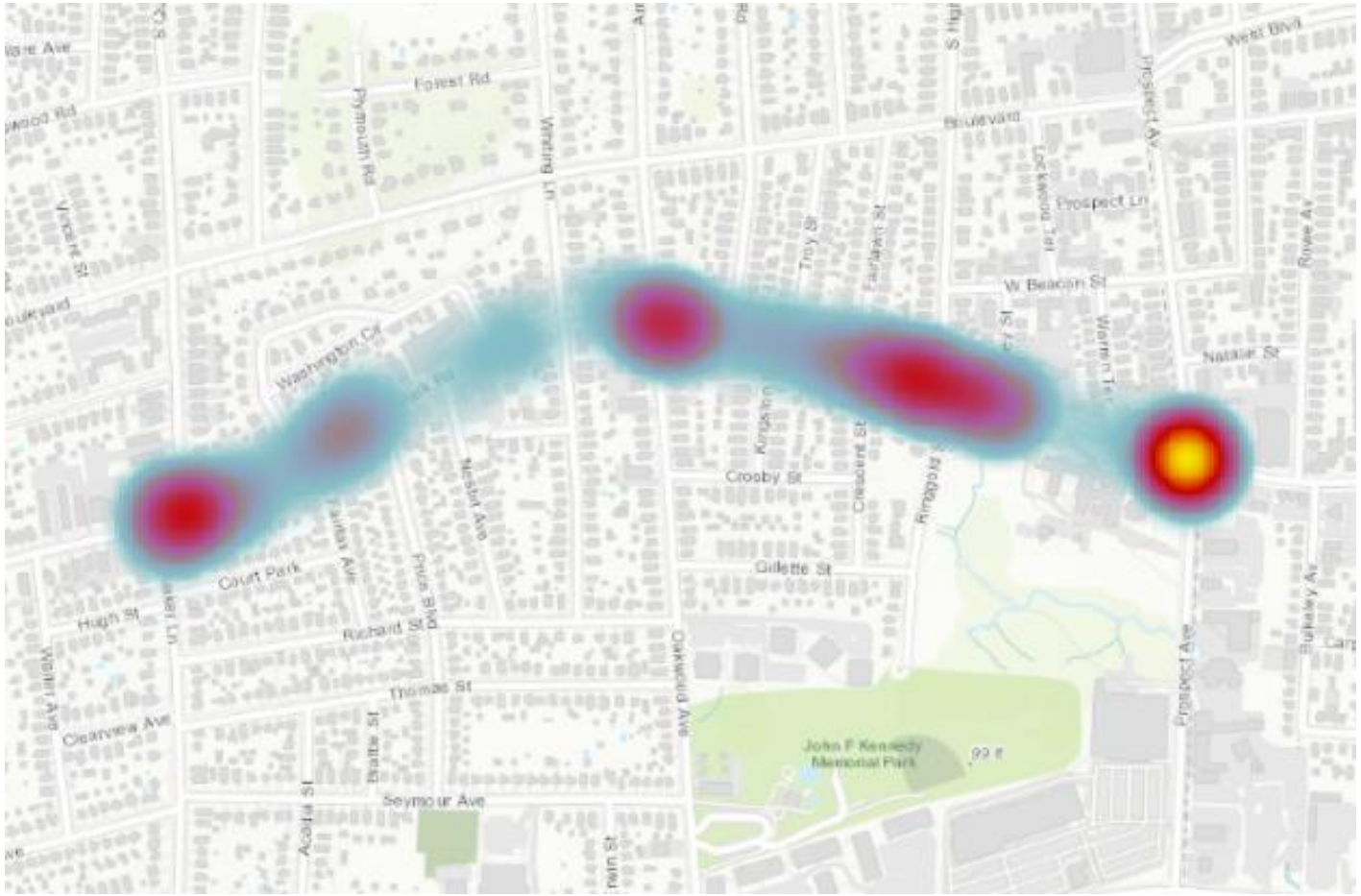
Crash Type	Fatality	Serious Injury	Minor Injury	Possible Injury	Property Damage Only	**Total**
Angle			12	15	38	**65**
Front to front		1	1	1	5	**8**
Front to rear			5	9	22	**36**
Rear to rear					1	**1**
Sideswipe, opposite direction					3	**3**
Sideswipe, same direction				1	5	**6**
Not Applicable (e.g. Single Vehicle, Bike/Ped Etc.)	1	1	9	2	6	**19**
Other				2		**2**
Total	**1**	**2**	**27**	**30**	**80**	**140**

