

# CTfastrak

## ROAD SAFETY AUDIT

New Britain, West Hartford, and  
Hartford



**AUGUST 2025**

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# 1 ROAD SAFETY AUDIT PROGRAM

## 1.1 Program Background

The Connecticut Department of Transportation (CTDOT) has created a Road Safety Audit (RSA) Program that focuses on improving the state's transportation network for all users. An RSA is a formal safety assessment of the existing roadway at selected locations. It is a qualitative review by an independent team experienced in traffic, pedestrian, and bicycle operations and design that considers the safety of all road users and proactively assesses mitigation measures to improve the safe operation of the facility by reducing the potential crash risk frequency and/or severity.

RSAs are a collaborative effort led by a team of diverse professionals including CTDOT staff, consultants, municipal officials and staff, municipal police, the Local Traffic Authority (LTA), as well as local stakeholders and community leaders. The RSA team is established for each municipality based on the requirements of the individual location. They assess and review factors that can promote or obstruct safe walking and bicycling routes. These factors include traffic volumes and speeds, topography, roadway geometrics, crash data, roadway inventory (i.e., signage, curbs, bicycle/pedestrian facilities, amenities, safety components), and sidewalks.

Each RSA is conducted using RSA protocols published by the Federal Highway Administration (FHWA). For details on this program, please refer to the CTDOT RSA Program [webpage](#).

Prior to the site visit, the study team reviews area topography, land use characteristics, intersection sight distance concerns, sidewalk locations, parking, and bicycle facilities using available mapping and imagery. The site visit includes a pre-audit meeting, the field audit, and a post-audit meeting immediately following the field audit to discuss the observations and formulate recommendations. This report documents the procedures and summary results in the following sections.

The summary results section of this report, Chapter 4: Recommendations, includes several recommendations and concepts that can be considered for implementation by the municipality, regional planning organization, and / or CTDOT. While many of these recommendations are less complex and easier to implement, many of the more complex recommendations will require further analysis to ensure that they are feasible to implement.

In addition, many of the more complex recommendations will likely be costly and require longer timeframes for further planning, design, and / or right-of-way (ROW) acquisition. This document does not replace future planning, design, and ROW work that may be necessary for project delivery. The more complex recommendations should be the subject of continued conversations amongst the LTA, regional planning organization, and CTDOT on planning, programming, and funding opportunities. Currently there is no dedicated funding available for construction through the RSA Program. The RSA Program [webpage](#) not only explains the RSA process but also provides information regarding potential State and Federal funding resources and guidance to help municipalities and their Council of Government (COG) implement RSA recommendations in the Final RSA Report.



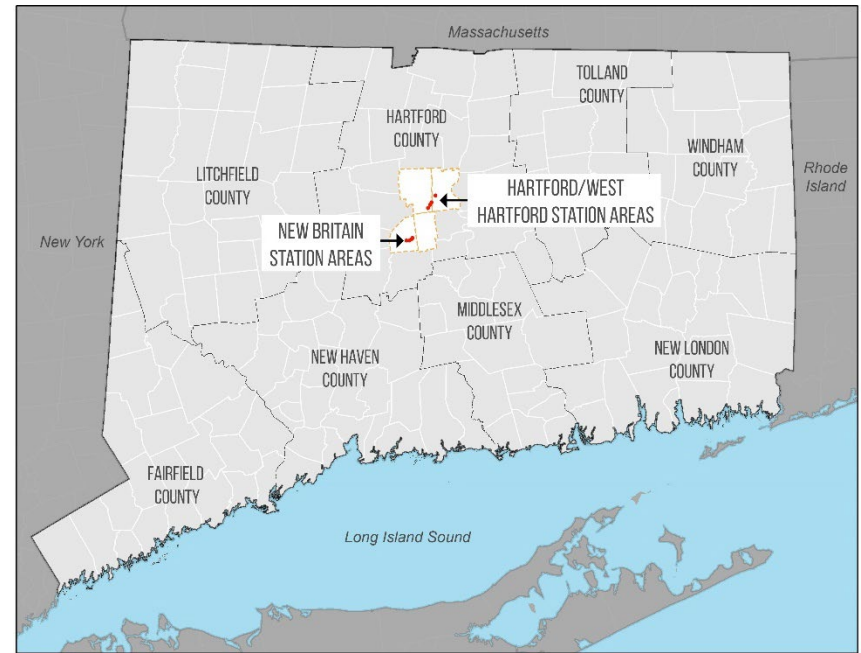
## 1.2 CTfastrak RSA Study Area and Location

CTDOT sponsored an RSA for eight select CTfastrak Bus Rapid Transit (BRT) locations at both stations and at-grade crossings in New Britain, West Hartford, and Hartford. CTfastrak RSA locations were chosen based on crash volumes and location context such as at grade intersection crossings, pedestrian and bicycle prevalence and traffic generators. Locations analyzed as part of this RSA include:

- Downtown New Britain Station, New Britain
- Stanley Street Crossing, New Britain
- East Main Street Station / Crossing, New Britain
- Smalley Street Crossing, New Britain
- East Street Station, New Britain
- Oakwood Avenue Crossing, West Hartford
- Flatbush Avenue Station, West Hartford
- Hamilton Street Crossing, Hartford

Exhibit 1 displays the study area in context to the State of Connecticut, while Exhibit 2 displays the study area in detail.

Exhibit 1: CTfastrak RSA Regional Location



The purpose of the RSA is to observe safety concerns while discussing safety improvements for pedestrians, bicyclists, and motorists traveling within the vicinity of the eight CTfastrak RSA locations. The study area locations are in urban environments that serve many purposes including local residential access, restaurant and commercial business access, service industry uses, civic uses, and pedestrian and bicyclist movement throughout the community. Access to major transportation corridors, such as Interstate 84 and Route 9, is also relevant to these study locations. Exhibit 3 through Exhibit 18 display maps with points of interest for each of the locations discussed in this RSA.



Exhibit 2: CTfastrak RSA Study Area

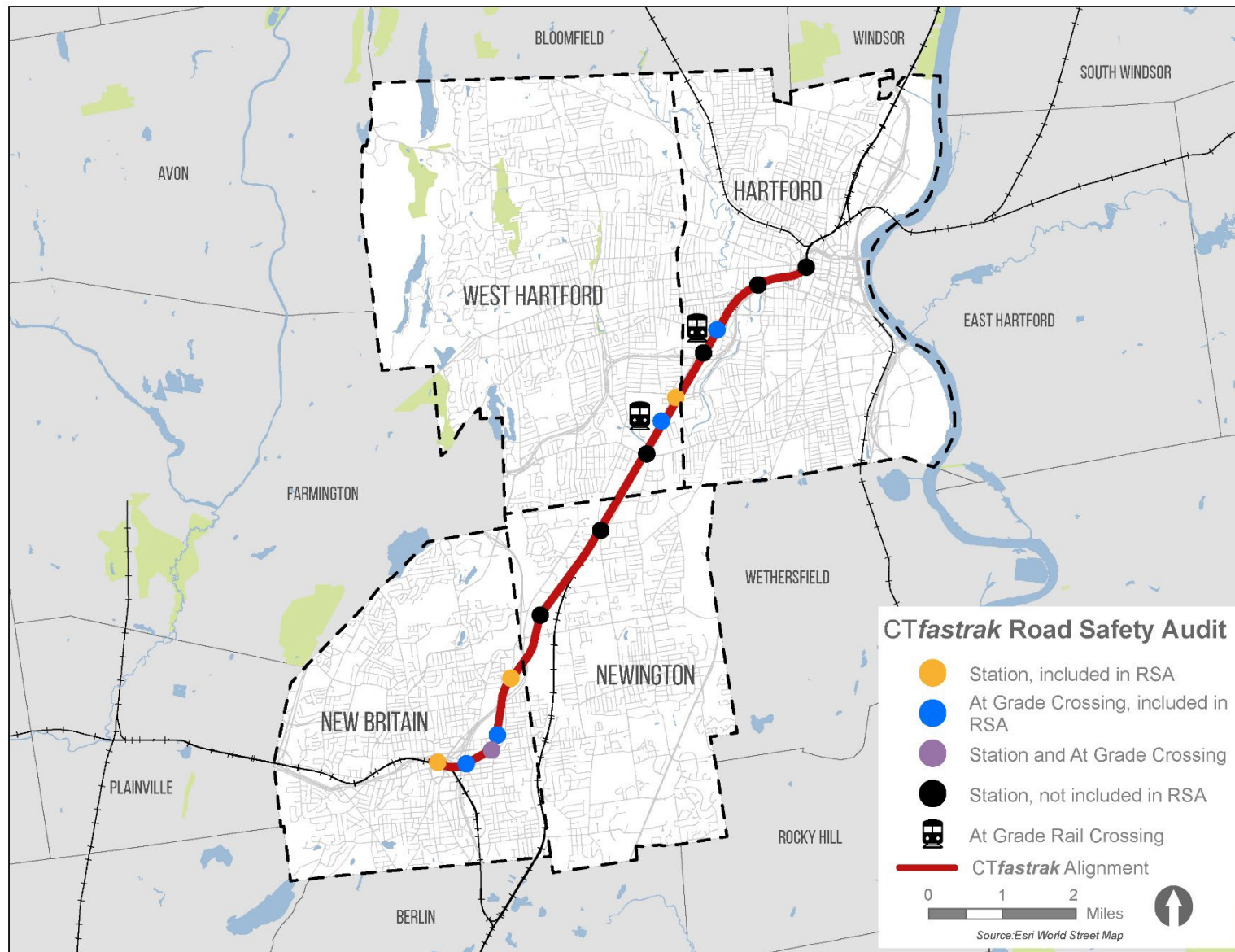


Exhibit 3: Downtown New Britain Station



Exhibit 4: Downtown New Britain Station Points of Interest

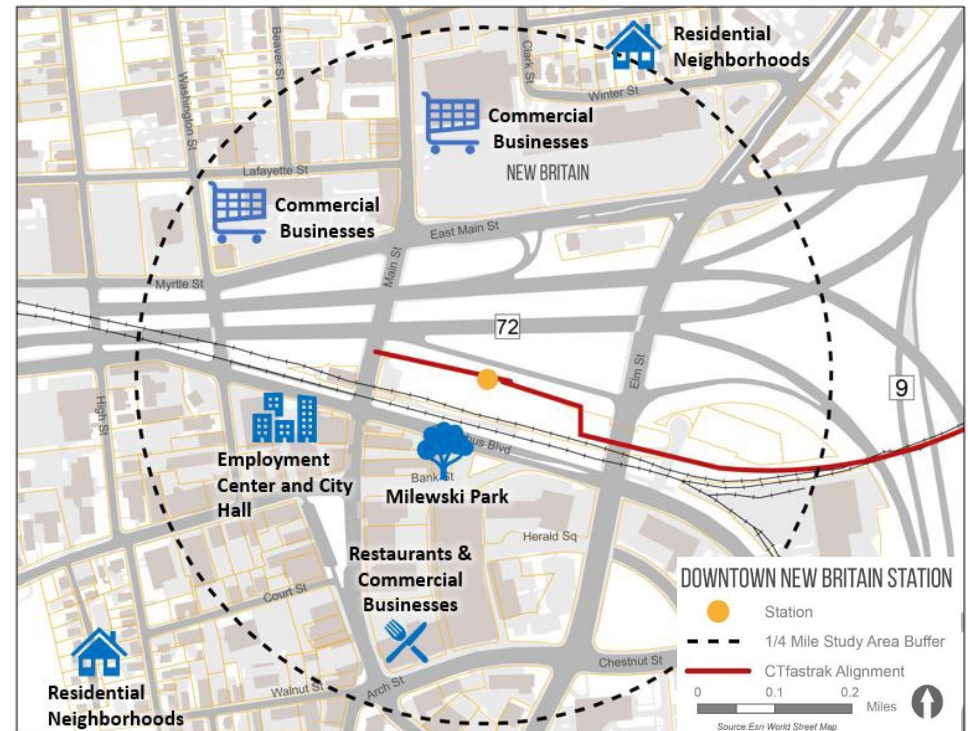




Exhibit 5: Stanley Street Crossing



Exhibit 6: Stanley Street Points of Interest

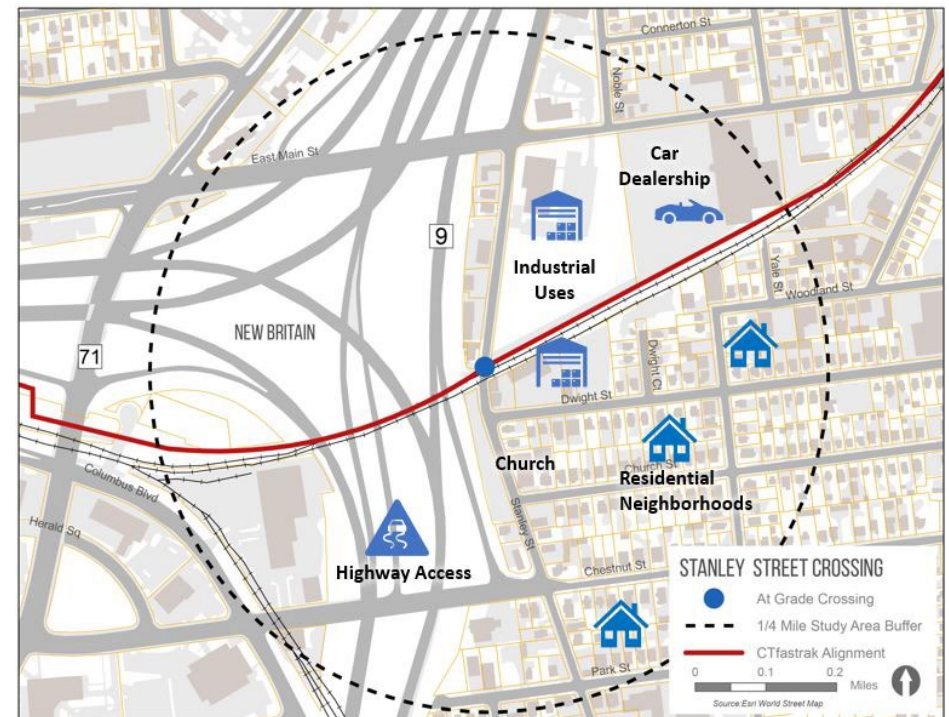




Exhibit 7: East Main Street Station and Crossing



Exhibit 8: East Main Street Station and Crossing Points of Interest

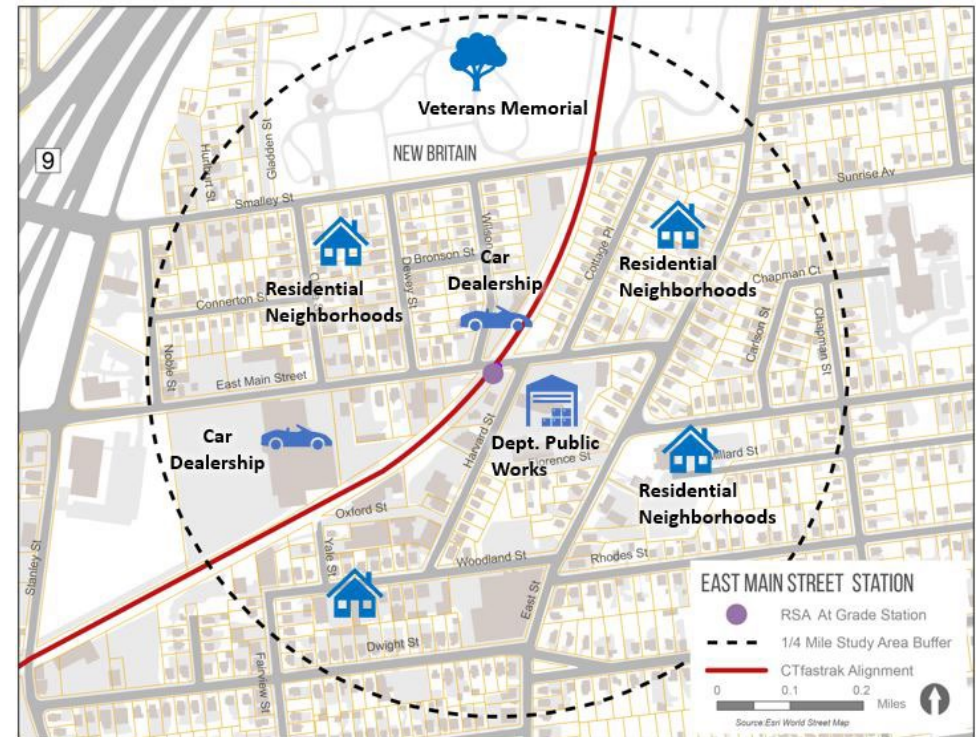




Exhibit 9: Smalley Street Crossing

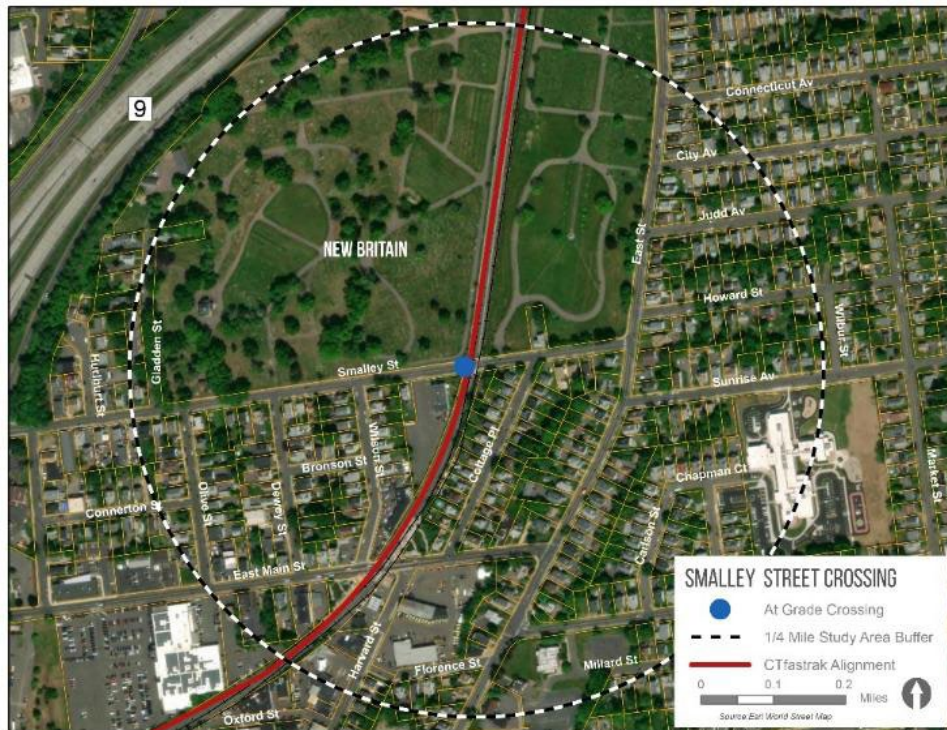


Exhibit 10: Smalley Street Crossing Points of Interest

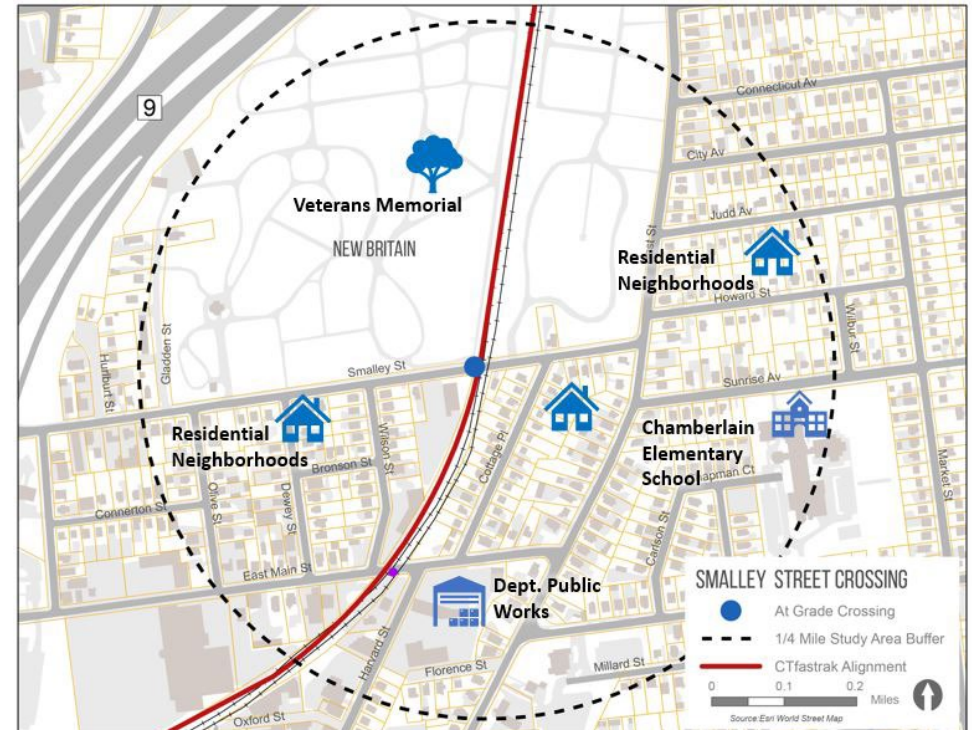




Exhibit 11: East Street Station



Exhibit 12: East Street Station Points of Interest



Exhibit 13: Oakwood Avenue Crossing



Exhibit 14: Oakwood Avenue Points of Interest

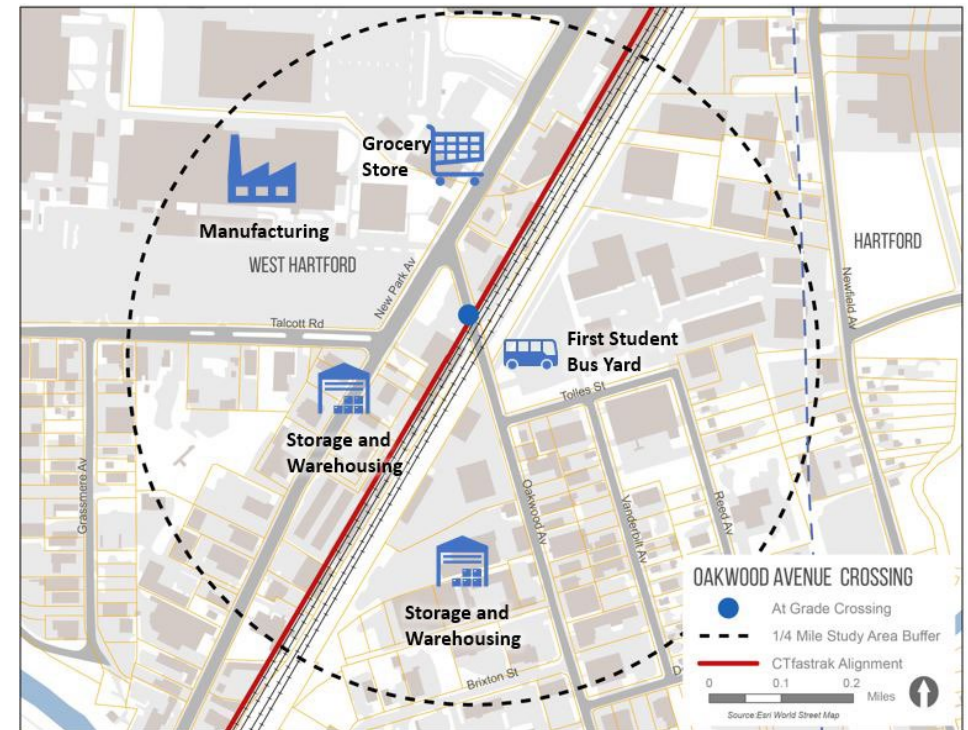




Exhibit 15: Flatbush Avenue Station



Exhibit 16: Flatbush Avenue Station Area Points of Interest

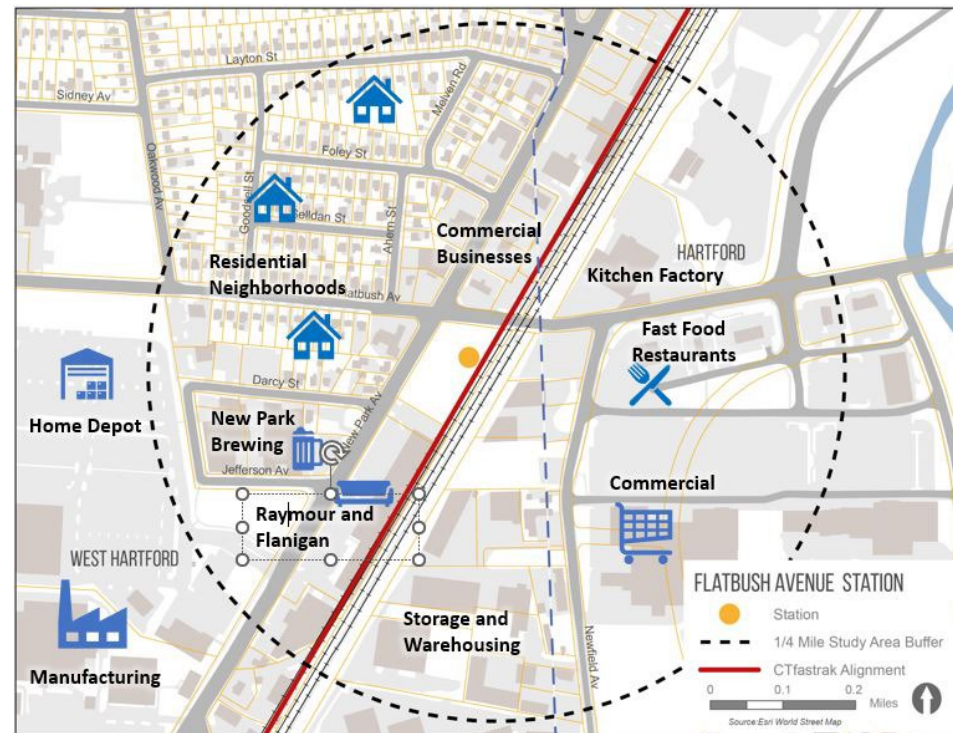
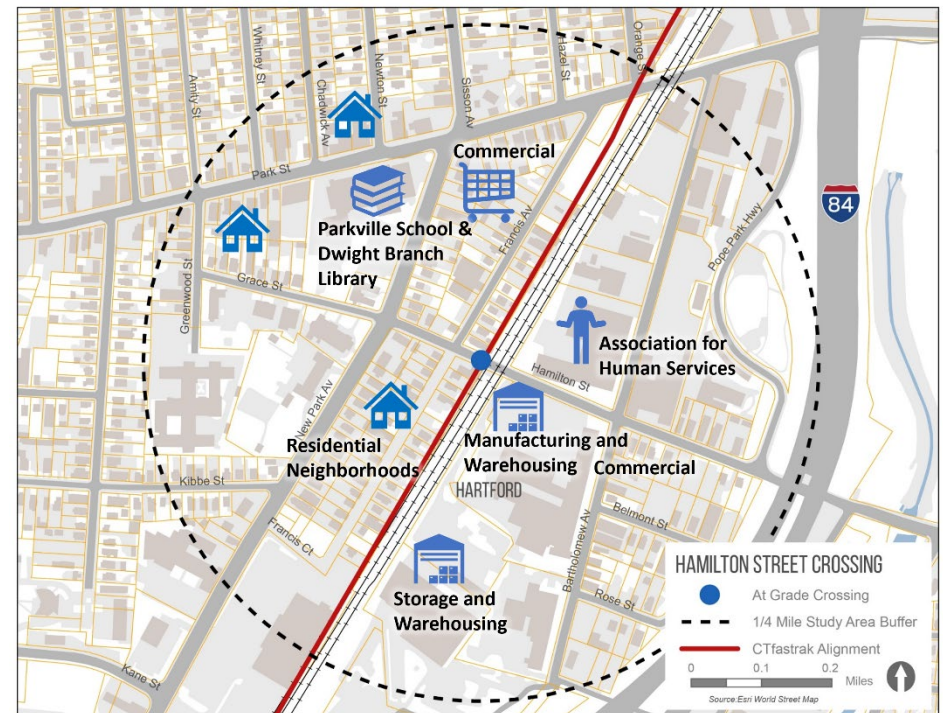




Exhibit 17: Hamilton Street Crossing



Exhibit 18: Hamilton Street Points of Interest





## 2 PRE-AUDIT MEETING

### 2.1 Pre-Audit Information

The RSA team conducted a pre-audit meeting in the afternoon of Monday, February 6th, 2024. The RSA team presented a brief presentation that included an overview of the CTfastrak RSA goals and purpose, the study area, and key existing conditions findings. Key themes discussed during the pre-audit meeting are presented below.

**At Grade Crossing Traffic Characteristics:** Five of the locations analyzed in this RSA are at grade crossings. These include:

- Stanley Street Crossing, New Britain
- East Main Street Station / Crossing, New Britain
- Smalley Street Crossing, New Britain
- Oakwood Avenue Crossing, West Hartford
- Hamilton Street Crossing, Hartford

Posted speed limits at each of the at grade crossings for vehicular motorists crossing the CTfastrak fixed guideway are 25 miles per hour (MPH), except for East Main Street, which is 30 MPH. Despite this, observed 85<sup>th</sup> percentile speeds at three of the locations (Stanley Street, East Main Street Station, and Smalley Street) were well above the posted speed limits. Participants from New Britain stated that drivers from the public that cross the guideway often speed at the crossings to avoid having to stop at a red light. Exhibit 19 displays traffic volumes, speed limits, and 85<sup>th</sup> percentile speeds at the five at grade crossings.

Posted speed limits for buses and other authorized vehicles operating on the CTfastrak guideway changes 19 times in each direction along the entire nine-mile CTfastrak BRT corridor between Hartford and New Britain. The number of speed limit zones varies because there are 10 BRT stations on the guideway and different roadway geometries, topographies and other characteristics influencing the types of speed zones in between each station.

The posted speed limit for buses and other authorized vehicles through each CTfastrak BRT station is 20 MPH. These are specific speed limits set for just the station area. The speed limits between each station are different and range from 20 MPH to 45 MPH depending on the area.

At each of the CTfastrak signalized intersections the posted speed limits for buses and other authorized vehicles align with whatever the posted speed is leading up to that intersection. Unlike stations, there is presently not a separate posted speed limit for buses and other authorized vehicles on CTfastrak specific to each intersection.

The posted speed limits leading up to and through the intersections range from 20 MPH to 45 MPH. Exhibit 19 displays the posted speed limits for the buses leading up to and through each of the CTfastrak signalized intersections. The speed limits for buses leading up to and through the CTfastrak signalized intersections are higher than the posted speed limits for the motorists crossing the guideway at most CTfastrak intersections.

Regardless of the posted speed limits for buses, currently all CTfastrak branded buses operated by HNS or DATTCO travelling on the guideway through each of the CTfastrak signalized intersections are supposed to (by a matter of HNS and DATTCO policies) follow a 20 MPH maximum operational speed through the intersection. This slower intersection

speed policy was implemented recently to reduce the number and severity of bus-related crashes at CTfastrak intersections.

Bus operators that follow the slower intersection speed policy have shown to reduce the number and severity of crashes at intersections. The opposite is true as well. Several of the bus-related crashes that occur at CTfastrak intersections involve the bus traveling faster than the 20 MPH policy speed. Enforcing this policy speed remains a challenge as well as an opportunity to further improve safety and operations through the intersection.

Currently, none of the traffic signal timings the CTfastrak signalized intersections are aligned with the slower bus intersection speed policy. The signal timings assume faster bus operations through the intersections and are programmed to the 85<sup>th</sup> percentile (higher) bus speeds and other factors set since the CTfastrak BRT service started in 2015.

Exhibit 19: Study Area Vehicular Volumes and Speeds

| At Grade Crossing Location | Average Annual Daily Traffic (AADT) | Posted Speed Limit | 85 <sup>th</sup> Percentile Speed |
|----------------------------|-------------------------------------|--------------------|-----------------------------------|
| Stanley Street             | 4,500                               | 25                 | 39.2                              |
| East Main Street Station   | 9,600                               | 30                 | 41.1                              |
| Smalley Street             | 3,100                               | 25                 | 41.2                              |
| Oakwood Avenue             | 4,300                               | 25                 | N/A                               |
| Hamilton Street            | 7,600                               | 25                 | 18.0*                             |

\*Designates speeds near or adjacent to intersection. This could impact recorded speeds.



**Crashes:** Crashes on CTfastrak occur mostly at the at-grade intersections with local roads. This is due to the controlled nature of the guideway and the professional bus drivers using it. Exhibit 20 displays the prevalence of injury and property damage crashes at each road crossing. Since CTfastrak BRT service began in 2015, the highest number of crashes and the highest crash rates occur at Stanley Street crossing and at Hamilton Street crossing, as displayed in Exhibit 21. Most of these crashes are angle crashes. Exhibit 22 displays crashes by year. Exhibit 23 displays the 2015 – 2024 at-grade crossing crashes.

Since CTfastrak opened in 2015, there have been several crashes involving red-light running. During field visits, motorists crossing the CTfastrak guideway were observed running the red at several of the CTfastrak intersections even with police present.

Of the 87 total crashes (involving all vehicles) at these five intersections from when CTfastrak BRT service began in 2015 through the end of calendar year 2024, 47 (55%) of them resulted in injuries. Since buses have high passenger occupancy, it is important to consider the number of people injured. There were 119 total injuries in period 2015 to 2024, or about 2.5 injuries per crash, which is higher than average. Of these 119 injuries, one resulted in serious injury and there were zero fatalities.

Considering other contributing factors, the poor sight distance at Stanley Street may have exacerbated the crash rate at that location. Until 2023, there was a blighted building on the southeast corner of the intersection that limited visibility of all approaches to and from that intersection. Since the building's demolition, bus operators say it is easier to see traffic crossing the at their approach the intersection. The improved line of sight may lead to fewer overall crashes at this location.

At Hamilton Street, there is a similar sight line issue with an operating business on the southwest corner of the intersection, vehicles parked on-street in front of that business, as well as noise walls on the northwest and southwest corners of the intersection. Additionally, there are existing railroad crossing infrastructure (gates) impeding clear line of sights for both buses and the motorists to clearly see each other approaching the intersection from all approaches. Visibility at this intersection could worsen if additional railroad infrastructure equipment gets installed as part of an upcoming railroad safety project that will install quad gates at that intersection and all other intersections along the CTrail Hartford Line (including at Oakwood Avenue and CTfastrak in West Hartford).

HNS and DATTCO representatives that operate buses on CTfastrak as well as state law enforcement patrolling the CTfastrak guideway, unauthorized (e.g., traveling public) vehicle access onto the CTfastrak guideway is common at several locations along the guideway, including at some stations and many intersections. Sometimes drivers illegally enter the CTfastrak guideway because they unintentionally confuse the CTfastrak guideway entrance for another public street or ramp that they intend to travel on. Other drivers intentionally enter the CTfastrak guideway because certain segments may serve as a convenient cut-through to shorten their trip.

In addition to the need to find ways to eliminate red-light violations, improve lines of sight, and eliminate unauthorized access at many of the CTfastrak intersections, the need for improved lighting, improved pedestrian crossings, and improved traffic signal operations were identified as key safety and operational needs for each CTfastrak intersection. These issues are discussed in the subsequent sections of this report. Not included in the charts are bus collisions on the guideway itself, which are often the result of bus operators bumping the bus into curbs at

stations. The Flatbush Avenue Station has a remarkably high rate of curb collisions. Field observations revealed that northbound buses frequently strike the curb and platform while maneuvering the difficult curvature required to enter the station and line up with the platform. Since CTfastrak opened in 2015 there have been 63 platform or curb strikes on the CTfastrak guideway, and 35 % of those strikes occurred at Flatbush Avenue Station.

In addition to the full year data through 2024, there were four (4) crashes reported in 2025 to date at the five at-grade crossings. One occurred at Oakwood Avenue, which resulted in an injury. One occurred at Hamilton Street, which resulted in an injury. Two crashes occurred at Smalley Street, one of which resulted in an injury.

