



Brightwood Neighborhood Walk Assessment Springfield, MA

November 18, 2015



Massachusetts Department of Public Health
State and Local Public Health Actions to Prevent Obesity, Diabetes, and Heart Disease and Stroke
(DP14-1422PPHF14)

MAKING MASSACHUSETTS MORE WALKABLE

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Purpose of Walk Assessment

A safe walking environment is a critical need for the Brightwood community, as 34 percent of neighborhood residents lack access to cars (compared to 18 percent of residents for the City of Springfield as a whole). As a result, they are heavily dependent on walking or sporadic PVTa bus service to access food stores and other goods and services on nearby West and Main Streets. However, pedestrian connections to local bus stops and destinations outside the neighborhood are severely lacking and unsafe, and walking conditions within Brightwood are often poor as well.

On November 18, 2015, WalkBoston conducted a walk assessment of the Brightwood neighborhood, with participation from Springfield municipal staff (including a representative from the Mayor's office), Massachusetts Department of Transportation (MassDOT) engineers, and residents and other community advocates. The goal of

the walk assessment was to examine existing walking conditions in Brightwood and determine recommended improvements. A list of walk assessment participants is included as an appendix to this report.

Of additional note, MassDOT conducted a Road Safety Assessment (RSA) of the Route 20 corridor in Springfield on November 23, 2015, five days after the walk assessment. The Route 20 corridor RSA, which is one of a series of RSA's associated with MGM's proposed casino development in Springfield, examined several locations that the walk assessment team had previously investigated. The final RSA report, which was released on December 15, 2015, independently makes several of the same safety recommendations that the walk assessment team agreed upon. These points of convergence between the walk assessment and the RSA are detailed in the report sections that follow.



Walk audit route along Plainfield Street to the railroad crossing and to West Street and Pride Market.



Audit participants prepare for the walk.

Key Recommendations

1. Add and enhance pedestrian crossings at Route 20 and Plainfield/West/Avocado Streets
 - » Priority Improvement: Implement MGM's promised intersection enhancements at the Plainfield/Avocado Street intersection
2. Enhance safety and explore long-term improvements at pedestrian railroad crossing
 - » Priority Improvement: Continue to support the proposed underground crossing of the Amtrak tracks between the Brightwood neighborhood and Birnie Avenue
3. Create safe crossings across Birnie Avenue and enhance connectivity to Main Street
 - » Priority Improvement: Paint crosswalks, add accessible curb ramps and consider installation of a Rectangular Rapid Flashing Beacon at Birnie Avenue and Huntington/Arch Streets
4. Provide and enhance access to safe crossings along West Street
 - » Priority Improvement: Provide marked mid-block crossing, including pedestrian refuge island, across West Street between Pride Service Station and Edgewater Apartment Complex
5. Calm traffic and create safe pedestrian crossings on Plainfield Street
 - » Priority Improvement: Relocate and enhance the crosswalk at the driveway of Chestnut Middle School on Plainfield Street
6. Explore long-term solutions for pedestrian safety and crossings at convergence of Birnie Avenue and Route 20/Plainfield Street
7. Invest in sidewalk replacement and repair throughout the neighborhood and evaluate lighting to improve visibility and safety at night

The following sections of this report further describe the improvement categories and priorities outlined above, as well as additional recommended improvements for each category. It is our hope that this report will help support the implementation of crucial public safety improvements in the Brightwood neighborhood.



Walk audit participants assess the conditions of the railroad crossing between Plainfield Street and Birnie Avenue.

Summary of Recommendations

1. Add and enhance pedestrian crossings at Route 20 and Plainfield/West/Avocado Streets

Priority Improvement: Implement MGM's promised intersection enhancements at the Plainfield/Avocado Street intersection



A pedestrian crosses the northern edge of the Route 20 and Plainfield/West/Avocado Street intersection, despite the lack of a protected crossing

There are currently no safe pedestrian crossings across the northern and eastern sides of the intersection at Route 20 and Plainfield/West/Avocado Streets. The walk assessment and Road Safety Assessment teams both noted the need to improve pedestrian accommodations, connectivity and crossings at this intersection specifically and along Route 20 more broadly (US Route 20 Corridor Road Safety Assessment, pgs. 30, 33). To improve pedestrian safety at the Plainfield/Avocado Street intersection, the Springfield casino developer MGM has agreed to implement the following measures, which WalkBoston supports:

- Construct a new sidewalk along the easterly side of Plainfield Street, north of US Route 20, providing connectivity from the existing sidewalk to the intersection (WalkBoston recommends that the sidewalk be wider than the existing sidewalk and separated from the curb with a verge at least 5' wide)
- "Remove existing offset sidewalk between the newly constructed sidewalk connections