Crashes Involving Bicyclist			3	1		**4**
Crashes InvolvingPedestrian	1		4			**5**
Total	**1**		**7**	**1**		**9**

CRASH ANALYSIS

Crash Hotspots (5 Year Crash Total approx.)
140 Crashes Total

- Park Crescent, Highland & Tobey – 26 Crashes (16 injury + 2 serious injury)
- Park / Prospect – 39 crashes (17 injury)
- Park / Quaker – 29 Crashes (10 injury)
- Park / Oakwood – 14 Crashes (6 injury + 1 fatality)



Weighted Heatmap (10x for KSI Crashes)

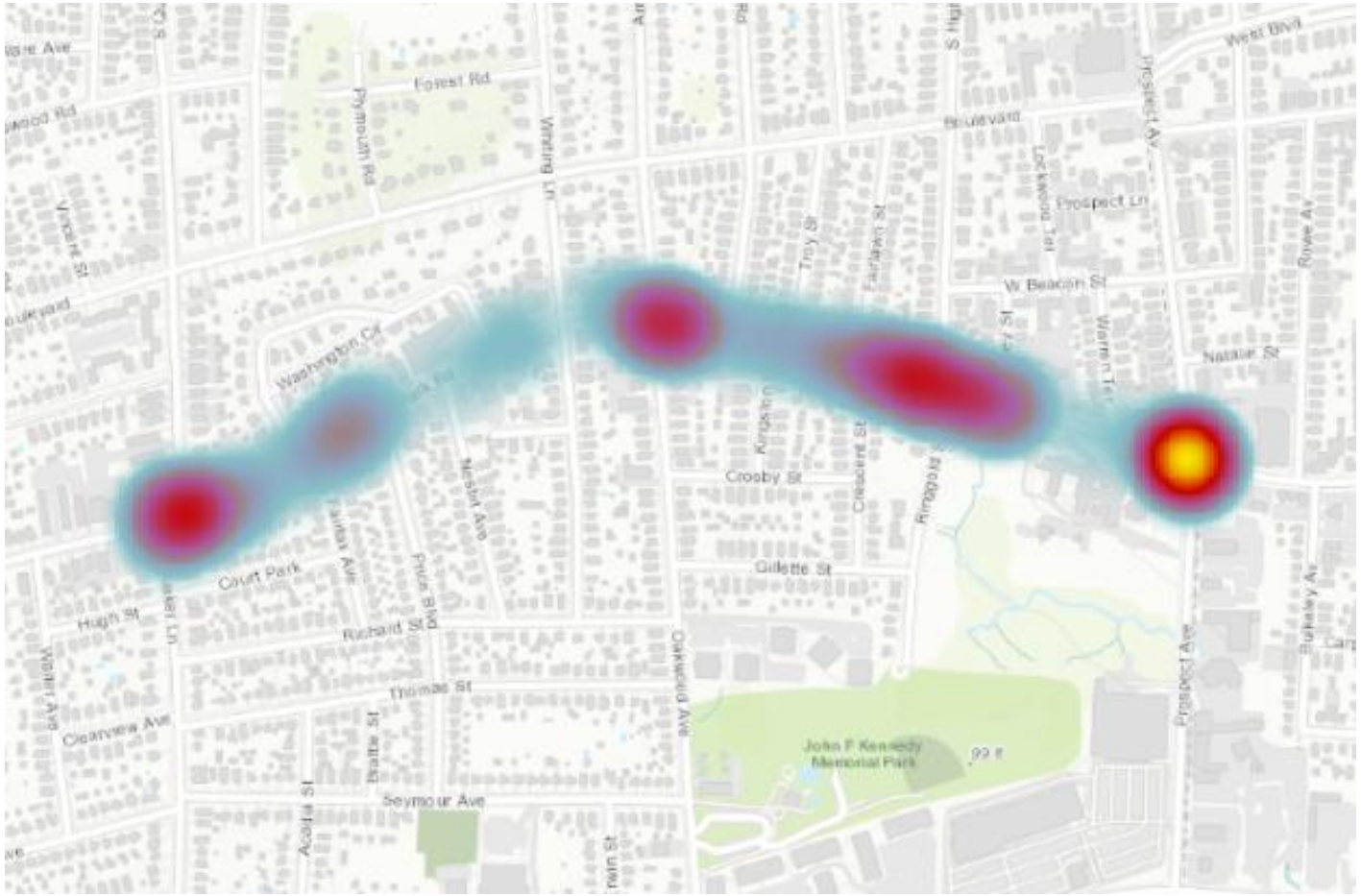
CRASH ANALYSIS

Park Crescent, Highland & Tobey – 26 Crashes (16 injury + 2 serious injury)

- Bike / Ped crashes
- Angle crashes near S. Highland (esp. exiting vehicles turning left vs. WB vehicles)

Park / Prospect – 39 crashes (17 injury)

- Angle crashes between left-turning vehicles (esp. Prospect)



Weighted Heatmap (10x for KSI Crashes)

CRASH ANALYSIS – INVOLVED PERSON

- There were 9 crashes involving pedestrians or bicyclists in the study area
- 4 crashes involving pedestrians resulted in minor injury
