

2016



Walkable Community Workshop

Pedestrian Safety and Accessibility in Livingston Township, NJ



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Executive Summary

The North Jersey Transportation Planning Authority (NJTPA) conducts Walkable Community Workshops (WCW) as part of its effort to improve walking and biking conditions in the region, a key goal of the NJTPA's long-range plan. Essex County and the Livingston Business Improvement District (BID) approached the NJTPA about conducting a WCW to address concerns along the busy Livingston Avenue corridor and learn how to make the area more pedestrian-friendly. The Livingston Township Walkable Community Workshop was held on May 5, 2016 along Livingston Avenue in Livingston, New Jersey from Mount Pleasant Avenue/Route 10 to Hobart Gap Road/County Road 608. Participants walked two sections of the corridor, from Hobart Gap Road to Concord Drive and from Cedar Street to Mount Pleasant Avenue. The group included representatives from Livingston Township, the Livingston Business Improvement District (BID), Essex County, the North Jersey Transportation Planning Authority (NJTPA), and the New Jersey Department of Transportation (NJDOT). The workshop structure consisted of a short educational presentation on walkability, a site visit and a follow-up discussion. During the site visit, participants noted ways to improve the safety, convenience, and comfort of the walking environment and discussed potential engineering and behavioral solutions during the follow-up discussion. Workshop participants identified unmarked crosswalks, long distances between marked crosswalks, speeding and aggressive driving, sidewalk obstructions, and overly-wide and/or frequent driveway openings. Recommendations included:

- Measures to calm traffic operations, such as installing high visibility crosswalks and speed limit and truck restriction signage;
- Pedestrian facility maintenance, such as removing tripping hazards and cleaning road debris;
- Addressing wide and frequent driveways by working with stakeholders to explore possible consolidation of access points where possible and installing sidewalks across driveways
- Clearer lane merge indicators near Symington Avenue, such as with in-lane markings to designate the merge
- Consideration of various improvements at the Route 10/ Mount Pleasant Avenue intersection, such as replacing damaged truncated domes and removing vehicular signage located within the pedestrian right of way;
- Improvements to pedestrian facilities at the Cedar Avenue intersection, such as installing the missing curb ramp at the southwest corner and creating a landing area that connects to the sidewalk for the bus stop at the southeast corner;
- Improved circulation for all users at the Concord Drive/ShopRite entrance, such as possibly signaling the entrance to ShopRite or installing marked crosswalks and a pedestrian island;
- Pedestrian accommodations at the Route 508/Northfield Avenue intersection;
- Improving pedestrian safety between Northfield Avenue and County Road 608, such as installing crosswalks at Harrison Place or painting a texturized median; and
- Adding more pedestrian facilities at County Road 608, such as installing crosswalks and pedestrian crossing signals.

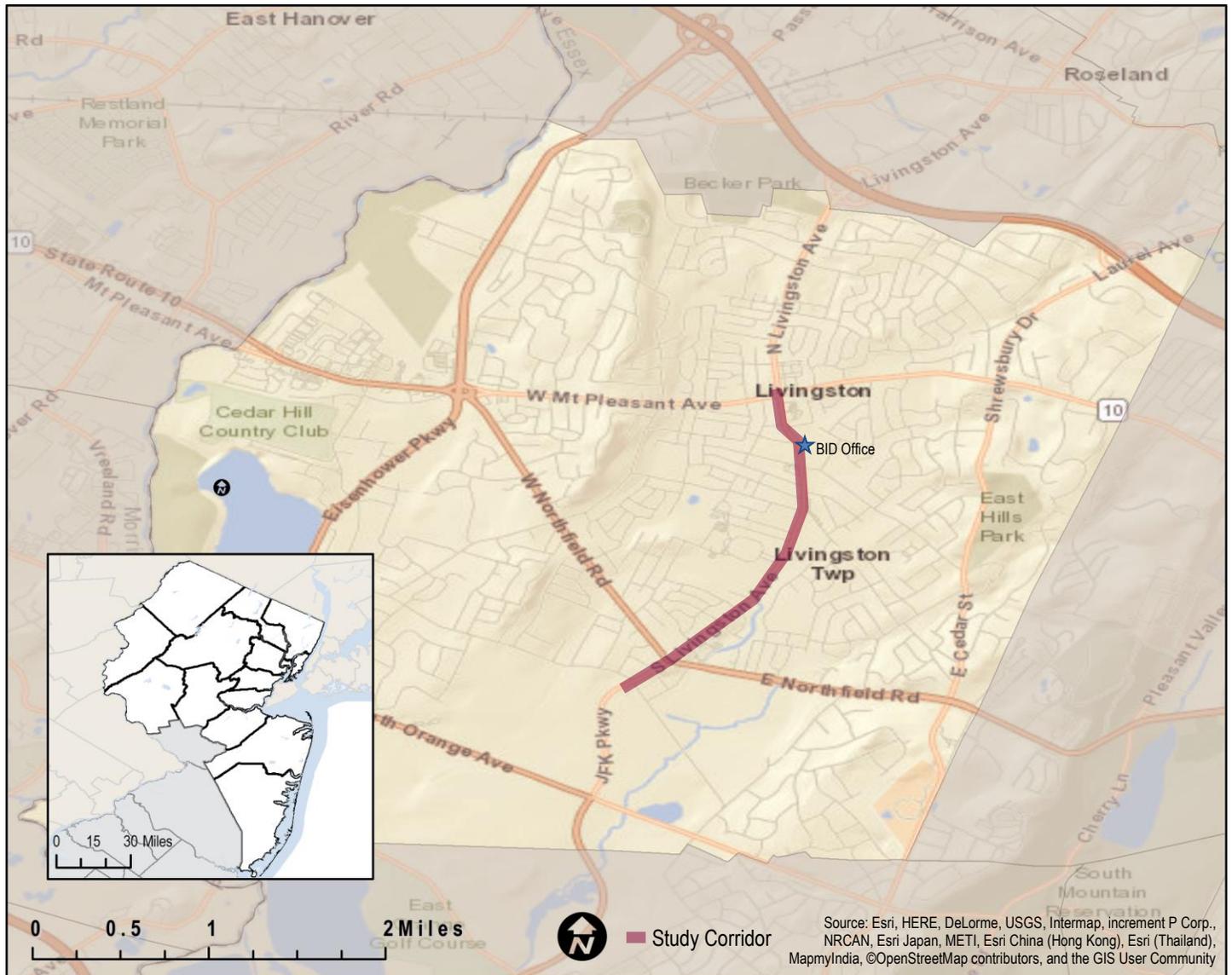
These recommendations will require further evaluation and stakeholder outreach; however, the Walkable Communities Workshop was an important first step in bringing the community together to identify issues and initiate discussion towards solutions.

Background

Walkable communities are essential for addressing public health, advancing multi-modal networks, fostering economic development, and improving air quality through a reduction in vehicular greenhouse gas emissions. The North Jersey Transportation Planning Authority (NJTPA) is the federally authorized [Metropolitan Planning Organization](#) for 6.7 million people in the 13-county northern New Jersey region. The NJTPA conducts half-day Walkable Community and Senior Mobility Workshops with counties and municipalities to foster stakeholder involvement, identify barriers to walking, and improve pedestrian safety. For each workshop, NJTPA staff coordinates with local representatives to include a broad range of stakeholders including local leaders, planners, engineers, and residents.

Each workshop consists of four parts: 1) an introduction of local stakeholders; 2) a presentation by an NJTPA facilitator on best practices for walkable communities; 3) a guided walking audit of a study area identified by the local hosts; and 4) small group sessions where recommendations for improvements are discussed and prioritized. The objective is to identify and prioritize recommendations that will increase pedestrian safety and accessibility. The workshop also serves as a catalyst for local officials and county representatives to implement the improvements and/or to further refine the recommendations for implementation by other agencies. In addition to addressing safety, the workshop supports the New Jersey Department of Transportation's (NJDOT) Complete Streets Policy, adopted in 2009, which directs that federal- and state-funded new and retrofit transportation facilities enable safe access and mobility of pedestrians, bicyclists and transit users of all ages and abilities. Essex County adopted a Complete Streets Policy in 2012, and Livingston Township adopted a Complete Streets Policy in 2014.