Exhibit 20: Crashes by Severity

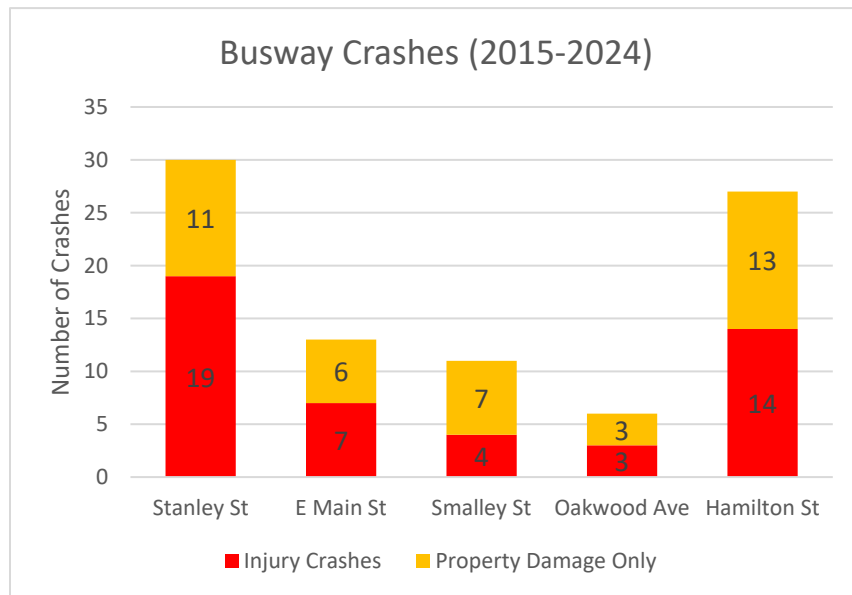


Exhibit 21: Crash Rates

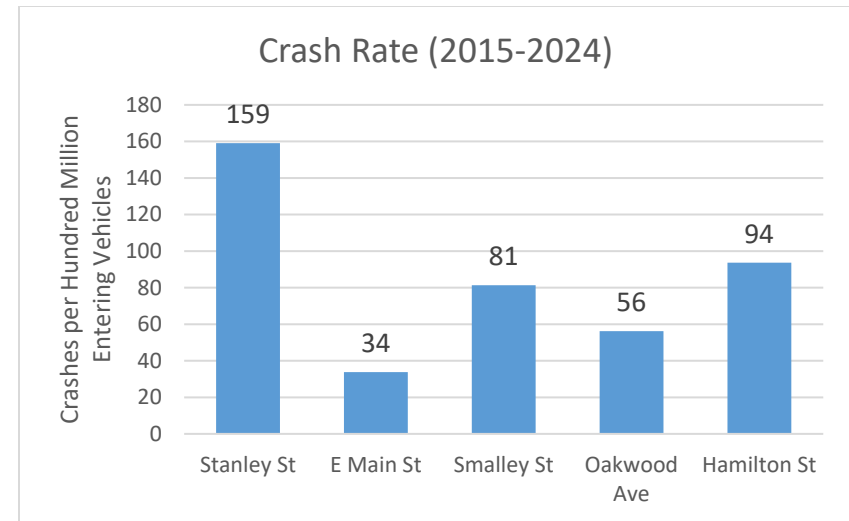


Exhibit 22: Crashes by Year

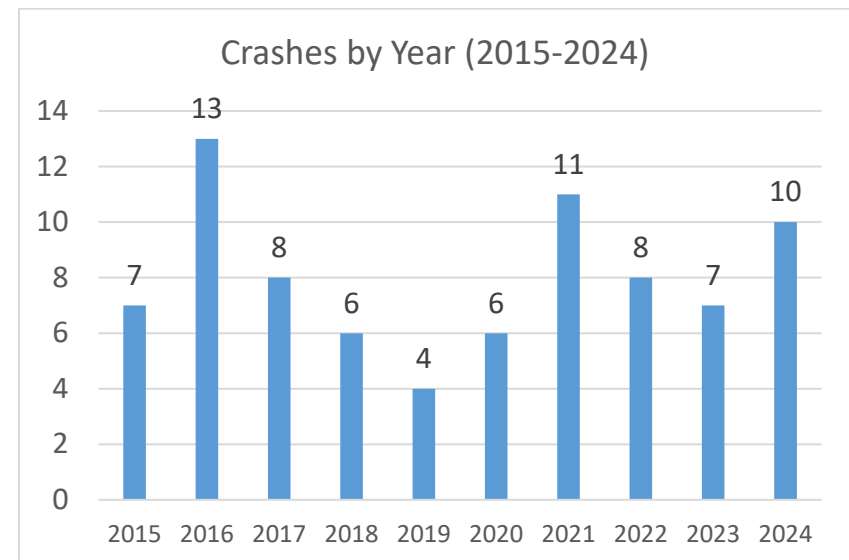
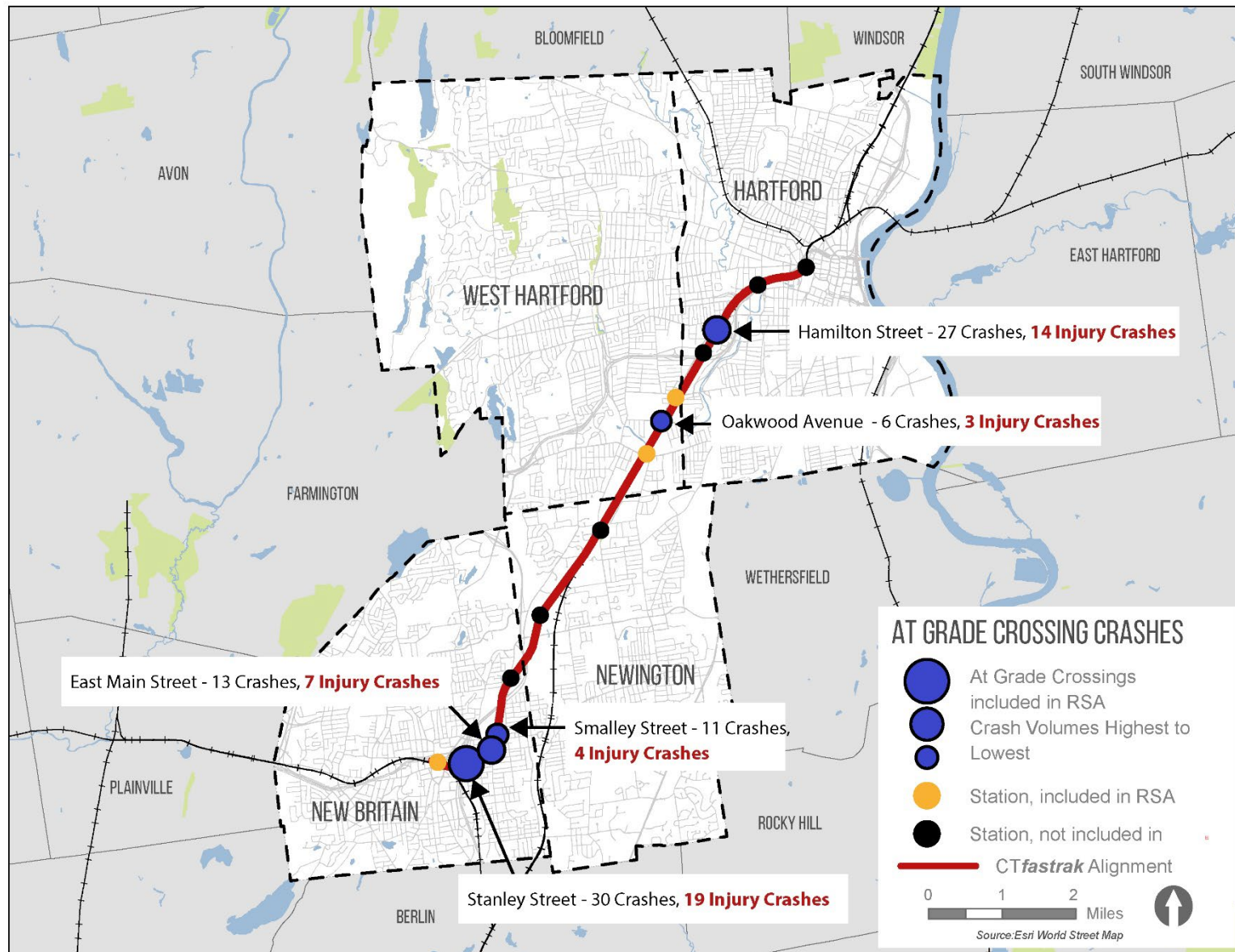




Exhibit 23: At Grade Crossing Crashes



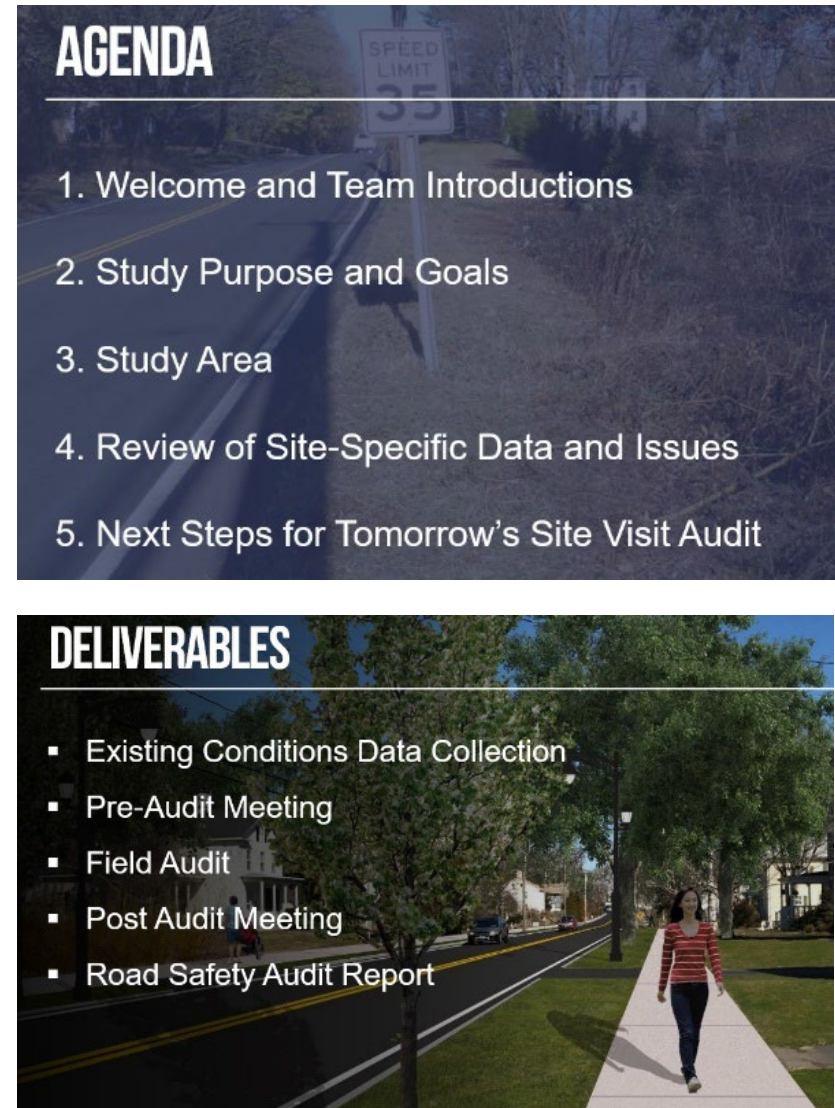
## 2.2 Pre-Audit Discussion

Immediately following the pre-audit presentation, a discussion occurred that highlighted concerns and notes regarding the CTfastrak RSA study area. Highlights and general observations from the discussion with municipal officials and staff, CTtransit representatives, and police are listed below:

- Vehicular motorist behavior is a concern.
- The signals are not optimally timed, and motorists often run red lights rather than waiting for the signal to change.
- General public red-light violations crossing the guideway are involved with all or nearly all bus-related crashes at CTfastrak intersections.
- Unauthorized vehicles on the guideway is an issue. Drivers at some locations use the CTfastrak guideway as a cut-through, others enter by mistake.
- Signage and lighting at crossings are inconsistent throughout the guideway and needs to be improved.
- Many of the pedestrian signals do not function optimally.
- There are obstructed sight distances at the Hamilton Street Crossing because of the building on the southwest side of the intersection, the sound walls, and the railroad infrastructure.

Exhibit 24 displays example slides from the pre-audit presentation.

Exhibit 24: Sample slides from pre-audit presentation





### 3 RSA ASSESSMENT

The following summary describes observations and discussion regarding issues and concerns throughout the CTfastrak RSA study area. Exhibit 25 shows RSA participants engaging in conversation during the RSA. The RSA team had discussions at each of the noted locations below.

*Exhibit 25: RSA participants engaged in safety briefing during RSA assessment*



#### 3.1 Downtown New Britain Station

- CTfastrak representatives said that a safety and security concern at this location is that unauthorized drivers (general public) mistakenly take the CTfastrak bus only ramp into the CTfastrak Downtown New Britain Station when exiting Route 72 eastbound at Exit 1C. Properly navigating the exit is confusing to motorists, especially when trying to take a right at the end of Exit 1C onto Route 71 into Downtown New Britain. Some drivers end up incorrectly taking the first right ahead of the intersection onto the ramp into Downtown New Britain Station instead of taking the proper right at the traffic light. Many of the unauthorized drivers who end up in Downtown New Britain Station say they are on their way to the courthouse in New Britain.
- An estimated 180 – 200 unauthorized drivers from the general public are documented each month mistakenly entering the CTfastrak Downtown New Britain station. Most of these motorists are entering from the ramp off Route 72 eastbound at Exit 1C, however, some unauthorized motorists also enter the station from Main Street. Exhibit 26 and Exhibit 27 show the bus-only entrances into Downtown New Britain Station from Main Street and Route 72 eastbound at Exit 1C.
- A CTfastrak security guard stationed on-site Monday through Friday on first shift records the un-authorized motorists entering the station. The number does not include any potential unauthorized motorists accessing the station outside the hours when the security guard is on site.
- When the security guard notices an unauthorized vehicle accessing the station, they stop and instruct the motorist how to properly exit the station. However, the security guard has other duties as well and they are not always able to reach every vehicle every time, including none of the vehicles accessing the station outside the hours when the security guard is on site. The night guard does not monitor the Main Street entrance.
- According to bus operators, lighting in the station area is a concern. Lamp heads are too short to adequately distribute light onto the entire area. Pedestrians crossing the interior station area roadway between the bus bays are difficult for the operators to see at night. Additionally, security on-site is challenging because of the poor lighting. Station area lighting is shown in Exhibit 28.

- Mid-block crossings within the station are an issue. Many people will not walk the several bays to get to the existing crossing that is shown in Exhibit 29. A new at-grade railroad crossing for pedestrians will be installed south of the station soon. This could add additional demand for mid-block crossings within Downtown New Britain Station.

Exhibit 26: Buses only driveway on Main Street



Exhibit 27: Route 72 off-ramp (Source: Google)



Exhibit 28: Insufficient lighting in station area





Exhibit 29: Mid-Block crossing at end of station area



### 3.2 Stanley Street Crossing

- CTfastrak operators have complained that there is insufficient overhead lighting at this location.
- Unauthorized access onto the CTfastrak fixed guideway is common at this crossing. A motorist illegally entered the guideway here during the RSA field audit. The motorist turned around as soon as the team conducting the field audit (all wearing bright retro-reflective vests) stopped them and instructed them to turn around.
- Prior to the RSA field audit there was an abandoned building located on the southeast corner of this intersection, which was demolished by the City of New Britain in fall of 2023. The building was located close to the roadway and decreased sight lines at this

location, likely contributing to several of the bus-related crashes that have occurred at this location since CTfastrak opened in 2015. It remains to be seen what effect this will have on the prevention and mitigation of future bus-related crashes at this location.

- The City of New Britain intends to redevelop the parcel of land where the abandoned building was located. Coordination with the City of New Britain is needed to ensure that redevelopment of the parcel does not preclude sight lines again in the future. Exhibit 30 displays the remains of the demolished building as of the RSA field audit.
- CTDOT has installed a warning device at this location to detect if a motorist may run the red light and this will communicate with buses as part of a pilot project. This equipment was not yet active at the time this CTfastrak RSA Report was drafted.
- Crosswalks are only present on three legs of the intersection despite the fact there are sidewalks at and approaching all four corners of the intersection. Not having crosswalks on all legs of the intersection may encourage unsafe crossings, including unsafe mid-block crossings along Stanley Street between that intersection and the next.
- There are no pedestrian signal heads or accessible pedestrian signals (APS) at this location. Since there are no pedestrian signal heads, it is not clear that pedestrians cannot cross the guideway when the light is green.
- Motorists were observed running the red light at this location during the RSA field visit.

Exhibit 30: Remnants of demolished building at Stanley Street Crossing



Exhibit 31: East Main Street Station Crossing



### 3.3 East Main Street Station & Intersection

- Unauthorized access onto the CTfastrak guideway is common at this crossing, which is displayed Exhibit 31.
- The black on white signage is faded at this location, causing poor visibility.
- The through signal heads on East Main Street have a green arrow to discourage drivers from turning onto the guideway.
- There are no pedestrian signals or APS at this location. Exhibit 32 displays crosswalks at this location.
- Since there are no pedestrian signal heads, it is not clear that pedestrians cannot cross the busway when the light is green.
- Pedestrian buttons exist only on two of the four corners. And are not Americans with Disabilities Act (ADA) compliant.
- The City of New Britain is planning to realign East Main Street and Newington Avenue 500 feet east of this intersection. This improvement is expected to improve traffic flow and may result in more vehicular traffic crossing this intersection.
- The City of New Britain is also relocating the City's Department of Public Works (DPW) garage at this intersection, which creates Transit Oriented Development (TOD) potential at the former DPW garage. It may also result in increased vehicular and foot traffic at this intersection and station.



Exhibit 32: East Main Street Station



### 3.4 Smalley Street Crossing

- There are no pedestrian signal heads at this location.
- The pedestrian pushbuttons are not ADA compliant.
- “No Turns” signage may be confusing, as shown in Exhibit 33.
- Unauthorized access onto the CTfastrak guideway is common at this crossing
- The observed signal timing is inefficient. The green light comes on too early and then turns to yellow before the bus can get to the signal. The timing is based on full speed operation.
- Detectors are timed to allow buses to call the green signal before arriving at the intersection, but this is not working correctly due to

the reduced operating speeds. It could be addressed now that detection is via video detection cameras.

- The fence on the southeast side of intersection could limit visibility to eastbound motorists.
- CTfastrak operators have complained that there is insufficient overhead lighting at this location.
- The through signal heads for Smalley Street have green arrows to discourage motorists from turning onto the guideway.
- The trail to the north of the crossing is not maintained from November 15 through April 15 (five months per year). It is unclear where potential trail users should travel when it is unusable due to snow. An entrance to the trail is shown in Exhibit 34.
- Crosswalks are only present on three legs of the intersection.
- Since there are no pedestrian signal heads, it is not clear that pedestrians cannot cross the guideway when the light is green.
- Pedestrian buttons are present on only two of the four corners.
- High noise walls and full street tree foliage at the intersection has the potential to impede sight lines for some of the approaches to this intersection.
- CTDOT has installed a warning device at this location to detect if a motorist may run the red light and this will communicate with buses as part of a pilot project. This equipment was not yet active at the time this CTfastrak RSA Report was drafted.

Exhibit 33: No Turns signage



Exhibit 34: Multi-use path that runs parallel to guideway



### 3.5 East Street Station

- Leading up to this RSA, the City of New Britain was interested in and preparing to implement a micromobility / scooter-share program in the city with opportunities for first and last mile connections around CTfastrak stations in New Britain and Downtown New Britain. The scooter provider has since disbanded and further demand/interest in scooters in the city, including at this East Street Station location, has subsided.
- The station design appears to function as intended. There is a Rectangular Rapid Flashing Beacon (RRFB) to aid in crossing at this location, but it was out of service on the day of the RSA. New Britain DPW staff stated that this will be addressed. The RRFB is shown in Exhibit 35. Exhibit 36 and Exhibit 37 display pedestrian and bicycle amenities in this area.
- Pedestrians or cyclists traveling on the multi-use trail must cross the driveway twice rather than having a direct path to the platforms.



Exhibit 35: Crosswalks at East Street Station



Exhibit 37: Crosswalks leading to the station platform



Exhibit 36: Apartment building located next to East Street Station



### 3.6 Oakwood Avenue Crossing

- The signals were recalling the CTfastrak guideway phase without buses approaching or being present at the intersection. Exhibit 38 shows a vehicle stopped at the red light while guideway light is green and no buses coming or going through the intersection.
- The long red-light phase may be unnecessary. This was originally planned to accommodate school buses crossing to get to the school bus storage yard southeast of the intersection, but as a matter of safety policy the school buses entering or leaving the school bus yard do not currently use the Oakwood Avenue crossing.
- Town of West Hartford officials relayed that they receive complaints that motorists often get backed up trying to cross the Oakwood Avenue intersection.
- Frequent red lights with little conflicting traffic creates driver expectation that there will not be issues when running red lights.
- There are no pedestrian signals and no push buttons to cross the guideway at this location.
- The sidewalk through the rail crossing is not properly delineated, as displayed in Exhibit 39.
- NO TURNS signage and other black text on white background is faded.
- There seemed to be issues with similar signs throughout the corridor, installed during that period.
- In 2021, a vehicle was hit and disabled from a collision with a bus. The vehicle was then hit by a crossing train. The driver fled the scene.

Exhibit 38: Vehicle stopped at the red light while busway light is green



Exhibit 39: Sidewalk condition crossing rail corridor





### 3.7 Flatbush Avenue Station

- Like other stations, pedestrian access is ADA-compliant and internal mobility functions well. Exhibit 40 displays sidewalks on site.
- Geometry is a challenge for bus operators maneuvering into and out of Flatbush Avenue Station.
- To comply with ADA requirements, buses are supposed to load / unload within three inches of the platform. This is difficult for operators to achieve due to the turning radius limitations within the existing layout of the station.
- There are several difficult curb radii at the station. Two of these are displayed in Exhibit 41 and Exhibit 42.
- Sightlines to the northbound exit approach are limited.
- The granite curb is struck frequently, particularly at the northbound platform. While some parts have been replaced, the existing broken curb is a tripping hazard.
- CT<sup>transit</sup> has set temporary cones in place to guide drivers maneuvering into the station.
- New Park Avenue is a critical location for pedestrian safety for West Hartford Vision Zero Action Plan. There have been several collisions with pedestrians accessing the station to the south of Flatbush Avenue. Pedestrians often do not use the designated crosswalk.

Exhibit 40: Internal sidewalk within station area



Exhibit 41: Turn radius to exit station



Exhibit 42: Turn radius to enter the station



### 3.8 Hamilton Street Crossing

- Bus-related crashes at this location are often caused by vehicles heading eastbound and running the red light.
- The building on the southwest corner limits sightlines at the intersection, as shown in Exhibit 43. There are limited countermeasures to address this, other than full property acquisition and demolition.
- Vehicles, mainly customers and deliveries to the business on the southwest corner of the intersection, frequently park on the street as shown in Exhibit 44. This exacerbates the limited sightlines.
- Sight distance is also limited by the noise walls on the west side of the guideway, the railroad grade crossing equipment, and nearby vegetation.
- As with the other road crossings, the guideway detection is not working as intended due to lower operating speeds than anticipated during design. When the guideway gets a green light and no buses are present, this can lead to complacency with red light compliance.
- Pedestrian crossing concerns were communicated by several participants. The Manual on Uniform Traffic Control Devices (MUTCD) suggests that pedestrian signal heads do not cover the railroad crossing and that their placement should be limited to the crossing of CTfastrak only. The pedestrian signals operate on recall, so no pedestrian pushbuttons exist. Several participants noted that this can be confusing for pedestrians and can leave pedestrians uncertain of when to cross. While removal of the pedestrian signal heads is not advised, they could be relocated for better visibility. However, there is limited space between the railroad and the guideway to install new pedestrian equipment.
- The pedestrian signal head is blocked by the rail gate and is not easily visible to pedestrians at the crosswalk at the northeastern quadrant of the intersection. This is shown in Exhibit 45. Pedestrian signal head visibility may be even more challenging when additional railroad infrastructure and equipment (e.g. gates and corresponding infrastructure) get installed as part of the CTDOT quad-gate rail crossing project on the Hartford Line that is currently in design. Coordination with the designers of the quad gate project to help ensure proper visibility of pedestrian signal heads is needed.
- The sidewalk and surface through the railroad crossing is indistinguishable from the roadway surface.



- There is a private driveway at the southeast quadrant of this intersection, as shown in Exhibit 46. The location of this driveway complicates safety and operations at the intersection. Relocation of this driveway further to the east was discussed. Hartford Police indicated that the signal may need to remain because of construction traffic and/or traffic from potential future development.
- Hartford Police indicated that dynamic “Bus Approaching” light on mast arm may be considered.
- CTDOT has installed a warning device at this location to detect if a motorist might run the red light and this will communicate with buses as part of a pilot project. This equipment was not yet active at the time this CTfastrak RSA Report was drafted.
- The intersection of Hamilton Street and Francis Avenue has only one crosswalk despite having sidewalks and landings on all four corners.
- On May 2, 2024, there was a fatal crash where a vehicle turning left from Hamilton Street westbound onto Francis Avenue southbound hit a bicyclist.

Exhibit 43: Building located very close to the intersection



Exhibit 44: Vehicles utilizing the on-street parking



Exhibit 45: Pedestrian signal is blocked by the rail gate



Exhibit 46: Private driveway adjacent to intersection





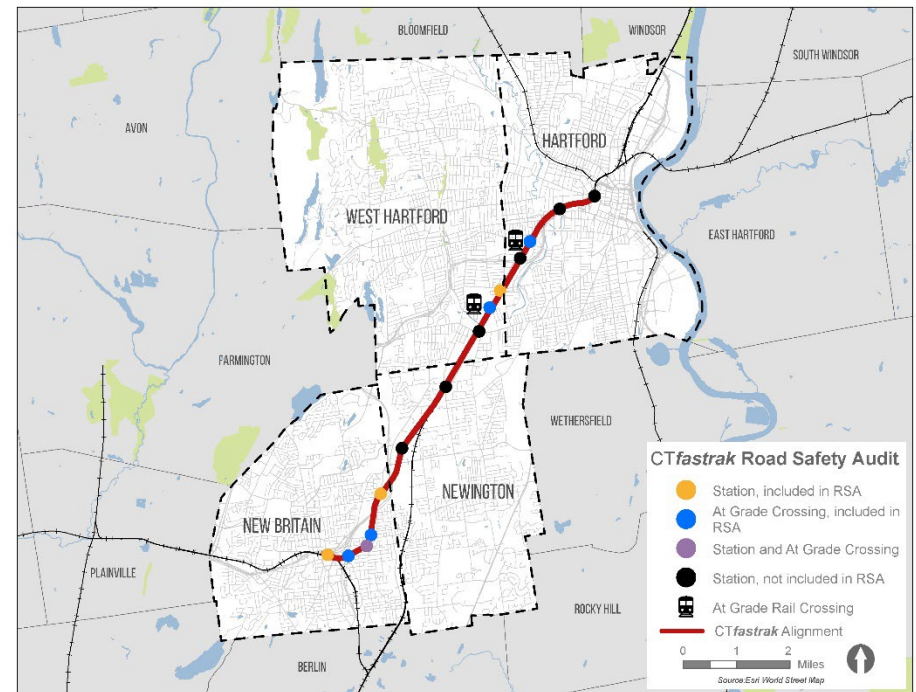
## 4 RECOMMENDATIONS

The RSA team compiled a set of recommendations for the RSA study area, shown in Exhibit 47. These recommendations are organized by CTfastrak station and at-grade crossing locations, beginning in New Britain and ending in Hartford. Overall study recommendations for each of the analyzed locations are provided in Exhibit 48.

All recommendations for all locations are categorized by their complexity of implementation and are generally categorized as follows.

- **Least Complex Recommendations:** These recommendations are typically low-cost recommendations such as striping and signage. These recommendations generally do not require extensive engineering or construction costs. More extensive recommendations which have funding previously committed may be included.
- **Moderately Complex Recommendations:** These are improvements that may require more substantial engineering than those generally included as least complex recommendations. These may require the establishment of funding in capital improvement plans, or a dedicated funding item. However, these recommendations fall between the least complex and most complex, requiring some level of design and funding, but typically do not include ROW acquisitions, extensive environmental permitting, etc.
- **Most Complex Recommendations:** These are improvements that require substantial study and engineering. These recommendations generally require significant funding for implementation and may require several years of planning to budget.

Exhibit 47: RSA Study Area



Any work within the State ROW to be completed by non-State entities will require an encroachment permit from the District Permit Office and/or an official request from the municipal LTA.

Exhibit 48: Study Area Recommendations

| Recommendation                                                       | Location |                   |                              |                         |                                         |                         |                     |                         |                         |                          |
|----------------------------------------------------------------------|----------|-------------------|------------------------------|-------------------------|-----------------------------------------|-------------------------|---------------------|-------------------------|-------------------------|--------------------------|
|                                                                      | General  | Route 72 Off-Ramp | Downtown New Britain Station | Stanley Street Crossing | East Main Street Station & Intersection | Smalley Street Crossing | East Street Station | Oakwood Avenue Crossing | Flatbush Avenue Station | Hamilton Street Crossing |
| <b>Least Complex</b>                                                 |          |                   |                              |                         |                                         |                         |                     |                         |                         |                          |
| Update speed limits on CTfastrak to 20 mph                           | ●        |                   |                              |                         |                                         |                         |                     |                         |                         |                          |
| Update signal timings/detection zones at intersections               | ●        |                   |                              |                         |                                         |                         |                     |                         |                         |                          |
| Improve driver training, recruitment, and retention                  | ●        |                   |                              |                         |                                         |                         |                     |                         |                         |                          |
| Continue implementation of red-light-running warning                 | ●        |                   |                              |                         |                                         |                         |                     |                         |                         |                          |
| Replace faded signs and pavement markings                            | ●        |                   |                              |                         |                                         |                         |                     |                         |                         |                          |
| Add DO NOT ENTER - EXCEPT BUSES sign assembly                        |          | ●                 |                              |                         | ●                                       | ●                       |                     | ●                       |                         |                          |
| Add lane use arrow and BUS ONLY markings                             |          | ●                 |                              |                         |                                         |                         |                     |                         |                         |                          |
| Trim vegetation along existing sidewalk / road                       |          |                   |                              |                         |                                         |                         |                     |                         |                         | ●                        |
| Extend shoulder lines through intersection                           |          |                   |                              | ●                       | ●                                       | ●                       |                     | ●                       |                         |                          |
| Add actuated LED bus warning signs                                   |          |                   |                              | ●                       | ●                                       | ●                       |                     | ●                       |                         |                          |
| Increase police enforcement of red-light running                     |          |                   |                              | ●                       |                                         |                         |                     |                         |                         | ●                        |
| Maintain adjacent shared-use trail year-round                        |          |                   |                              |                         |                                         | ●                       |                     |                         |                         |                          |
| Repair RRFB across from station                                      |          |                   |                              |                         |                                         |                         | ●                   |                         |                         |                          |
| Post No Parking signs at intersection                                |          |                   |                              |                         |                                         |                         |                     |                         |                         |                          |
| Provide crosswalks on all intersection legs                          |          |                   |                              |                         |                                         |                         |                     |                         |                         | ●                        |
| <b>Moderately Complex</b>                                            |          |                   |                              |                         |                                         |                         |                     |                         |                         |                          |
| Add automated red light and/or speed enforcement                     | ●        |                   |                              |                         |                                         |                         |                     |                         |                         |                          |
| Improve intersection illumination                                    | ●        |                   |                              |                         |                                         |                         |                     |                         |                         |                          |
| Update pedestrian infrastructure for ADA/PROWAG                      | ●        |                   |                              |                         |                                         |                         |                     |                         |                         |                          |
| Install colored pavement at guideway entrances                       |          | ●                 | ●                            | ●                       | ●                                       | ●                       |                     | ●                       |                         | ●                        |
| Explore red light cameras to assist with enforcement                 |          |                   |                              | ●                       |                                         |                         |                     |                         |                         | ●                        |
| Improve pedestrian-level station lighting                            |          |                   | ●                            |                         |                                         |                         |                     |                         |                         |                          |
| Add automated license plate monitoring on ramp                       |          | ●                 |                              |                         |                                         |                         |                     |                         |                         |                          |
| Preserve sightline on SE corner of intersection                      |          |                   |                              | ●                       |                                         |                         |                     |                         |                         |                          |
| Consider traffic calming measures (median islands, neckdowns, etc.)  |          |                   |                              | ●                       |                                         | ●                       |                     | ●                       |                         | ●                        |
| Adjust striping and curbs to facilitate bus maneuvering              |          |                   |                              |                         |                                         |                         |                     |                         | ●                       |                          |
| Add curb extensions to improve pedestrian visibility                 |          |                   |                              |                         |                                         |                         |                     |                         |                         | ●                        |
| Explore options to move or adjust noise walls to improve sight lines |          |                   |                              |                         |                                         |                         |                     |                         |                         | ●                        |
| Study feasibility of multi-use path                                  |          |                   |                              |                         |                                         | ●                       |                     |                         |                         |                          |
| <b>Most Complex</b>                                                  |          |                   |                              |                         |                                         |                         |                     |                         |                         |                          |
| Explore ways to provide a refuge island                              |          |                   |                              |                         |                                         |                         |                     |                         |                         | ●                        |
| Consider/pursue access management to improve visibility              |          |                   |                              |                         |                                         |                         |                     |                         |                         | ●                        |



#### 4.1 General Recommendations

The general recommendations for the corridor focus on creating a safer, more coherent, and more aesthetic experience for all users. The recommendations aim to increase visibility for motorists and transit users.

##### *Least Complex Recommendations*

- 1) Update the posted speed limits on the CT *fastrak* guideway to match current policy.
  - **Next Step:** CTDOT Office of the State Traffic Administration (OSTA)
- 2) Update the traffic signal timings and detection zones at each intersection so they better align with both the bus and crossing traffic needs and the speeds through each intersection.
  - **Next Step:** CTDOT Traffic Signal Lab
- 3) Improve bus operator training, recruitment and retention practices.
  - **Next Step:** Coordinate with CT *fastrak* operators.
- 4) Continue to trial red light violation warning technology and expand to new locations. Integrate with buses to warn operators of potential red-light violations ahead.
  - **Next Step:** CT *fastrak* Improvement Project
- 5) Replace all faded signs and pavement markings at each intersection.
  - **Next Step:** Contact CTDOT Maintenance

##### *Moderately Complex Recommendations*

- 1) Improve lighting at each intersection
  - **Next Step:** Contact CTDOT Maintenance

- 2) Update all the crossings, sidewalks, pedestrian signal heads, and push buttons to ensure they are properly visible and conform to current MUTCD, PROWAG, and ADA requirements.

➤ **Next Step:** CT *fastrak* Improvement Project

#### 4.2 Downtown New Britain Station

The recommendations in this area focus on improving pedestrian visibility and security within the station, as well as adding signage and pavement treatments to discourage unauthorized access to the guideway.

Issues related to the Route 72 off-ramp at this location were discussed during the site visit. Recommendations for this location include measures to reduce the number of unauthorized vehicles using the bus ramp and entering Downtown New Britain Station. These potential improvements are intended to be located where the bus only ramp splits off from the off-ramp, whereas most existing countermeasures are located upstream of the split.

Exhibit 49 displays recommendations at Downtown New Britain Station.

##### *Least Complex Recommendations*

- 1) Install Do Not Enter – Except Buses sign assembly in the gore in the vicinity of the first chevron sign.
  - **Next Step:** Contact CTDOT Maintenance
- 2) Add an existing lane use arrow (left-through-right) at the beginning of the bus only ramp to indicate that right-turning traffic does not need to use the bus ramp. Add additional BUS ONLY pavement markings, and/or additional paint to more clearly distinguish the CT *fastrak* Downtown New Britain Station ramp is only for buses and not cars.

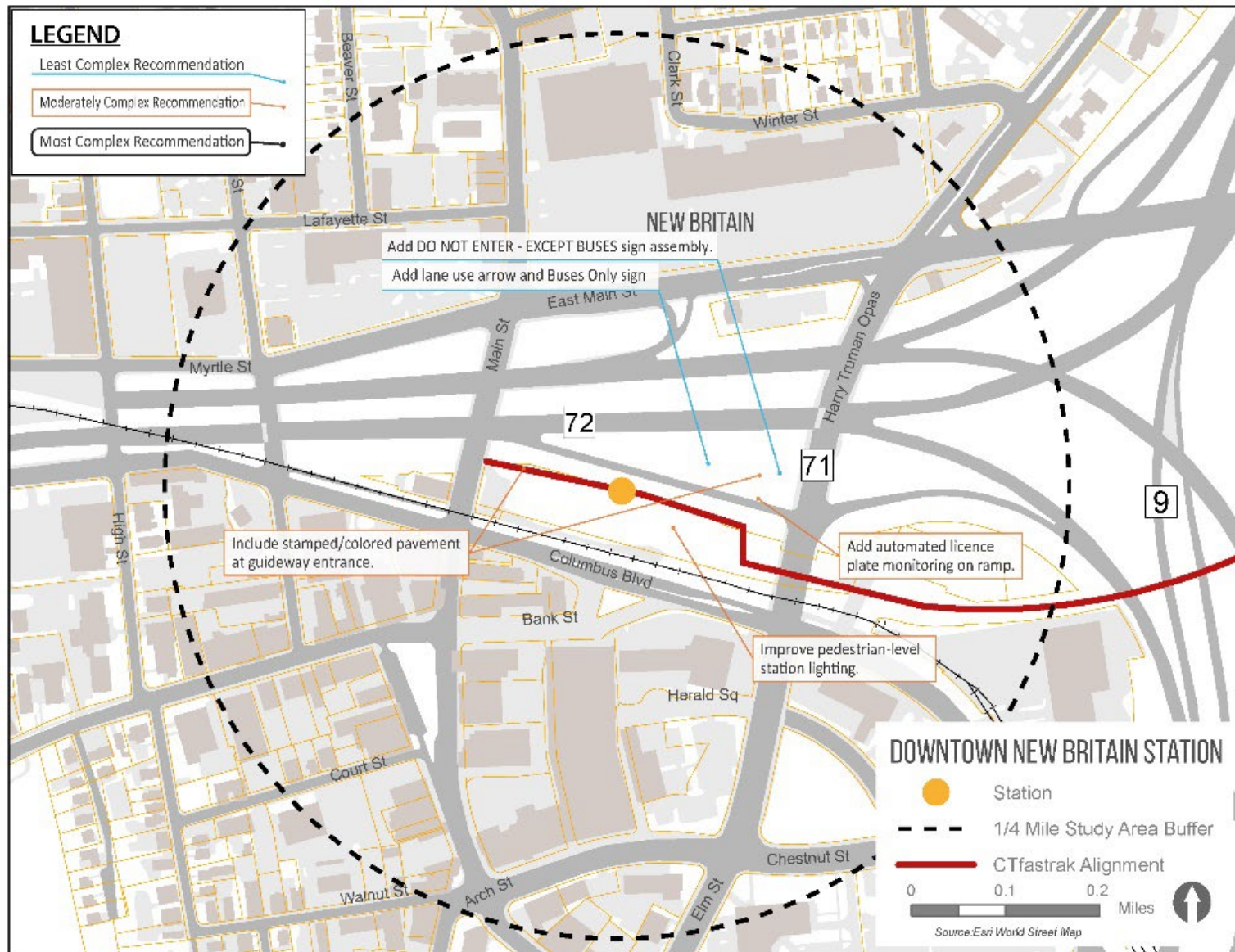
- **Next Step:** Contact CTDOT Maintenance

#### *Moderately Complex Recommendations*

- 1) Install colored pavement at guideway entrance.
  - **Next Step:** CTfastrak Improvement Project
- 2) Improve pedestrian-level lighting within the station area.
  - **Next Step:** Contact CTDOT Maintenance
- 3) Install camera detection equipment, license plate reader, and video message sign at bottom of ramp into Downtown New Britain Station to automatically detect and inventory whether vehicle is authorized or not to enter the station and to instruct unauthorized vehicles how to leave the station. This ensures 100 % of the vehicles entering the station from the off-ramp are identified. This can allow the security guard to do other tasks while on duty.
  - **Next Step:** Contact CTDOT Maintenance and HNS (CTtransit)



Exhibit 49: Downtown New Britain Station Recommendations



### 4.3 Stanley Street Crossing

Stanley Street has the highest crash rate on the guideway. The recommendations in this area address the primary cause of these crashes: reducing the frequency of red light running. Other goals are reducing unauthorized use of the guideway, improving guideway efficiency, and better accommodating active transportation.