- 1 crash involving pedestrian near Oakwood Ave resulted in fatality

CRASH ANALYSIS – PEDESTRIAN CRASHES

- Fatal Pedestrian Crash Park Road at Oakwood
  - December 16th, 2018 at 8 PM
  - Pedestrian crossing north of Park Road east of the crosswalk at intersection struck by eastbound motorist
- 4 Pedestrian Crashes Resulting in Injury
  - Park & Quaker – August 3, 2019 at
    - Pedestrian stuck in WB right-turn area. Driver issued infraction
  - Park & Quaker - June 7, 2018 at
    - Pedestrian struck in north-side crosswalk against signal
  - Park & Beverly – April 7, 2022 at 9:12 PM
    - Pedestrian struck by turning vehicle into Beverly
  - Park & Prospect – July 17, 2018 at 9:06 PM
    - Pedestrian struck crossing southern leg of intersection against pedestrian signal by westbound left-turning vehicle

CRASH ANALYSIS – INVOLVED PERSON

- 4 crashes involving bicyclists resulted in minor or possible injury

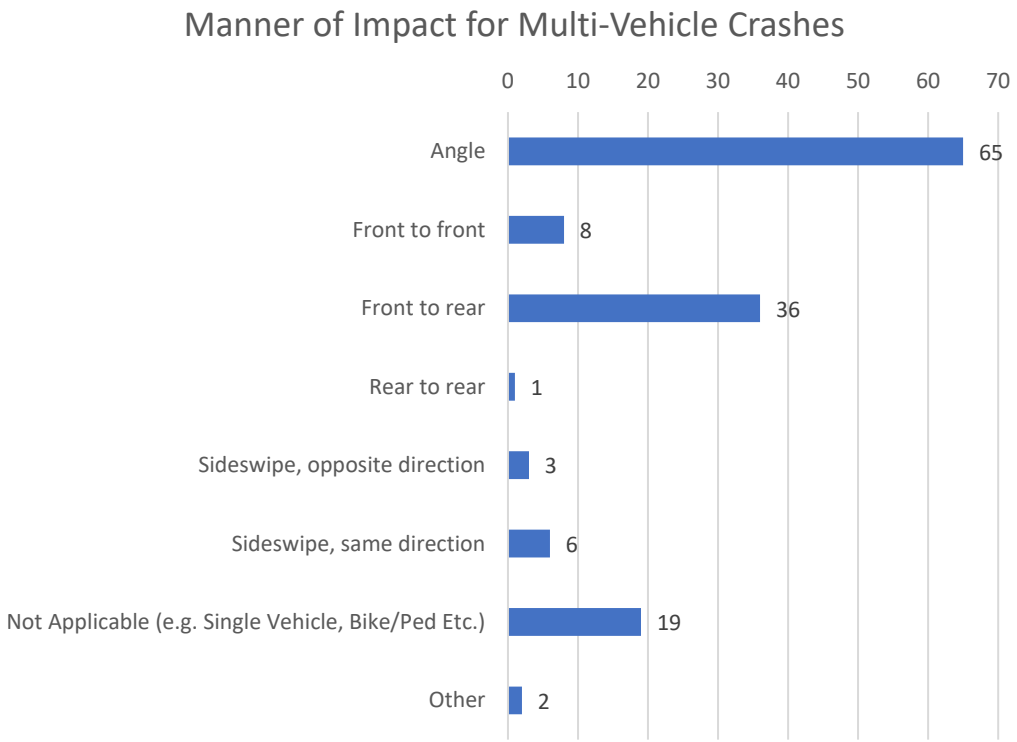
- 1 crash near Quaker Lane
- 3 crashes between Oakwood and Highland Street