Figure 1: Location of Walkable Communities Workshop



The Livingston Township Walkable Community Workshop was held on May 5, 2016 in the Livingston Business Improvement District (BID) office, and along portions of Livingston Avenue. The BID office is located adjacent to Livingston Avenue. (Figure 1). The walkable community workshop was initiated by the Essex County Division of Planning in conjunction with the Livingston BID. The workshop followed a 2006 Livingston BID study that investigated the feasibility of consolidating driveway entrances connecting the parking lots behind the commercial buildings along Livingston Avenue; however the BID study was not evaluated as part of the walkable community workshop.

Walking Audit Location

Figure 2: Aerial of the Workshop Neighborhood



The study corridor focused on two sections of Livingston Avenue, as shown in Figure 2. The Livingston Avenue corridor is composed of two county routes—CR 649 south of Cedar Street and CR 527 north of Cedar Street. The northern section of the corridor extended between Route 10/ Mt. Pleasant Avenue and Cedar Street. The southern section ran between a point just north of Concord Drive and West Hobart Gap Road/ CR 608.

The Livingston Avenue corridor is mostly commercial in nature, though there are some residential areas between Concord Drive and Symington Avenue. Between Symington Avenue and Amherst Place, there are a number of institutional land uses, including several churches, schools, the Livingston Public Library, and the Livingston Township municipal offices. This study focuses on the northern and southern commercial sections.

There are two NJ TRANSIT bus routes (73 and 71) in the study corridor. Route 73 traverses the corridor from Northfield Road to Route 10 and Route 71 runs on Livingston Avenue north of NJ Route 10 and along NJ Route 10 east of Livingston Avenue.

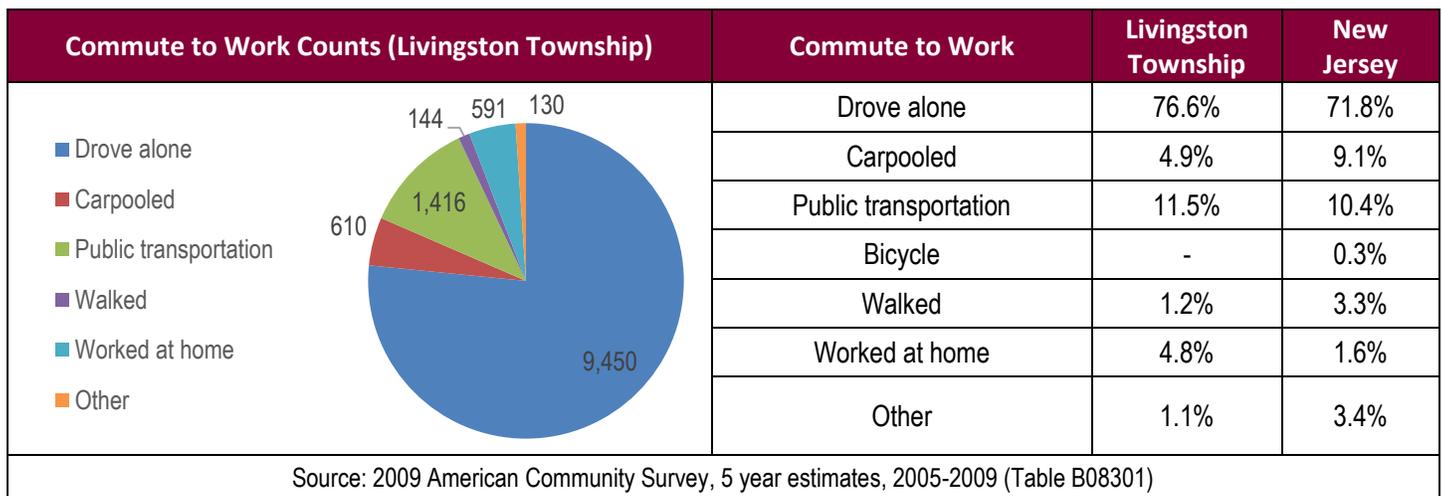
Most of Livingston Avenue from Hobart Gap Road to NJ Route 10 is four lanes wide and with pavement width ranging from 40 to 52 feet. The exception is a 0.3 mile section from Concord Drive to Symington Avenue where the four lanes narrow to two lanes (one in each direction), and the pavement narrows to 22 feet across. In this section, there are also

six-foot wide shoulders. The rest of the corridor does not have any shoulder area. The speed limit varies. Starting at the south end, it is 30 mph between Hobart Gap Road/CR 608 and Concord Drive. From Concord Drive, it is 40 mph until Amelia Avenue. It then continues north at 35 mph until Oak Street where it slows down again to 30 mph until Route 10. The annual average daily traffic (AADT) ranges from about 20,000 to 22,000 vehicles, according to a March 2012 traffic count.

South of the study corridor, Livingston Avenue becomes John F. Kennedy Parkway, distinctively highway-like in nature with a speed limit of 50 mph with a concrete median separating northbound and southbound traffic. The Mall at Short Hills is about 3 ½ miles south of the study corridor along John F. Kennedy Parkway.

The travel modes of Livingston Township commuters travelling to work largely reflects that of the rest of New Jersey. There is a slightly higher percentage of people who take public transit and fewer who carpool or walk.

Figure 3: Comparing Demographics (2009) in Livingston Township and New Jersey



Livingston Township differs from statewide demographics, especially in terms of race, income, and linguistic isolation, as seen in Figure 4. While the race “white alone” accounts for 70 percent of the population statewide, it accounts for 80 percent of the Livingston Township population. Livingston Township also has a higher representation of “Asian alone,” but much less representation from any other non-“White alone” groups. The mean household income is \$56,000 more than the state average and the median income exceeds the state’s median income by more than \$87,000. In terms of linguistic isolation, when compared to statewide averages, there are less than half the percentage of households in Livingston Township where all individuals aged 14 and over have difficulty speaking English.

Also unique from statewide demographic trends is the age dependency ratio and the child dependency ratio. The age dependency ratio expresses the ratio of those not in the labor force (dependents) to those in the labor force (providers). While in New Jersey, the age dependency ratio is nearly even, there are many more adults in Livingston Township dependent on another adult provider. Having a higher proportion of nonworking adults in Livingston Township may mean that there are more adults moving about the township during the traditional workday than the state average, contributing to higher consistent traffic volumes. The higher child dependency ratio also means that there are more children dependent on the adults in the working population. Having a higher ratio of children per working adult may mean more children moving about the township than the state average. Further details on demographics are listed in Figure 4, with the most available municipal-level US Census Bureau information being from 2009.

Figure 4: Comparing Demographics (2009) in Livingston Township and New Jersey

Characteristic	Livingston Township	New Jersey
Population*	27,597	8,650,548
Median Age*	41.7	38.3
Less than 18*	27.8%	24.0%
Older than 65*	15.4%	13.2%
Age Dependency Ratio	76.0	59.1
Old-Age Dependency Ratio	27.1	21.1
Child Dependency Ratio	48.9	38.1
Mean Household Income**	\$124,936	\$68,981
Median Household Income**	\$179,601	\$92,315
Linguistically isolated***	3.1%	7.1%
Race		
<ul style="list-style-type: none"> ■ White alone ■ Black or African American alone ■ American Indian and Alaska Native alone ■ Asian alone ■ Native Hawaiian and Other Pacific Islander alone ■ Some other race alone ■ Two or more races <p>2009 Total population, 2005-2009 American Community Survey (B02001)</p>		