Exhibit 50 displays recommendations for this location.

#### *Least Complex Recommendations*

- 1) Extend shoulder lines through the intersection.
  - **Next Step:** Contact CTDOT Maintenance
- 2) Add actuated overhead light emitting diode (LED) bus warning signs at the intersection.
  - **Next Step:** Contact CTDOT Maintenance
- 3) Increase police enforcement of red-light running.
  - **Next Step:** Contact Local Traffic Authority (LTA)

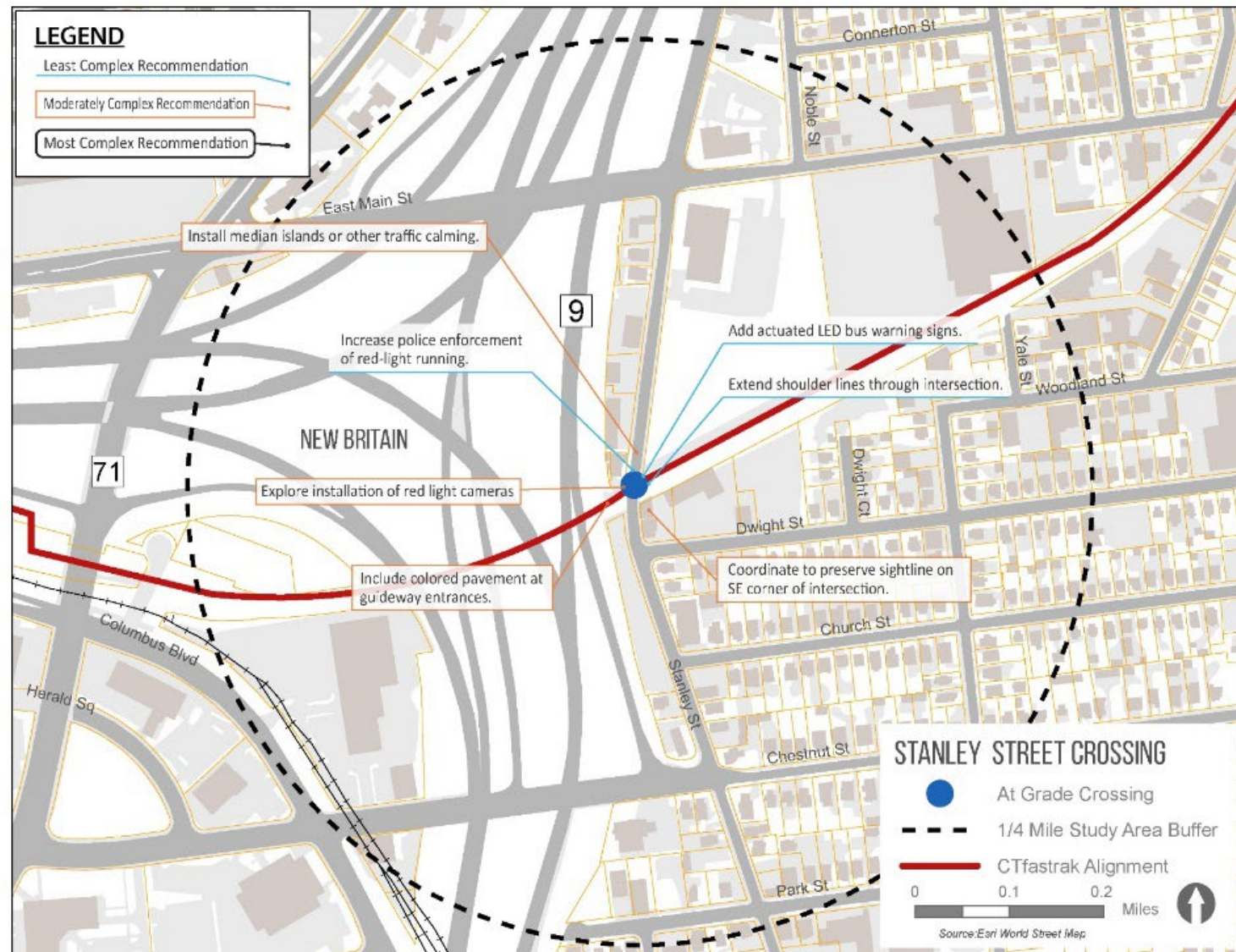
#### *Moderately Complex Recommendations*

- 1) Coordinate with City to ensure future development on the property at the southeast quadrant of the intersection preserves clear sight line (may require zoning change).
  - **Next Step:** Contact City of New Britain Economic Development Office
- 2) Install median islands or other traffic calming solutions on Stanley Street approaching the crossing.
  - **Next Step:** CTfastrak Improvement Project

- 3) Install colored pavement at guideway entrance.
  - **Next Step:** CTfastrak Improvement Project
- 4) Explore red light cameras to assist with traffic enforcement.
  - **Next Step:** LTA / municipality to consider applying for an [Encroachment Permit](#) through the District permit office



Exhibit 50: Stanley Street Crossing Recommendations



#### 4.4 East Main Street Station Crossing & Intersection

The recommendations in this area address several issues: reducing unauthorized use of the guideway, reducing the frequency of red light running, improving guideway efficiency, and better accommodating active transportation.

Exhibit 51 displays recommendations for this location.

##### *Least Complex Recommendations*

- 1) Extend shoulder lines through the intersection.
  - **Next Step:** Contact CTDOT Maintenance
- 2) Install Do Not Enter – Except Buses sign assembly.
  - **Next Step:** Contact CTDOT Maintenance
- 3) Add actuated LED bus warning signs.
  - **Next Step:** CT *fastrak* Improvement Project

##### *Moderately Complex Recommendations*

- 1) Install colored pavement at guideway entrance.
  - **Next Step:** CT *fastrak* Improvement Project

#### 4.5 Smalley Street Crossing

The recommendations in this area address several issues: reducing unauthorized use of the guideway, reducing the frequency of red light running, improving guideway efficiency, and better accommodating active transportation.

Exhibit 52 displays recommendations for this location.

##### *Least Complex Recommendations*

- 1) Extend shoulder lines through the intersection.
  - **Next Step:** Contact CTDOT Maintenance
- 2) Add Do Not Enter – Except Buses sign assembly.
  - **Next Step:** Contact CTDOT Maintenance
- 3) Add actuated LED bus warning signs.
  - **Next Step:** CT *fastrak* Improvement Project
- 4) Maintain adjacent shared-use trail year-round.
  - **Next Step:** Coordinate with CT *transit* maintenance

##### *Moderately Complex Recommendations*

- 1) Install median islands or other traffic calming solutions on Smalley Street approaching the crossing.
  - **Next Step:** CT *fastrak* Improvement Project
- 2) Install colored pavement at guideway entrance.
  - **Next Step:** CT *fastrak* Improvement Project
- 3) Pursue studying the feasibility of a continuation development of a multi-use path north of Smalley Street.



Exhibit 51: East Main Street Station Recommendations

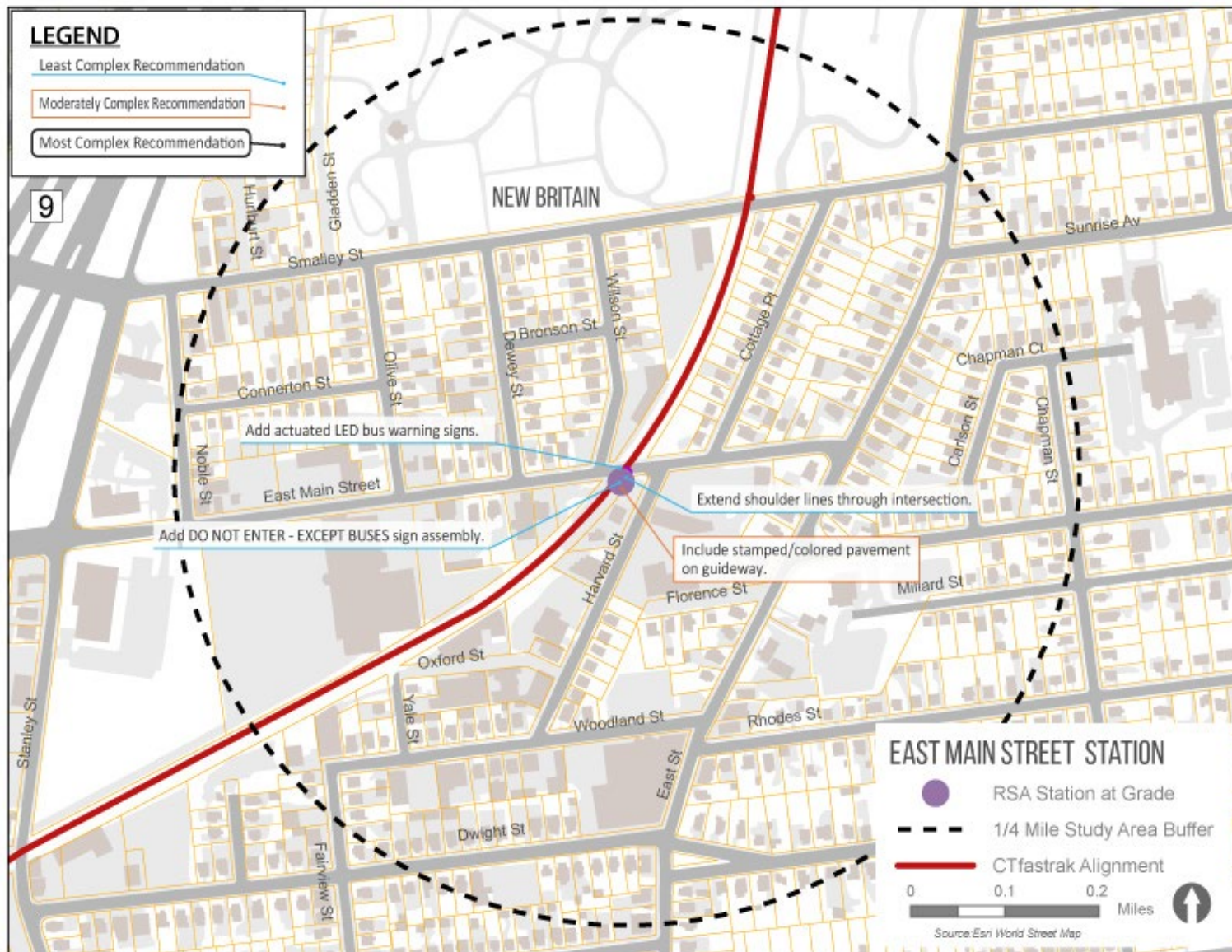
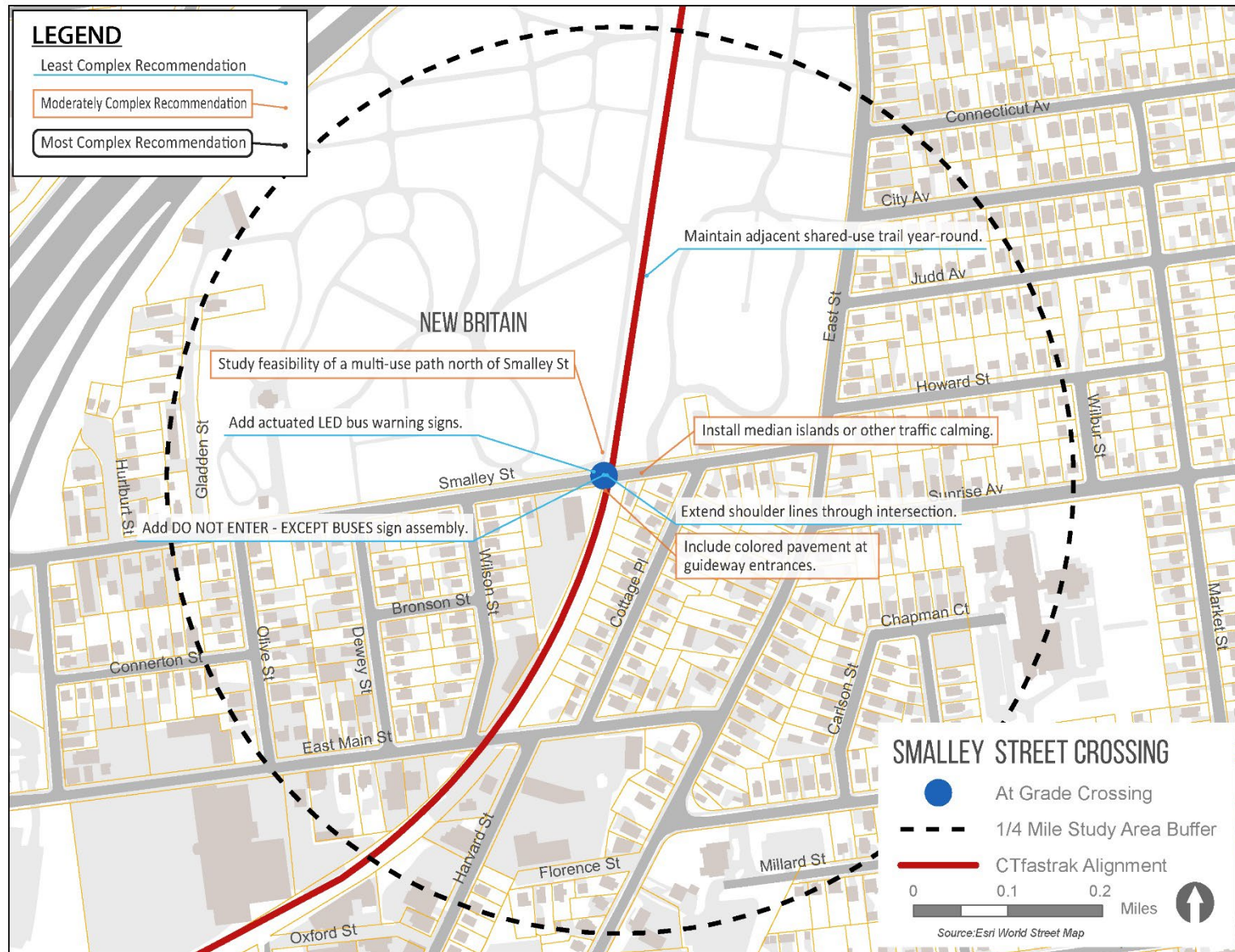


Exhibit 52: Smalley Street Crossing Recommendations





#### 4.6 East Street Station

The recommendation in this area is to improve pedestrian safety near the CTfastrak station. The existing RRFB was observed to be non-functional.

Exhibit 53 displays the recommendation at this location.

##### *Least Complex Recommendations*

- 1) Repair the RRFB that crosses East Street and connects to the overflow parking lot on the west side of East Street.
  - **Next Step:** Contact CTDOT Maintenance and/or New Britain Public Works Department

#### 4.7 Oakwood Avenue Crossing

The recommendations in this area aim to reduce the frequency of red light running, as it is the most prevalent cause of crashes. Additional goals are improving pedestrian accessibility, reducing unauthorized usage of the guideway, improving guideway and street operations, and improving bus and railroad safety and operations. Coordination with Amtrak is required for all improvements at or within the vicinity of this intersection per CTDOT's Easement and Operating Agreement with Amtrak for CTfastrak.

Exhibit 54 displays recommendations at this location.

##### *Least Complex Recommendations*

- 1) Add Do Not Enter – Except Buses sign assembly.
  - **Next Step:** Contact CTDOT Maintenance & Office of Rail
- 2) Extend shoulder lines through intersection.

- **Next Step:** Contact CTDOT Maintenance & Office of Rail
- 3) Add actuated LED bus warning signs.

- **Next Step:** Contact CTDOT Maintenance & Office of Rail

##### *Moderately Complex Recommendations*

- 1) Install colored pavement at guideway entrance.
  - **Next Step:** CTfastrak Improvement Project
- 2) Install median islands or other traffic calming solutions on Oakwood Avenue approaching the crossing.
  - **Next Step:** CTfastrak Improvement Project

#### 4.8 Flatbush Avenue Station

The recommendation at this site aim to reduce the number of curb and platform strikes by buses by making it easier for northbound bus operators to align the bus with the platform and achieve safe, efficient, and ADA-compliant boardings and alightings.

Exhibit 55 displays recommendations at this location.

##### *Moderately Complex Recommendation*

- 1) Adjust striping and curb radius at this station to make platform approach smoother for approaching buses.
  - **Next Step:** CTfastrak Improvement Project

Exhibit 53: East Street Station Recommendations

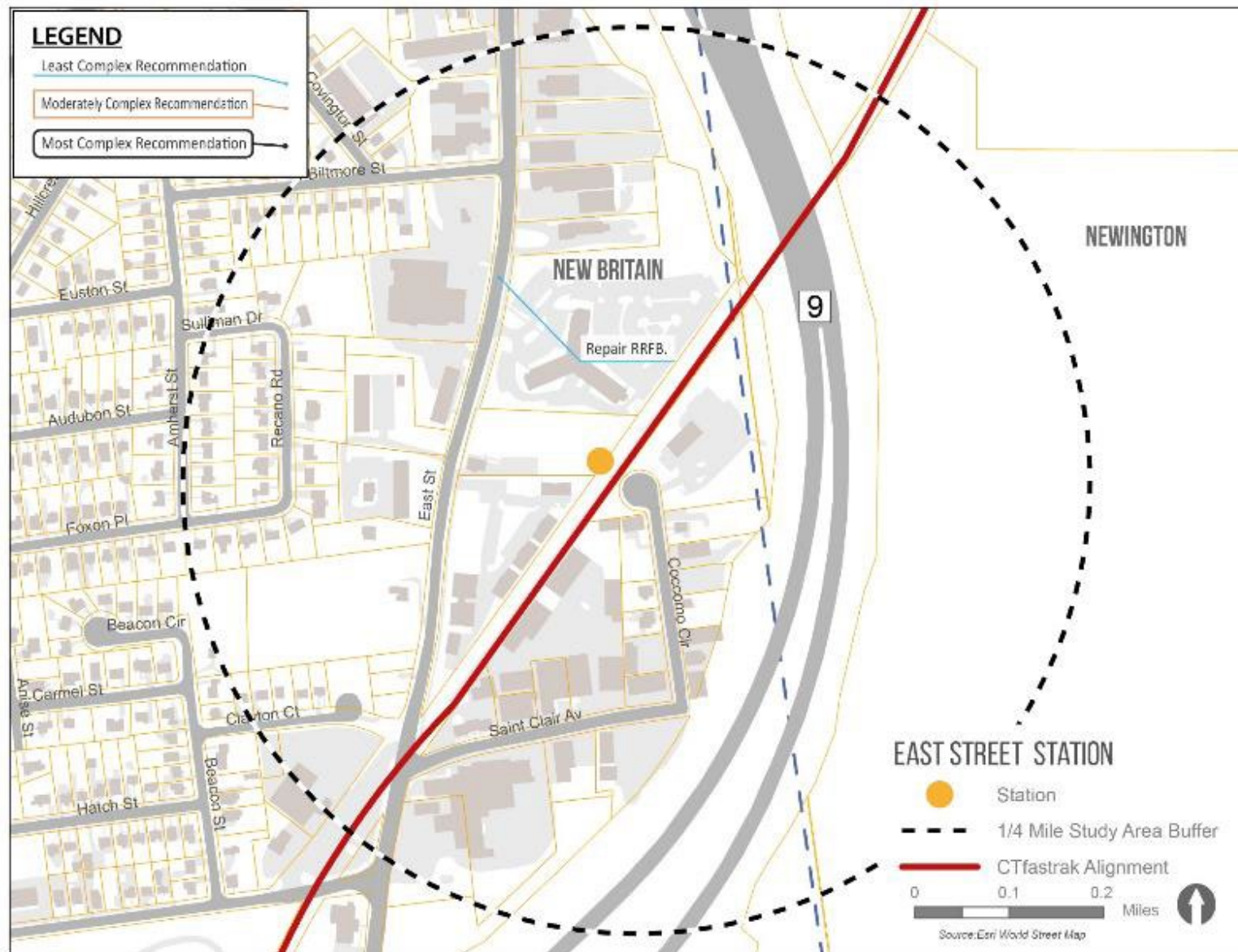




Exhibit 54: Oakwood Avenue Crossing Recommendations

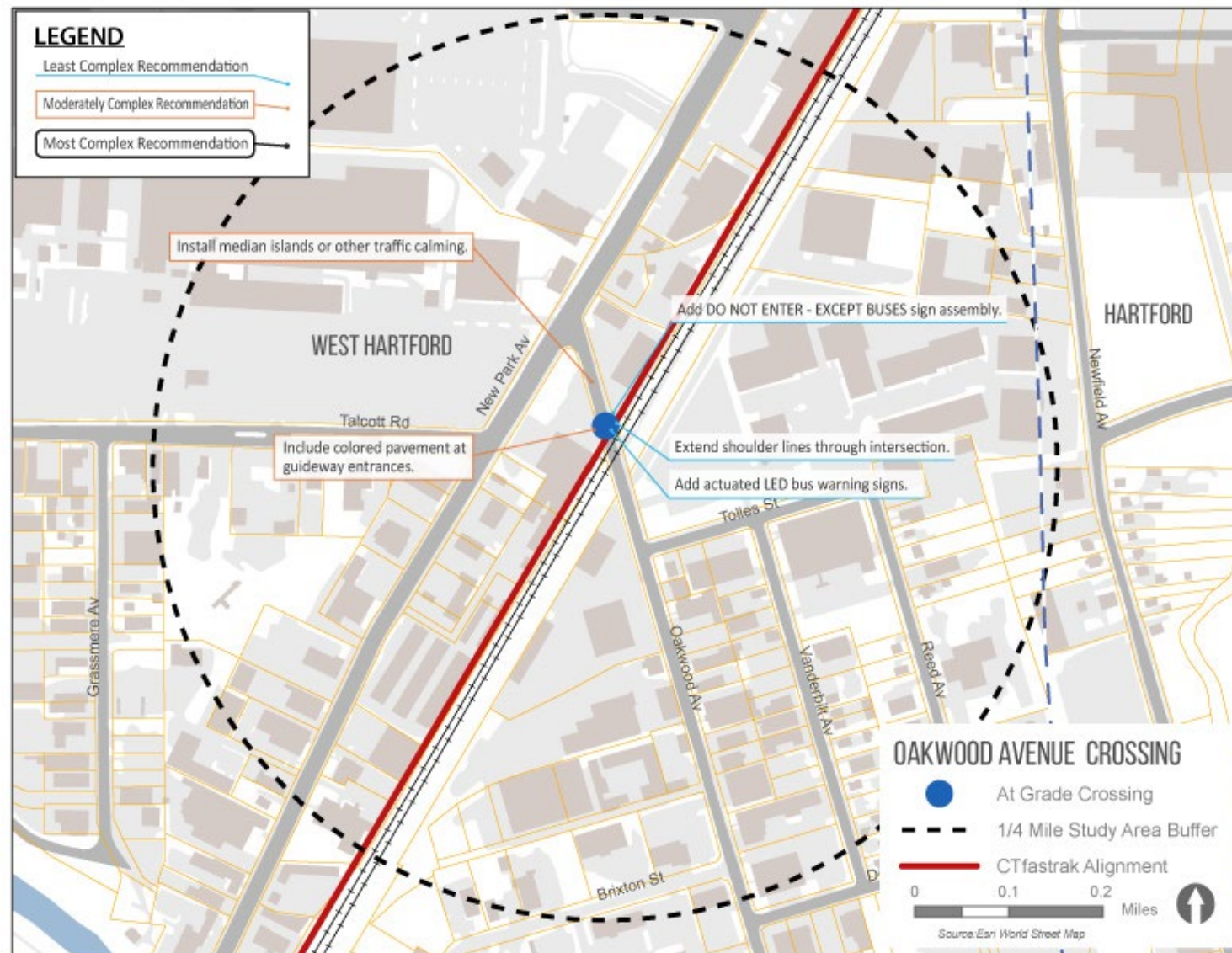
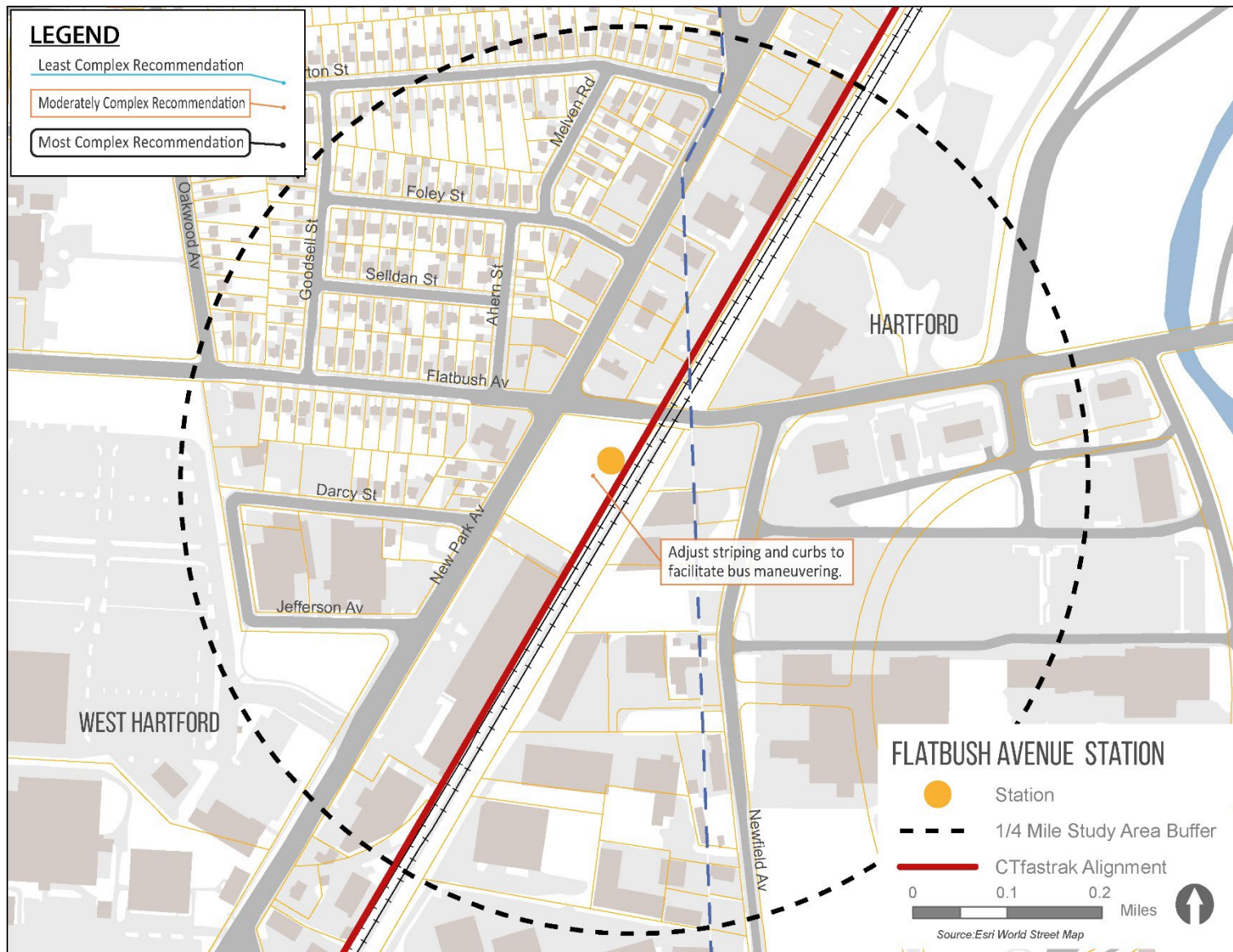


Exhibit 55: Flatbush Avenue Station Recommendations





#### 4.9 Hamilton Street Crossing

Since CTfastrak service started in 2015, Hamilton Street has the second-highest crash rate of CTfastrak's five at grade intersections. The primary concern is red light running, and the recommendations at this site are largely intended to alleviate this concern. An effective – if expensive – solution is to grade-separate the guideway above this intersection, which would eliminate the issue. Other goals are improving pedestrian accessibility, reducing unauthorized use of the guideway, improving guideway and street operations, and improving bus and railroad safety and operations.

Coordination with Amtrak is also required for all improvements at or within the vicinity of this intersection per CTDOT's Easement and Operating Agreement with Amtrak for CTfastrak.

Exhibit 56 displays recommendations at this location.

##### *Least Complex Recommendations*

- 1) Increase police enforcement of red-light running.
  - **Next Step:** Contact LTA
- 2) Provide crosswalks across each leg of the intersection of Hamilton Street and Francis Avenue.
  - **Next Step:** Contact LTA
- 3) Trim overgrown vegetation along existing sidewalk / road network.
  - **Next Step:** Municipality to consider applying for an [Encroachment Permit](#) through the District permit office

##### *Moderately Complex Recommendations*

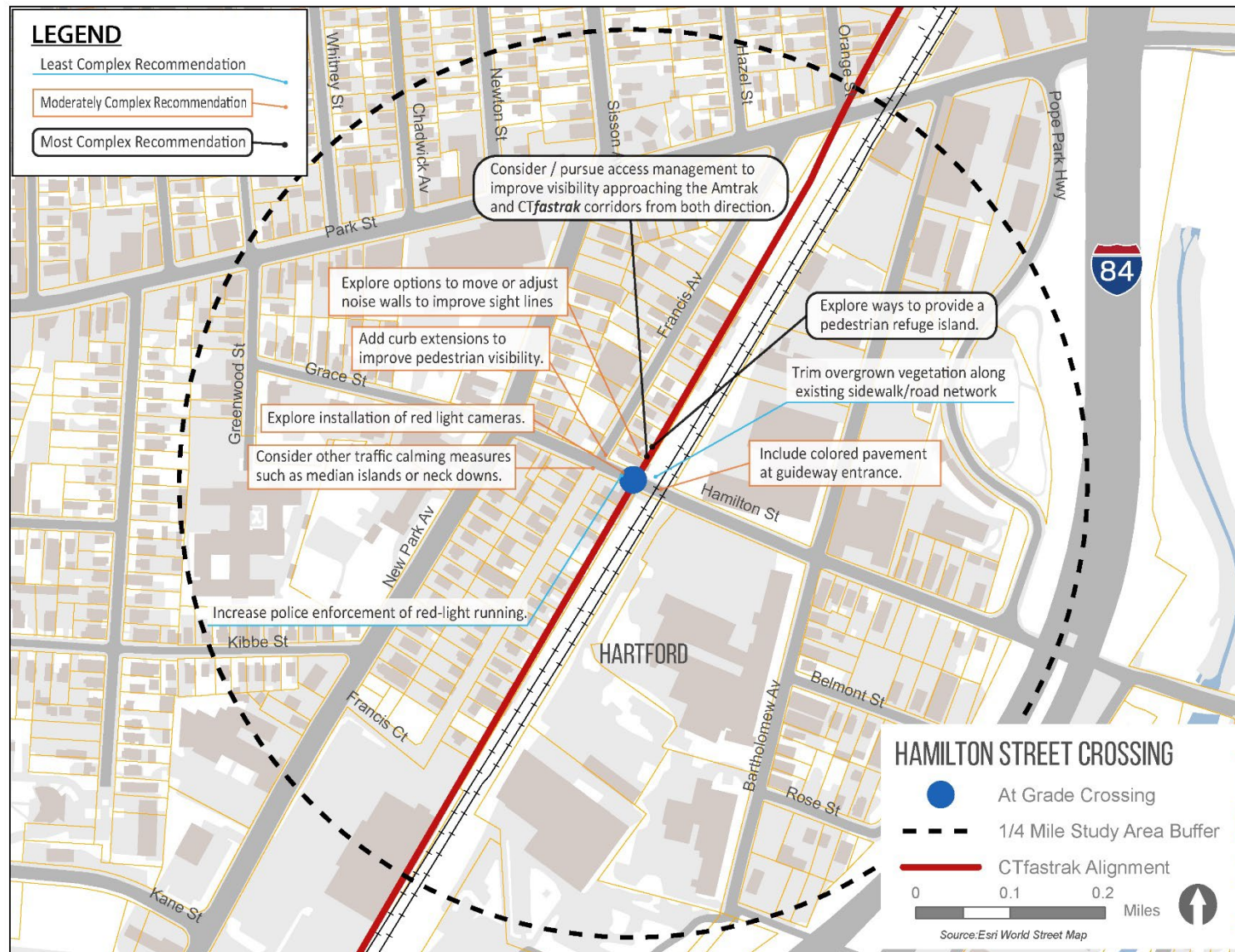
- 1) Install colored pavement at guideway entrance.

- **Next Step:** CTfastrak Improvement Project
- 2) Install traffic calming solutions such as median islands or neck-downs on Hamilton Street approaching the crossing.
    - **Next Step:** CTfastrak Improvement Project
  - 3) Add curb extensions to improve pedestrian visibility at street corners.
    - **Next Step:** CTfastrak Improvement Project
  - 4) Explore options to move or adjust noise walls to improve sight lines.
    - **Next Step:** CTfastrak Improvement Project
  - 5) Explore speed and red light cameras to assist with traffic enforcement.
    - **Next Step:** LTA / municipality to consider applying for an [Encroachment Permit](#) through the District permit office

##### *Most Complex Recommendations*

- 1) Explore ways to provide a refuge island (if possible) for safer pedestrian crossings through the intersection across CTfastrak busway and Amtrak rail.
  - **Next Step:** Contact CTtransit and CTDOT Office of Rail
- 3) Consider / pursue access management to improvement visibility approaching the Amtrak and CTfastrak corridors from both directions on Hamilton Street. In particular, there are several large curb cuts / driveways that can be shortened to improve traveler safety.
  - **Next Step:** Coordinate with City of Hartford and property owners.

Exhibit 56: Hamilton Street Crossing Recommendations





## SUMMARY

This report documents the observations, discussions, and recommendations developed during the completion of the CT**fastrak** RSA within the municipalities of New Britain, West Hartford, and Hartford. It provides outlined strategies to improve the transportation network for all users in the study area, particularly focusing on pedestrians and cyclists. Moving forward, the municipalities and CTDOT may use this report to prepare strategies for funding and implementing the improvements. This report provides CTDOT and the municipalities with a toolkit to plan for including these multi-modal recommendations into future development within the study area.

This Community Connectivity Program: CT**fastrak** Road Safety Audit Report is an objective review intended to help assess the existing conditions within predetermined locations along the CT**fastrak** corridor. The conclusions of this report are advisory and intended for general planning purposes to help identify transit, bicycle, pedestrian and other non-motorized transportation needs that encourage transit use, walking and bicycling, as well as assists in developing recommendations to improve the existing conditions. The contents of this report are not intended to be legally binding, but rather offer recommendations to improve safety in the vicinity of the audit location and create a more appealing transportation alternative.