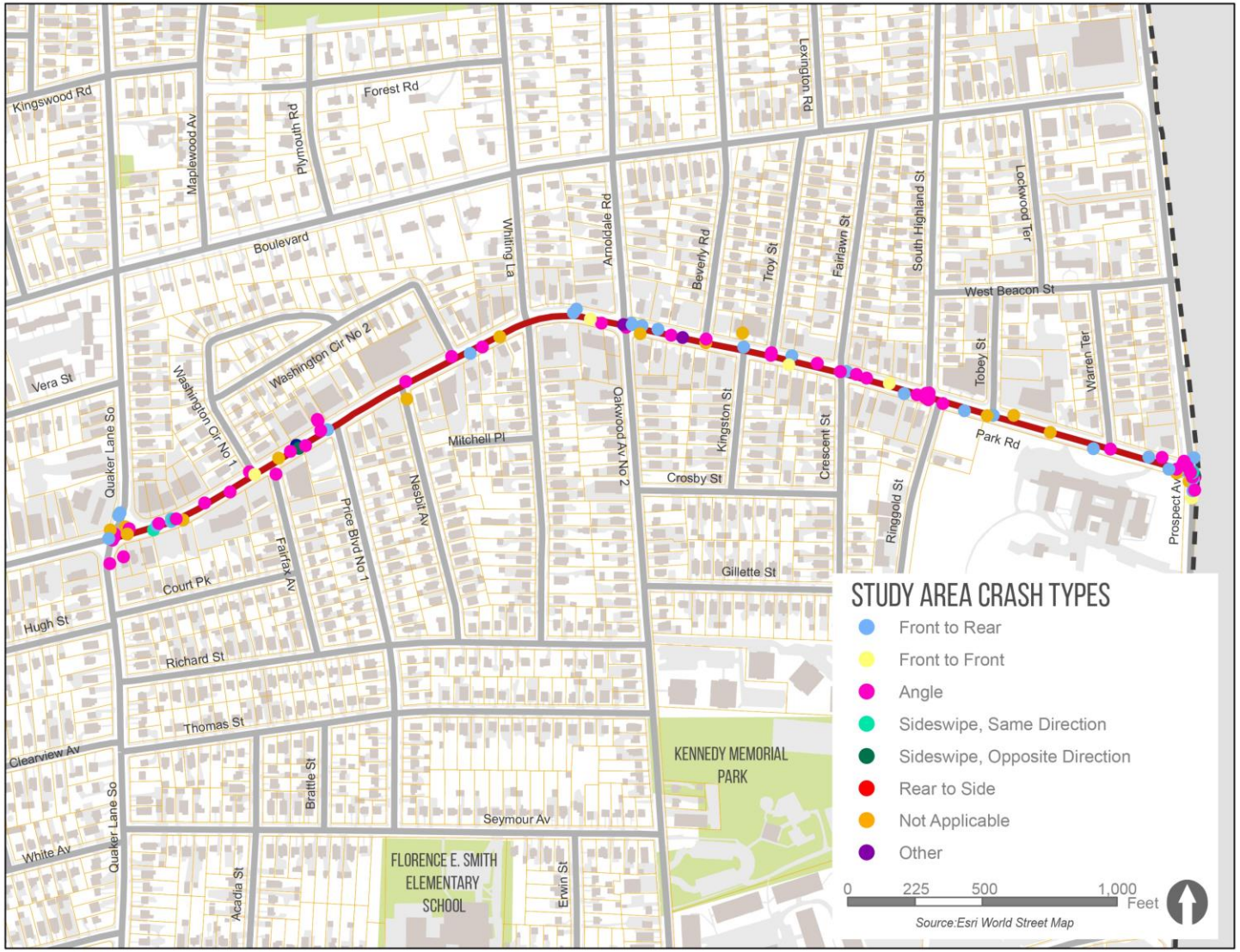
CRASH ANALYSIS – BICYCLIST CRASHES

- 4 Bicyclist Crashes Resulting in Injury
  - Park & Quaker – December 21st, 2021 at 5:14 PM
    - Northbound bicyclist struck by northbound motorist overtaking. Driver issued infraction
  - Park & Kingston Street – April 29th, 2018 at 7:00 PM
    - Eastbound bicyclist struck by westbound motorist turning left into Kingston Street
  - Park & Fairlawn – June 8th, 2020 at 5:06 PM
    - Bicyclist cycling in oncoming direction struck by right-turning vehicle turning from Fairlawn Street
  - Park & Ringgold Street – April 9th, 2021 at 4:32 PM
    - Bicyclist (8 y.o) struck by westbound motorist after beginning to cross Park Road from Highland Street sidewalk