- "Install a new crossing on the east side of the intersection including the construction of ADA-compliant wheelchair ramps
- "Install pedestrian countdown indications and MUTCD-compliant pedestrian push buttons with appropriate R10-3 series signage at the new crosswalk
- "Recalculate vehicular and pedestrian clearance intervals at the intersection" (MGM Springfield Final Environmental Impact Report, pg. 3-87)

Additional Recommended Improvements

While the measures MGM has agreed to implement at the intersection of Route 20 and Plainfield/West/Avocado Streets will greatly enhance pedestrian safety, in WalkBoston's view additional measures are still needed. MGM's plans do not include a complete pedestrian crossing across Plainfield Street along the northern edge of the intersection. They also maintain the existing right-turn slip lane from Route 20 onto Plainfield Street, which channels traffic at relatively high speeds into the Brightwood neighborhood. WalkBoston therefore recommends the following additional measures:

- Create a complete crossing with curb ramps and sidewalk extensions across Plainfield Street along the north side of the intersection
- Consider eliminating the right-turn slip lane onto Plainfield Street to slow traffic speed by re-routing all westbound traffic through the signalized intersection



A right-turn slip lane without any crosswalks currently enables westbound traffic on Route 20 to turn north onto Plainfield Street at high speeds without slowing down, creating a risk of vehicular and pedestrian accidents.



MGM's plans for improvements at Route 20 and Plainfield/West/Avocado Streets create a crossing across the existing right-turn slip land at Plainfield Street, but fail to create complete crossing across Plainfield Street along the northern edge of the intersection. The lack of a complete crossing is highlighted above in red (source: MGM Springfield Final Environmental Impact Report, pg. 3-88).

2. Enhance safety and explore long-term improvements at pedestrian railroad crossing

Priority Improvement: Continue to support the proposed underground crossing of the Amtrak tracks between the Brightwood neighborhood and Birnie Avenue



The current pedestrian access path to the railroad crossing from Plainfield Street

A narrow, unmarked dirt path across railroad tracks and through overgrown and trash-strewn lots with a high prevalence of drug activity is one of the only ways for pedestrians to enter and leave the Brightwood neighborhood and access Birnie Avenue and Main Street. Many students and their families currently use this unsafe crossing to get to and from Chestnut Middle School. The City of Springfield currently provides police presence and periodic clearing of overgrowth and trash along the railroad crossing path, but a long-term infrastructure solution is necessary to ensure safe passage for pedestrians. Expecting pedestrians to walk along Plainfield Street all the way to Route 20 to get to Main Street is not a viable solution, given the long distance involved to access desired destinations and the significant pedestrian safety challenges at the convergence of Plainfield Street and Route 20, which are documented elsewhere in this report.

WalkBoston recommends that the City continue to work with MassDOT to advocate for the proposed underground Amtrak railroad crossing. The City should also work to ensure that both ends of the underground passageway have safe, aesthetically pleasing and easily navigable connections to Birnie Avenue, Plainfield Street and the broader Brightwood community. The passageway must also be well lit at all hours.



MassDOT's proposed plans for a railroad underpass between Plainfield Street and Birnie Avenue will significantly improve walking conditions and connectivity for Brightwood residents. The project is slated to be built in 2017-2018. (Source: MassDOT)

3. Create safe crossings across Birnie Avenue and enhance connectivity to Main Street

Priority Improvement: Paint crosswalks, add accessible curb ramps and consider installation of a Rectangular Rapid Flashing Beacon at Birnie Avenue and Huntington/Arch Streets

There are currently no crosswalks across Birnie Avenue for pedestrians trying to get from the Brightwood community to goods and services on Main Street and vice versa. To ensure that pedestrians can safely cross Birnie Avenue, WalkBoston recommends installing new crosswalks with ladder design and curb ramps across Birnie Avenue at Huntington and Arch Streets. The City should also consider installing a Rectangular Rapid Flashing Beacon at the crosswalk determined to be the more dangerous and/or frequently used crossing.



The view of Birnie Avenue at Huntington Street. German Gerena Community School is in the background.

Additional Recommended Improvements

Street connections along Huntington and Arch Streets between Birnie Avenue and Main Street are currently uninviting to pedestrians, with wide travel lanes that encourage high traffic speeds and poor lighting of the I-91 underpasses. In addition, the lack of a buffer between high-speed traffic and the existing sidewalk on the Birnie Avenue ramp approaching Route 20/ Plainfield Street creates additional potential hazards for pedestrians.

To create a safer and higher quality pedestrian environment, WalkBoston recommends the following additional measures:

- Install lighting in I-91 underpasses along Huntington and Arch Streets (between Birnie Avenue and Main Streets)
- Put in fog lines on Huntington and Arch Streets to narrow travel lanes and slow traffic speed
- Upgrade all existing crosswalks along Huntington and Arch Streets from standard to ladder design
- Shift and widen sidewalk on western side of Birnie Avenue to create a grassy buffer between pedestrians and high-speed traffic along approach to Route 20/Plainfield Street. Consider installing additional landscaping features along and around grassy buffer (trees, plantings, etc.)