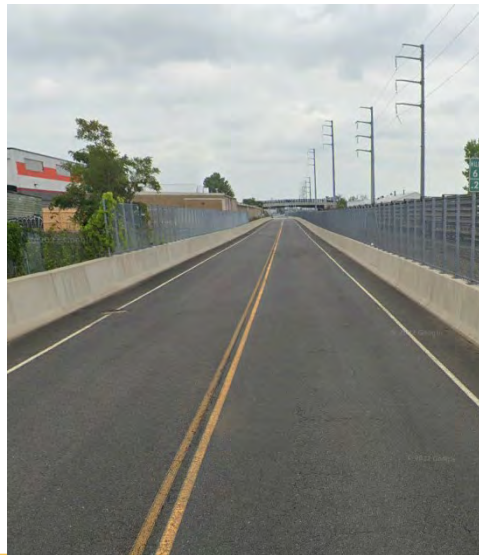
## APPENDICES

A: Pre-Audit Presentation

B: Walk Audit Notes

# CTFASTRAK ROAD SAFETY AUDIT

New Britain,, West Hartford, and Hartford



FEBRUARY 2024



# INTRODUCTIONS





# AGENDA

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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



# PROJECT TEAM

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- Connecticut Department of Transportation (CTDOT) is sponsoring
- CTtransit
- FHI Studio is conducting the Road Safety Audit reporting





# RSA OBJECTIVES

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Identify conditions that have led to numerous bus-involved crashes

Observe signal operations and motorist behavior at grade crossings

Gather CTfastrak operator experiences and recommendations for changes to guideway design and operations

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

Improve transportation network for all users by making conditions safer and maintaining transit competitiveness



# DELIVERABLES

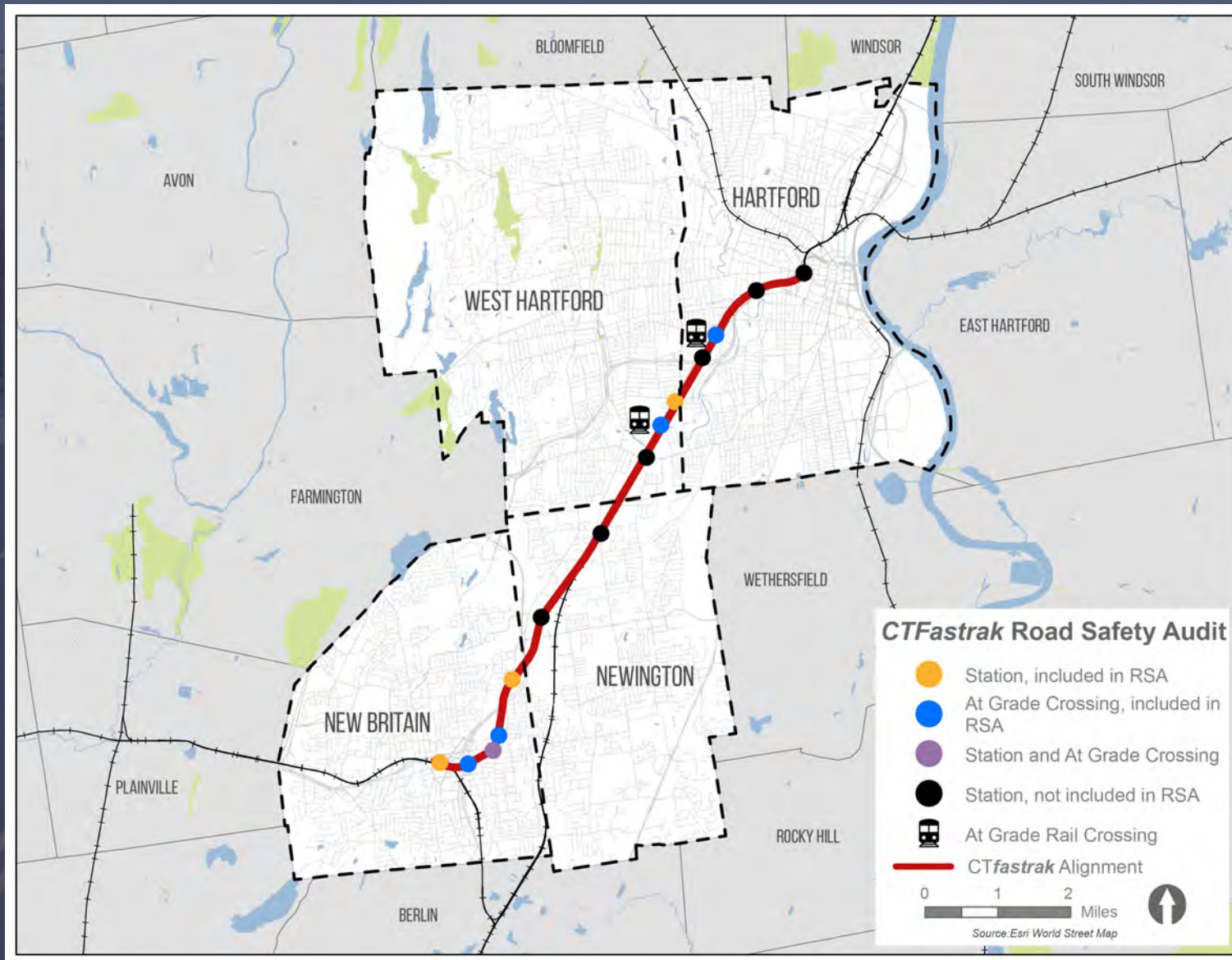
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- Existing Conditions Data Collection
- Pre-Audit Meeting
- Field Audit
- Post Audit Meeting
- Road Safety Audit Report



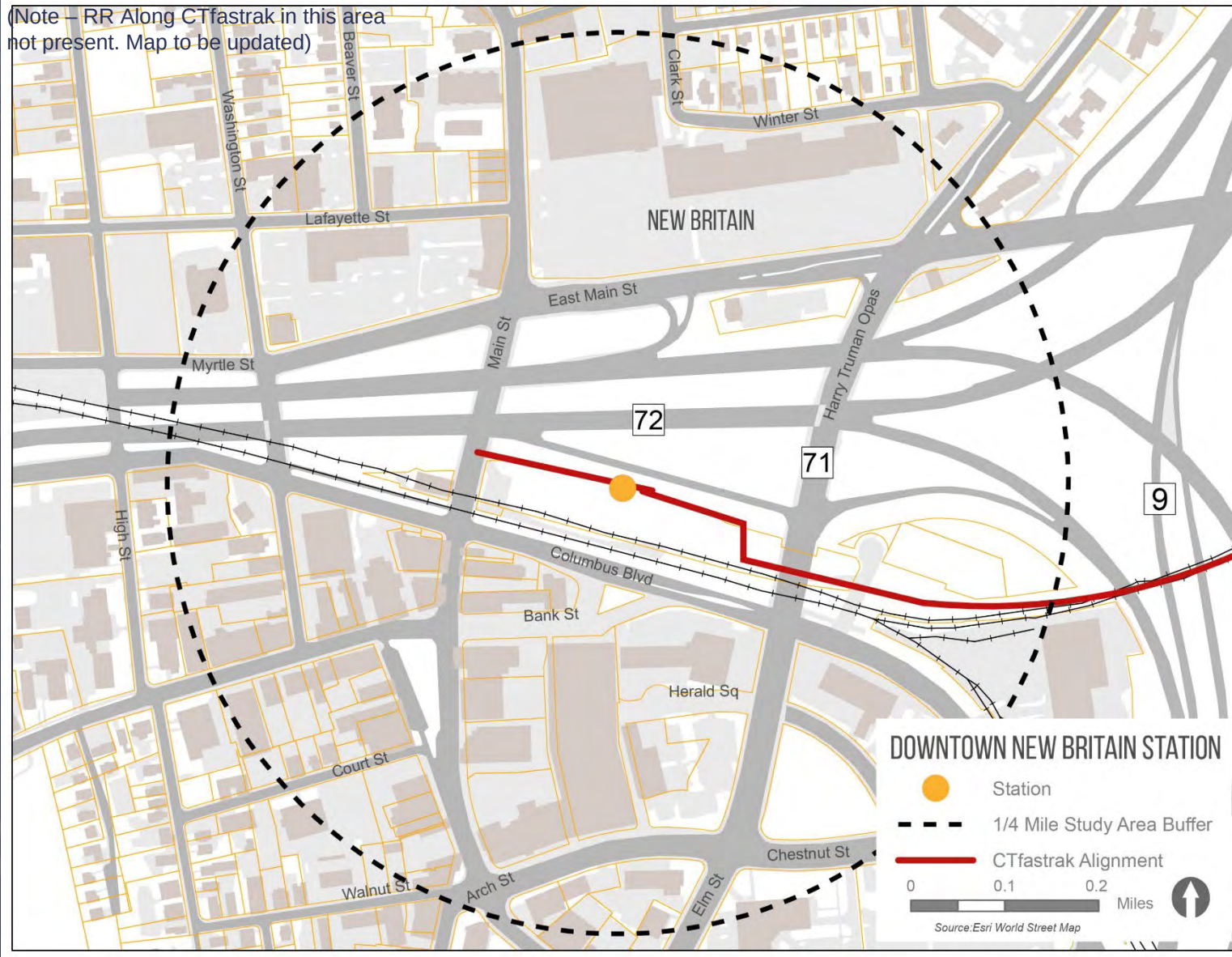


# STUDY AREA





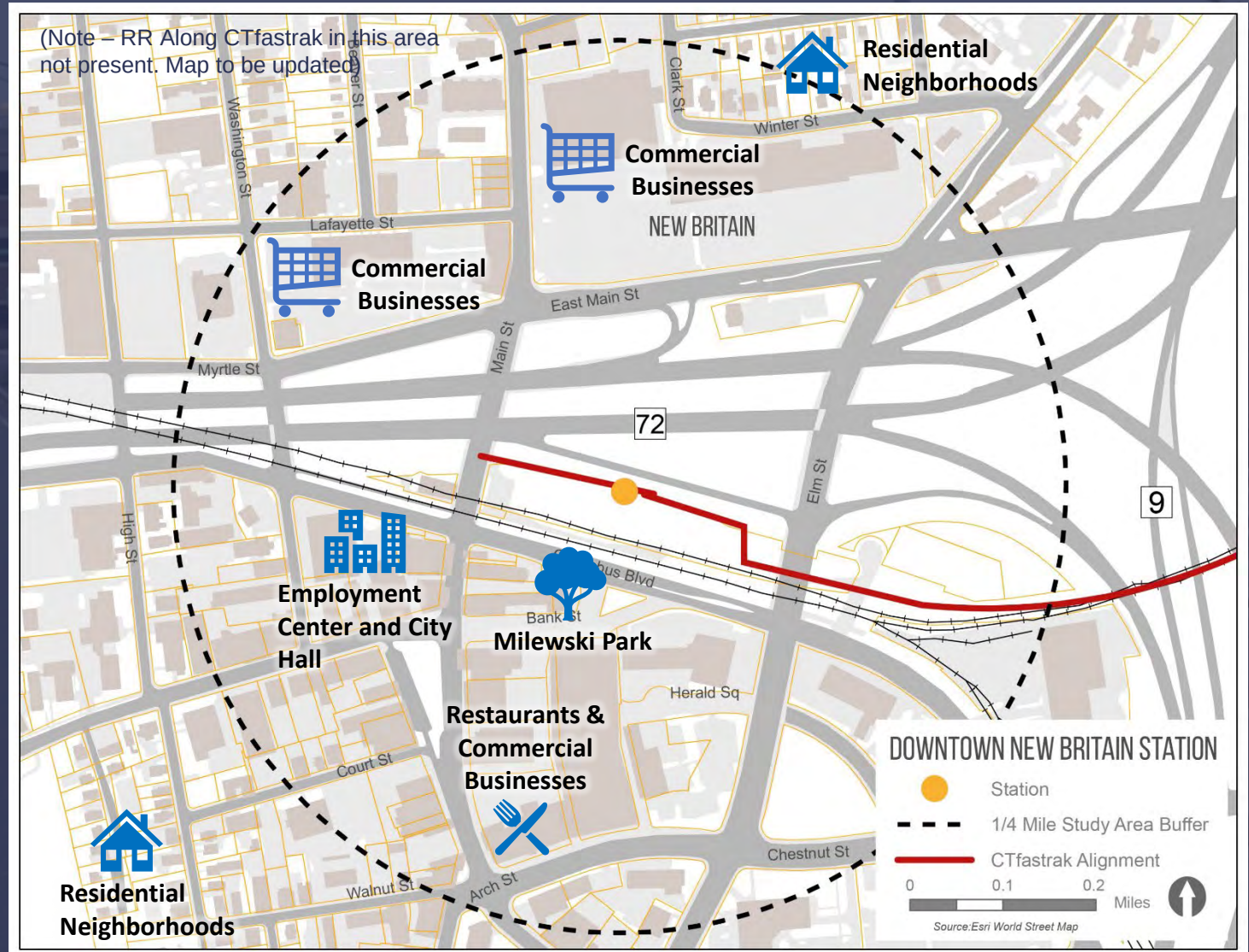
# STUDY AREA — DOWNTOWN NEW BRITAIN STATION





# POINTS OF INTEREST- DOWNTOWN NEW BRITAIN STATION

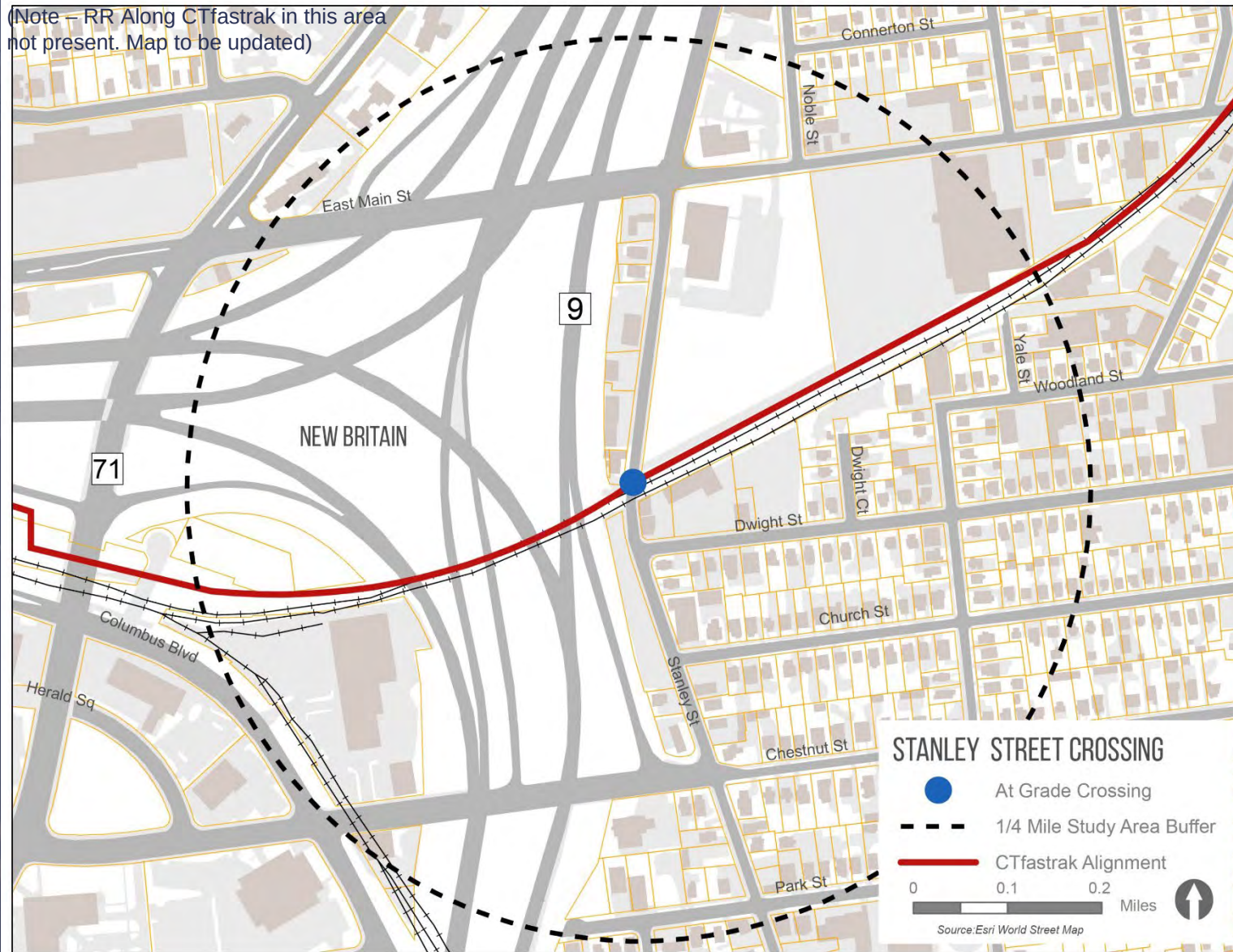
- Civic uses such as New Britain City Hall
- Shopping plazas and commercial businesses
- Milewski Park
- Residential neighborhoods
- Employment centers





# STUDY AREA — STANLEY STREET CROSSING

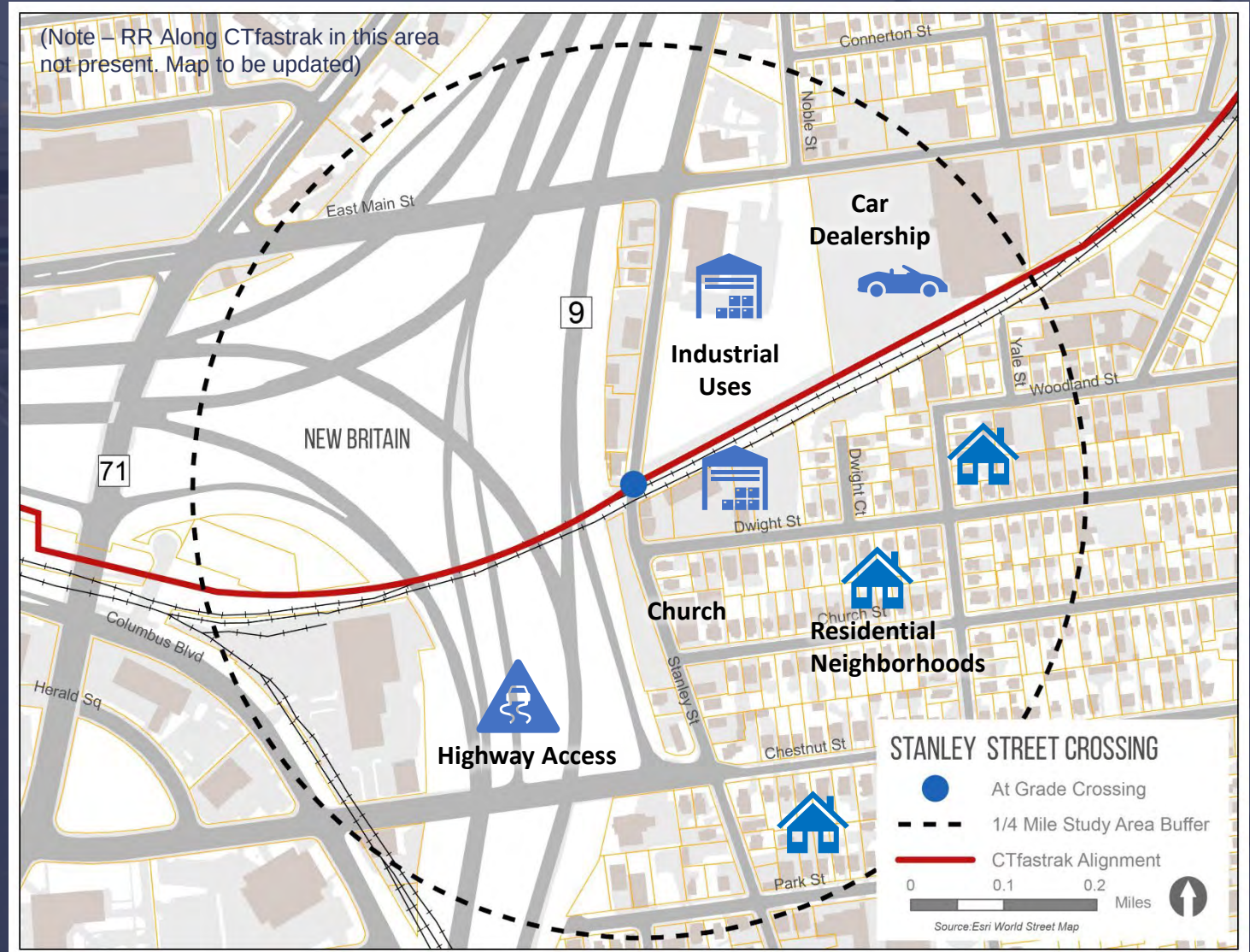
(Note — RR Along CTfastrak in this area not present. Map to be updated)





# POINTS OF INTEREST- STANLEY STREET CROSSING

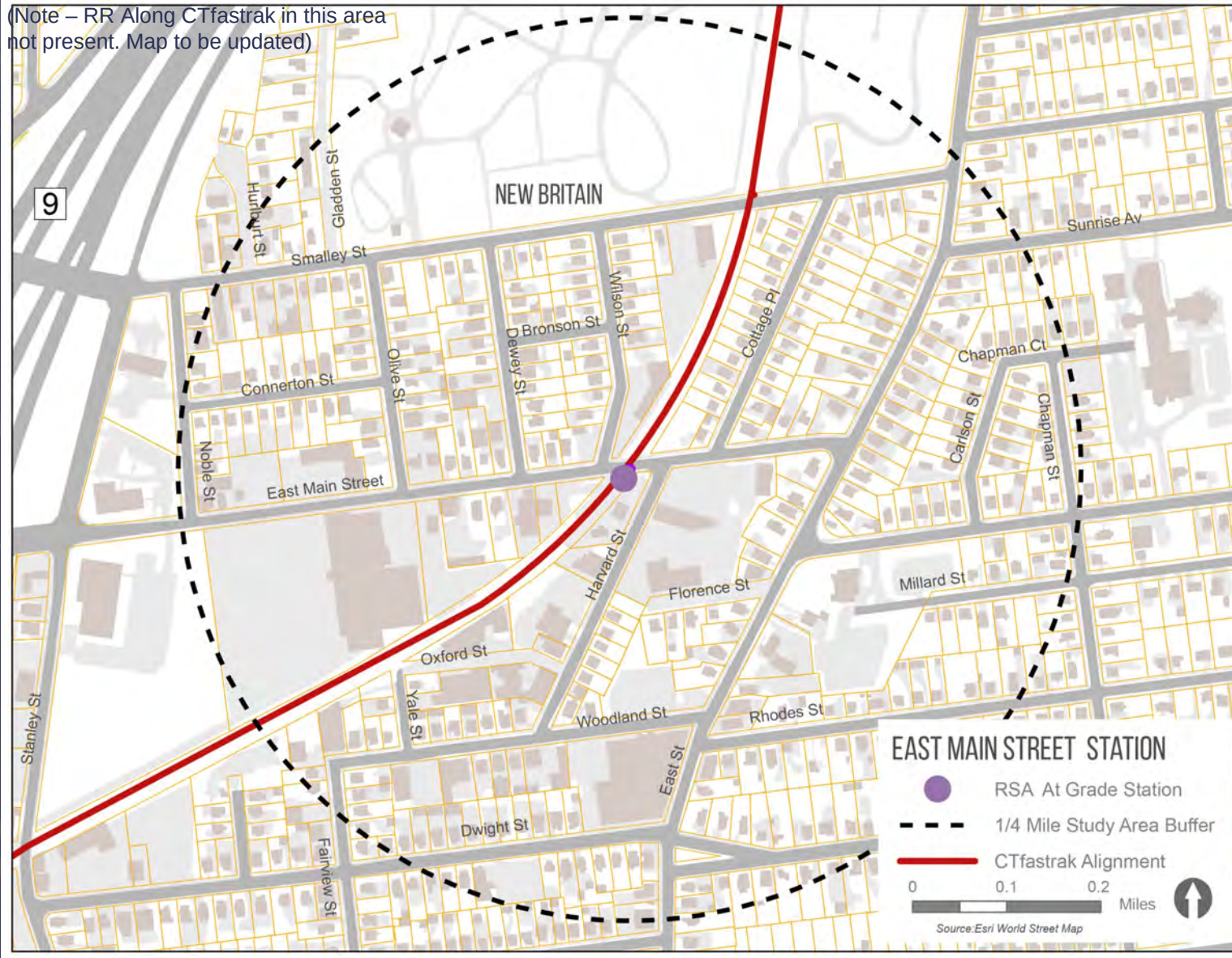
- Densely developed residential neighborhoods
- Industrial and warehousing uses
- Papa's Chrysler Dodge dealership
- Iglesia Cristiana Nuevo Pacto Church
- Highway access





# STUDY AREA — EAST MAIN STREET STATION

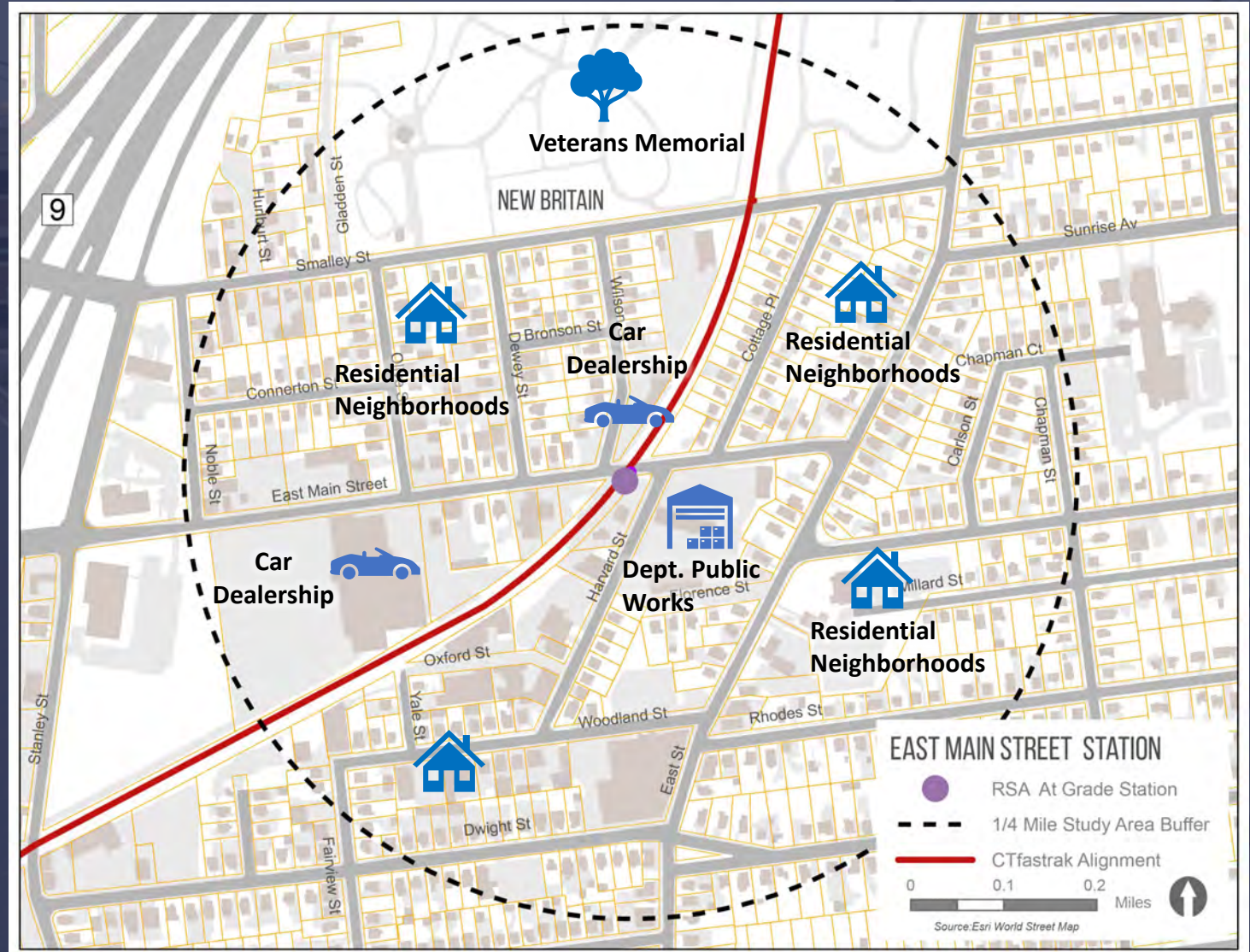
(Note – RR Along CTfastrak in this area not present. Map to be updated)





# POINTS OF INTEREST- EAST MAIN STREET STATION

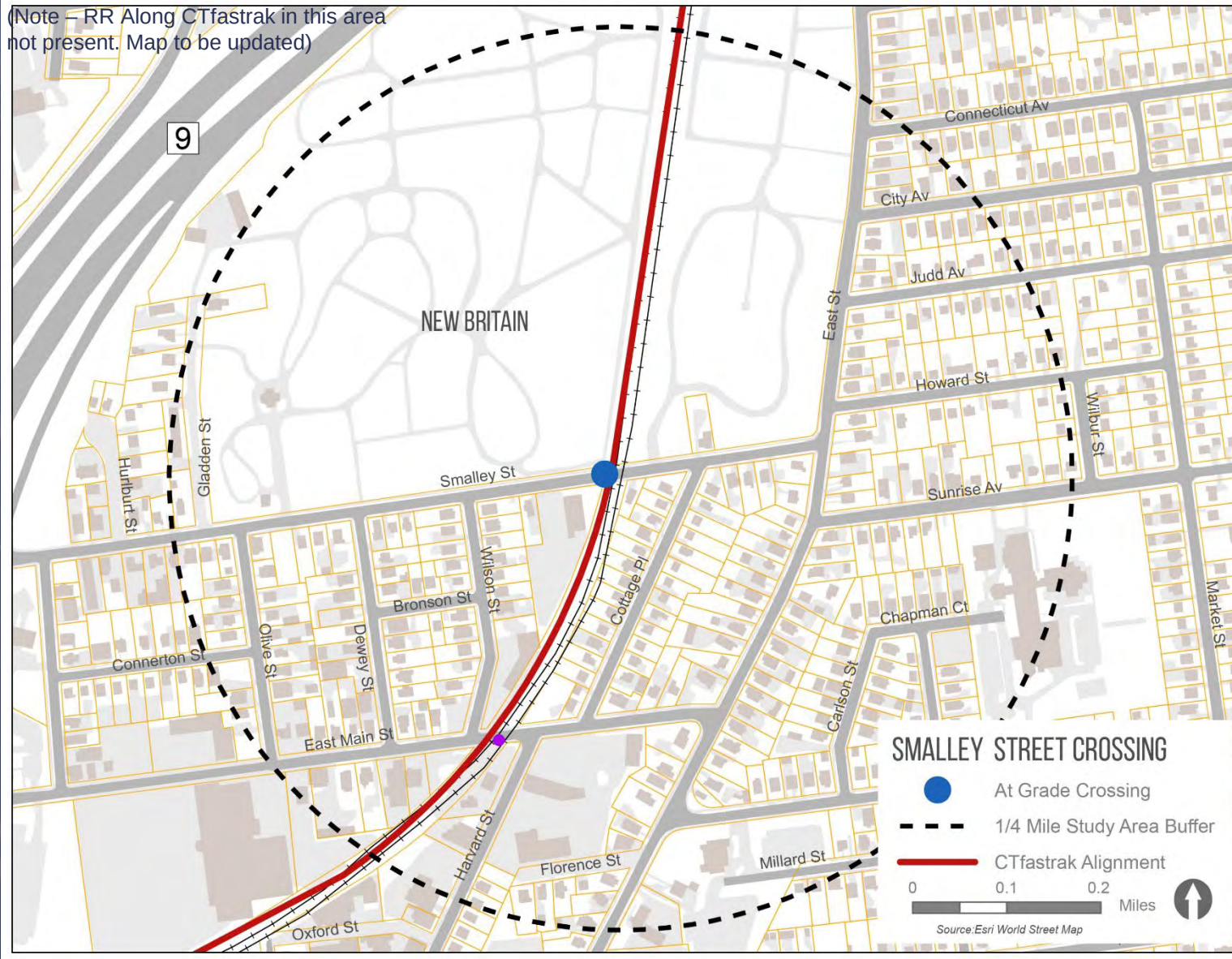
- City of New Britain Dept. of Public Works
- Small scale retail
- Residential neighborhoods
- Used car dealership
- Veterans Memorial





# STUDY AREA — SMALLEY STREET CROSSING

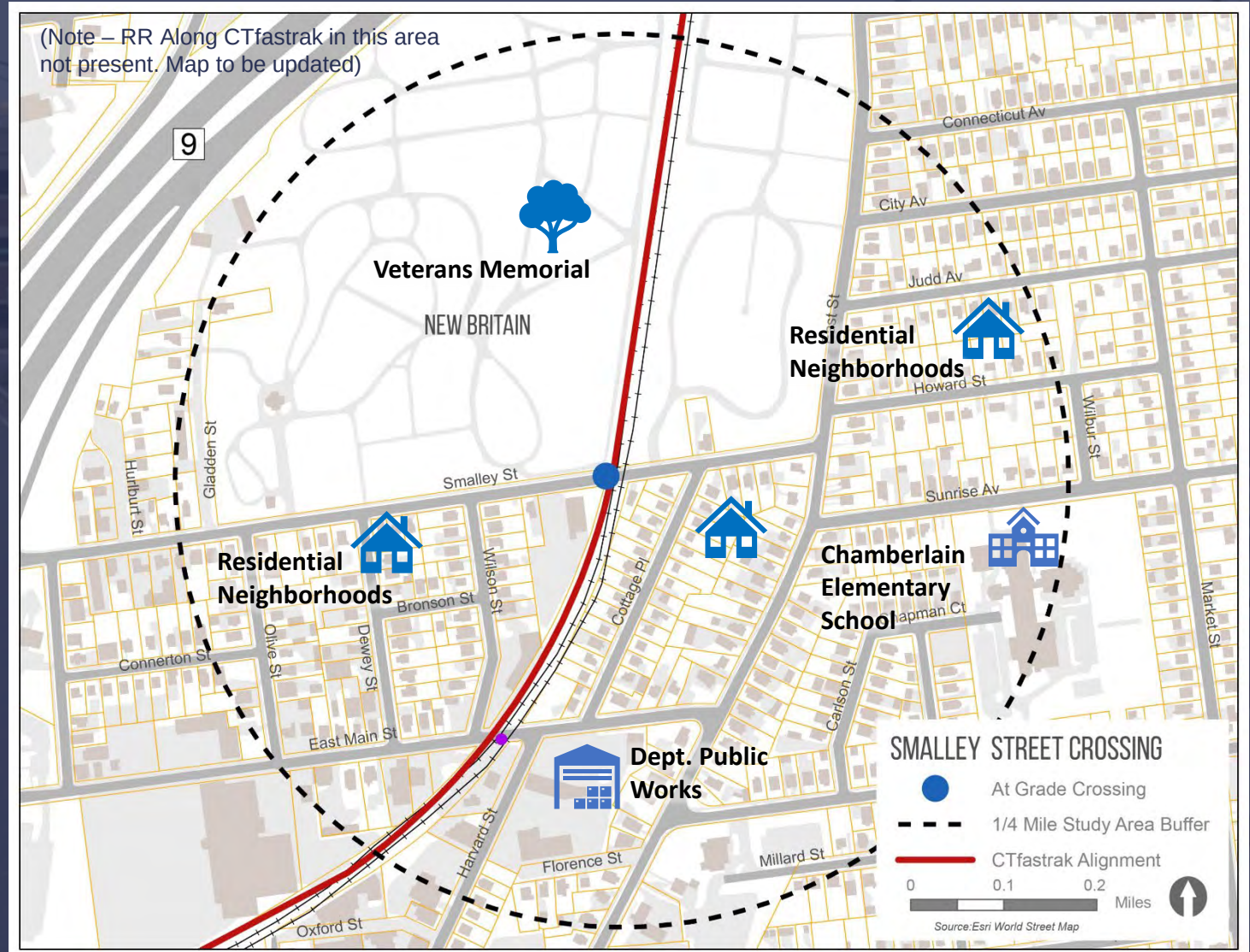
(Note – RR Along CTfastrak in this area not present. Map to be updated)





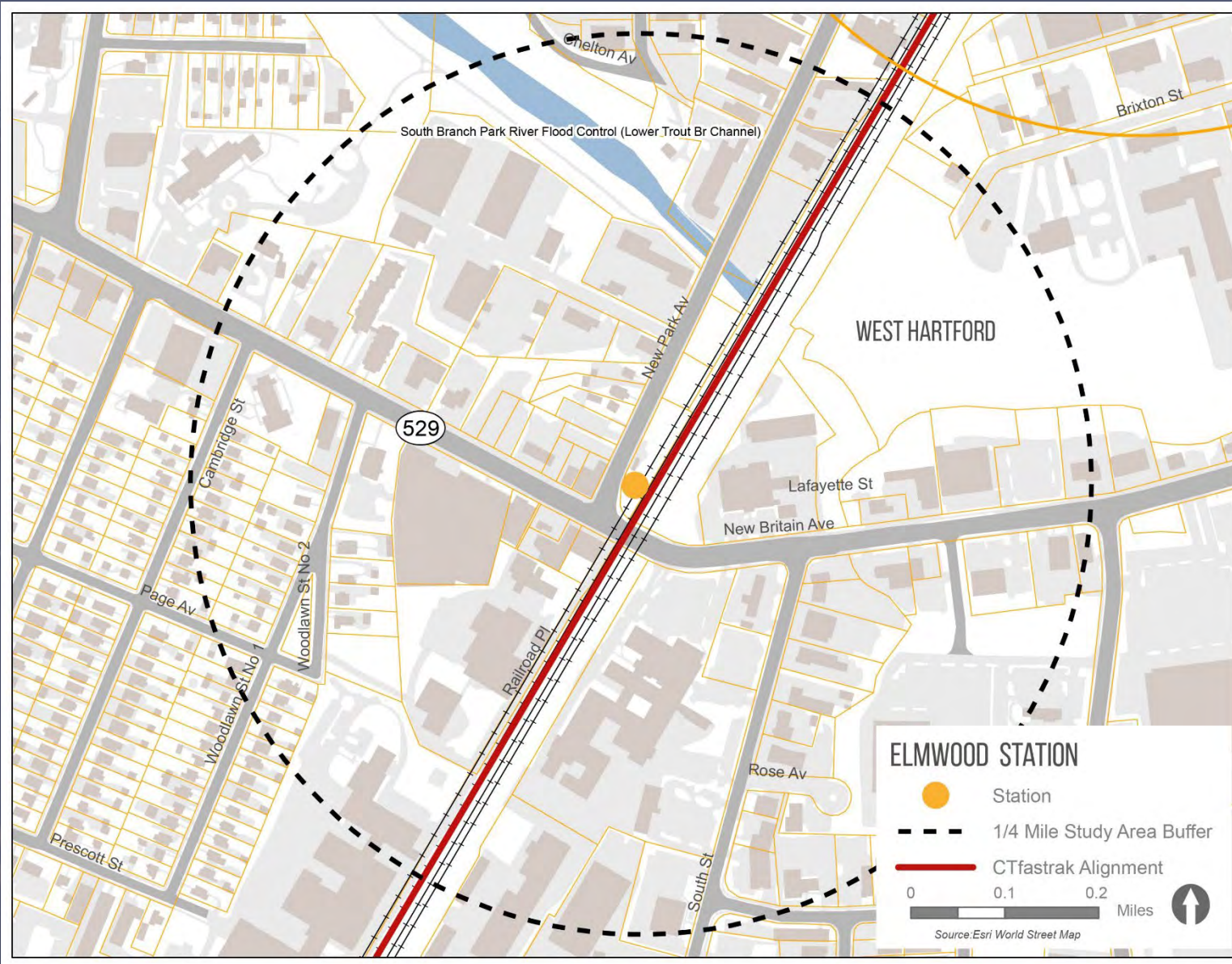
# POINTS OF INTEREST- SMALLEY STREET CROSSING

- Residential Neighborhoods
- Small scale retail
- Chamberlain Elementary School
- City of New Britain Dept. of Public Works