CRASH TYPE

- Majority of crashes are angle, front to rear or not applicable



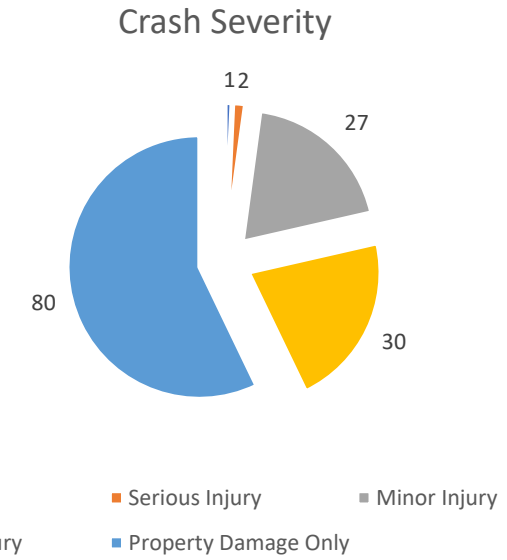


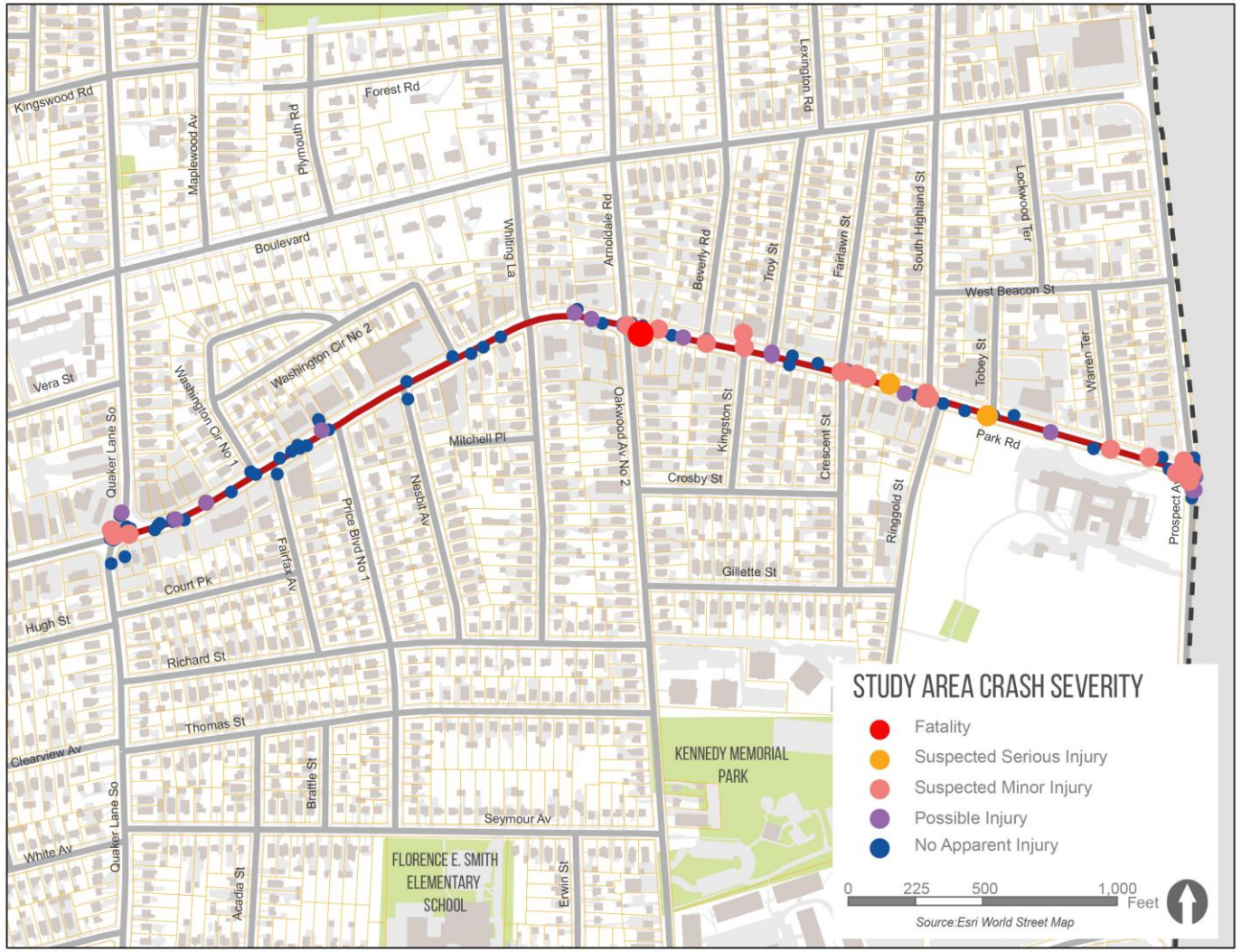
CRASH SEVERITY

- Majority of crashes (80) are classified as No Apparent Injury- Property Damage Only

- There was one crash resulting in fatality
  - Park Road east of Oakwood Ave

- Two crashes resulting in serious injury
  - Park Road east of Crescent
  - Park Road at Tobey Street





CRASH ANALYSIS – KSI CRASHES

- Fatal Pedestrian Crash Park Road at Oakwood
  - December 16th, 2018 at 8 PM
  - Pedestrian crossing north of Park Road east of the crosswalk at intersection struck by eastbound motorist