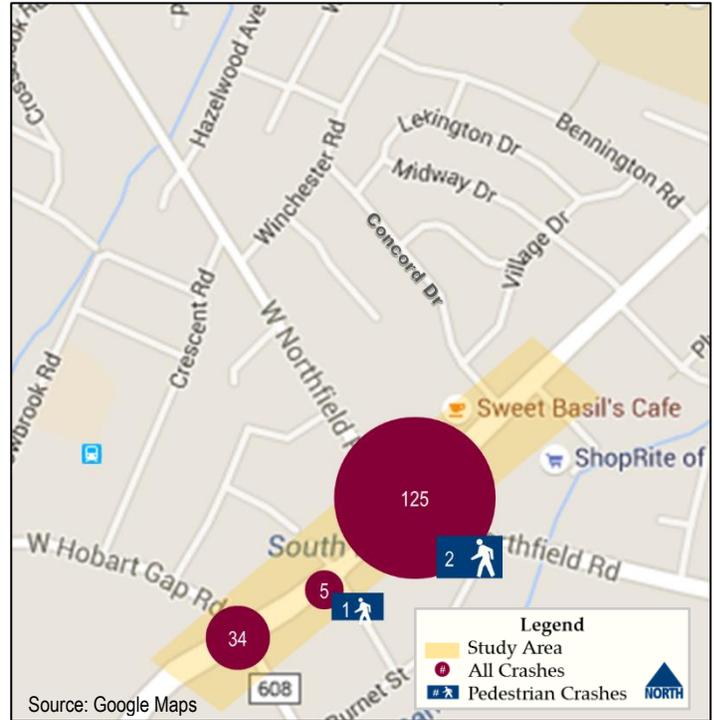
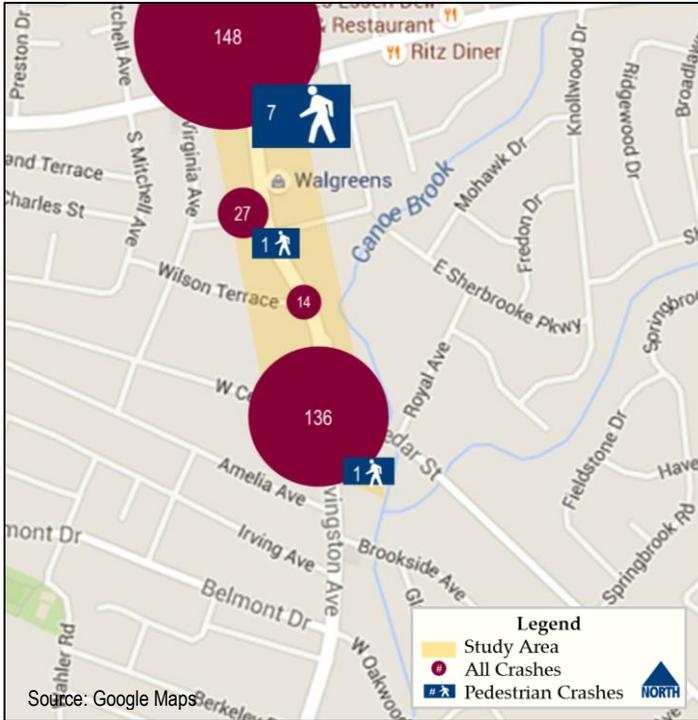
*2009 Age and Sex, 2005-2009 American Community Survey 5-Year Estimates (S0101)

**2009 Income in the Past 12 Months (In 2009 Inflation-Adjusted Dollars), 2005-2009 American Community Survey 5-Year Estimates (S1901)

***2009 Linguistic Isolation, 2005-2009 American Community Survey 5-Year Estimates (S1602)

Pedestrian Crash Data

Figure 5: Pedestrian Crash Maps



Source: Plan4Safety, 2016, crashes located on Livingston Avenue between Route 10 and Cedar Street, and Concord Drive and Hobart Gap Road.

An analysis of crash data from 2010-2014 using the Plan4Safety data analysis tool found that there were 12 pedestrian crashes resulting in injury within the two workshop focus sections. Figures 5 and 6 below show the location and discuss the characteristics of the pedestrian crashes.

Figure 6: Pedestrian Crash Characteristics (2010-2014)

Location	Ped. Age	Ped. Gender	Date	Day	Time	Severity	At Intersection?	Crash Type	Lighting
Arden/Oak	52	Female	11/9/11	Wed	1:06 PM	Moderate Injury	No	Ped	Daylight
Cedar	30	Male	8/4/12	Sat	3:21 PM	Moderate Injury	No	Ped	Daylight
Harrison	38	Female	3/14/11	Mon	8:16 AM	Pain	Yes	Ped	Daylight
Route 10/Mt. Pleasant	46	Female	10/12/11	Wed	12:28 PM	Moderate Injury	No	Ped	Daylight
Route 10/Mt. Pleasant	36	Male	2/24/12	Fri	3:53 PM	Moderate Injury	Yes	Ped	Daylight
Route 10/Mt. Pleasant	23	Female	5/7/12	Mon	7:28 PM	Pain	Yes	Ped	Dusk
Route 10/Mt. Pleasant	59	Female	8/11/12	Sat	11:58 AM	Pain	Yes	Ped	Daylight
Route 10/Mt. Pleasant	56	Male	8/14/13	Wed	10:41 AM	Pain	Yes	Ped	Daylight
Route 10/Mt. Pleasant	14	Male	11/15/13	Fri	3:08 PM	Moderate Injury	Yes	Ped	Daylight
Route 10/Mt. Pleasant	51	Female	7/11/14	Fri	2:40 PM	Property Damage Only	Yes	Ped	Daylight
Northfield/CR 508	66	Male	8/11/10	Wed	10:17 AM	Moderate Injury	Yes	Ped	Daylight
Northfield/CR 508	41	NULL	10/17/10	Sun	6:26 PM	Pain	Yes	Cyclist	Dusk

Source: Plan4Safety, 2016, crashes located on Livingston Avenue between Route 10 and Cedar Street, and Concord Drive and Hobart Gap Road.

Workshop Methodology

The Livingston Avenue Walkable Community Workshop began with participant introductions and a brief presentation. Workshop participants included staff from Essex County Planning and Engineering departments, the Livingston Planning and Engineering departments, the Livingston Police Department, the Livingston Business Improvement District (BID), and the Livingston Township Mayor. The workshop agenda and participant list is provided on pages 28 and 29.

NJTPA staff presented workshop goals, the benefits of improving walkability, and traffic calming techniques that might be employed to improve pedestrian access to transit or other services along Livingston Avenue. The presentation discussed potential design improvements sensitive to the context of the walking audit area and the need to accommodate pedestrians of all ages and abilities. Improvements such as driveway consolidation, crosswalks, and traffic calming were discussed as well as compliance with the Americans with Disabilities Act (ADA). The presentation also included the public health rationale for increasing physical activity and the relationship between walkability and improved quality of life.

Following the presentation, participants did a walking audit of the street focus areas by taking a bus to the intersection of Concord Drive, where the group walked south down Livingston Avenue to the intersection of Hobart Gap Road (referred to as the “southern section”). The group boarded the bus again and drove to the intersection of Cedar Street, where they walked north to the intersection of Route 10 (referred to as the “northern section”). During the audit, participants were asked to identify barriers to walkability and how these barriers might be addressed through a variety of measures. Attention was paid to the ease with which pedestrians of all ages were able to cross the street, the quality of the walking experience, driver behavior, ADA compliance (with a sensitivity to strollers and wheelchairs), and connectivity between destinations. Local representatives provided insight and feedback along the walking route.

The final segment of the workshop was devoted to generating recommendations for neighborhood walkability prompted by the walking audit. Participants gathered around street maps of the study area to pinpoint the location of specific walkability problems and to offer potential solutions. Recommendations were discussed and priorities identified as noted in the next section.

Workshop Findings and Potential Considerations

Making recommendations to improve pedestrian safety and access is a primary goal of a Walkable Community Workshop. Participants are also encouraged to suggest improvements that will address aesthetics and sidewalk conditions, which are important determinants in the decision of whether or not to walk in a given area. Roadway design that accommodates pedestrians of all ages and abilities and provides access over short distances encourages more trips by foot, bicycle, and transit. Additionally, improving the walking environment implements Livingston Township’s Complete Streets policy and will benefit all roadway users and result in a more vibrant community.