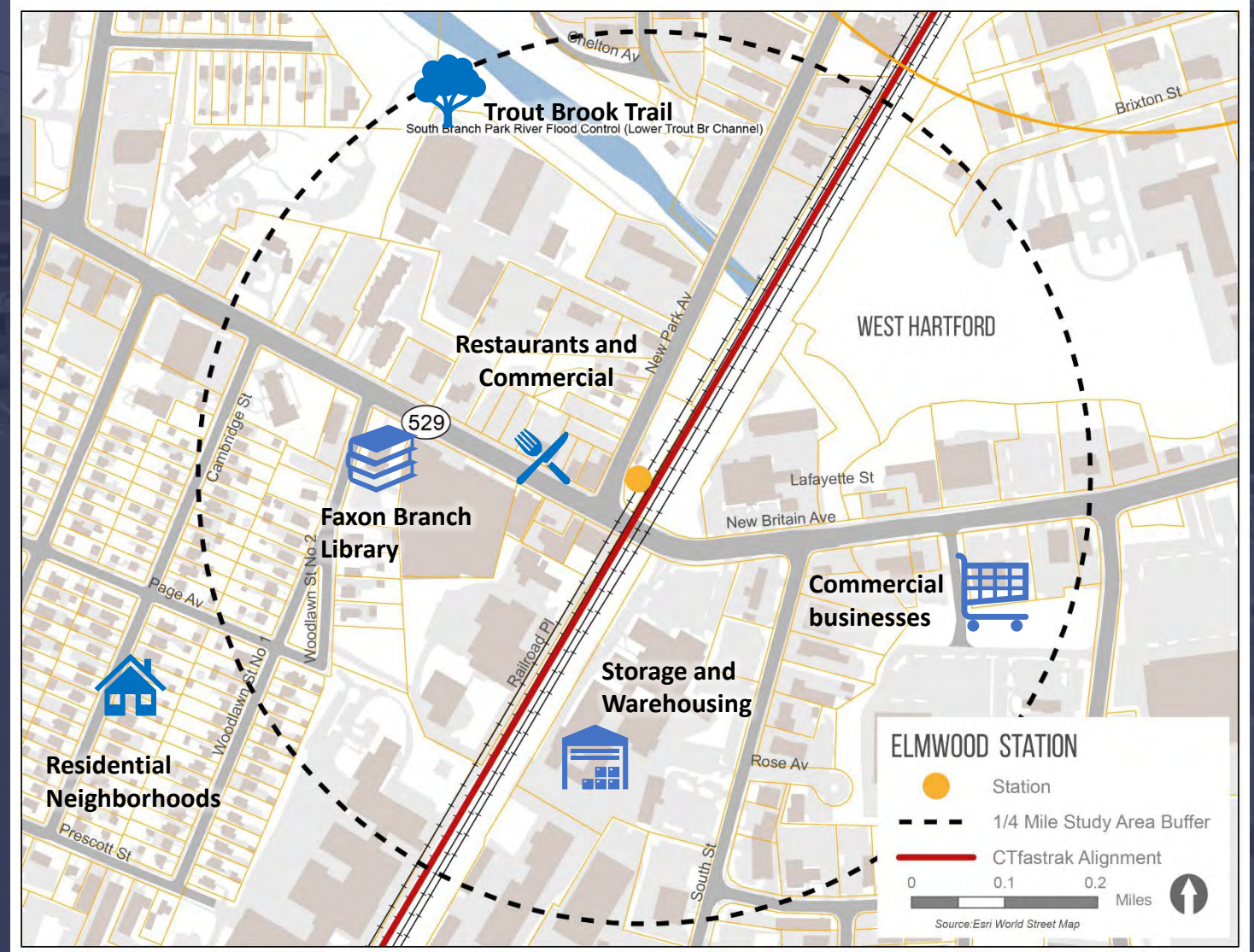
# STUDY AREA — ELMWOOD STATION





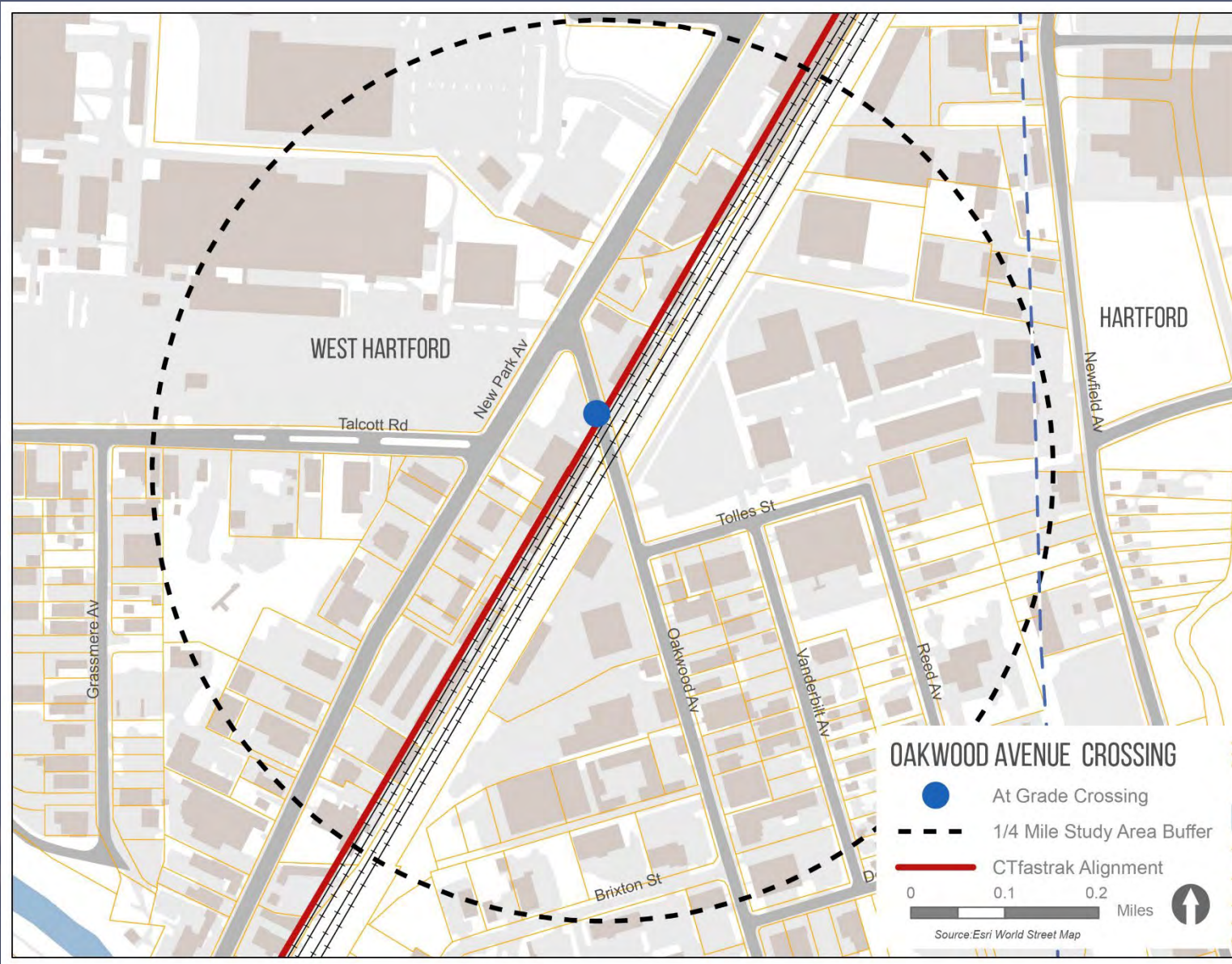
# POINTS OF INTEREST- ELMWOOD STATION

- Faxon Branch of the Library
- Restaurants and commercial businesses
- Storage and warehousing uses
- West Hartford Department of Public Works
- Trout Brook Trail





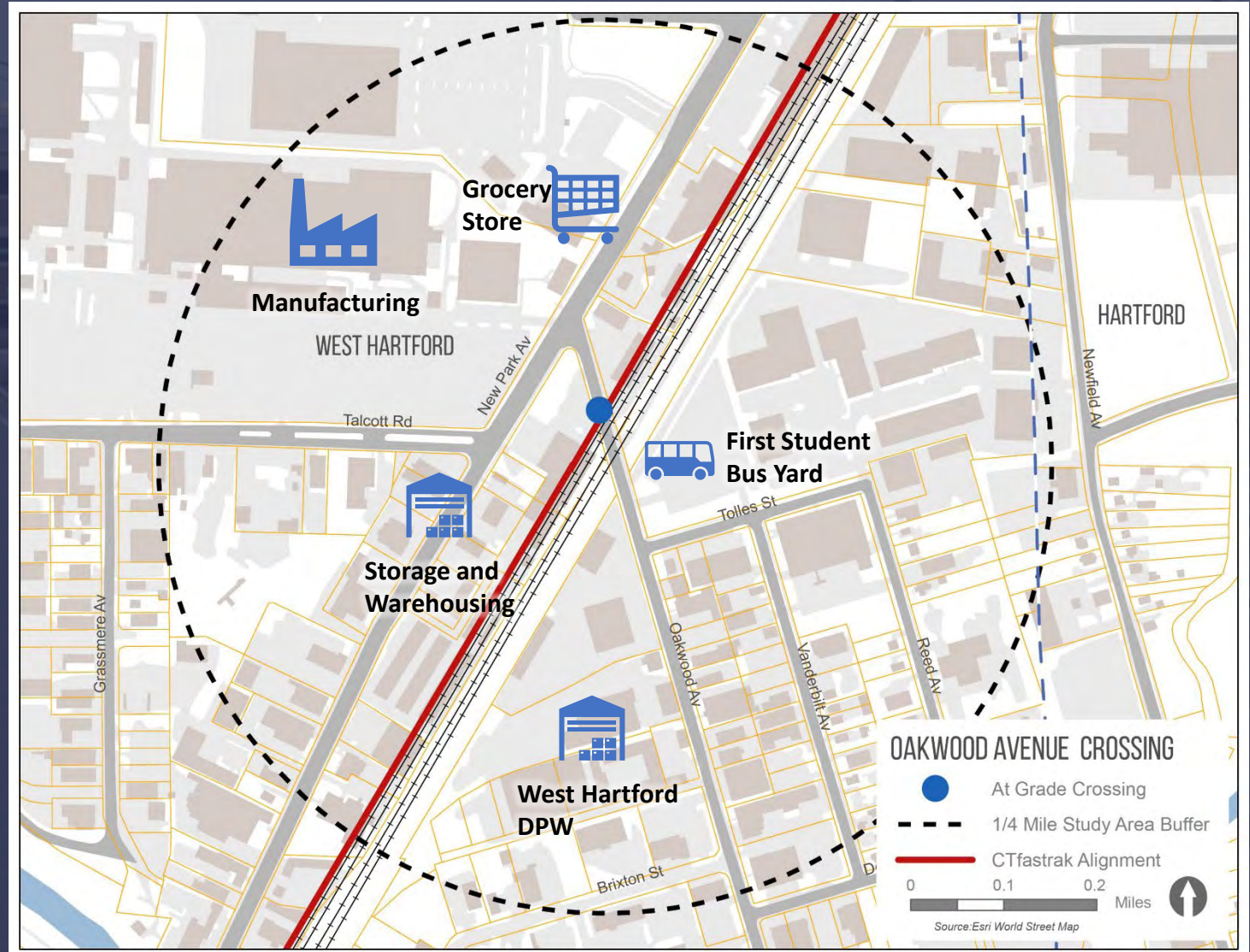
# STUDY AREA — OAKWOOD AVENUE CROSSING





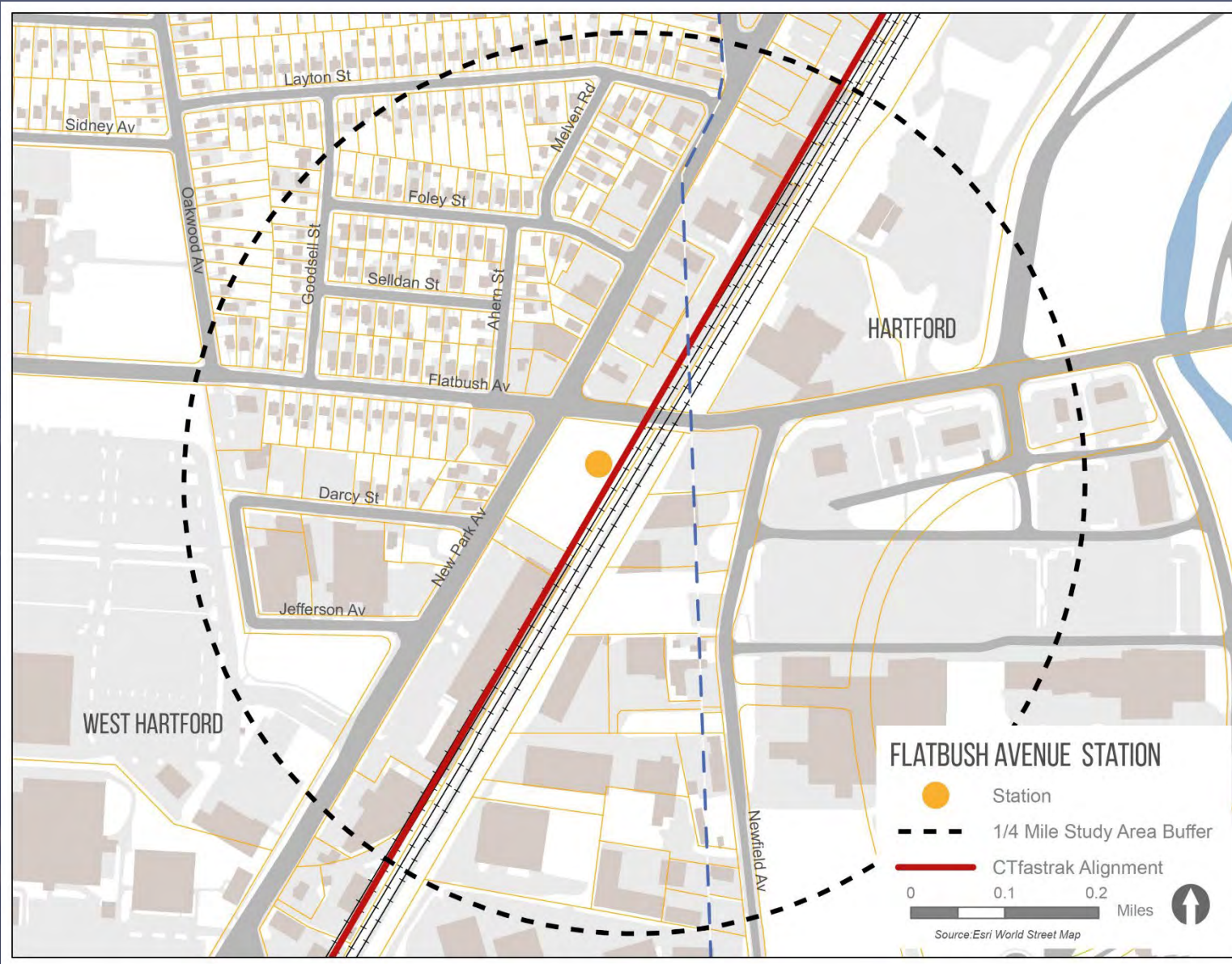
# POINTS OF INTEREST- OAKWOOD AVENUE CROSSING

- First Student bus yard
- Manufacturing and warehousing
- Aldi grocery store
- Small scale retail and restaurants





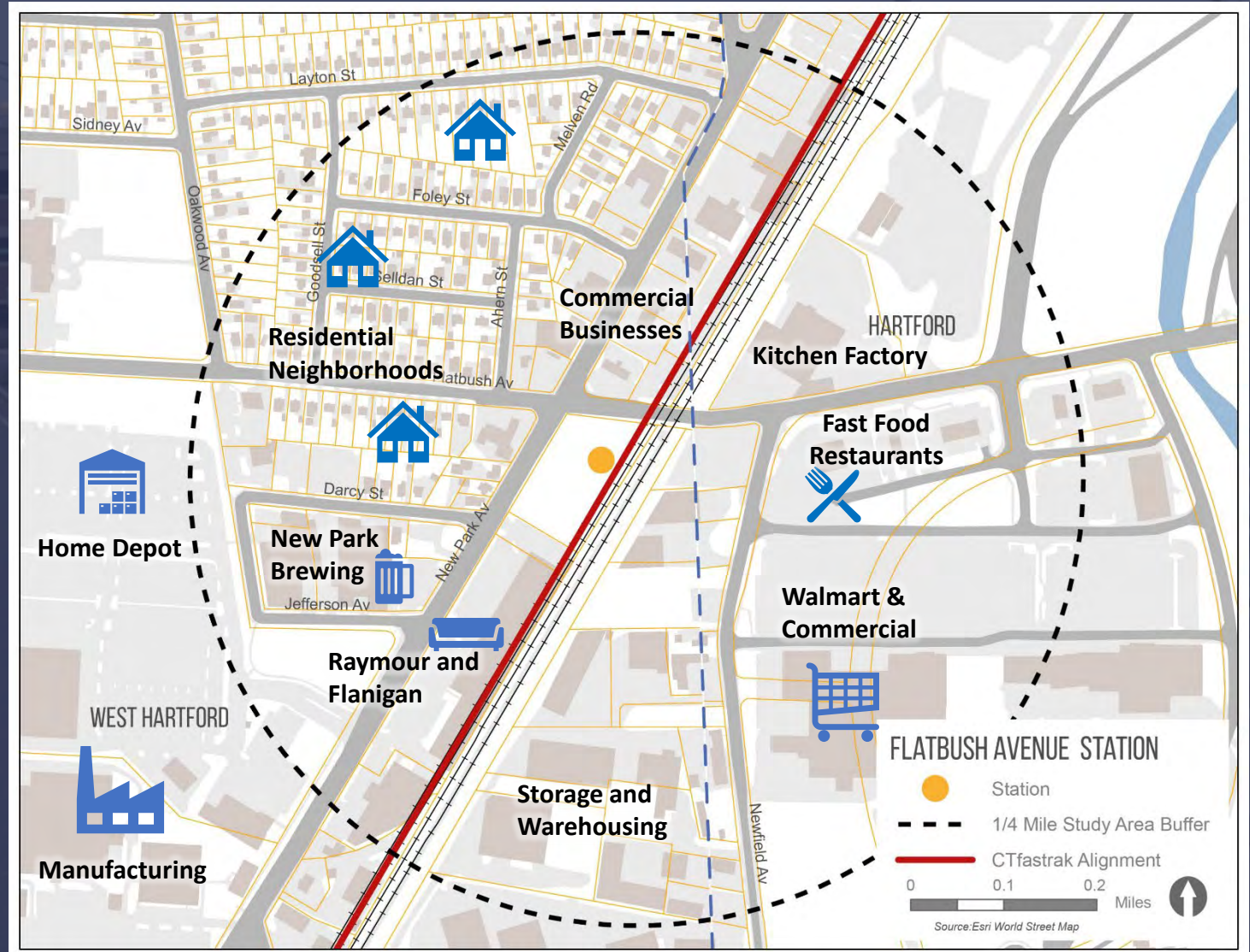
# STUDY AREA — FLATBUSH AVENUE STATION





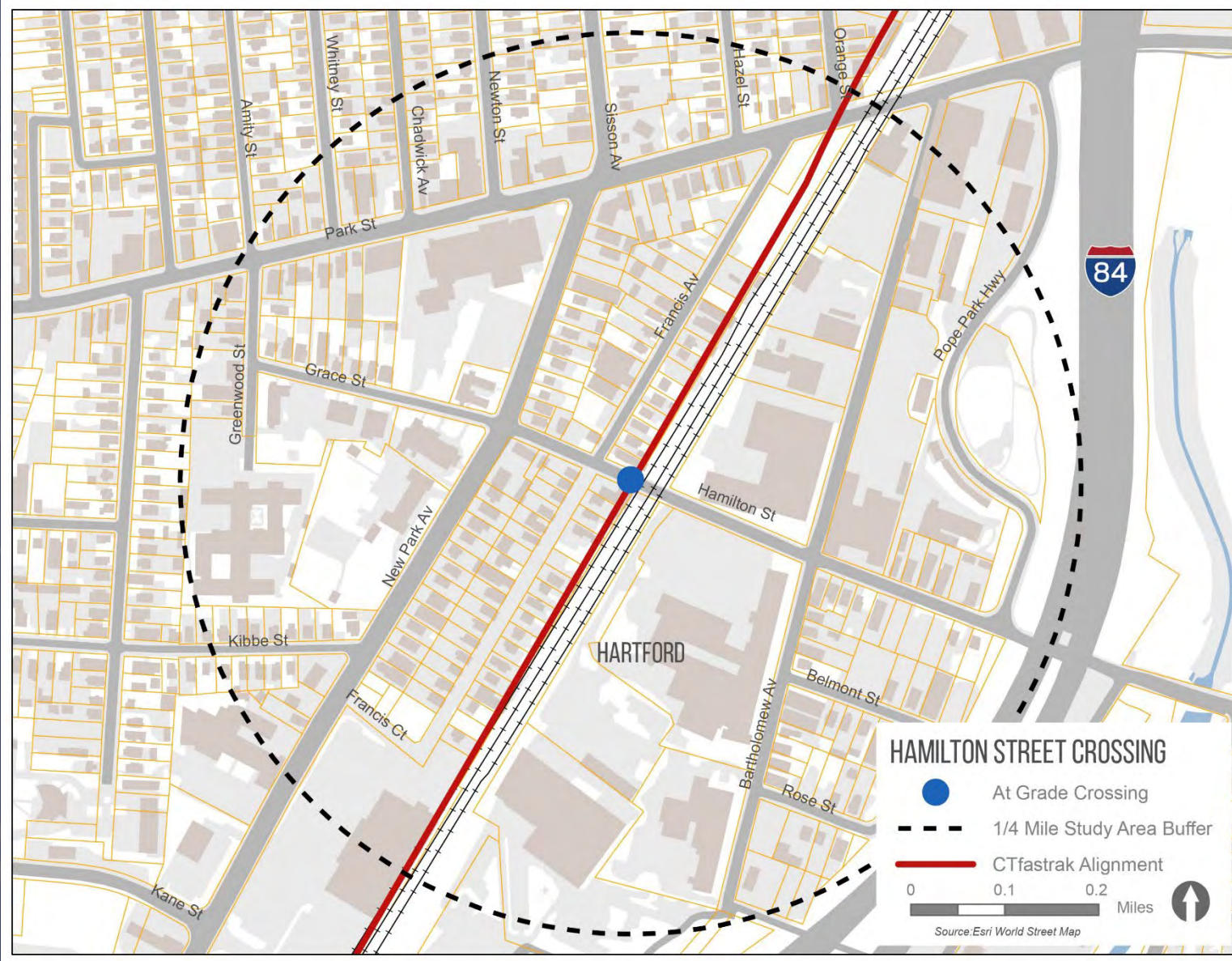
# POINTS OF INTEREST- FLATBUSH AVENUE STATION

- Fast Food and Commercial businesses
- Walmart Supercenter, Home Depot, Raymour and Flanigan
- Residential Neighborhoods
- Industrial and Manufacturing
- Brewery





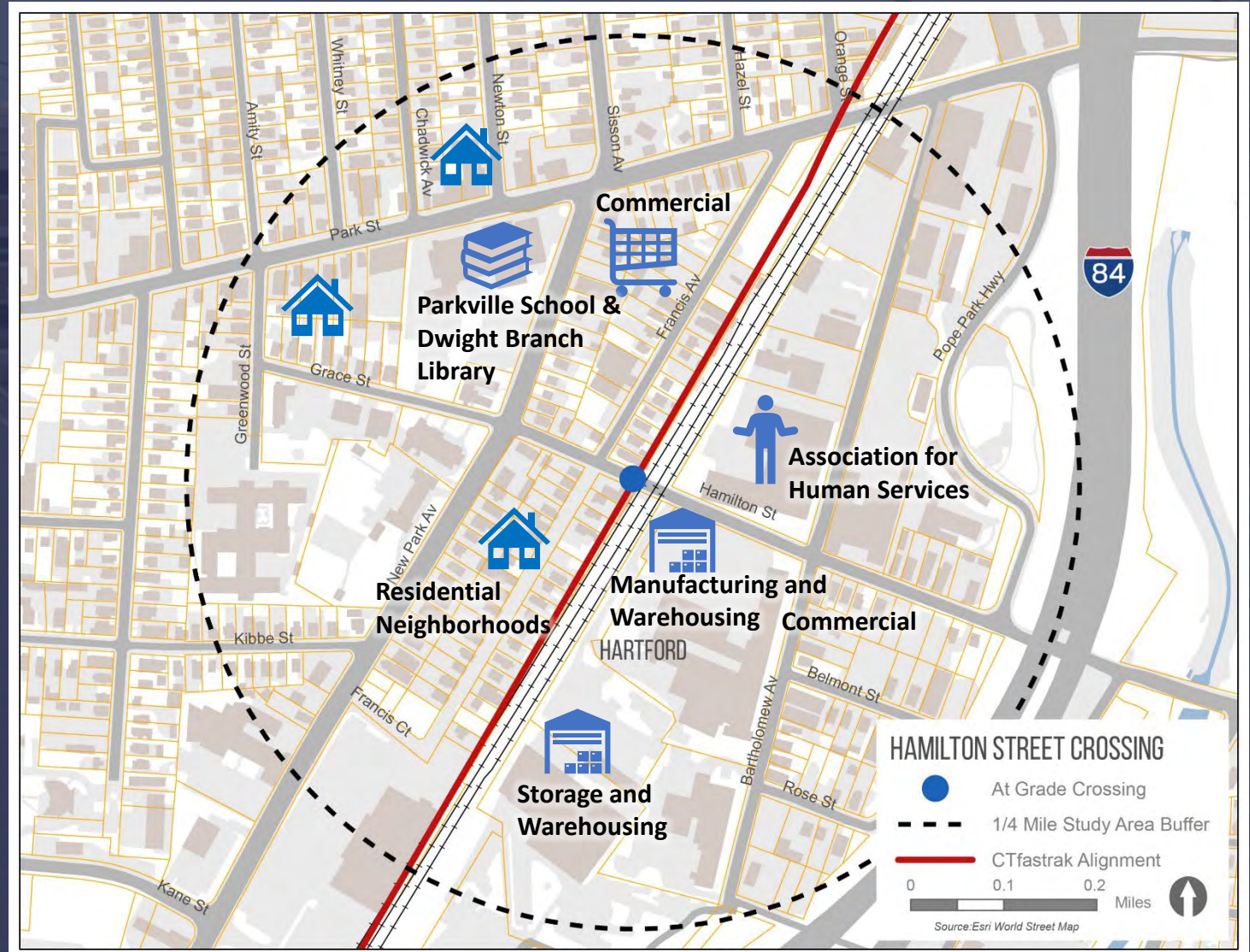
# STUDY AREA — HAMILTON STREET CROSSING





# POINTS OF INTEREST- HAMILTON STREET CROSSING

- Hartford Public Library – Dwight Branch
- Residential Neighborhoods
- Association for Human Services
- Storage, warehousing, and manufacturing
- Mixed commercial, and restaurant uses





# ON-GOING WORK

---

- CTfastrak repaving and overhaul
- Autonomous bus program

\*DISCUSS AT END

# AT-GRADE CROSSING TRAFFIC CHARACTERISTICS

---

|                  | AADT  | Posted SL | 85 <sup>th</sup> percentile speeds |
|------------------|-------|-----------|------------------------------------|
| Stanley Street   | 4,500 | 25        | 39.2                               |
| East Main Street | 9,600 | 25        | 41.1                               |
| Smalley Street   | 3,100 | 25        | 41.2                               |
| Oakwood Avenue   | N/A   | 25        | N/A                                |
| Hamilton Street  | 7,600 | 25        | 18.0 *                             |

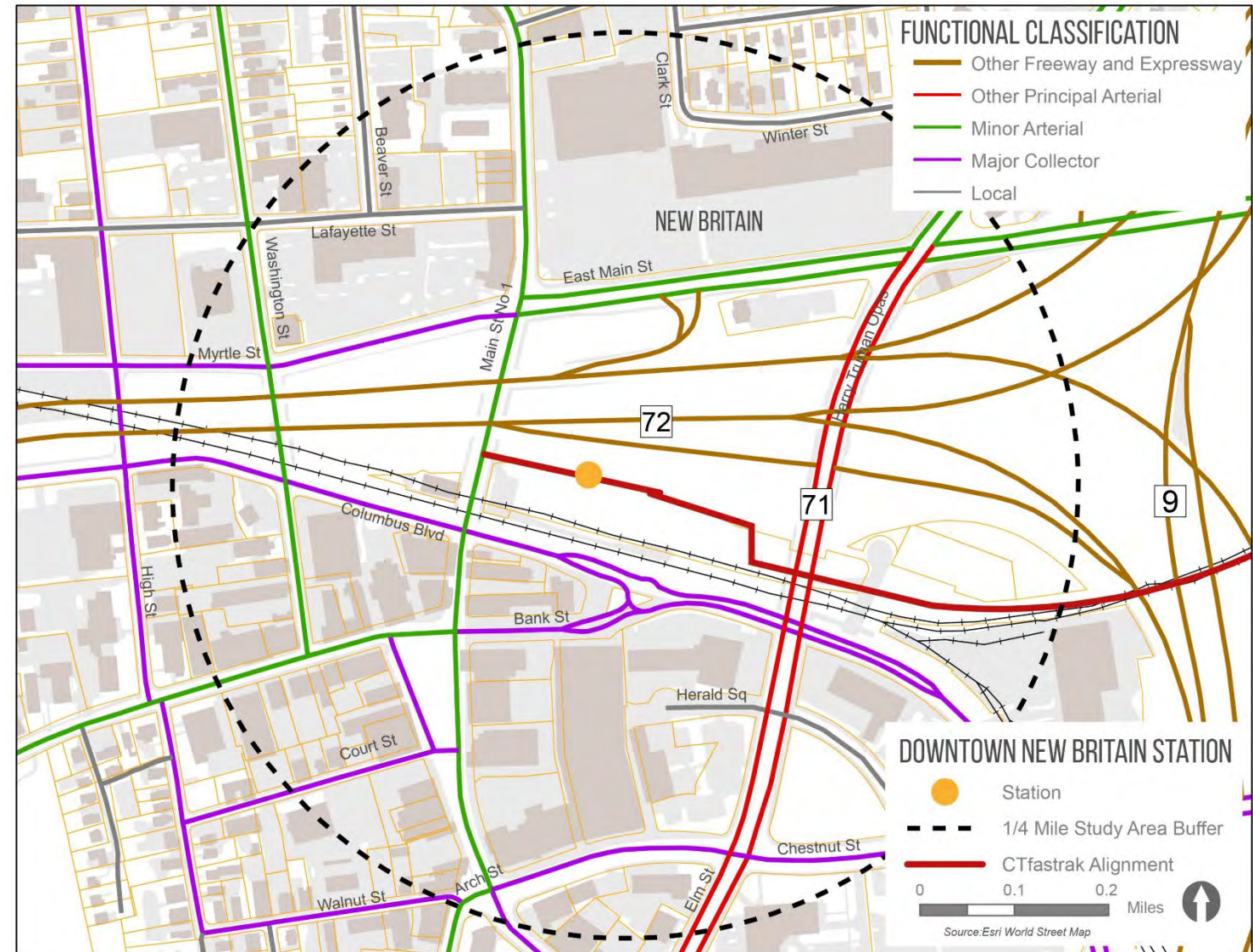
\* - Designates Speeds near or adjacent to intersection. Could impact recorded speeds.



# FUNCTIONAL CLASSIFICATION — DOWNTOWN NEW BRITAIN

## STATION

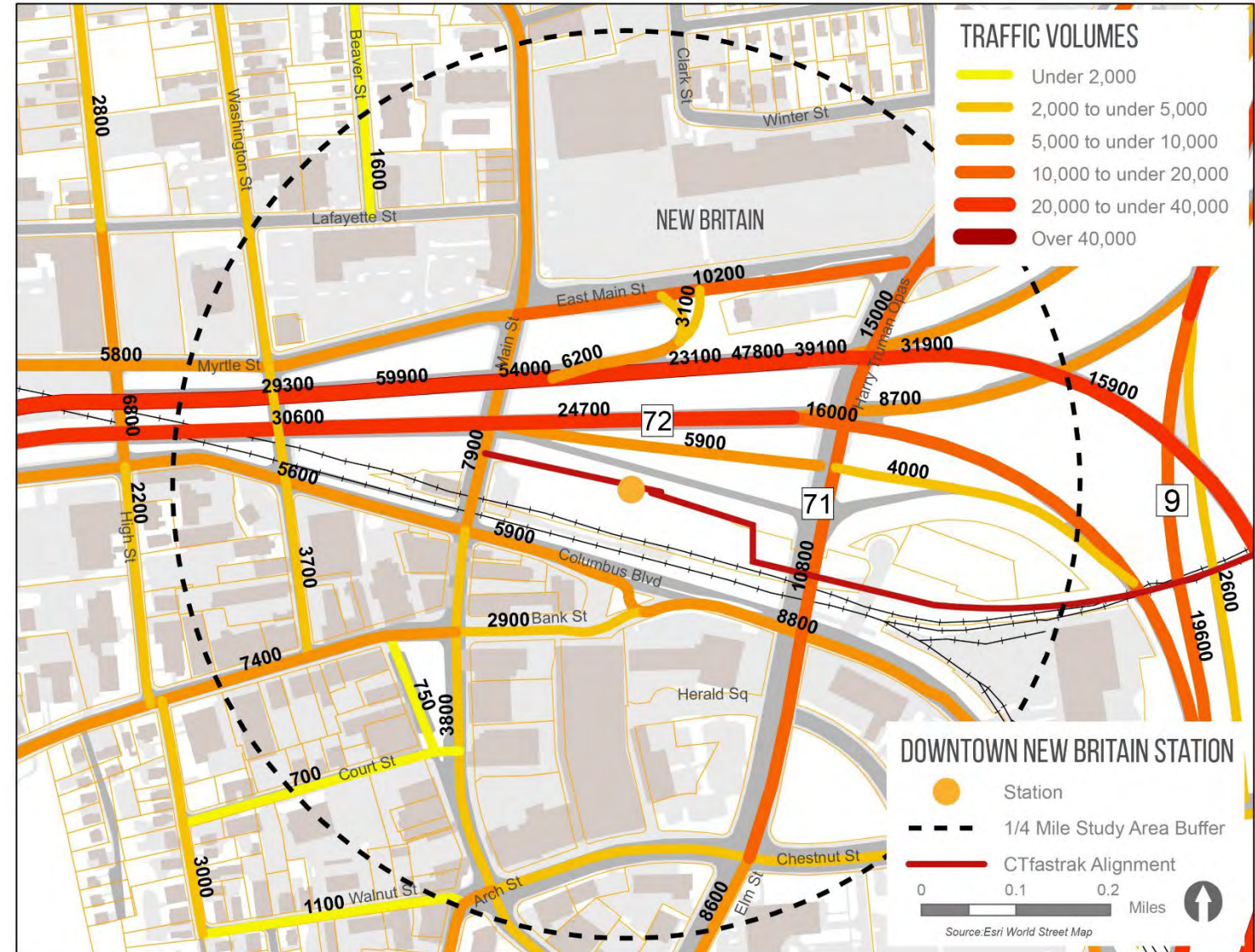
- Rte 72 is an expressway
- Rte 71 (Harry Truman Opas) is a principal arterial
- Main Street, East Main Street, Washington Street and West Main Street are minor arterials
- Columbus Boulevard, Bank Street, Myrtle Street, Court Street, and Chestnut Street are major collectors
- Remaining roadways are local roads





# TRAFFIC VOLUMES — DOWNTOWN NEW BRITAIN STATION

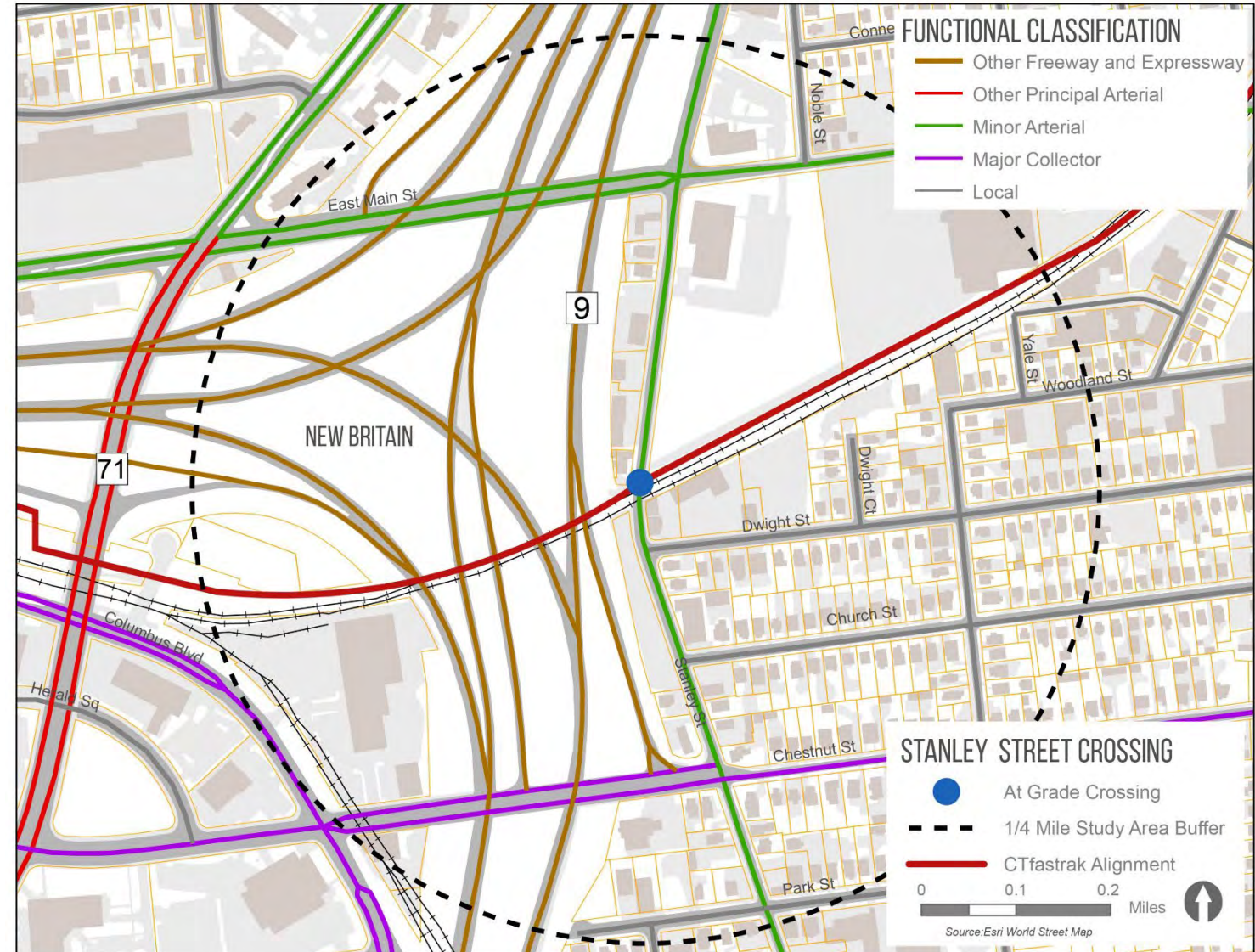
- Traffic volumes on Main Street are 7,900
- Volumes on East Main Street are between 10,200 and 5,800
- Volumes on Rte 71 range between 15,000 and 10,800
- Traffic volumes on Columbus Boulevard are between 8,800 and 5,600