- 2 Crashes Resulting in Serious Injury
  - West of Highland Street – July 16th, 2020 at 2:46 PM
    - Westbound scooter struck by eastbound motorist turning left into driveway
  - East of Highland Street – March 31, 2018 at 3:15 PM
    - Westbound single vehicle crash – Possible DUI w/ speeding

SAMPLE IMPROVEMENTS TO IMPROVE SAFETY IN THE STUDY AREA

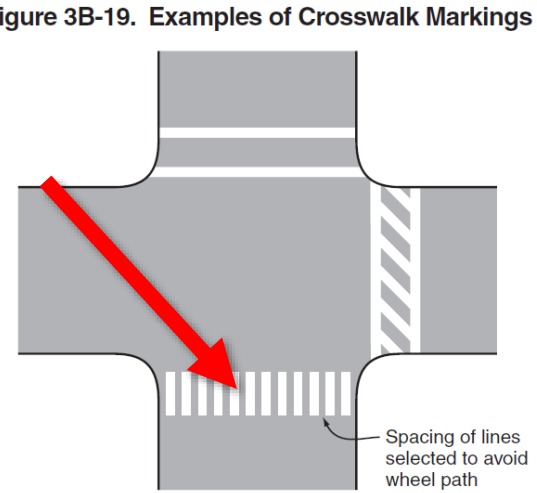
TYPES OF COUNTERMEASURES

- Pedestrian Countermeasures
- Bicycle Countermeasures
- Speed Reduction Measures (Traffic Calming)
  - Vertical Elements
  - Horizontal Elements
  - Cross Sectional and Other Elements
- Intersection Treatments & Traffic Volume Reduction Measures