During the walking audit, specific attention was paid to the following:

- The condition of sidewalks and crosswalks
- The ability for pedestrians to cross safely at all intersections
- Motorist travel patterns and speeds in relation to observed pedestrian access patterns
- Bus stop amenities
- Driveway entrances

Workshop participants identified the following issues in the study area, which are also illustrated in the subsequent pages – including more specific design suggestions, maps and photographs.

- Unmarked crosswalks; long distances between marked crosswalks
- Speeding
- Wide travel lanes along Livingston Avenue (though width varies throughout corridor)
- Wide turning radii at the Northfield Avenue intersection

FINDINGS: LIVINGSTON AVENUE - CONCORD DRIVE TO HOBART GAP ROAD/CR 608 (SOUTHERN END)



There are few traffic gaps long enough for pedestrians and left-turning vehicles. Currently, police monitor the entrance in the afternoon. Pedestrians were observed crossing outside of designated crosswalk areas near Concord Drive by the sidewalk extension from the ShopRite entrance.

Overgrown foliage, lack of buffer between sidewalk and curb, and lack of shoulder force the pedestrian to walk uncomfortably close to the travel lane.



Turning radii on the east and west legs of the Northfield Avenue receiving lanes are exceedingly wide, making the crossing distance quite long for pedestrians.

Between Northfield Avenue and Hobart Gap Road is one of several locations where there are few vehicle gaps big enough for pedestrians to cross Livingston Avenue and no marked crosswalks.



Pole foundations, light posts, and signage pose a potential tripping hazards in crosswalk.

There are no pedestrian heads, and all legs of the Hobart Gap Road intersection (except the north leg) do not have marked crosswalks.



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

FINDINGS: LIVINGSTON AVENUE - MT. PLEASANT AVE/ROUTE 10 TO CEDAR STREET (NORTHERN END)



Truncated dome landing pads at the Route 10 intersection were loose or missing.

Vehicular signage is blocking pedestrian right of way on the southeast corner.

Northbound lanes approaching the Route 10 intersection shift slightly, leading to some driver confusion.



Because of constant turning traffic, it is difficult for drivers to exit the driveway located just southeast of the intersection.



Standing water was observed and a faded crosswalk at Arden Road.

A lengthy depressed curb exposes pedestrians to vehicles backing up for a longer distance than a standard 24-foot driveway. Vehicles backing into the travel lane may also pose a safety concern for drivers.



The pedestrian signal head on the northeast corner was located exceedingly high.

Missing depressed curb at East Cedar Street crosswalk.

The bus stop location lacks an appropriate landing pad for passengers.



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Note that the following discussion on recommendations to consider has been generated by the workshop participants listed on page 27 of this report. Many of the recommendations will require further study and community input. When determining feasibility, the appropriate jurisdiction should also be consulted. Specifically, along this corridor, proposed improvements near Route 10 should include consultation with NJDOT.

POTENTIAL CONSIDERATIONS: Calm Traffic Operations

- Install more signage indicating 35 mph speed limit (especially between Route 10 and Northfield). While signs are present, workshop participants didn't feel there were enough.
- Consider installing traffic signals and high-visibility crosswalks (See Figure 10) at key points throughout the corridor, potentially at Oak Street/Arden Road intersection and near the ShopRite entrance.
- Notify truck drivers of 8-ton weight limit.
- Working with the community, replace bollards with a locally agreed upon design solution and continue replacing existing planters and bollards that have been knocked down by vehicles running off the road.
- Implement the NJTPA Street Smart NJ pedestrian safety campaign to educate drivers about safer driving behaviors and pedestrians about how to cross and walk along roads safely. (See beststreetsmartnj.org for more information, including a "how to" guide for community use).

Figure 7: Before road diet



Figure 8: After road diet



Figure 9: Unmarked crosswalk at Harrison Place



Figure 10: High visibility crosswalk



POTENTIAL CONSIDERATIONS: Improve Pedestrian Facilities

- Remove tripping hazards (light foundations, pipe heads, bollard remains) and trim foliage.
- Remove debris such as sand and dirt from the sidewalks.
- Conduct a sidewalk inventory to identify areas where cross-slopes are too steep and make needed repairs (Figure 11).
- Support traffic calming measures such as road diets where appropriate to make for a more pedestrian-friendly environment (Figures 7 and 8). When properties develop, it may also be appropriate to create a more established buffer zone between the sidewalk and the travel lanes (Figures 15).

Figure 11: No buffer zone, possibly slanted slope



Figure 12: Tripping hazard



Example 13: Example of wider buffer zone



Figure 14: Damaged truncated dome



Figure 15: Vehicles that may impose on sidewalk



POTENTIAL CONSIDERATIONS: Address Driveway Issues

- **Eliminate redundant driveways and consolidate access points wherever possible.** Consider installing parklets (a small pedestrian park typically installed in a converted parking space) in closed off driveway areas. For example, along one stretch of Livingston Avenue, there were three two-way driveways (noted as G, H, and I in Figure 16) located within a 200-foot segment. Each of the three driveways allowed access to and from the same parking lot.
- **Identify opportunities for connecting parking areas to support shared parking and consolidation of driveway access points.** Workshop participants discussed potential opportunities for businesses to have shared parking lot areas, which would reduce the need for motorists to travel from one parking lot to another (via Livingston Avenue) to access different businesses. Additionally, interconnecting existing adjacent parking lots, which would allow for the elimination of redundant driveways and generate additional parking spaces while promoting pedestrian activity, will require the county, municipality and improvement district to coordinate to develop an implementation plan.
- **Evaluate the feasibility of installing alternative backstreet entrances to parking lots.** For example, install a back continuous entryway stretching from Route 10 to Arden Avenue to access the parking lots southeast of Route 10 in the vicinity of 25 Livingston Avenue.
- **Reduce wide driveway widths and radii to comply with the 24-foot width standard (using texturized paint, planters, bollards etc.).** In the future, ensure developers or property improvements comply with the recognized 24-foot standard and proper aprons. Images in the following pages show how the Seattle DOT resolved similar problems with wide roadways. Workshop participants noticed that some driveways appeared to be unnecessarily wide. For example, one driveway measured at approximately 37 feet wide, despite it being a single lane entrance-only. Another driveway measured 104 feet across and has no striping to identify access or egress points, allowing vehicles to enter and exit at any point along the driveway’s depressed curb. Long areas of depressed curb allow for more areas of potential vehicle-to-vehicle or vehicle-to-pedestrian conflict. A wider turning radii also means that a driver can make the turn at a higher rate of speed, which could lead to a more serious crash, especially if a pedestrian is hit. Reduced driveway widths shorten pedestrian crossing distance and better channelize vehicles entering or exiting.
- **Install sidewalks (or paint distinction) across driveways.** Having a sidewalk continue across a driveway alerts drivers that pedestrians have the right of way. Additionally, the sidewalk should have a maximum cross slope of 2 percent according to the Americans with Disabilities Act Accessibility Guidelines (ADAAG).

Below is a table summarizing the characteristics of several driveways along the study corridor:

Figure 16: Sampling of Driveways in Study Area

Location	Driveway Width*	# of Lanes	Direction	Continued Sidewalk?
A	37'	1	1-way	Yes
B	32'	2	1-way	No
C	35'	1	1-way	No
D	82'	Unknown	2-way	Yes
E	104'	Unknown	2-way	No
F	55'	2	1-way	No
G	21'	Unknown	2-way	No
H	41'	Unknown	2-way	No
I	42'	Unknown	2-way	No
J	38'	1	1-way	No

*Measurements are approximate, measured via Google Earth

The examples to the right (Figures 17 and 18) show how the city of Seattle has modified similarly wide roadways and reduced the pedestrian crossing distance using paint and bollards.

The image below shows an extended mountable curb in Seattle that still allows for vehicles needing wider turning radii to traverse it.

Figure 17: Before



Figure 18: After



Figure 19: Mountable curb extension



Figure 20: Sidewalk continued



Figure 21: Sidewalk not continued



The driveway on the left provides an example of a level, continuous sidewalk area, whereas the driveway on the right slopes toward the street and gives drivers no indication that they are entering the pedestrian realm.