# FUNCTIONAL CLASSIFICATION — STANLEY STREET CROSSING

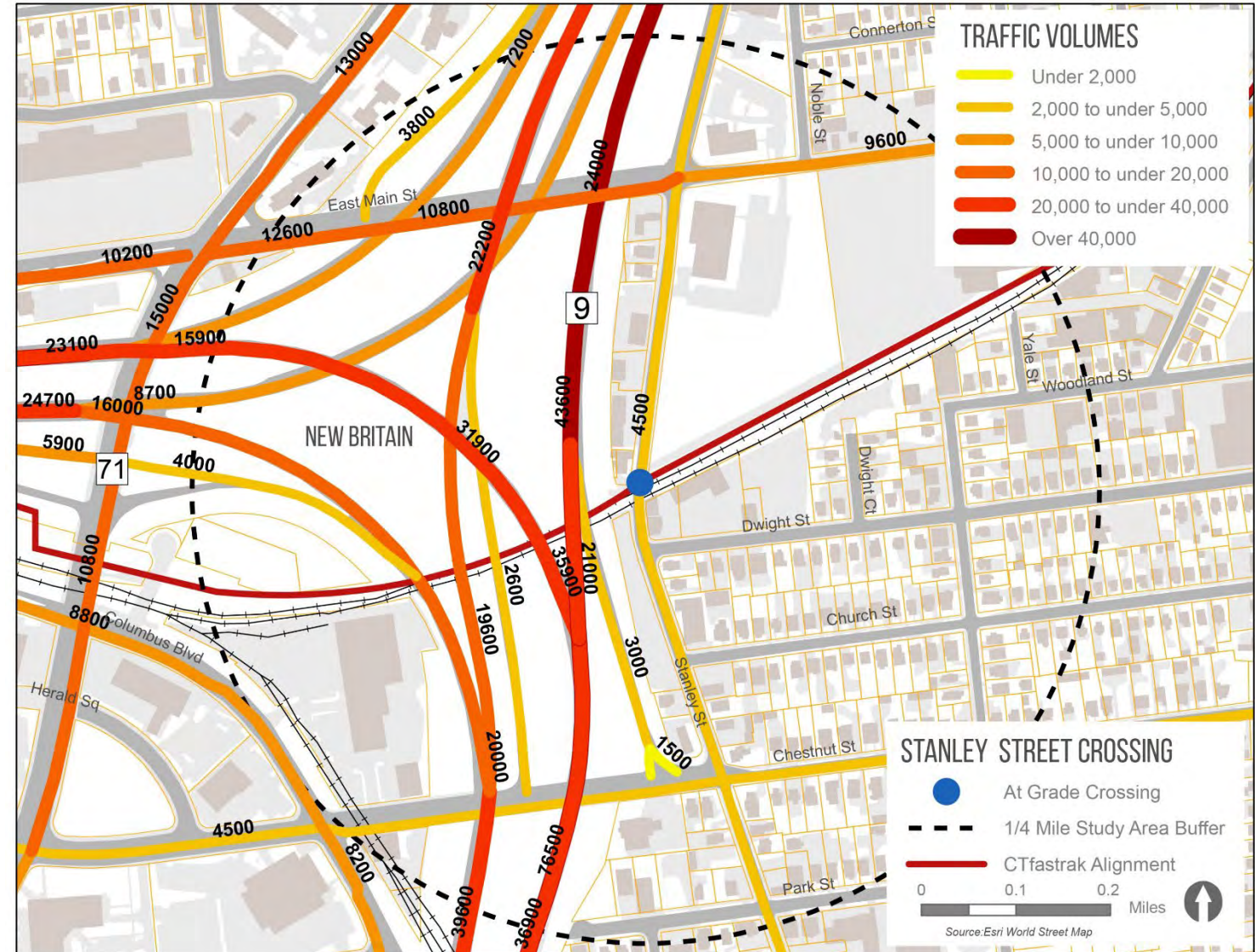
- Rte 9 is an expressway
- Rte 71 (Harry Truman Opas) is a principal arterial
- East Main Street and Stanley Street are minor arterials
- Columbus Boulevard and Chestnut Street are major collectors
- Remaining roadways are local roads





# TRAFFIC VOLUMES — STANLEY STREET CROSSING

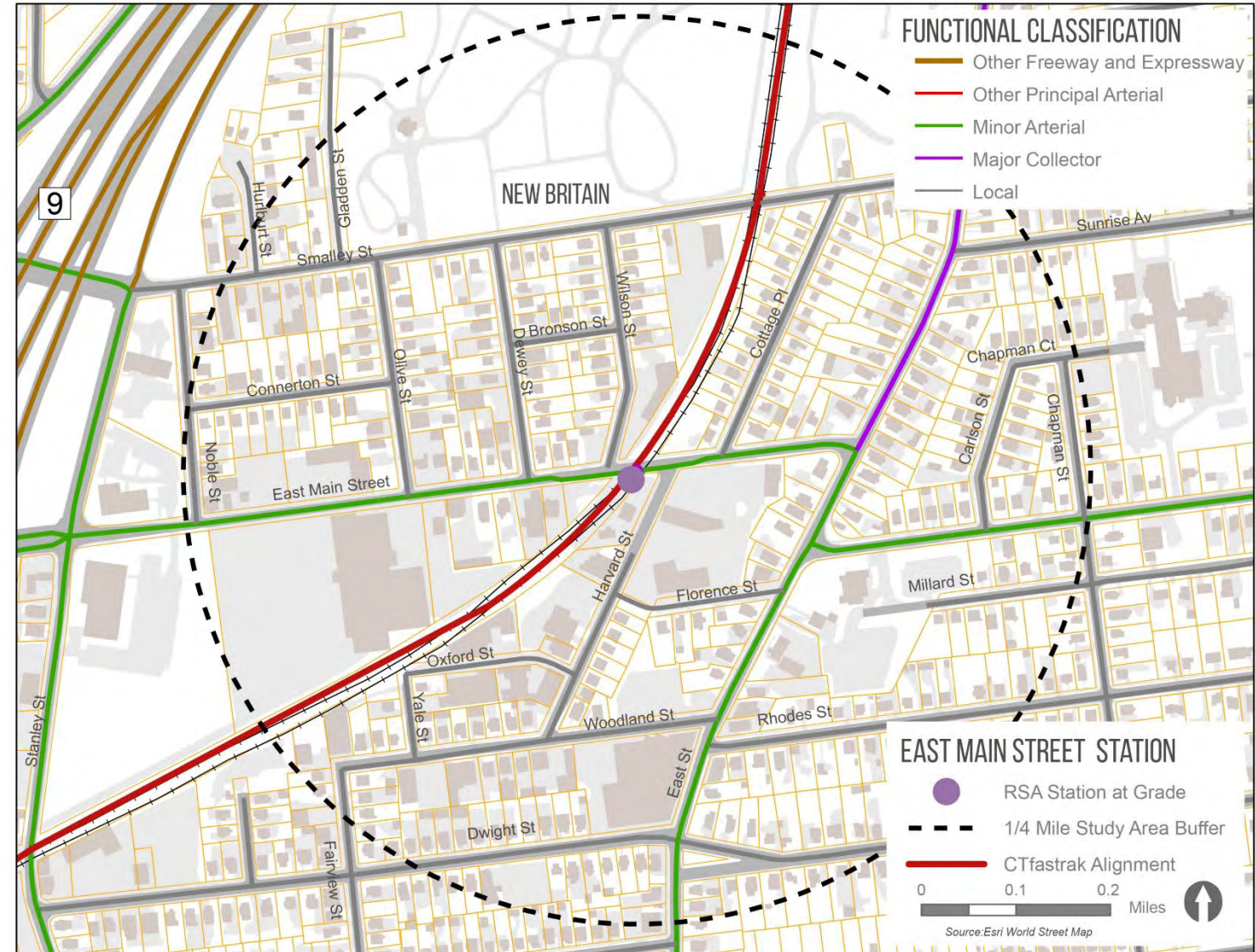
- Traffic volumes on Stanley Street are 4,500
- Volumes on East Main Street are between 12,600 and 9,600
- Volumes on Chestnut Street are approx. 4,500





# FUNCTIONAL CLASSIFICATION — EAST MAIN STREET STATION

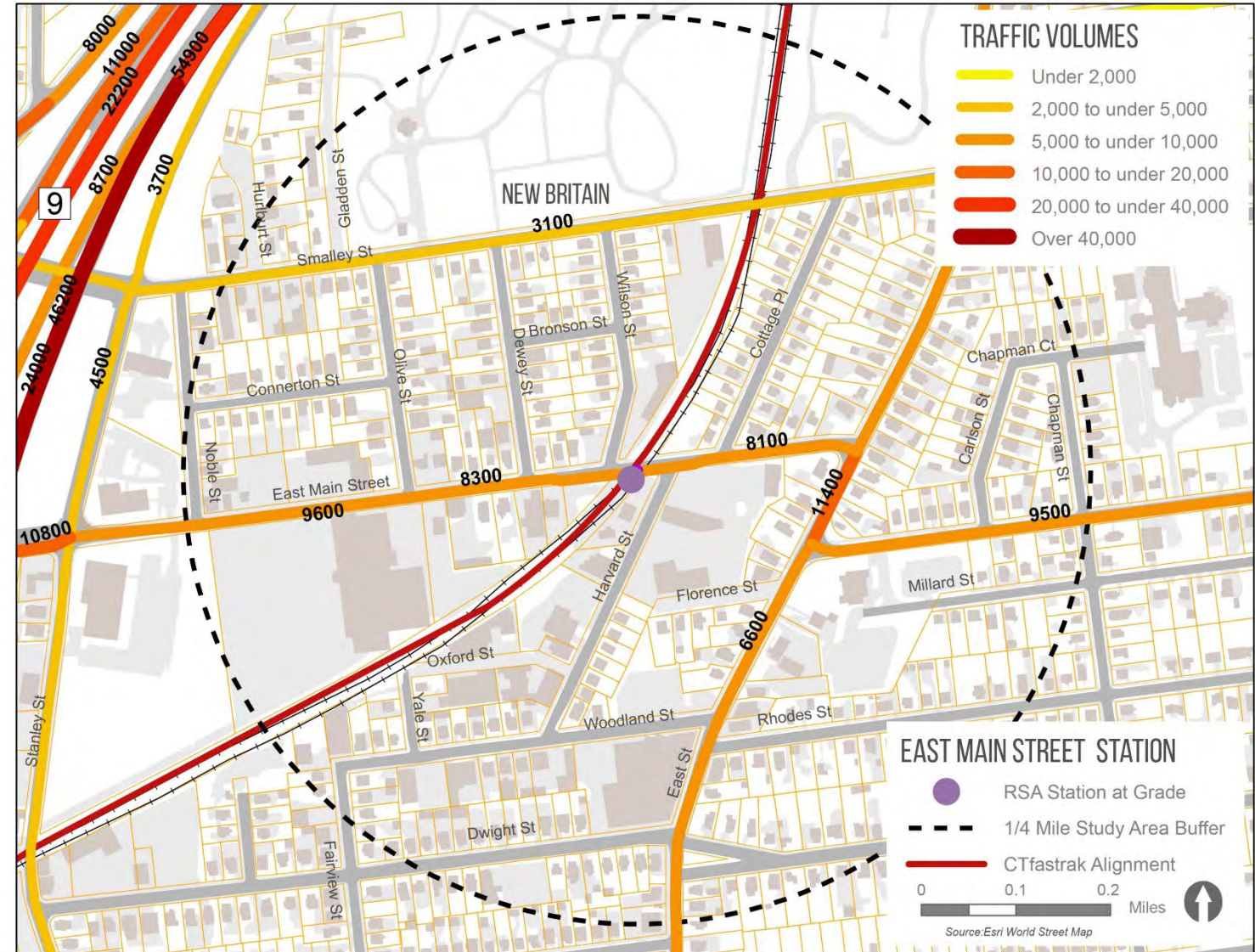
- Rte 9 is an expressway
- East Main Street, Stanley Street, and East Street are minor arterials
- East Street north of East Main Street is a major collector
- Remaining roadways are local roads





# TRAFFIC VOLUMES — EAST MAIN STREET STATION

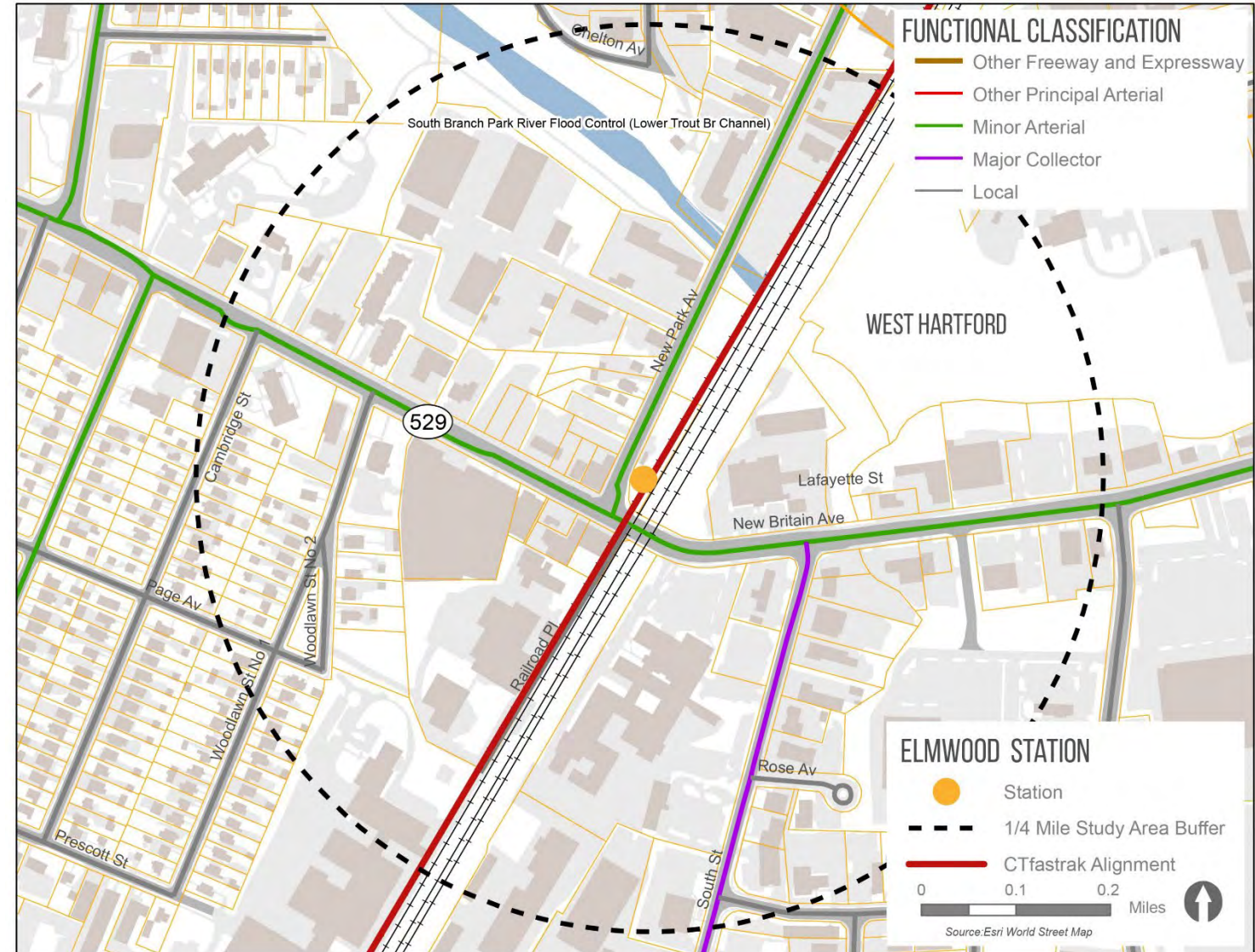
- Traffic volumes on East Main Street are between 9,600 and 8,100
- Volumes on East Street are between 11,400 and 6,600
- Volumes on Smalley Street are approx. 3,100





# FUNCTIONAL CLASSIFICATION — ELMWOOD STATION

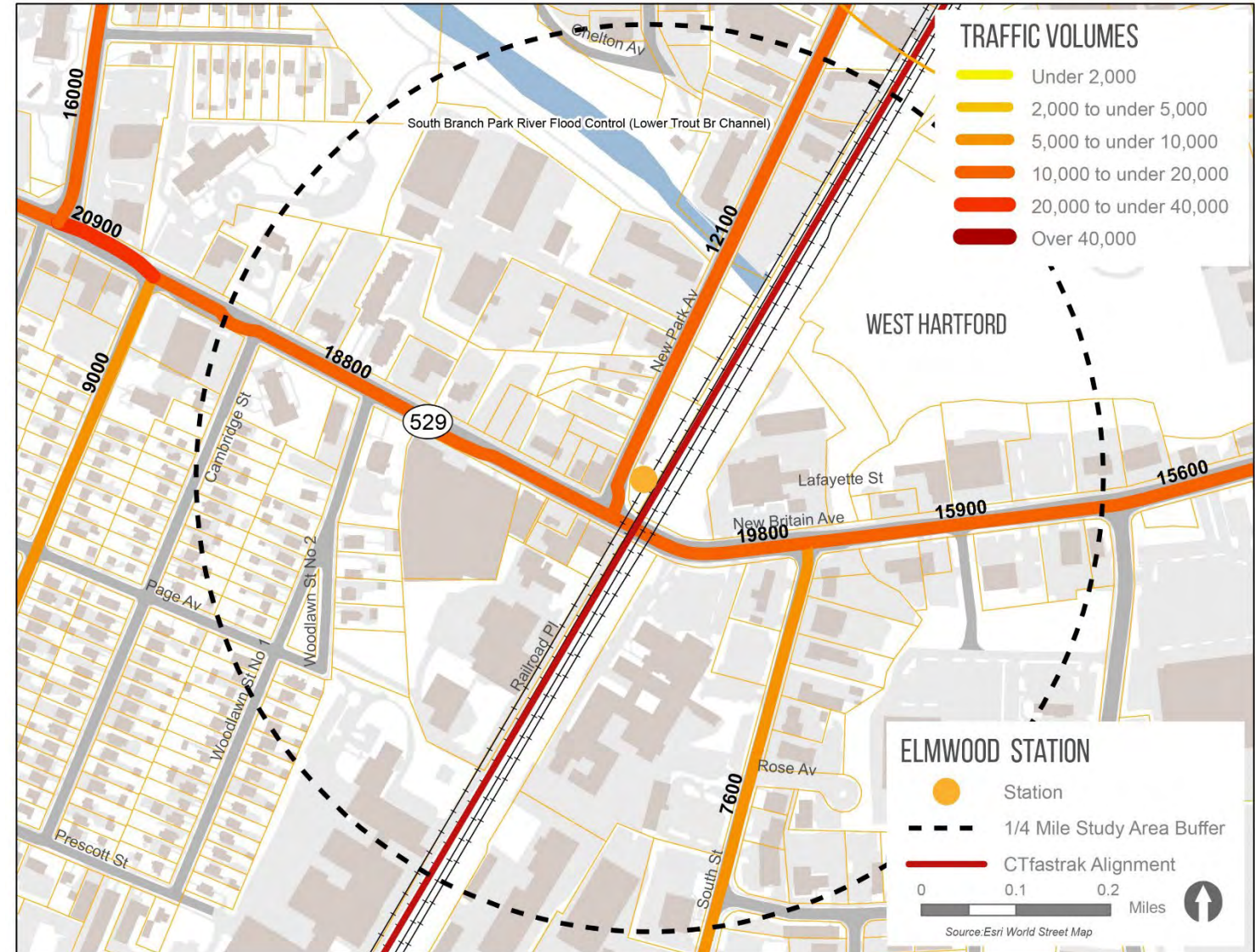
- Rte 529 (New Britain Avenue) and New Park Avenue are minor arterials
- South Street is a major collector
- Remaining roadways are local roads





# TRAFFIC VOLUMES — ELMWOOD STATION

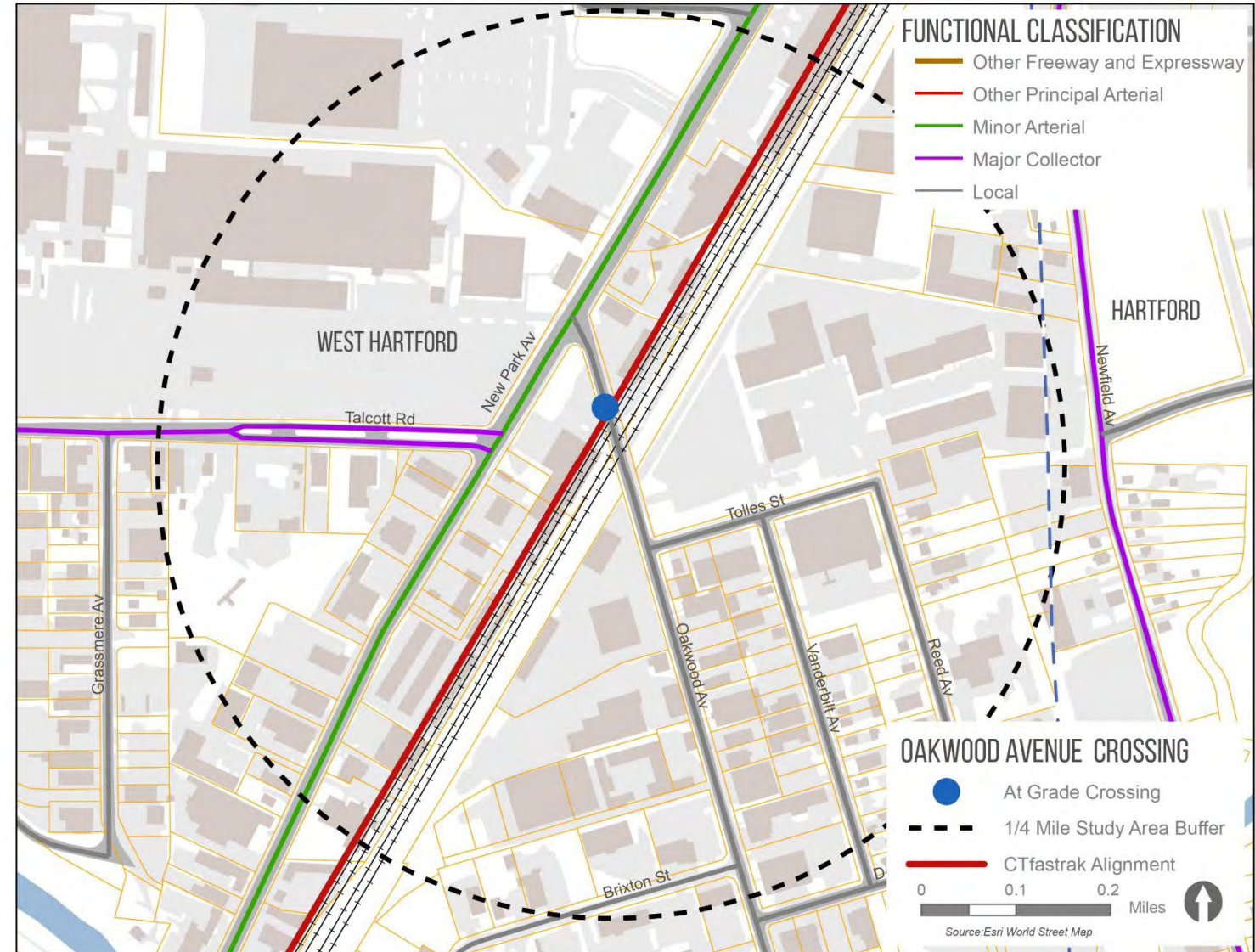
- Traffic volumes are highest on Rte 529 New Britain Avenue (20,900 – 15,600) just south of the Elmwood Station
- Volumes on New Park Avenue are 12,100
- Volumes on South Street are approx. 7,600





# FUNCTIONAL CLASSIFICATION — OAKWOOD AVENUE CROSSING

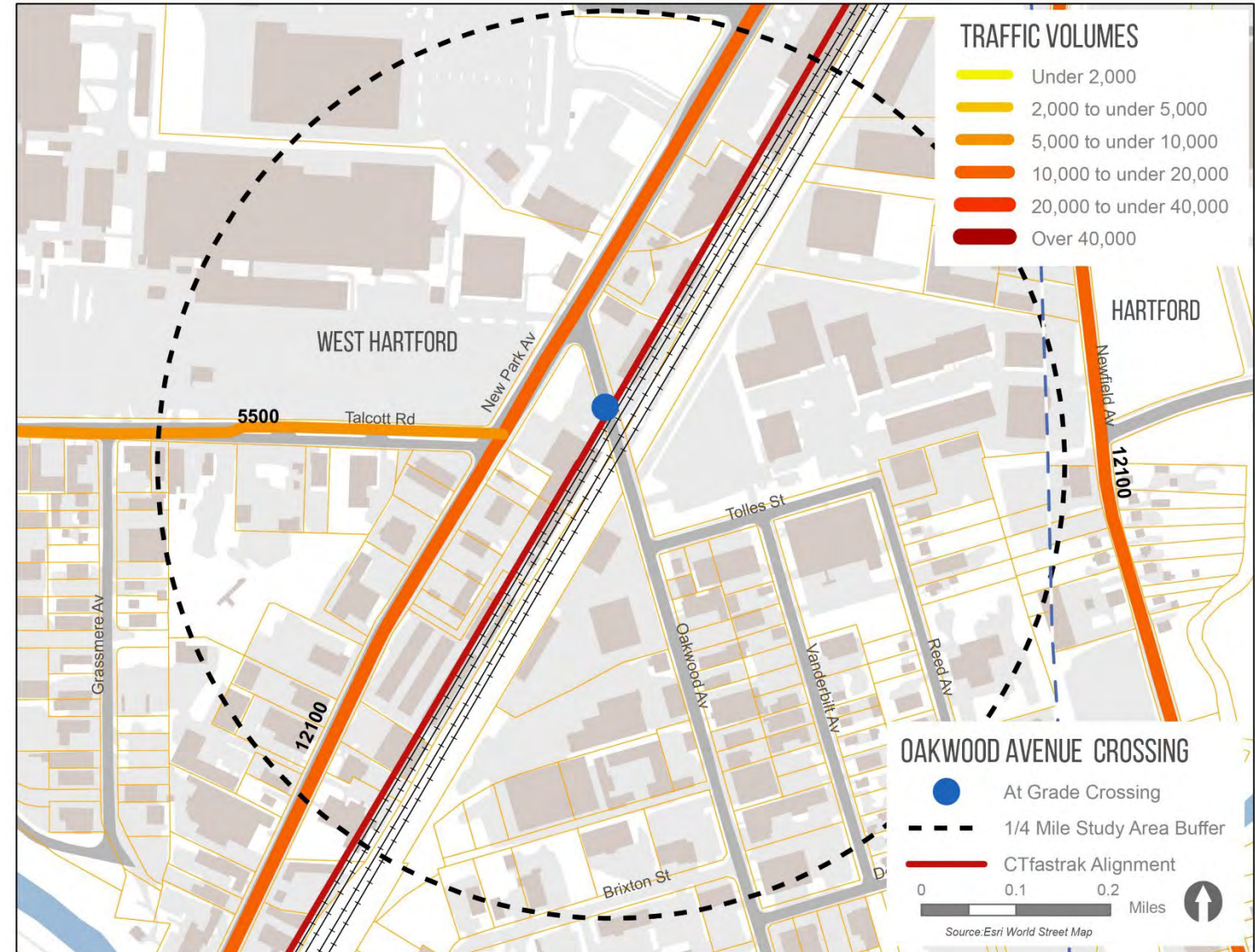
- New Park Avenue is a minor arterial
- Talcott Road is a major collector
- Oakwood Avenue and remaining roadways are local roads





# TRAFFIC VOLUMES — OAKWOOD AVENUE CROSSING

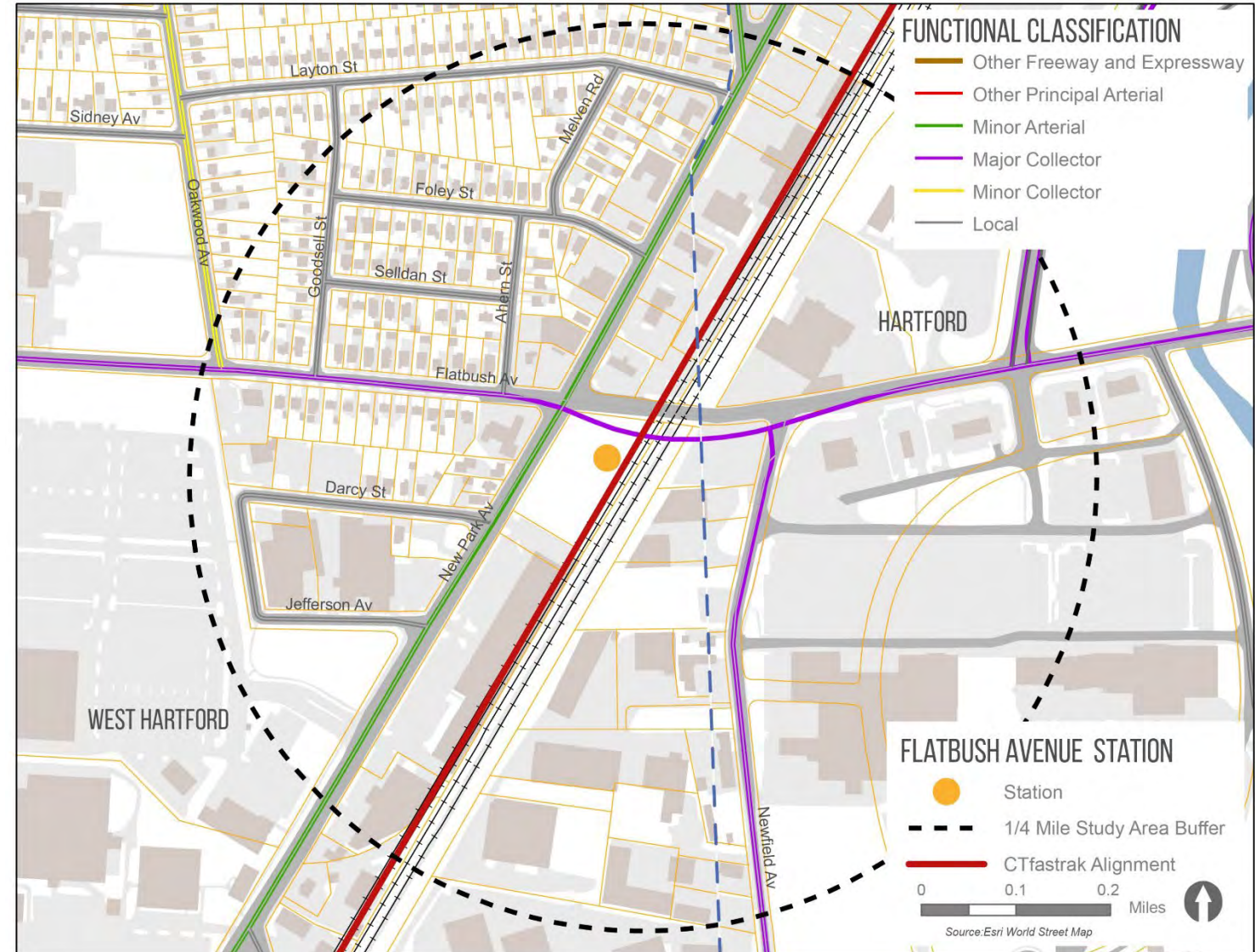
- Traffic volumes are highest on New Park Avenue (12,100) south of the Oakwood Avenue crossing
- Volumes on Talcott Road are approx. 5,500





# FUNCTIONAL CLASSIFICATION — FLATBUSH AVENUE STATION

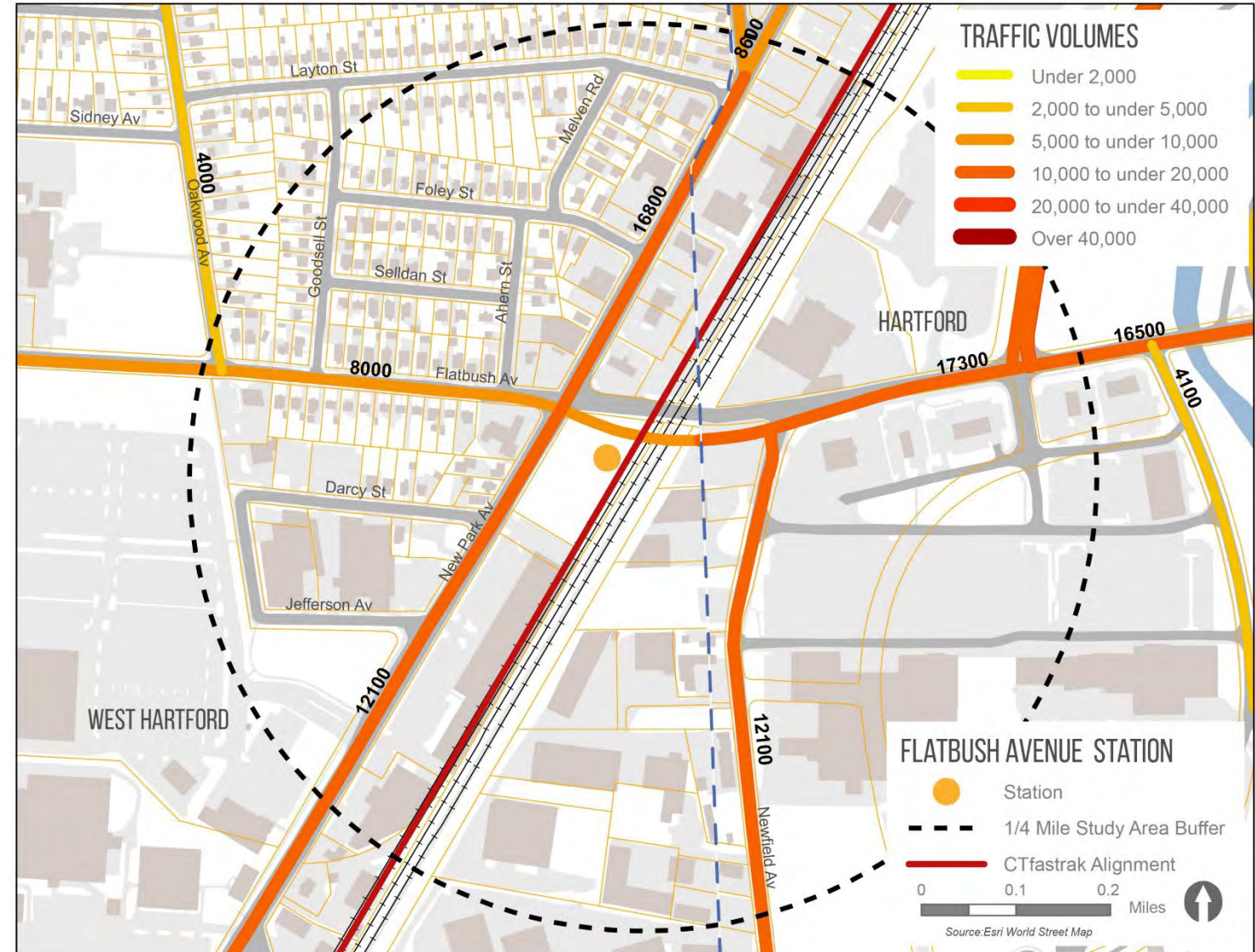
- New Park Avenue is a minor arterial
- Flatbush Avenue and Newfield Avenue are major collectors
- Oakwood Avenue is a minor collector
- Remaining roadways are local roads