- ***Some countermeasures may not be appropriate on certain facilities***

PEDESTRIAN COUNTER MEASURES

Leading Pedestrian Interval and Other Signal Changes



Crosswalks

RRFB

Raised Crosswalks and Intersections

Crosswalk Lighting

Curb Extensions

BICYCLIST COUNTER MEASURES

Sharrows

Bike Lanes

Buffered Bike Lanes

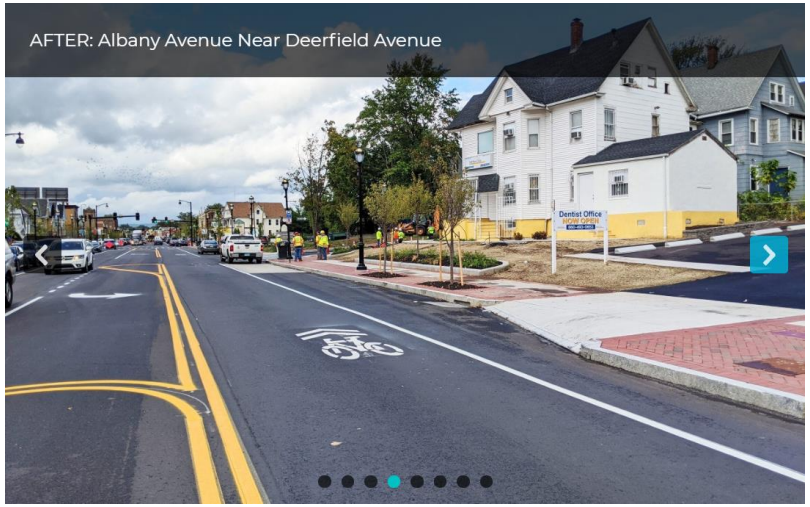
Cambridge, MA

Indianapolis, IN

Protected Bicycle Infrastructure

SPEED REDUCTION – CROSS SECTION AND OTHER

Mid-Block Median Island



Streetscape

Street Trees

Dynamic Speed Signs

INTERSECTION TREATMENTS

Roundabout

Half Closure

Through Traffic Restriction

Curb Extensions / Sight Line Improvements

DISCUSSION ON ISSUES IN THE STUDY AREA AND OPPORTUNITIES

TOMORROW'S WALK AUDIT

- Review safety protocols, reflective vests, etc.
- Meeting Location – Near Park Lane Pizza – Southeast Corner of Park and Quaker. Oct. 24th at 2:00 PM
- Walk the Study Area corridor and assess existing conditions and identify areas for improvement
- Post Audit discussion immediately following

THANK YOU!

Appendix B – RSA Materials

Park Road - Road Safety Audit

Meeting Location: Southwest Corner of Park Road and Prospect Avenue

Address: 1 Park Road, West Hartford, CT

Date and Time: 10/24/2023 – 2PM

Agenda

1. **Welcome and Introductions**
2. **Review of Road Safety Audit Route**
3. **Audit**
    - Visit Study Area
    - Complete Audit Checklist
    - Identify issues and opportunities for improvements
4. **Post-Audit Discussion**
    - Discussion observations and finalize findings
    - Discuss potential improvements and final recommendations
    - Next Steps

Notes for Participants

- All participants will be actively involved in the process throughout. Participants are encouraged to come with thoughts and ideas, as stakeholders' opinions are key elements to the success of the overall RSA process.
- After the RSA meeting, participants will be asked to comment and respond to the document materials to assure it is reflective of the RSA completed by the multidisciplinary team.