POTENTIAL CONSIDERATIONS: More Clearly Indicate Lane Merge Near Symington Avenue

- Consider using in-lane markings to designate lane merge areas.

Figure 22: Livingston Avenue at Symington Avenue facing south



This photo depicts Livingston Avenue at Symington Avenue facing south. Though there's another lane merge sign slightly north, workshop participants noted that there are still many instances of aggressive driving at the merge point. Installing in-street pavement markings (such as "MERGE LEFT") may help guide drivers.

POTENTIAL CONSIDERATIONS: Various Improvements at Route 10/Mt. Pleasant Avenue Intersection

- Replace missing or damaged truncated domes.
- Remove vehicular signage located within the pedestrian right of way on the intersection's southeast corner.
- Delineate entry and exit driveways, and prohibit left-turns from the driveway southeast of Route 10.

Removing one of the driveway entrances just south of Route 10 may help to limit conflicts with turning vehicles.

Figure 23: Driveways south of Route 10 and Livingston Avenue intersection



POTENTIAL CONSIDERATIONS: Pedestrian Improvements at the Cedar Avenue Intersection

- Install missing curb ramp at southwest corner.
- Create a landing area that connects to the sidewalk for the bus stop at southeast corner.
- Lower the pedestrian head on the northeast corner to an appropriate height (Figure 27).



Figure 24: No boarding area



Figure 25: Example of wide boarding area

Source: Google Maps

Currently, there is no passenger landing pad for the bus stop at the Cedar Avenue intersection (Figure 24). This is an issue especially important for wheelchair users. The National Association of City Transportation Officials (NACTO) Transit Street Design Guide recommends a passenger landing pad (boarding area) measuring 5 feet long by 8 feet wide (Figure 26). The bus stop located on the southeast corner of Route 10 and Livingston Avenue (Figure 25) illustrates a good-sized boarding area.

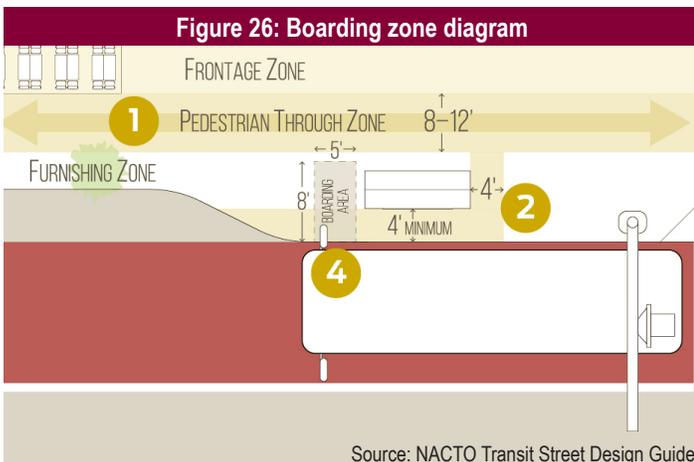


Figure 26: Boarding zone diagram

Source: NACTO Transit Street Design Guide

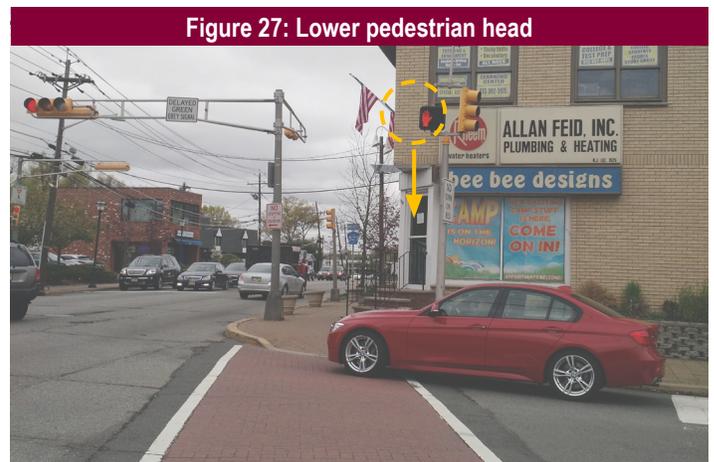


Figure 27: Lower pedestrian head

The pedestrian head at the northeast corner could be vertically lowered.

POTENTIAL CONSIDERATIONS: Improve Circulation for All Users at Concord Drive/ShopRite Entrance

- **Consider installing marked crosswalks and a pedestrian island near the intersection of Concord Drive where there are few vehicle gaps long enough for pedestrians to safely cross at this legal, unmarked crosswalk.** The nearest signalized crossing is Concord Drive, at the Northfield Avenue intersection, which is 700 feet (more than two New York City blocks) south. Concept A (Figures 28 and 31) shows a painted crosswalk with a pedestrian refuge island, which could be installed in the existing painted median. The median space can be reinforced with paint, bollards, or concrete to serve as a pedestrian refuge. Concept improvements are in red and pink.
- **Consider signaling the entrance to ShopRite.** There are few traffic gaps for pedestrians and left-turning vehicles at the ShopRite entrance. Currently, police monitor the entrance in afternoon. Concept B (Figure 28) is a signalized intersection. Crosswalks are installed across Livingston Avenue. It may be appropriate to also review how pedestrians access the ShopRite and explore if it is necessary to provide safer pedestrian access. The blue dashed arrows below show anticipated pedestrian access paths for proposed concepts.
- **Trim foliage south of Concord Drive on the southbound sidewalk.** (Figure 29)