# TRAFFIC VOLUMES — FLATBUSH AVENUE STATION

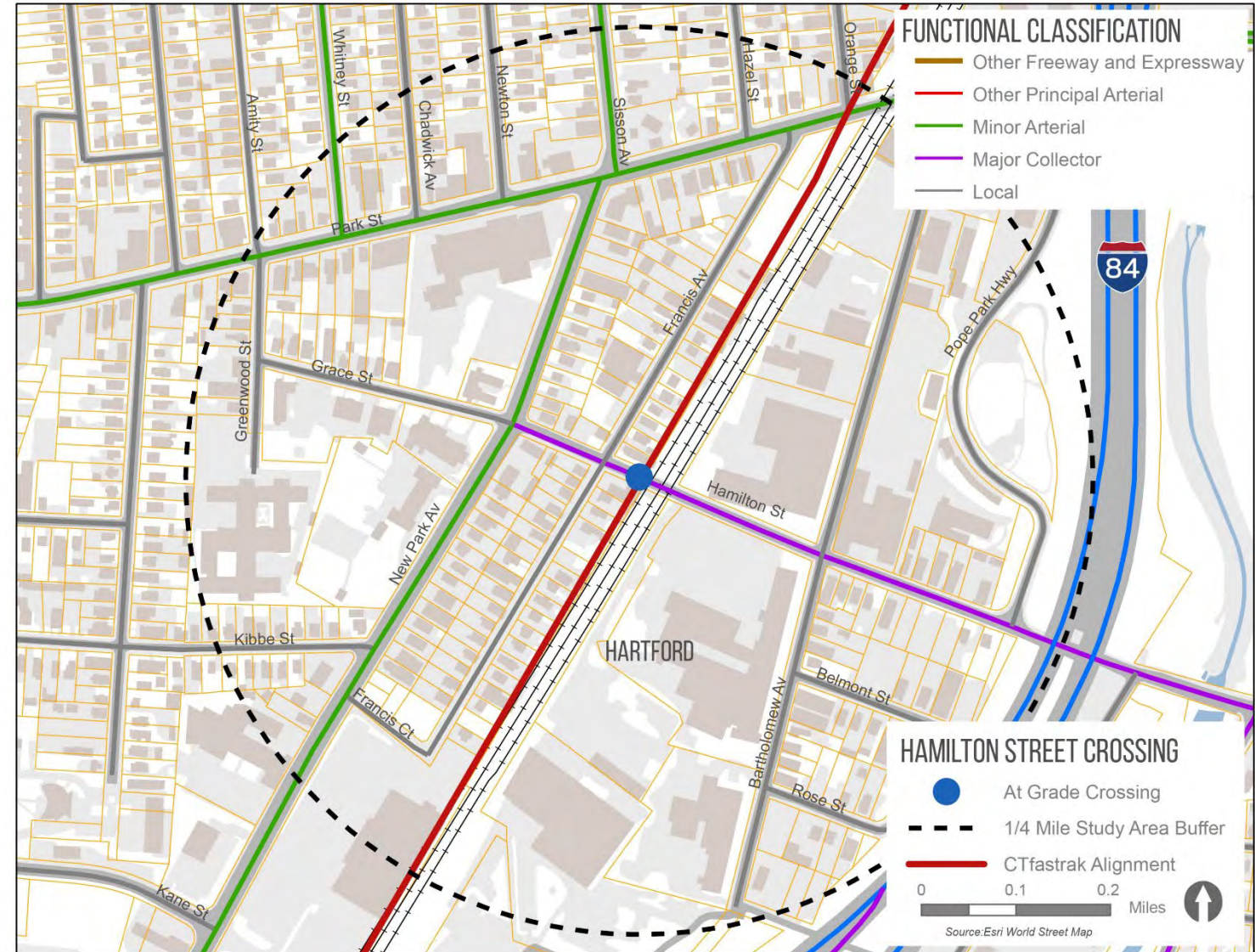
- Traffic volumes are highest on Flatbush Avenue (17,300) east of the Flatbush Avenue Station
- Volumes on Flatbush Avenue west of the station are approx. 8,000
- Volumes on New Park Avenue are between 16,800 and 12,100





# FUNCTIONAL CLASSIFICATION — HAMILTON STREET CROSSING

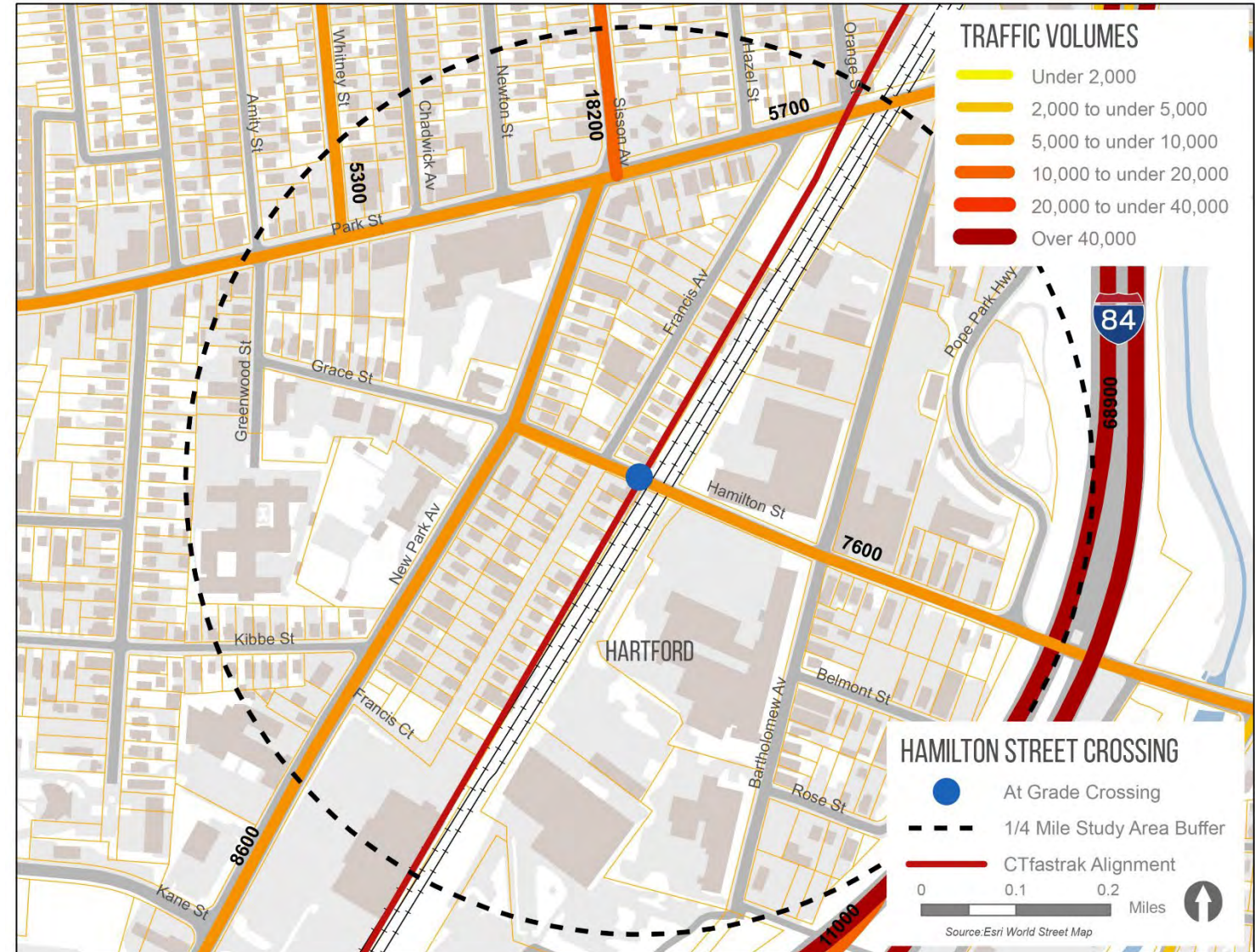
- New Park Avenue, Park Street, Whitney Street, and Sisson Avenue are minor arterials
- Hamilton Street is a major collector
- Remaining roadways are local roads





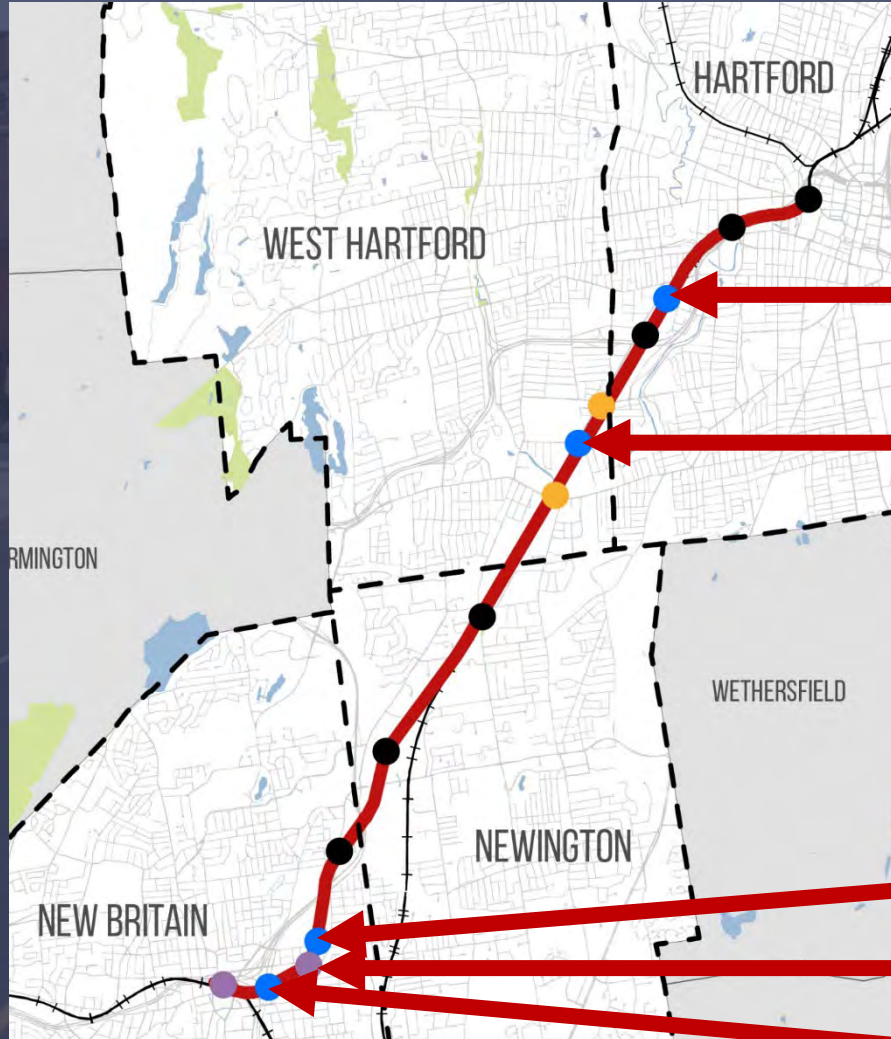
# TRAFFIC VOLUMES — HAMILTON STREET CROSSING

- Traffic volumes are highest at Sisson Avenue (18,200) just north of the Hamilton Street crossing
- Volumes on Hamilton Street are approx. 7,600
- Volumes on New Park Avenue are 8,600





# CRASH LOCATIONS (2015-2023, SINCE SYSTEM OPENING)



TOTAL – 77 TOTAL CRASHES, 45 INJURY CRASHES

Hamilton St – 23 crashes, 14 injury crashes

Oakwood Ave – 6 crashes, 3 injury crashes

Smalley St – 8 crashes, 3 injury crashes

East Main St – 12 crashes, 6 injury crashes

Stanley St – 28 crashes, 19 injury crashes

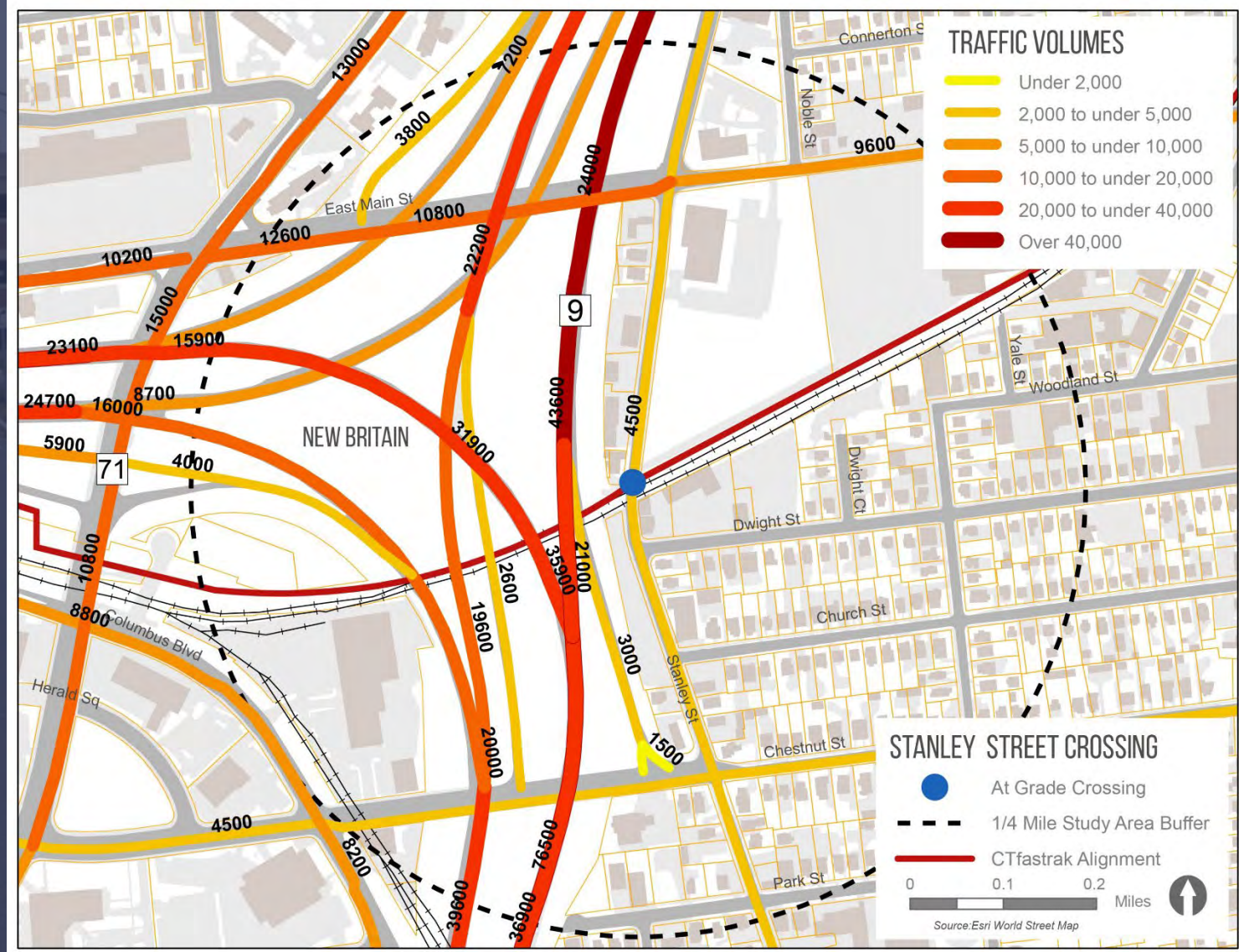


# CRASH LOCATIONS (2015-2023, SINCE SYSTEM OPENING)

Stanley St – 28 crashes  
9 PDO crashes  
9 C-injury crashes  
10 B-injury crashes  
0 A-injury crashes  
0 Fatal crashes

Stanley St – Types  
18 Angle crashes  
5 Other or N/A  
4 Rear-ends  
1 Sideswipe

Stanley St – 163 involved persons  
31 C-injuries  
18 B-injuries  
0 A-injuries  
0 Fatalities



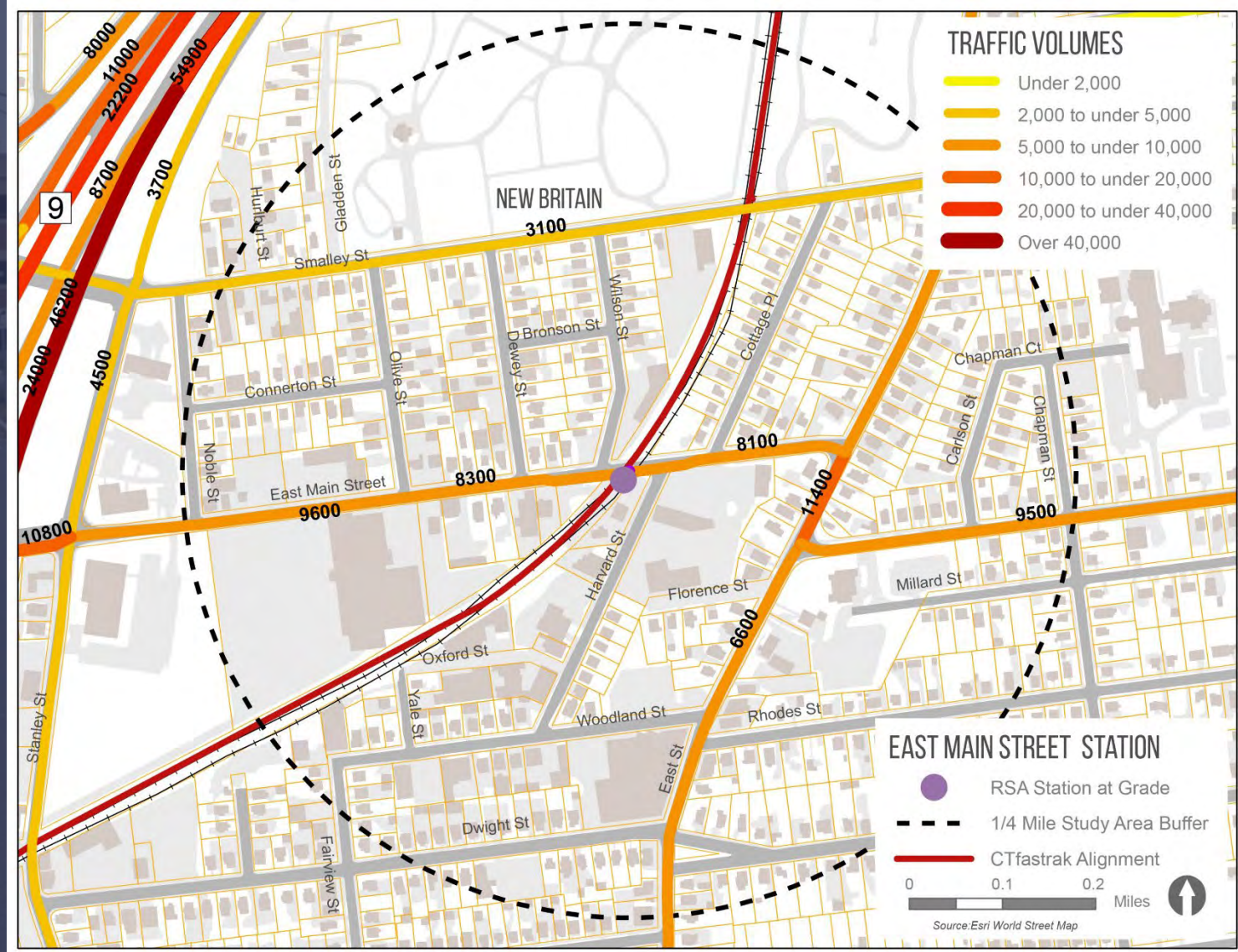


# CRASH LOCATIONS (2015-2023, SINCE SYSTEM OPENING)

East Main St – 12 crashes  
6 PDO crashes  
3 C-injury crashes  
2 B-injury crashes  
1 A-injury crash  
0 Fatal crashes

East Main St – Types  
6 Angle crashes  
5 Other or N/A  
1 Rear-end

East Main St – 34 involved persons  
11 C-injuries  
4 B-injuries  
1 A-injury  
0 Fatalities



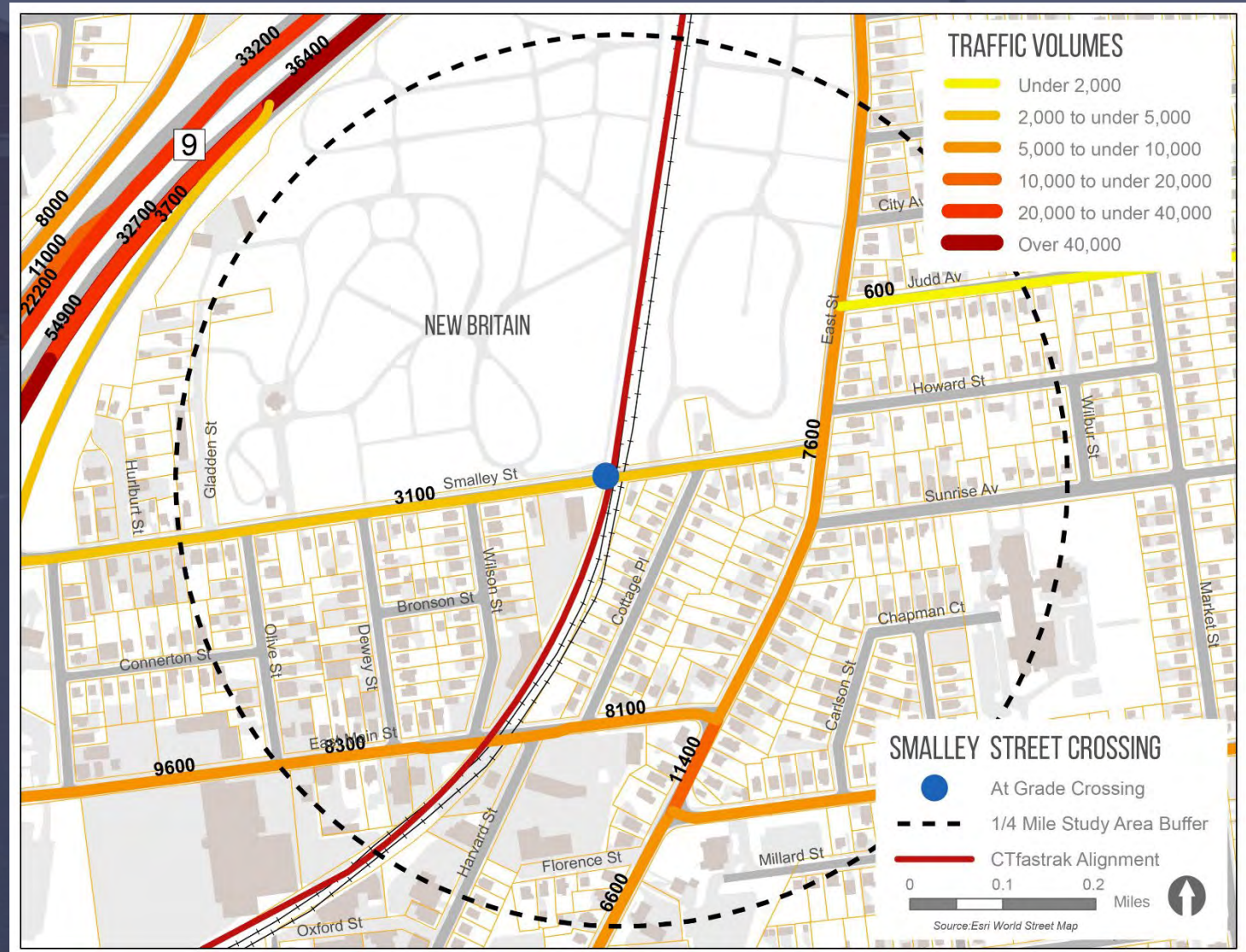


# CRASH LOCATIONS (2015-2023, SINCE SYSTEM OPENING)

Smalley St – 8 crashes  
5 PDO crashes  
2 C-injury crashes  
1 B-injury crash  
0 A-injury crashes  
0 Fatal crashes

Smalley St – Types  
6 Angle crashes  
1 Sideswipe  
1 Rear-end

Smalley St – 25 involved persons  
3 C-injuries  
1 B-injury  
0 A-injuries  
0 Fatalities



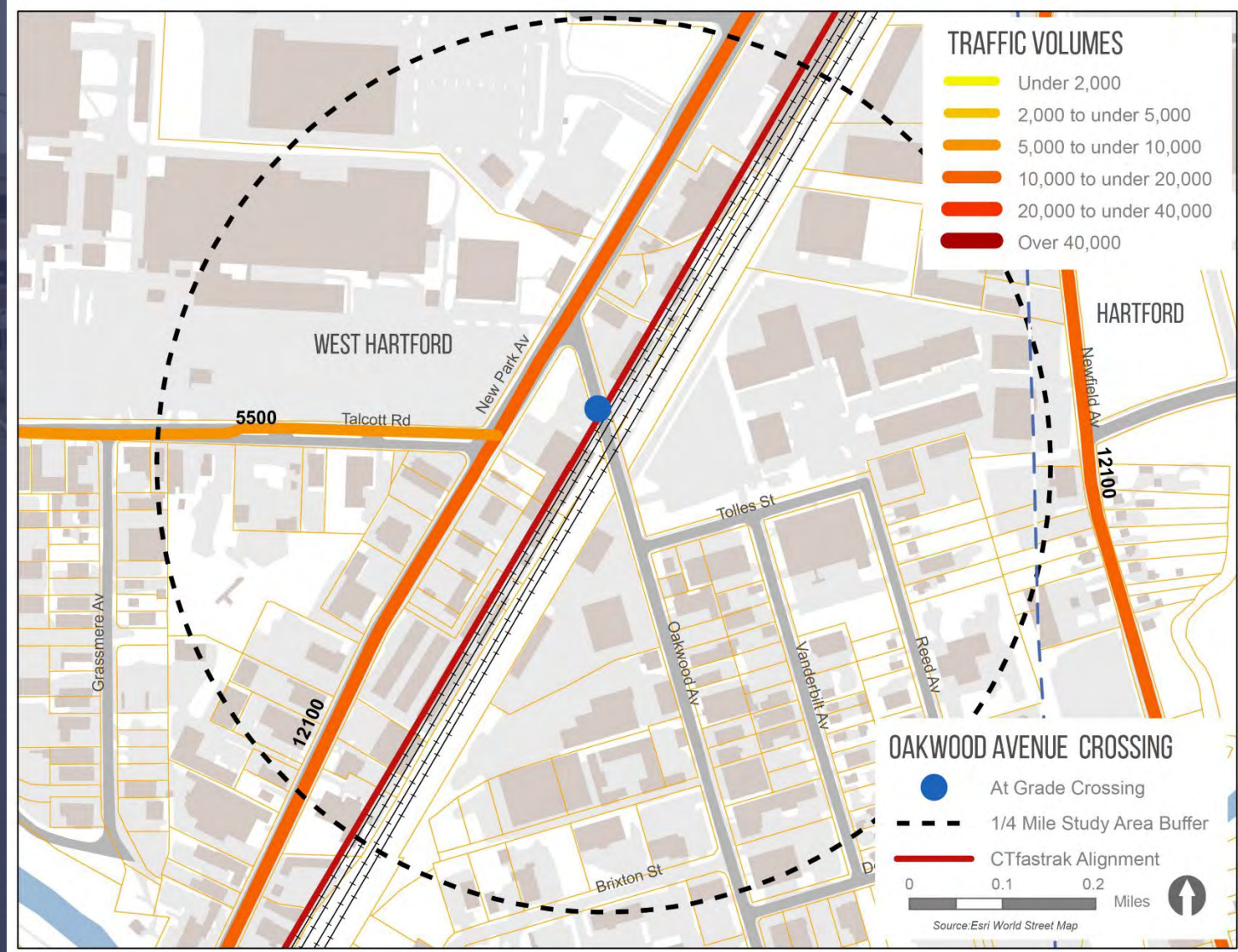


# CRASH LOCATIONS (2015-2023, SINCE SYSTEM OPENING)

Oakwood Ave – 6 crashes  
3 PDO crashes  
2 C-injury crashes  
1 B-injury crash  
0 A-injury crashes  
0 Fatal crashes

Oakwood Ave – Types  
3 Angle crashes  
2 Rear-ends  
1 Other or N/A

Oakwood Ave – 43 involved  
persons  
13 C-injuries  
1 B-injury  
0 A-injuries  
0 Fatalities



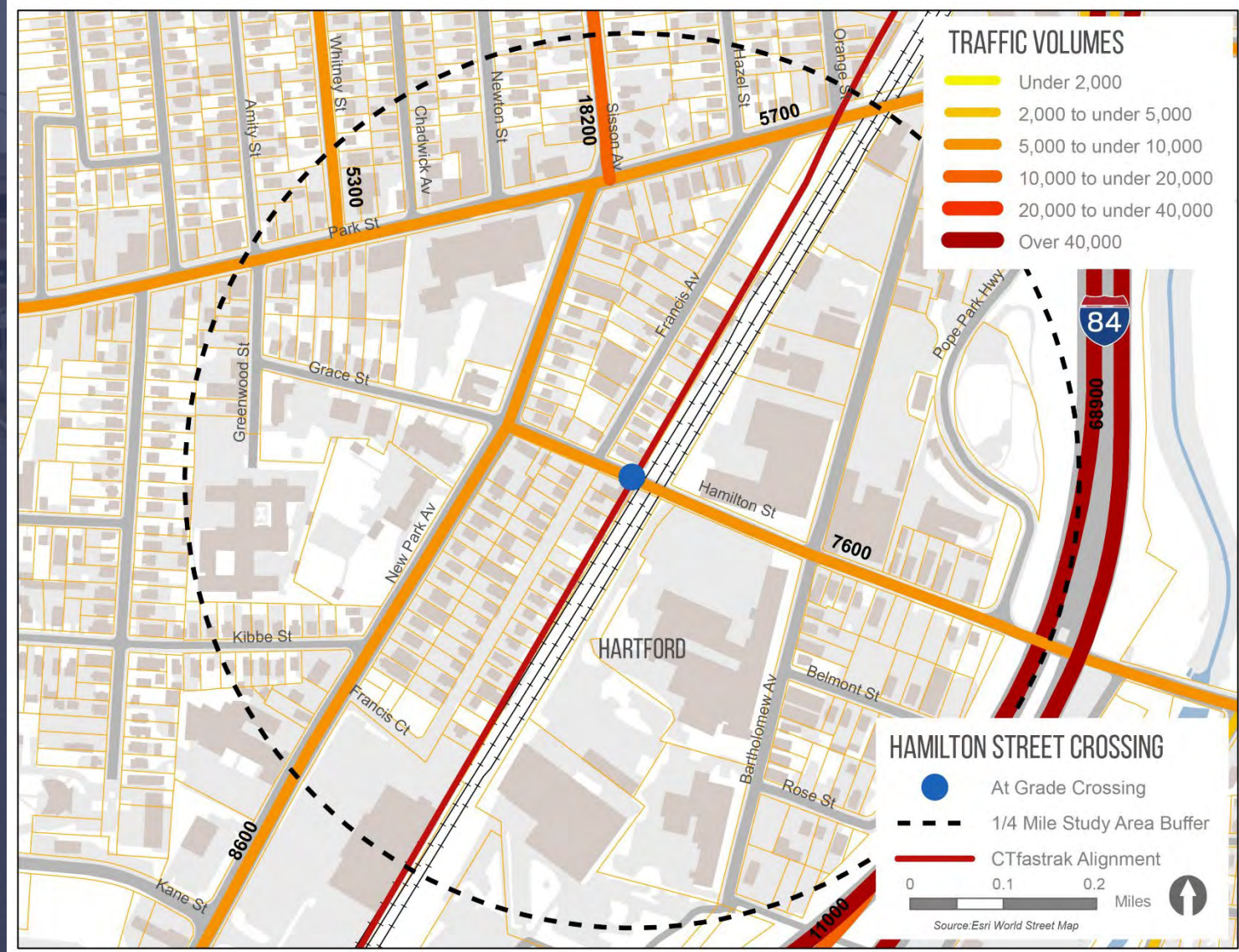


# CRASH LOCATIONS (2015-2023, SINCE SYSTEM OPENING)

Hamilton St – 23 crashes  
9 PDO crashes  
10 C-injury crashes  
4 B-injury crashes  
0 A-injury crashes  
0 Fatal crashes

Hamilton St – Types  
12 Angle crashes  
6 Rear-ends  
3 Sideswipes  
2 Other or N/A

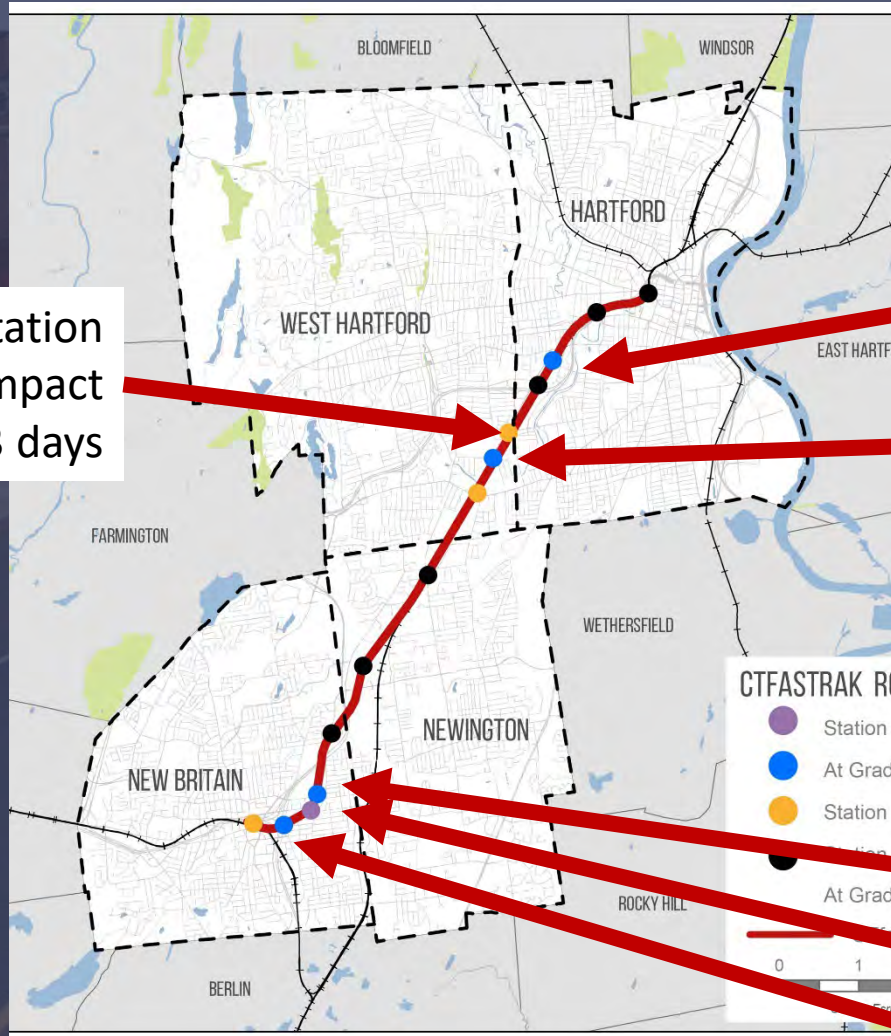
Hamilton St – 94 involved persons  
23 C-injuries  
8 B-injuries  
0 A-injuries  
0 Fatalities





# APPROX. CRASH RATES (2015-2023, SINCE SYSTEM OPENING)

Flatbush Ave Station  
1 platform impact  
every 43 days



Average of 1 crash every 40 days

Hamilton St – 94/ HMEV

Oakwood Ave – 60/HMEV

Smalley St – 77/HMEV

East Main St – 46/HMEV

Stanley St – 190/HMEV

HMEV = 100 Million Entering Vehicles





**SAMPLE IMPROVEMENTS TO IMPROVE  
SAFETY IN THE STUDY AREA**



# SIMILAR BRT CASE STUDIES



## Getting to BRT: An Implementation Guide for U.S. Cities

SEPTEMBER 2019



Table 2:  
**U.S. BRT corridors by  
BRT Standard rating**  
*ITDP 2016a, 2019a*

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                            |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>GOLD STANDARD BRT</b><br><b>85 POINTS OR ABOVE</b><br>Gold Standard BRT is consistent in almost all respects with international best practices. These corridors achieve the highest level of operational performance and efficiency while providing a high quality of service. The Gold level is achievable on any corridor with sufficient demand to justify BRT investments. These corridors have the greatest ability to inspire the public, as well as other cities. | Albuquerque, ART* (design score only)<br><i>No official Gold Standard BRT is operational in the U.S. as of mid-2019.</i>                                   |
| <b>SILVER STANDARD BRT</b><br><b>70–84.9 POINTS</b><br>Silver Standard BRT includes most of the elements of international best practices and is likely to be cost-effective on any corridor with sufficient demand to justify BRT investment. These corridors achieve high operational performance and quality of service.                                                                                                                                                  | Cleveland, HealthLine<br>Hartford, CTfastrak                                                                                                               |
| <b>BRONZE STANDARD BRT</b><br><b>55–69.9 POINTS</b><br>Bronze Standard BRT solidly meets the definition of BRT and is mostly consistent with international best practices. Bronze Standard BRT has some characteristics that elevate it above the minimum standard, achieving higher operational efficiencies or quality of service than Basic BRT.                                                                                                                         | Eugene-Springfield, EmX Green Line<br>LA Metro Orange Line<br>Pittsburgh, Martin Luther King Jr. East Busway<br>Richmond, The Pulse<br>San Bernardino, sbX |
| <b>BASIC BRT</b><br>Basic BRT refers to a core subset of elements that the Technical Committee has deemed essential to the definition of BRT. This minimum qualification is a precondition to receiving a Gold, Silver, or Bronze ranking.                                                                                                                                                                                                                                  | Fort Collins, MAX**<br>Las Vegas, Strip & Downtown Express (SDX)<br>Pittsburgh, West Busway<br>Pittsburgh, South Busway<br>South Miami-Dade Busway**       |

\* Albuquerque's ART corridor was scored before it was operational and on design characteristics only. It has since faced some major operational challenges that, to this day, have prevented service from running. While it was preliminarily scored Gold for design, it remains to be seen what its official BRT Standard score will be once its service launches. See Albuquerque case study in Chapter 5 for more information on this system.

\*\* Fort Collins's MAX BRT and the South Miami-Dade Busway have not been formally rated with the BRT Standard, but based on ITDP's preliminary assessment, they are referred to here as Basic BRT.

*Note:* Other bus priority corridor projects currently under construction also offer some valuable implementation lessons. Since they are not completed and have not been formally assessed with the BRT Standard, they are referred to in this guide as bus corridor projects, and not BRT. They include San Francisco's Van Ness and Geary bus corridors; East Bay corridor along International Boulevard in Oakland and San Leandro; Indianapolis's Red, Blue, and Purple Lines; Portland's Division Transit Project; Denver's Colfax Corridor Connections; Tampa Bay's Wesley Chapel to St. Petersburg corridor; and Seattle's Madison Street.