Audit Checklist

Pedestrians and Bicycles	Comment

Pedestrian Crossings
• Sufficient time to cross (signal)
• Signage
• Pavement Markings
• Detectable warning devices (signal)
• Adequate sight distance
• Wheelchair accessible ramps
  ○ Grades
  ○ Orientation
  ○ Tactile Warning Strips
• Pedestrian refuge at islands
• Other	

Pedestrian Facilities
• Sidewalk
  ○ Width
  ○ Grade
  ○ Materials/Condition
  ○ Drainage
  ○ Buffer
• Pedestrian lighting
• Pedestrian amenities (benches, trash receptacles)
• Other	

Bicycles • Bicycle facilities/design • Separation from traffic • Conflicts with on-street parking • Pedestrian Conflicts • Bicycle signal detection • Visibility • Roadway speed limit • Bicycle signage/markings • Shared Lane Width • Shoulder condition/width • Traffic volume • Heavy vehicles • Pavement condition • Other	

Roadway & Vehicles	

• Speed-related issues
  ○ Alignment;
  ○ Driver compliance with speed limits
  ○ Sight distance adequacy
  ○ Safe passing opportunities	

• Geometry
  ○ Road width (lanes, shoulders, medians);
  ○ Access points;
  ○ Drainage
  ○ Tapers and lane shifts
  ○ Roadside clear zone /slopes
  ○ Guide rails / protection systems	

• Intersections
  ○ Geometrics
  ○ Sight Distance
  ○ Traffic control devices
  ○ Safe storage for turning vehicles
  ○ Capacity Issues	

• Pavement
  ○ Pavement Condition (excessive roughness or rutting, potholes, loose material)
  ○ Edge drop-offs
  ○ Drainage issues
• Lighting Adequacy	

• Signing
  • Correct use of signing
  • Clear Message
  • Good placement for visibility
  • Adequate retro-reflectivity
  • Proper support	

• Signals
  ○ Proper visibility
  ○ Proper operation
  ○ Efficient operation
  ○ Safe placement of equipment
  ○ Proper sight distance
  ○ Adequate capacity	

• Pavement Markings
  ○ Correct and consistent with MUTCD
  ○ Adequate visibility
  ○ Condition
  ○ Edgelines provided	

• Miscellaneous
  ○ Weather conditions impact on design features.
  ○ Snow storage	

Road Safety Audit - Study Area

- Park Road between Prospect Avenue and Quaker Lane

Average Daily Traffic Volumes in 2018

Crash Summary Heat Map

Crash Summary

Years: 2018 – 2022

Crash Type	Fatality	Serious Injury	Minor Injury	Possible Injury	Property Damage Only	**Total**
Angle			12	15	38	**65**
Front to front		1	1	1	5	**8**
Front to rear			5	9	22	**36**
Rear to rear					1	**1**
Sideswipe, opposite direction					3	**3**
Sideswipe, same direction				1	5	**6**
Not Applicable (e.g. Single Vehicle, Bike/Ped Etc.)	1	1	9	2	6	**19**
Other				2		**2**
Total	**1**	**2**	**27**	**30**	**80**	**140**

Crashes Involving Bicyclist			3	1		**4**
Crashes InvolvingPedestrian	1		4			**5**
Total	**1**		**7**	**1**		**9**

Summary Analysis:

Crash Hotspots (5 Year Crash Total approx.)140 Crashes Total

- Park Crescent, Highland & Tobey – 26 Crashes (16 injury + 2 serious injury)
- Park / Prospect – 39 crashes (17 injury)
- Park / Quaker – 29 Crashes (10 injury)
- Park / Oakwood – 14 Crashes (6 injury + 1 fatality)

Road Safety Audit - Post Audit Discussion Guide

Safety Issues:

- Confirmation of safety issues identified during the pre-audit meeting and the walk audit

Potential Recommendations to Address Issues:

- **Short Term Recommendations**

- **Medium Term Recommendations**

- **Long Term Recommendations**

Next Steps

- Discussion involving implementation strategies and responsibilities and funding sources