Figure 28: Livingston Avenue in the vicinity of Concord Drive

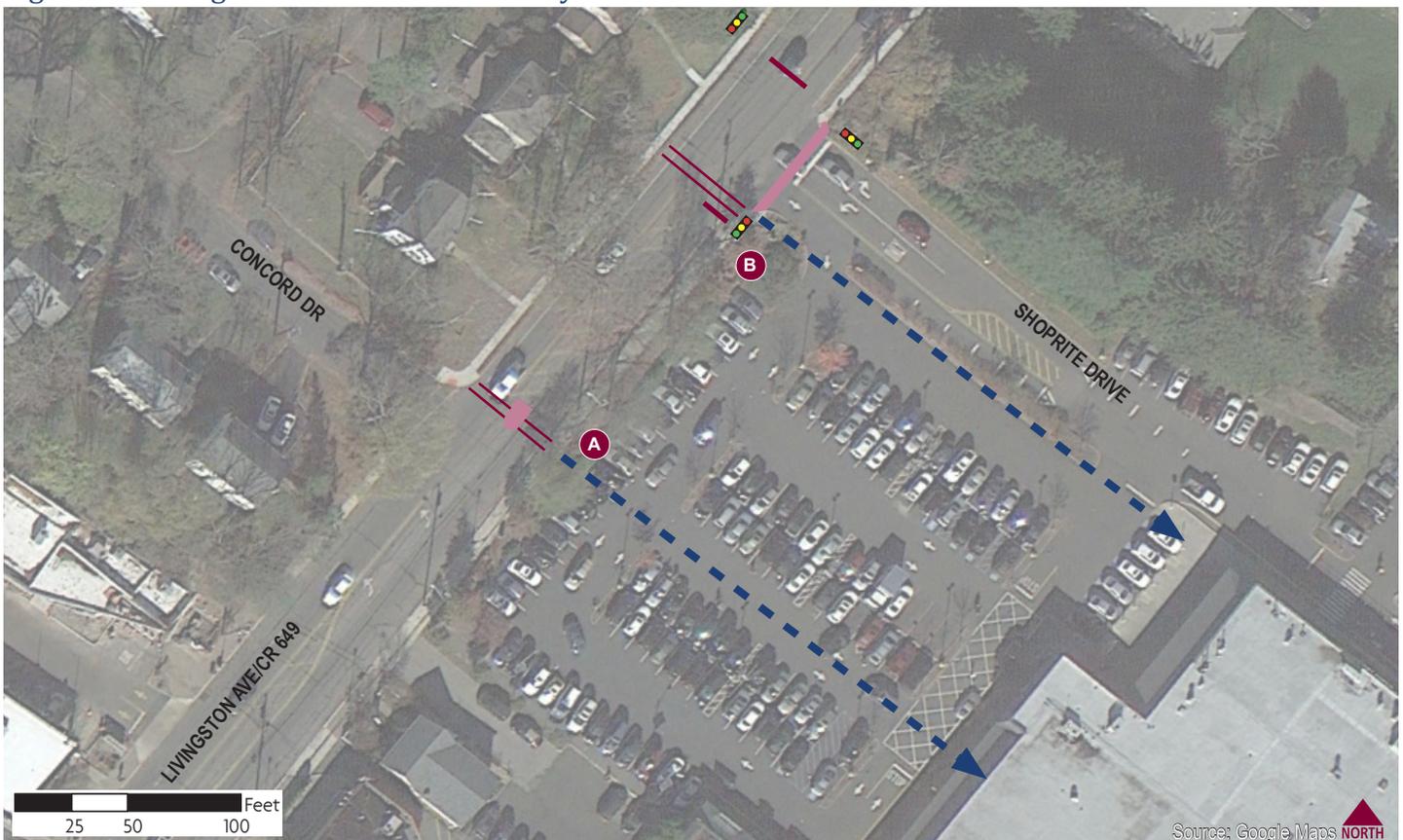


Figure 29: Foliage in sidewalk area



Figure 30: Crossing from ShopRite area



Figure 31: Pedestrian refuge example



Currently, pedestrians can follow a sidewalk along the south edge of the ShopRite parking lot and cross Livingston Avenue just south of Concord Drive, as shown above. Installing a median refuge allows pedestrians to more safely pause halfway through crossing larger streets.

POTENTIAL CONSIDERATIONS: Improve Pedestrian Accommodations at the Route 508/Northfield Avenue Intersection

- **Reduce receiving lane widths of Northfield Avenue's west and east legs via bulb-outs and painted edgelines to mark the parking lane.** A floating parking lane may serve as a traffic calming device to guide and keep drivers at the correct speed limit. These lane marking concepts are drawn in red in the diagram below (Figure 32). On the east leg, shifting the lanes slightly south provides space for a widened median, which can serve as a pedestrian refuge island if pedestrians are unable to cross the entirety of Northfield Avenue.

Figure 32: Livingston Avenue & Northfield Avenue

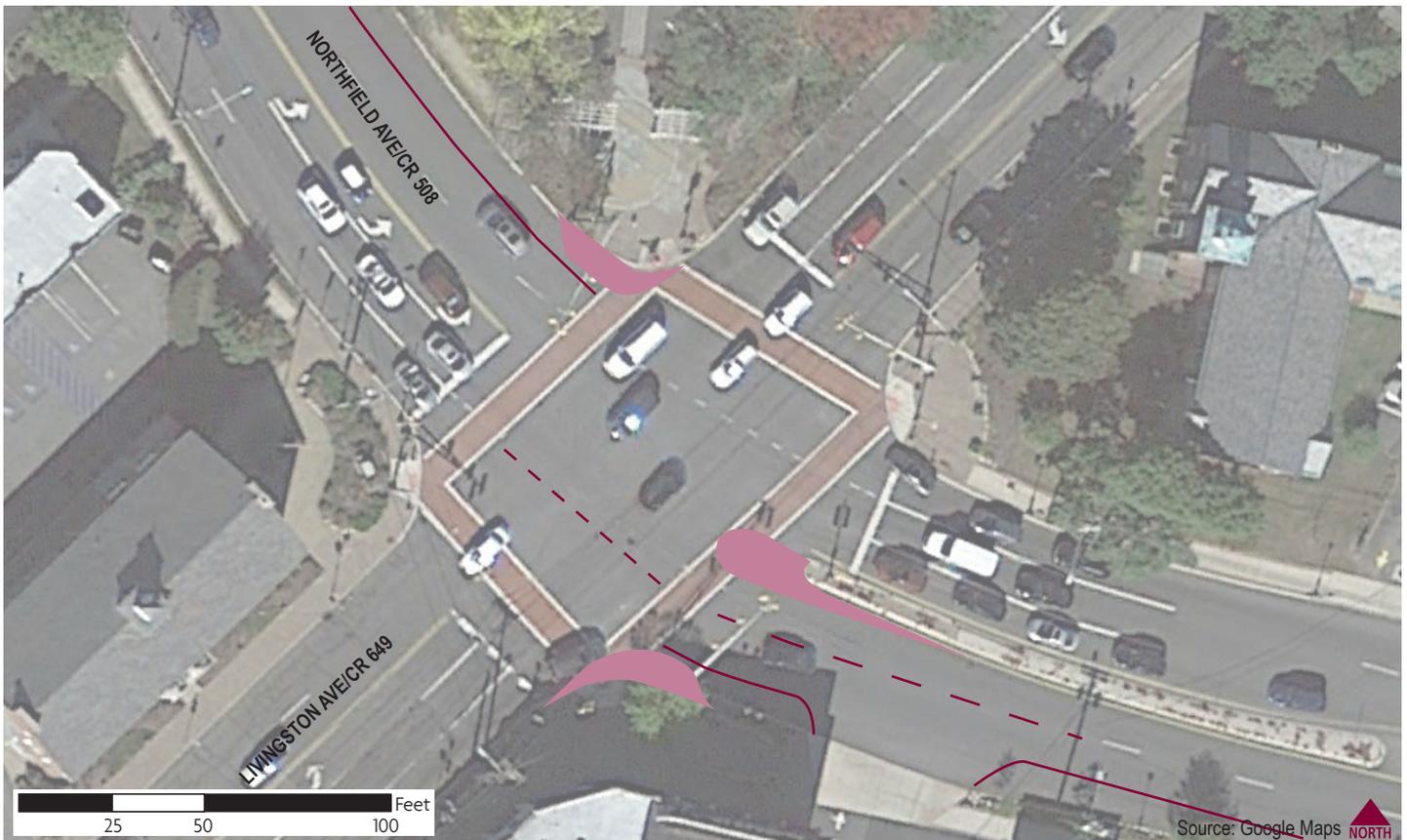


Figure 33: At the intersection of Northfield Avenue and Livingston Avenue, facing east leg



Figure 34: Example of painted curb extension



One of the eastbound receiving lanes of Northfield Avenue (Figure 33) is exceedingly wide, at about 25 feet across.

The image above (Figure 34) shows a low-cost curb extension created with textured paint and plastic bollards.

POTENTIAL CONSIDERATIONS: Improve Traffic Operations to Improve Pedestrian Safety Between Northfield Avenue and CR 608

- Consider signaling the intersection at Harrison Place.
- Or consider converting Harrison into a cul-de-sac and use the Harrison Place terminus space for a pocket park.
- Consider installing high visibility crosswalks across Livingston Avenue at Harrison Place. (Figure 36)
- Consider installing a concrete or texturized paint median from Route 608 to just south of Northfield Ave and removing access to and from Harrison Place, shown in pink in Figure 35. A median may help to restrict left turns across multiple lanes and also better channelize traffic.
- Consider striping a bike lane from CR 608 to Northfield Avenue/CR 508, shown with red markings in Figure 36.

Heavy traffic and the distance between signalized crossings on Livingston Avenue makes it difficult for pedestrians to safely cross the corridor.

Installing a concrete median (which is already painted in parts) will give pedestrians a safer resting point.

Closing off Harrison Place will allow for the greater continuation of a median. Using some of the excess pavement width to install a bike lane would be the first step in creating a marked cyclist network.

Figure 35: Livingston Avenue in the vicinity of Harrison Place



POTENTIAL CONSIDERATIONS: Pedestrian safety improvements at CR 608/Hobart Gap Rd

- Resolve maintenance issues and address pedestrian sidewalk obstructions (poles in sidewalk shown in Figure 38) at the northeast corner of CR 608.
- Install crosswalks (shown with red markings in Figure 36) and pedestrian heads at the CR 608 intersection.
- Narrow lane at west receiving lane of CR 608, shown with red markings in Figure 36.