Source: ITDP 2016a, 2019a

# SIMILAR BRT CASE STUDIES

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## Most similar US BRT examples

|                              | Ded. Guideway | At-Grade Roadway Crossings | Adj. RR At-Grade Crossings |
|------------------------------|---------------|----------------------------|----------------------------|
| Los Angeles – Orange Line    | Y             | Y                          | N                          |
| Pittsburg – MLK East Busway  | Y             | N                          | N                          |
| Ft. Collins - MAX            | Y             | Y                          | Y                          |
| Pittsburg – MLK West Busway  | Y             | N                          | N                          |
| Pittsburg – MLK South Busway | Y             | N                          | N                          |
| South Miami-Dade Busway      | Y             | Y                          | N                          |

Working Draft as of 2/5/24



# SIMILAR BRT CASE STUDIES

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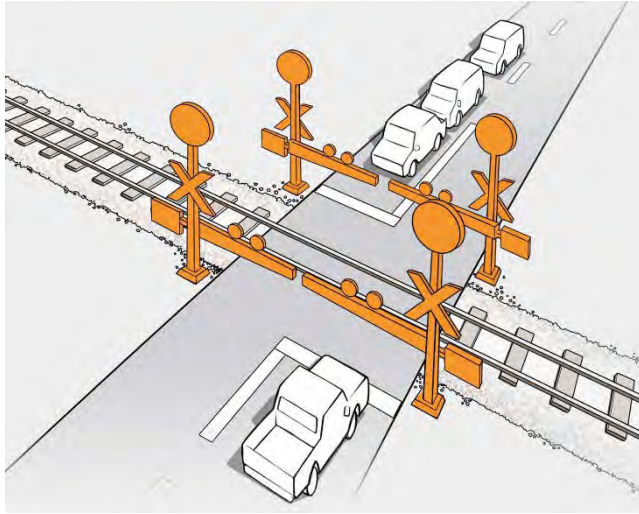
Los Angeles, Orange Line



Fort Collins, CO



# COUNTER MEASURES



Railroad Quad-Gates



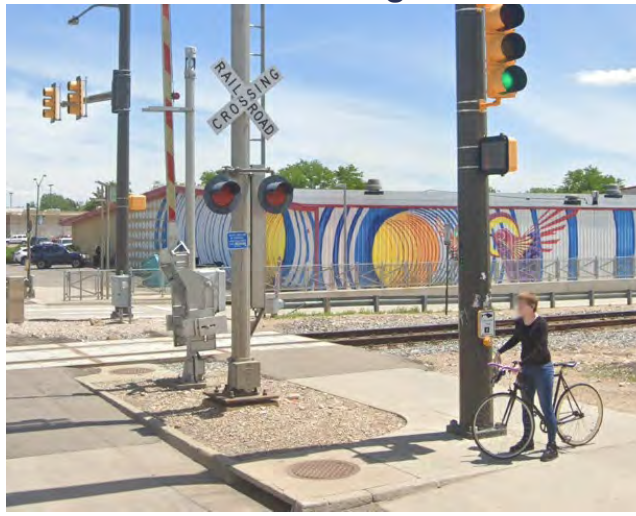
Traffic Gates for Busway Crossings



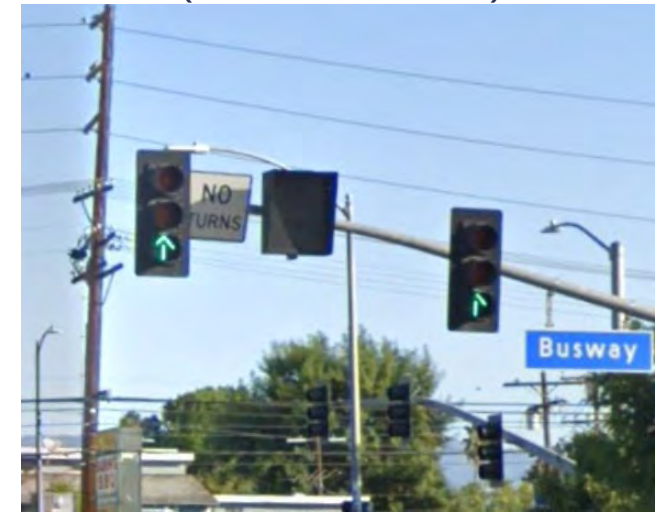
Automated Traffic Enforcement  
(Details to follow)



Additional Pavement Markings



Enhanced crosswalks / sidewalks through  
RR / BRT Intersection



Green straight arrows



# COUNTER MEASURES



Roadways Surface



Median Islands on Approach



Dynamic Message Sign



Bumpout / Visibility Enhancements



Signal Timing Adjustments



Grade Separation



# COUNTER MEASURES



Gates being installed on Miami-Dade Busway ([twitter.com](https://twitter.com))



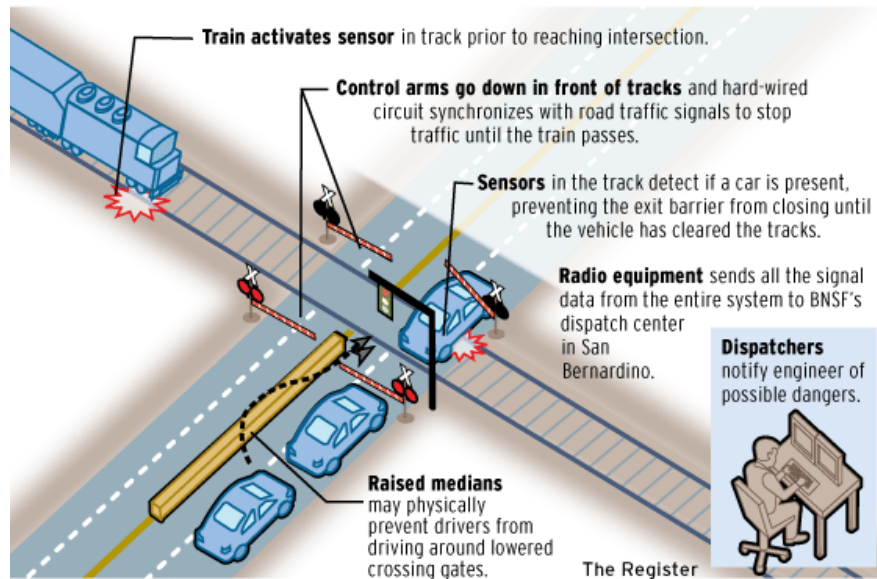
Gates being installed on Los Angeles Pedestrian Crossing ([Youtube.com](https://www.youtube.com))



# COUNTER MEASURES

## Signals synced to quiet train horns

BNSF Railway and several cities in Orange County have synchronized their road and rail signals to form Quiet Zones.

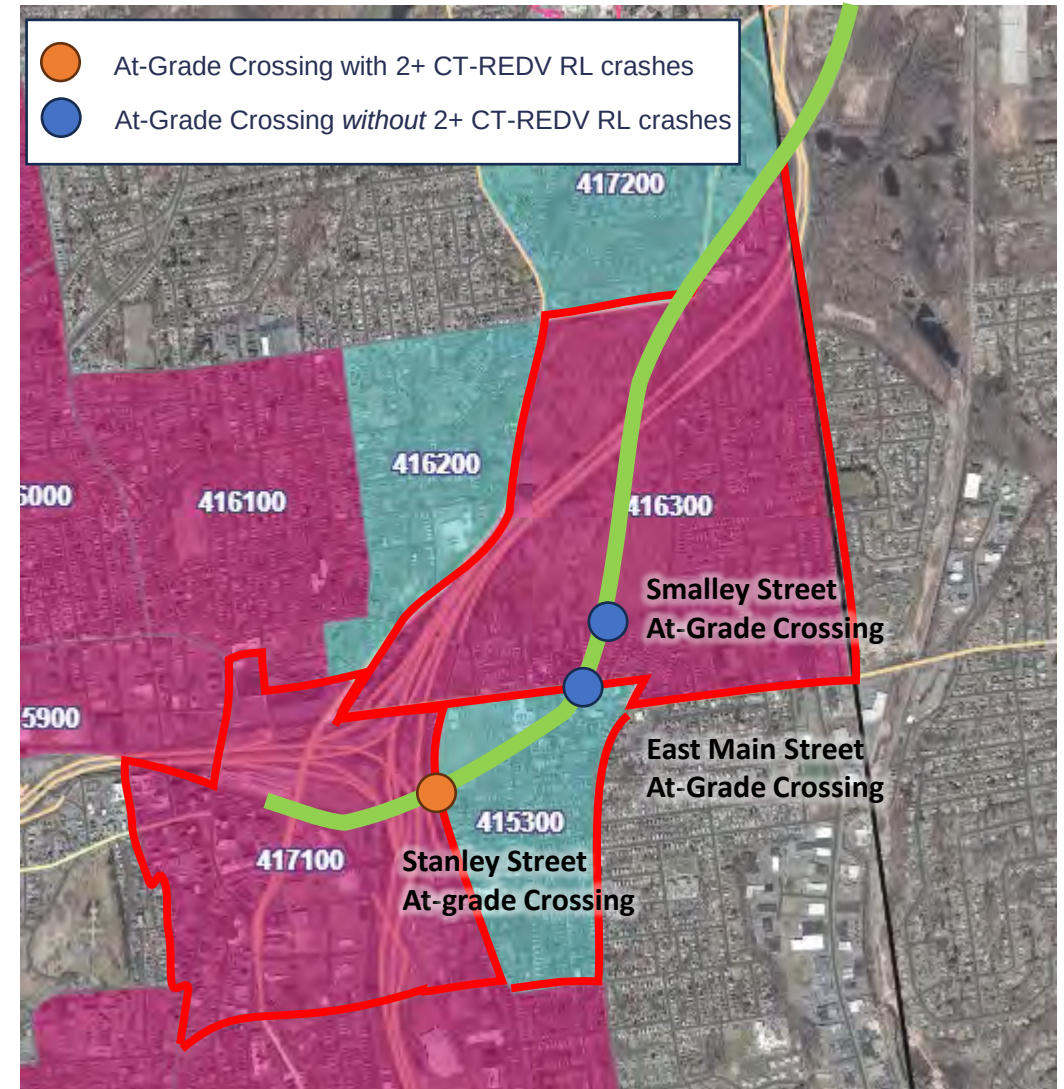


Median Islands on Approach

# AUTOMATED TRAFFIC ENFORCEMENT

- *Guidance for Municipalities Developing an Automated Traffic Enforcement Safety Device (ATESD) Plan* released by CTDOT on 1/2/2024
- Traffic signal locations provided:
  - 2+ crashes over 3-year period. Must be in CT-REDV viewer
- Driven by Municipalities. General requirements:
  - Adopt ordinance
  - Complete public hearing
  - Safety / Vision Zero Action Plan
- Equity Considerations
  - Max: 2 Locations per Qualified Census Tract
  - Neighboring communities to Hartford & New Britain may not overconcentrate devices on the border of these communities

## New Britain QCTs





# AUTOMATED TRAFFIC ENFORCEMENT

- *Guidance for Municipalities Developing an Automated Traffic Enforcement Safety Device (ATESD) Plan* released by CTDOT on 1/2/2024
- Traffic signal locations provided:
  - 2+ crashes over 3-year period. Must be in CT-REDV viewer
- Driven by Municipalities. General requirements:
  - Adopt ordinance
  - Complete public hearing
  - Safety / Vision Zero Action Plan
- Equity Considerations
  - Max: 2 Locations per Qualified Census Tract
  - Neighboring communities to Hartford & New Britain may not overconcentrate devices on the border of these communities

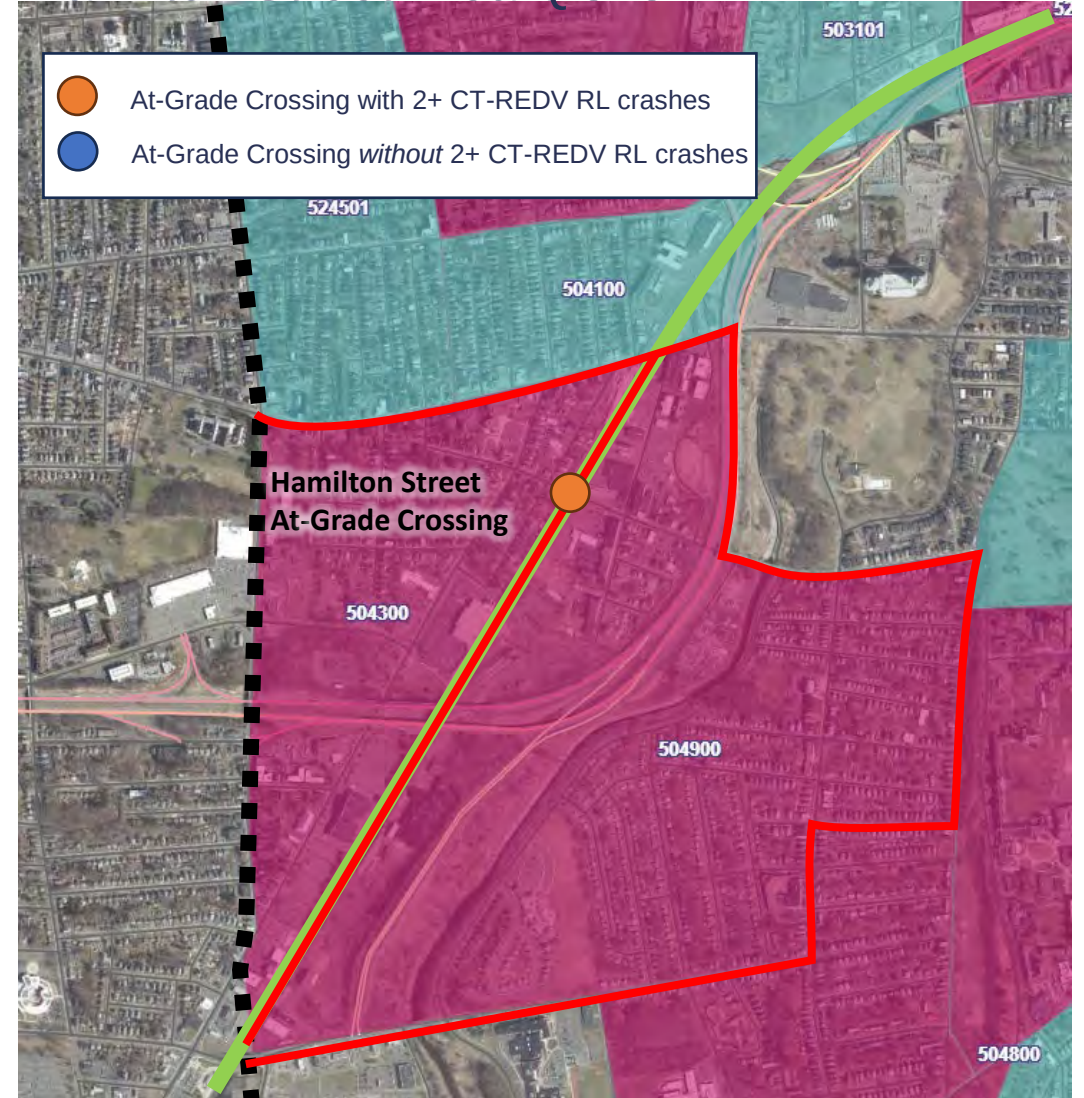
## Oakwood Avenue



# AUTOMATED TRAFFIC ENFORCEMENT

- *Guidance for Municipalities Developing an Automated Traffic Enforcement Safety Device (ATESD) Plan* released by CTDOT on 1/2/2024
- Traffic signal locations provided:
  - 2+ crashes over 3-year period. Must be in CT-REDV viewer
- Driven by Municipalities. General requirements:
  - Adopt ordinance
  - Complete public hearing
  - Safety / Vision Zero Action Plan
- Equity Considerations
  - Max: 2 Locations per Qualified Census Tract
  - Neighboring communities to Hartford & New Britain may not overconcentrate devices on the border of these communities

Hamilton Street Area QCTs







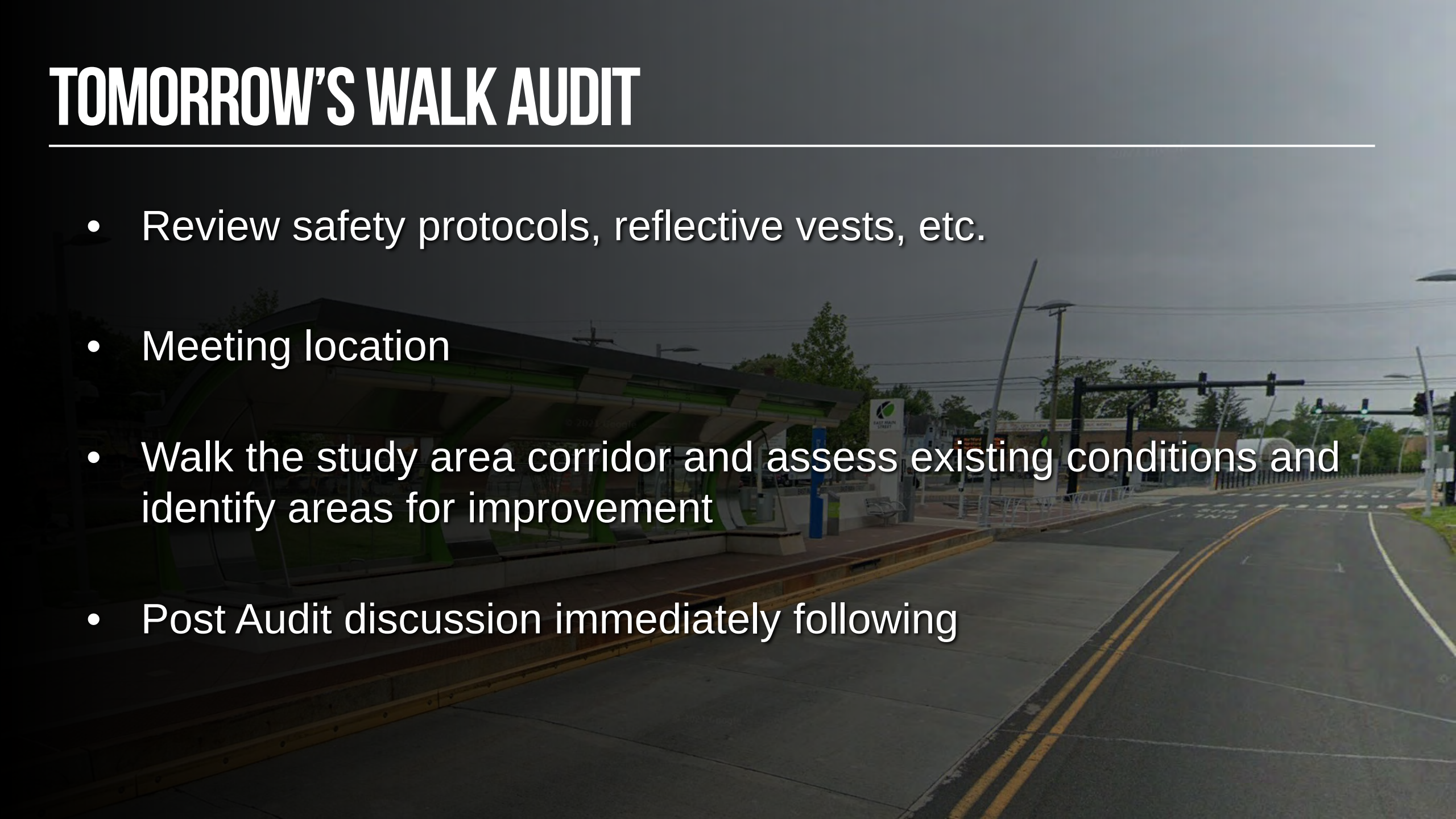
# **DISCUSSION ON ISSUES IN THE STUDY AREA AND OPPORTUNITIES**



# TOMORROW'S WALK AUDIT

---

- Review safety protocols, reflective vests, etc.
- Meeting location
- Walk the study area corridor and assess existing conditions and identify areas for improvement
- Post Audit discussion immediately following







**THANK YOU!**

**February 6, 2024**

**9:00 AM - Met at Flatbush Station**

- Introduction
  - West Hartford
    - Jim.
  - Hartford
    - Grace Yi
  - CTDOT / **CT*transit***
    - Pete Calcaterra
    - Jake Fusco
    - David Elder
    - Marlon Pena
    - Ryan Kornacki
    - Nicholas Just
    - Lawrence Terra
    - Eric Jackson
    - Kevin Mckernan
    - Laz Pittman
    - Laura Baum
    - Marti?
    - Mark G?
    - Anthony Silva
    - Diana Palmer
    - Rob Broadway
    - John Buges?
    - Matt Fuller
    - Anna Mermelstein
    - Brett Myskowski
  - State Police
    - Devin
    - Sydney?
  - DATCO
    - Joseph Messere
  - BL Eng (**CT*fastrak*** project)
    - Matt Sutterby, EIT
- Safety Briefing

**9:15 – 9:45 AM – Bus tour of **CT*fastrak*****

- SB from Flatbush first to Cedar Street Station
- NB from Flatbush to Sigourney Street Station
- SB Return to Oakwood Ave



## 9:45 – 10:10 AM – Tour of Oakwood Avenue Crossing

- Signal system appear to be recalling CT**fastrak** phase even without busses
- Very long all red phase appears to be unnecessary. This was originally for school bus facilities, which do not utilize this crossing
  - The WH town rep initially thought I was talking about buses using the narrow driveway adjacent to the track (which they've never done), when I meant buses on Oakwood itself. The 16-second red time is on the Oakwood phase; on the driveway, it's 5 or 6 seconds. Nonetheless, with the buses rerouted, the primary reason for the long all-red is gone.
  - CTDOT confirmed this can be shortened without impacts to railroad preemption. This would only be an issue if this needed to be longer.
  - Frequent reds with very little conflicting traffic creates driver expectation that you will not have issues
    - We witnessed this happen.



- Could all-red extension be explored with presence detection?
  - This is possible for pre-emption (trains can keep the gates down longer) but if buses are already going through at 20 mph instead of 50, they're going to see a bus slowly crossing the track/intersection and stop. Visibility to/from the east should be pretty good because there's no noise wall on that side.
  - Note "Dynamic All-Red Extension" - [connect.ncdot.gov/resources/safety/TrafficSafetyResources/Dynamic All Red Extension.pdf](https://connect.ncdot.gov/resources/safety/TrafficSafetyResources/Dynamic%20All%20Red%20Extension.pdf)
- Pedestrian issues
  - No ped signals to cross CT**fastrak**. This should be adjusted. It is very confusing if you approach CTfastrak. There is no signal head if you are traveling WB that is even visible.

Technically this could be an issue if someone were hit by a bus since there is no visibility for pedestrians telling them not to cross.

- No ped signals, no pedestal, no push buttons. There's also no way to cross Oakwood at the intersection. There are no pedestrian accommodations on the southwest side of Oakwood at the intersection. The channelized right for buses has a cut-out for peds that's long enough to act as a refuge island, so that should probably have a pedestal, too, if we can't make the Oakwood phase long enough for a ped to get through.
- Sidewalk through railroad crossing is very confusing. Consider
  - Pavement markings delineating space
    - We saw someone pushing a shopping cart go through, and they just stayed in the roadway.

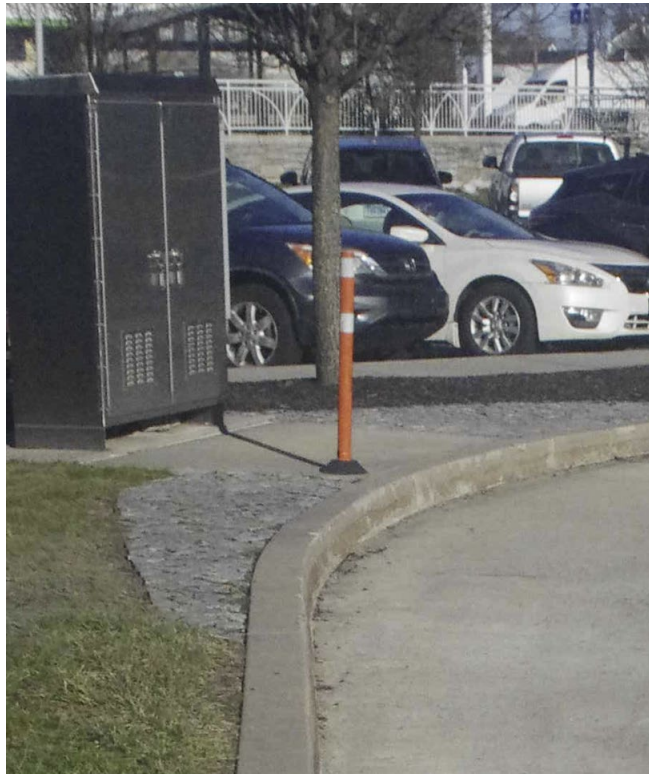


- Separate sidewalk material
- Sidewalk behind main poles
- “NO TURNS” Signage and other black text on white background is faded. There seemed to be issue with these signs throughout the area from that time period.
- Quad gate program-
  - Will install quad gates with median islands of approximately 20-ft in length on approaches. Note that the industrial driveway on northeast quadrant will be converted to right-in/out under current plan.
    - It looks like we might have room for ped refuge between CT**fastrak** and the tracks here, unlike at Hamilton.
    - Consider installing additional median on west side of CT**fastrak** so approaching EB motorist have median as well.
- Note in 2021 – vehicle that was hit and disabled from collision with bus was then hit by train. Driver fled the scene. Likely stolen vehicle.
- 

**10:30 – 10:50 AM – Tour of Flatbush Avenue Station**



- Geometry issues for buses biggest challenge. Buses should come within 3" of station to meet ADA, but very difficult. Evaluate turning radius
  - 3 conflict points on each entry and exit making for a very difficult entry
  - Curbing could be evaluated as well.
    - Especially on the outside of each of the sidewalk ramps to the station. These could be reset as rolled curbing or normal height curbing to prevent strike to body of bus
  - Would consider tracking lines (like airplanes) but may need two types. One for the 44-foot buses and one for the articulated buses
    - CT**transit** has put cones up to guide drivers turning into the station, but there was another platform hit that night, so clearly it's not a full solution.



- Alignment to station is critical.

- Granite curb has been hit repeatedly on the NB platform. Some parts have been replaced; existing broken curb may present a tripping hazard.



- Note some obstructions to consider
  - Drainage
  - Lighting
  - Transformer
- Sightlines to NB exit to approach is difficult
  - SB stop sign?
  - Signalization
  - Warning lights on approaching bus with detection?
  - Mirror?
  - Note that there are no crashes associated with this, it's more of an operational issue as



buses have to creep forwards.



- New Park Avenue is critical location for pedestrian safety for West Hartford Vision Zero Action Plan. Many pedestrian collisions with pedestrians accessing the station jaywalking to the south of Flatbush Ave. Consider:
  - Fencing opportunities to direct pedestrians to signal
    - Adjacent to station (Close southern crosswalk and sidewalk to parking lot)?
    - Between station parking and New Park Avenue sidewalk (note “goat paths” here indicating active use”
  - Use crosswalk signage?
- Discussed on 2/7 with Chris of CT*transit*
  - Okay with reduced NB platform if helps make turn. Southern portion of NB platform is not
  - Could reduce length by 10-15 feet to blend to platform height (since very southern portion of platform not accessible anyhow). See southeast corner of New Britain Downtown Station platform for example

#### 11:00 – 11:15 – Tour of Elmwood Station (Consultant team only)

- Station and access appeared well designed overall.
  - Generally, though the ‘refuge’ in the middle of the busway isn’t done very well – it’s only maybe 5’ wide. There’s not enough room for peds to stack up waiting to cross, nor is



there room for a wheelchair or a stroller.

- Grades are a challenge at this station, but appropriately treated with ADA ramps, albeit very circuitous.
- Connections to the “Local bus” (Rte 128 SB – although this runs on guideway further to the north so probably limited number of transfers) transfer SB side of New Park Avenue is very circuitous. Routing goes to a RRFB quite a bit to the north of the stairs to the station. This is a very difficult location to cross even with the RRFB. Many people may just dart across New Park

- Definitely, and it's not immediately apparent to peds.



### 1:15 – 2:15 – Tour of Hamilton Street Crossing

- Sight Lines
  - DOT indicated that crashes mostly caused by vehicles running the red light EB. This may be in part due to the fact that sightlines are very difficult from this direction, particularly for NB approaching buses.
    - (NCM) Second-highest number and rate of crashes after Stanley Street
  - Building
    - The building on the SW side really limits sightlines to the intersection. Very limited countermeasures could be explored short of a full taking and demolition.
    - This was discussed with RSA participants and could be considered.
  - Parking
    - On-street parking right-up to the CT**fastrak** intersection is frequent. This makes a hard situation with sightlines even worse. A bumpout in this location could be considered.
    - The curb cut goes nearly to the intersection and with frequent pick-ups and drop-offs, and the sidewalk gets used as a sales floor. It's REALLY close to the



intersection, almost touching the signal cabinet.



- Signal Timing and Detection
  - Signal timing appears to be off. It may in recall, with the signal giving fastrak green despite no approaching buses. This may lead to complacency with red light compliance as some may try to “beat the light”
  - CT**fastrak** green appeared to get called too far in advance of the bus arriving to the intersection, especially with the 20 mph guidance from DOT. It then times out and CT**fastrak** actually arrives just as it turns to red. Despite the timing strategy to minimize CT**fastrak** delay, this actually increases it.
    - This is definitely my observation. The signals weren’t timed with those slow speeds in mind.
    - Additionally, CT transit supervisor indicated that the long red with no buses approaching have led people to try to beat the bus to the intersection
- Pedestrian Issues
  - Signal heads – should not go across railroad crossing. Placement should be limited to the crossing of CT**fastrak** only.
    - Specifically, Anna pointed out that this violates a Shall condition in the MUTCD.
    - This may be difficult due to the very tight spacing here. Full removal of pedestrian signal heads was not advised as this creates situation similar to that of Oakwood Avenue.
    - Ped signals are on recall, so no buttons were built.
  - Four quadrant program –
    - May make problem worse. This will need to add an additional gate for pedestrians which goes down prior to the exit gate.
    - Routing a sidewalk behind the main RR gates is preferable (based on most recent MUTCD) and may be an idea to explore further
  - Sidewalk and surface through RR crossing is indistinguishable from roadway surface. This should be modified to maintain visual separation from vehicle path and sidewalk
  - Crosswalk across Hamilton Street could be explored
- Private driveway southeast quadrant. This makes the intersection much more complicated than necessary. Relocation of this driveway further to the east was discussed. HPD indicated that

signal may need to remain due to construction traffic and/or traffic from potential future development.

- If medians are installed, this driveway will also be reduced to RIRO, as at Oakwood
- Hartford police had indicated that dynamic “Bus Approaching” light on mast arm may be idea worth exploring
- DOT has installed warning device to detect if a motorist will run red and this will communicate with bus (eventually autonomous bus). This is not yet active. It looked like this was only for EB approaching motorists (from New Park Avenue)



**February 7, 2024**

**9:00 AM – Met at East Street Station**

- Introduction
  - FHI Studio
    - Marcy
    - Nick
    - Rory
    - Parker
  - State Police
    - Evan?
    - Chris G?
  - New Britain Police
    - Chad H?
    - Sgt. Sogski?
  - New Britain Town Staff
    - Mark M.
  - BL Engineering (contract for fastrak work)
    - Matt Sutterby
  - CTDOT
    - Matt Fuller
    - Laz Pittman
    - Laura Baum
    - Brett Myskowski
    - Ryan ?
    - Marlon Pena
    - Jake Fusco
    - Ed?
    - ?? (not heard)
    - ?? (not heard)
    - Erin?
    - Anthony
    - Caswell Smith
    - David Elder
    - Pete Calcaterra
    - Joseph Messere, DATCO
- Safety Briefing

**Discussion points of East Street Station**

- Scooters were original impetus of East Street station. Since company went bankrupt (Superpedestrian), not much of a concern at this station.

- Design of station works pretty well. Station has additional parking on west side of East Street (near Biltmore) that is leased. There is an RRFB to help crossing at this location, but this was out of service on the day of the RSA. This will be addressed by New Britain DPW staff.
- Some broken pavement at the station that may result in tripping. Also, peds coming from the multi-use trail must cross the driveway twice rather than having a direct path to the platforms.



#### **9:20 – 9:35 – Bus tour of the study area**

- CTfastrak tour of the study area first from East Street Station to New Britain downtown station, back to East Street Station and then to the Smalley Avenue crossing
- Signal timing appear to be working much better in this area than the guideway crossings at Oakwood and Hamilton to the north

#### **9:35 – 10:00 – Smalley Avenue**

- No pedestrian signal heads.



- Pedestrian push buttons are not ADA compliant. Push buttons are down ramp and not level landing
- “No Turns” signage may be confusing. Consider No Turn arrows in each direction (see Stanley Street)
- Consider red colored pavement at intersections. Could consider concrete or different materials as well.
- Do not enter signage at Hamilton street appeared more clear than “Emergency and Authorized Vehicles Only” signage
- Straight arrow pavement markings could be added
- Timing is off. Green comes on too early and then times out before bus can get to the signal. Much of the issues appear that the timing is based on full speed operation. CT transit does not anticipate resuming crossing at full speed unless protections would installed such as gates. Should be retimed to accommodate buses slowing down in this option. (At Stanley street – this could then accommodate a pedestrian countdown phase)
  - Note from consultant engineer on project – designed such that if bus didn’t hit the next detector, call would drop. This could have changed with recent upgrades to radar and video detection.
- CT Transit is interested in testing medians on approach to side streets – noting that East Main Street has smallest crash rate in system.
- Fence on southeast side of intersection could limit visibility to East bound motorists.
- Overhead lighting is a major concern
- Green straight arrow is present and preferred.
- Trail to the north of this crossing is not maintained from Nov 15 through Apr 15 (5 months), but it is not clear what users are intended to do when it is unusable.



- Crosswalks are only present on 3 legs. Since there are no ped heads, it’s not clear that peds cannot cross the busway when the ped light is green. Buttons are only on 2/4 corners.

**10:00 – 10:15 – East Main Street Station**

- Black on white signage is faded
- Green straight arrow is present
- No pedestrian signals. Should be updated to APS
- Crash in 2023 where bus hit through signal post and telephone pole on southeast side
- New Britain is realigning East Main street and Newington Avenue. This will create TOD potential at old DPW yard
  - Plan set to be delivered
  - Funding for this isn't certain yet, expected to be \$10M

#### **10:20 – 10:45 – Stanley Street**

- Lighting is an issue
- Building on southeast corner was demolished in August – September 2023. Crashes have seemed to decrease since
  - There is no legal route to ensure redevelopment does not preclude sight lines in future
  - CTDOT should consider purchase of part of parcel to ensure sight lines.
  - Alternatively, setbacks should be considered
- Unauthorized access appears to be mostly from Stanley Street to East Main. Very convenient cut-through
- Green arrow present on this area
- Sun glare may be an issue on the signal at some time
  - I have some doubt about traffic on Stanley getting glare – Stanley runs almost directly N/S and the signal heads have backplates. Maybe the buses face glare, though, esp. In the PM peak.
- This intersection has Do Not Enter signage. This appears to be more effective than other signage
- New Britain PD asked if Bus approaching light could be considered on mast arm. Want to ensure this does not make situation worse for red light running (e.g. if red light, but this is *not* flashing, would people decide to run red?)
- Another request was for When Flashing Stop Ahead or an illuminated Prepare To Stop sign.
- No pedestrian signal heads / APS
  - DOT indicated APS bus buttons / side street green signal replacement with pedestrian signal head could be short term correction
  - Signal head across busway would probably need more thought

#### **10:45 – 11:15 – Downtown New Britain Station**

- Driving from Route 72 off ramp is biggest issue
  - The existing ramp is very well delineated with overhead sign over bus lane, two side-mounted signs, different pavement color/texture, a solid white line dividing it from other



traffic, and BUS ONLY pavement markings with contrasting background.



- Drivers that mistakenly take this ramp then arrive at the bus station with no indication of how to get back to the street. Going straight will put them on the busway.
  - The guard mentioned below often can't catch them before they get onto the busway.
  - Adding a sign directing them to turn right (towards Main St) is a possible solution.
- Potential improvements to discourage more drivers: thicker line (1' or more), an additional BUS ONLY marking farther east, a DO NOT ENTER BUS ONLY sign pair at the

gore. Lower these signs to 5' (existing are 7') to put them closer to the driver's view.



- Driving from Main Street is issue
  - CT Transit hires security guard at \$70k / year to assist with issue
  - Gate especially on Main Street could be considered. Issue will be with emergency services that use busway. A guard shack could be installed with the gate operated by then (when they are present) if that helps the issue. Currently they chase people down
  - (NCM) ~180-200 drivers caught per month, but guard is only there 40 hours a week so actual number is higher.
- Lighting of station area access is biggest issue
  - Lamp heads appear to be too short to adequately throw light on area.
  - DOT would consider upgrading to taller luminaires.
  - Could replaced lighting be utilized for City's planned connection to the Roundabout over the railroad tracks?
  - Two-part issue: one reason is pedestrians crossing the road between bus bays are hard to see at night, another is security on-site.
- "Mid block" crossing within station is big issue. Many people will not walk the several bays to get to central island platform. Opportunity for mid block crosswalk somewhere?
  - CT Transit noted that they cannot lose any bays so that would be major constraint
  - New crossing of railroad will be installed in this area as well and could add additional demand for such crossing
- **At-grade crossings "standard treatments" for all crossings**
  - Signage



- Replace No Turns signage with arrow signage or add supplemental
- Do Not Enter assembly - angled at 45-deg for increased visibility from side street
- Downstream Do not enter (similar to off ramp design criteria, towards middle or end of red paint proposed)
- Advanced Bus Xing signage (could this get yellow flashing beacon?)



- - Straight arrow / only signage on approach.
- Pavement Markings
  - Red paint on busway near intersections
  - Bus Only markings
  - Continued markings through intersections solid pref, but shoulder / DYCL skip okay
  - Straight arrow marking on approach
- Cross section
  - Approach median (replicate east main street) – quick build with bollards first (80 – 100 ft)
    - Preference for mountable in long term in case of detours
    - Consider bus turning movements in normal routes such as Stanley Street
- Signalization
  - APS Button and signal heads
  - Dynamic Bus Approaching Light (on at all times when main street is red?)