Figure 36: Livingston Avenue & Hobart Gap Road

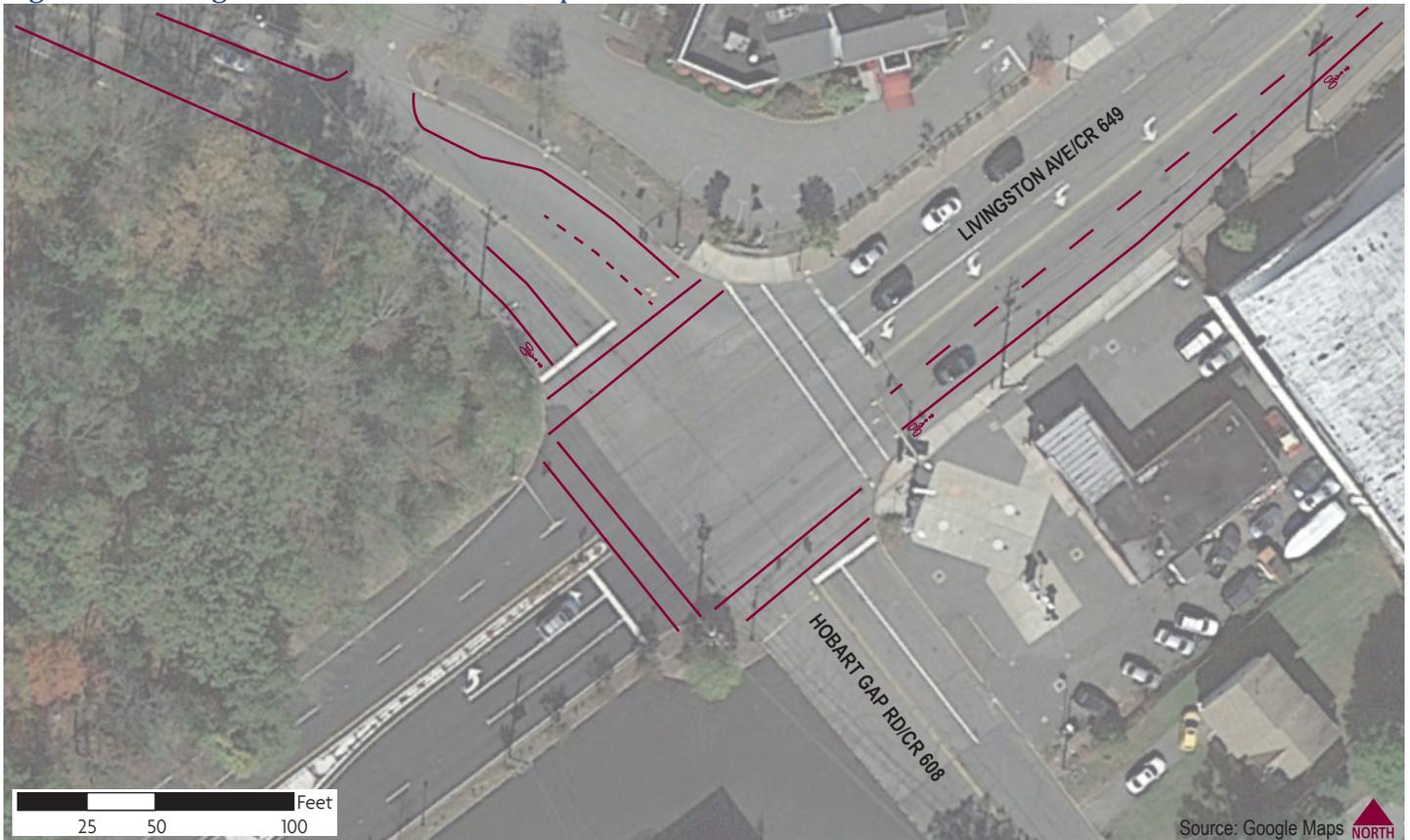


Figure 37: At Intersection of Hobart Gap Road and Livingston Avenue, Facing Northwest Leg

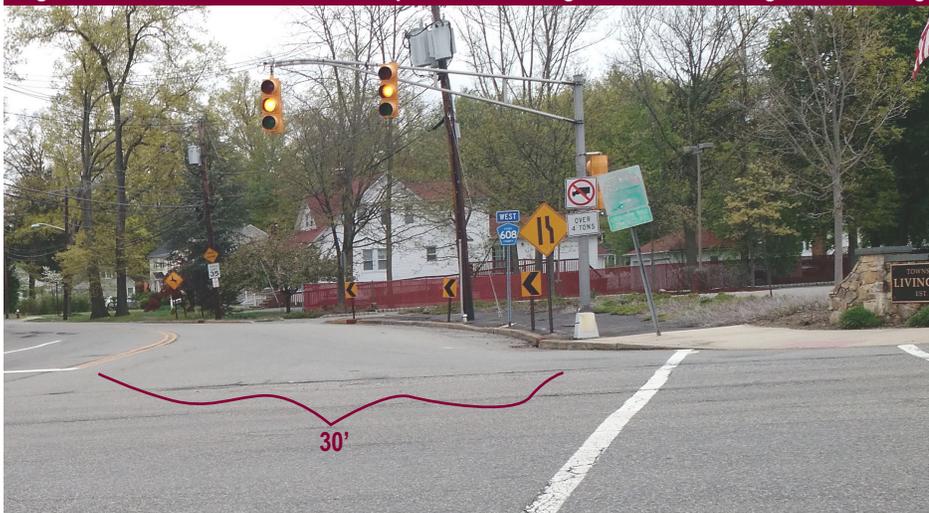


Figure 38: Sidewalk Obstructions



Remove obstructions in sidewalk (above).

The receiving lane on the northwest side is quite large (30 feet) with no lane markings to indicate separate lanes or a lane drop. A bike lane and painted edgelines would channelize vehicles and calm traffic.

OTHER POTENTIAL CONSIDERATIONS

Workshop participants, particularly those from the municipality, expressed the township's interest in transitioning Livingston Avenue from a car-centric commuting corridor to a mixed-use, transit-friendly corridor. The group discussed that potential strategies include taking advantage of the zoning overlay areas in Livingston Township's Housing Element and Fair Share Plan 2015-2025 or implementing traffic calming measures such as a road diet, which could allow for other transportation modes, such as walking, biking, and public transit, to take more prominence.

In addition to physical design improvements (engineering), local officials and residents should identify opportunities to address pedestrian safety through enforcement and education. Leveraging the "three E's" (engineering, education and enforcement) is essential for making gains in traffic safety. Physical improvements will enhance comfort, safety, convenience, and accessibility for all roadway users. Coupling the design recommendations outlined in this report with enforcement and education ensures a more successful walking environment, since motorist and pedestrian behaviors directly impact a community's walkability.

Safety education programs focusing on both pedestrians and motorists are a priority in New Jersey because the state has been designated a "Pedestrian Safety Focus State" by the Federal Highway Administration (FHWA) due to its high number of pedestrian injuries and fatalities. Various government and private-sector organizations are taking an active role in addressing pedestrian safety at the community level, while the New Jersey Division of Highway Traffic Safety (NJDHTS) provides enforcement grants and educational materials focusing on pedestrian safety. Information on NJDHTS' grant opportunities and resources can be found at <http://www.nj.gov/oag/hts/index.html> and pages 30-32 of this report.

The NJTPA is continuing to expand its pedestrian safety campaign, Street Smart NJ, to municipalities throughout the state. Participating communities work to raise awareness of pedestrian safety laws by hosting events, handing out information, and through social media and advertisements. Local police step up enforcement during the campaign to ensure motorists and pedestrians are obeying the laws. All communities are urged to participate. More information can be found online at <http://bestreetsmartnj.org/>. The NJTPA website also provides links to a number of resources offering both national and local perspectives on pedestrian and traffic safety. Information may be found at <http://www.njtpa.org/planning/regional-studies/safety>. Additional information on pedestrian safety, including effective countermeasures, can also be found on the FHWA website at http://safety.fhwa.dot.gov/ped_bike/. Livingston is encouraged to leverage these and other resources to implement pedestrian safety education and enforcement initiatives targeted at residents, employees and others who drive into and through the community.

Conclusion

Based on the feedback obtained during the workshop walking audit, pedestrian safety and the walking environment along the Livingston Avenue (CR 649 and CR 527) commercial corridor between Route 10 and Hobart Gap Road would be greatly improved with numerous pedestrian upgrades to calm traffic and provide safer pedestrian facilities.

Workshop participants recommended that sidewalks be installed across driveway entrances to better delineate pedestrian pathways and to alert entering and exiting vehicles that pedestrians may be present. They also made a number of other suggestions including adding bulb-outs to shorten pedestrian crossing distances at driveway entrances, added areas of signalized crossing for pedestrians to cross from one side of Livingston Avenue to the other, and a number of traffic calming techniques. All of the recommendations outlined in this report would enhance the safety of residents, promote a friendlier walking environment and improve access to many destinations without using a vehicle.

In addition to the engineering recommendations outlined in this report, employing enforcement and education tactics to reduce the incidence of pedestrian crashes resulting in injuries is essential. Municipal officials, community leaders, schools and others are encouraged to work with TransOptions, the local transportation management association (TMA), to implement a Safe Routes to School program as well as take advantage of education and enforcement grant opportunities provided by the New Jersey Division of Highway Traffic Safety and to conduct a Street Smart NJ campaign. Pursuing partnerships and identifying champions within the community who will promote pedestrian safety as a shared responsibility between all roadway users is highly recommended.

The design recommendations outlined in this Walkable Community Workshop report seek to improve the walking environment in the commercial corridor along Livingston Avenue supporting Livingston Township's, Essex County's, and NJDOT's Complete Streets Policy. This report is a valuable tool that law enforcement, community officials, and citizens are encouraged to leverage to improve the safety and mobility of all who live and work in the neighborhood as well as other areas throughout Livingston Township.

Appendices

A. Workshop Attendees

Name	Title	Organization
Mayor Al Anthony	Township Mayor	Livingston Township
Sergeant John Drumm	Traffic Sergeant	Livingston Township
Jeanette Harduby	Township Engineer	Livingston Township
Veena Sawant	Township Planner	Livingston Township
Beth Lippman	Executive Director	Livingston BID
David Antonio	County Planner	Essex County
Asif Mahmood	County Engineer	Essex County
Bill Riviere	Bicycle & Pedestrian Planner	NJDOT
Aimee Jefferson	Principal Planner	NJTPA
Doug Greenfeld	Manager, Sustainability & Plan Development	NJTPA

Livingston Avenue

Walkability Communities Workshop Agenda

25 S. Livingston Ave. Second Floor, Ste. E, Livingston, NJ

9:30 – 2:00 pm

May 5th, 2016

Welcome.....	9:30
Walkable Community Presentation	9:40
• Complete Streets Policy	
• Walking Environment	
Walking Audit	10:15
• In field assessment	
Lunch	12:00
Design Solutions (Breakout Session).....	12:30
• Small team working groups	
• Presentation of recommendations	
• Priorities and action plan	
• Next steps, questions, and wrap-up	
Adjourn.....	2:00



C. Resources

Educational Flyers

The following materials and others are online and available for printing at www.bestreetsmart.org/resources.

CHECK YOUR VITAL SIGNS

Local police are enforcing pedestrian laws

Stop for pedestrians **Obey speed limits**

▶ **Drivers:**
Motorists in New Jersey **MUST** stop for pedestrians in a marked crosswalk. Failure to observe the law may subject you to one or more of the following:

- 2 points
- \$200 fine (plus court costs)
- 15 days community service
- Insurance surcharges

(C.39:4-36)

Wait for the walk **Use crosswalks**

▶ **Pedestrians:**
The law is clear, pedestrians must obey pedestrian signals and use crosswalks at signalized intersections. Both carry a \$54 fine for failure to observe the law.

(C.39:4-32 and 33)

STREETSMART **TOWARD ZERO DEATHS**
BeStreetSmartNJ.org

CHECK YOUR VITAL SIGNS

Your life is on the line

- ▶ Cross at corners and intersections. Use marked crosswalks where available.
- ▶ Before crossing look left, right, then left again.
- ▶ Use pedestrian buttons and begin crossing the street on the "Walk" signal.
- ▶ Use sidewalks or walk facing traffic where there are no sidewalks.
- ▶ Watch out for vehicles turning right on red.
- ▶ Be visible at night and in inclement weather.
- ▶ Walk sober.
- ▶ Eliminate all distractions.

STREETSMART **TOWARD ZERO DEATHS**
BeStreetSmartNJ.org

Additional pedestrian enforcement and education materials are available through the New Jersey Division of Highway and Traffic Safety at <http://www.nj.gov/oag/hts/pedestrian.html>.

D. Potential Funding Sources

Local Aid

The State Aid Program is one method by which the New Jersey Department of Transportation (NJDOT) can work with county and municipal governments to improve the efficiency and effectiveness of the state's transportation system. Through these programs, the State has provided assistance to local governments for road, bridge, and other transportation projects.

(<http://www.state.nj.us/transportation/business/localaid/stateaid.shtm>)

State funded programs administered by Local Aid:

Program	Website
Municipal Aid	http://www.state.nj.us/transportation/business/localaid/municaid.shtm
County Aid	http://www.state.nj.us/transportation/business/localaid/countyaid.shtm
Local Aid Infrastructure Fund (Discretionary Funding)	http://www.state.nj.us/transportation/business/localaid/descrfunding.shtm
Bikeways	http://www.state.nj.us/transportation/business/localaid/bikewaysf.shtm
Safe Streets to Transit	http://www.state.nj.us/transportation/business/localaid/safe.shtm
Transit Village	http://www.state.nj.us/transportation/business/localaid/transitvillagef.shtm
Local Bridges Future Needs	http://www.state.nj.us/transportation/business/localaid/localbridges.shtm

The New Jersey Department of Transportation (NJDOT), Division of Local Aid and Economic Development, and/or the Metropolitan Planning Organizations currently administers these Federal Aid Programs:

Program	Website
Local Lead Program	http://www.state.nj.us/transportation/business/localaid/lead.shtm
Transportation Enhancements Program	http://www.state.nj.us/transportation/business/localaid/enhancements.shtm
Safe Routes to School	http://www.state.nj.us/transportation/business/localaid/srts.shtm
Emergency Relief	http://www.state.nj.us/transportation/business/localaid/er.shtm
Transportation Alternatives	http://www.state.nj.us/transportation/business/localaid/alternatives.shtm
Local Safety/High Risk Rural Roads Programs	http://www.state.nj.us/transportation/business/localaid/localsafety.shtm

New Jersey Department of Community Affairs – Neighborhood Programs

The Office administers a variety of other federal and state-funded programs, such as the Community Development Block Grants (CDBG) which provide funding to municipalities to help with economic development, housing rehabilitation and neighborhood revitalization. The Neighborhood Stabilization Program (NSP I & III), a federal grant/loan program that is designed to acquire, rehabilitate and sell foreclosed/vacant properties in targeted neighborhoods. The Neighborhood Revitalization Tax Credit (NRTC) is designed to improve distressed neighborhoods via partnership with non-profit organizations and contributing companies. (<http://www.state.nj.us/dca/divisions/dhcr/offices/neighborhood.html>)

Neighborhood Programs:

Program	Website
Community Development Block Grant (CDBG)	http://www.nj.gov/dca/divisions/dhcr/offices/cdbg.html
Neighborhood Stabilization Program (NSP)	http://www.nj.gov/dca/divisions/dhcr/offices/nspguide.html
Neighborhood Revitalization Tax Credit (NRTC)	http://www.nj.gov/dca/divisions/dhcr/offices/nrtc.html

Resources Available Through NJTPA:

Program	Website
Congestion Management and Air Quality (CMAQ) - Local Mobility Initiatives Program	http://njtpa.org/project-programs/mobility-programs/cmaq-local-mobility.aspx
Local Concept Development (LCD) Phase	http://www.njtpa.org/project-programs/project-development/local-capital-project-delivery-process/local-concept-development
Local Safety Program	http://www.njtpa.org/local-safety