The I-91 underpasses along Huntington Avenue and Arch Streets are currently poorly lit and uninviting to pedestrians, even during the day. The wide travel lanes on these streets encourage fast vehicular traffic.



No buffer exists between pedestrians and high-speed traffic along the Birnie Avenue ramp on the approach to Route 20/Plainfield Street.

4. Provide and enhance access to safe crossings along West Street

Priority Improvement: Provide marked mid-block crossing, including pedestrian refuge island, across West Street between Pride Service Station and Edgewater Apartment Complex



Pedestrians often cross multiple lanes of traffic on West Street in the middle of the block far from existing crosswalks at Riverside Road and Avocado Street.

The Pride Service Station on West Street is one of the only food stores located in close proximity to the Brightwood community. The quickest way for many residents of the Edgewater Apartment Complex and the broader neighborhood to get to Pride is by crossing West Street in the middle of the block, where there is not a safe pedestrian crossing.

WalkBoston recommends creating a new mid-block crosswalk with ladder design and curb ramps extending from the existing sidewalk, as well as a pedestrian refuge island in the existing median strip to ensure safe and easy passage for all, including seniors and persons with disabilities. This crosswalk could be installed opposite the existing PVT bus stops on either side of West Street, where the sidewalks already extend all the way to the curb. The Road Safety Assessment report for the US Route 20 corridor similarly recommends investigating solutions for mid-block crossing on West Street (pg. 31).

Additional Recommended Improvements

In addition to the mid-block crossing recommended above, additional improvements are needed to ensure safe pedestrian access and crossings along West Street. Of particular note, pedestrians walking on Riverside Road and other areas near the western edge of the Brightwood neighborhood do not have convenient access to a safe crosswalk across West Street. In addition, residents of the Edgewater Apartment Complex and the broader neighborhood lack clear paths to West Street. WalkBoston therefore recommends the following additional measures:

- Work with owners of housing developments north of West Street to create paved pathways to West Street (see also US Route 20 Corridor Road Safety Assessment, pg. 31)
- Install pedestrian countdown signals at new and existing crosswalks and update signal timings to ensure sufficient time for pedestrian crossings
- Upgrade all existing crosswalks from standard to ladder design
- Consider installing wayfinding signage at the corner of Riverside Avenue and West Street directing pedestrians to WalkBoston's recommended midblock crossing on West Street



Lacking clear paths from local housing developments to West Street, pedestrians walk over grassy strips and embankments to create their own improvised dirt paths, which are largely inaccessible to seniors and persons with disabilities, and in inclement weather conditions.

5. Calm traffic and create safe pedestrian crossings on Plainfield Street

Priority Improvement: Relocate and enhance the crosswalk at the driveway of Chestnut Middle School on Plainfield Street

The current crosswalk to access Chestnut Middle School across Plainfield Street leads directly into a driveway and lacks safety features like ladder design, pedestrian refuge islands and sidewalk access. To enhance pedestrian safety and access, WalkBoston recommends improving the crosswalk across Plainfield Street at Chestnut Middle School in the following ways:

- Relocate the crosswalk north so it no longer directly abuts the school driveway
- Create a curb extension at the driveway just south of the newly shifted crosswalk
- Upgrade the newly shifted crosswalk to ladder design and include an in-street pedestrian crossing sign
- Construct new curb ramps and sidewalk extensions leading up to the newly shifted crosswalk on both sides of Plainfield Street
- Create a pedestrian refuge island in the existing median strip



The existing crosswalk at Plainfield Street and Chestnut Middle School

Additional Recommended Improvements

In addition to improving the crosswalk at Chestnut Middle School as described above, there is great scope for a number of additional traffic calming measures and pedestrian connections along Plainfield Street. There are very few crosswalks across Plainfield Street outside the Chestnut Middle School zone and wide travel lanes encourage high traffic speeds. Plainfield Street also lacks bike facilities, even though it is designated as having a “Very High” Level of Bicycle Compatibility in Springfield’s Complete Streets plan (pg. 48).



Wide travel lanes and a lack of crosswalks currently contribute to high traffic speeds and unsafe pedestrian conditions on Plainfield Street.

WalkBoston therefore recommends the following additional measures:

- Put in fog lines on Plainfield Street to narrow travel lanes and slow traffic speed
- Install new crosswalks with ladder design, curb ramps and sidewalk extensions across Plainfield Street at Clyde, Newland, Orchard, Washburn and Lowell Streets
- Install “School Zone” signs, pavement markings and flashing beacons to enhance the visibility of the Chestnut Middle School and calm traffic in the immediate school vicinity
- Upgrade existing crosswalks along Plainfield Street from standard to ladder design
- Study feasibility of adding bike facilities on Plainfield Street, consistent with “Very High” Level of Bicycle Compatibility designated in Springfield’s Complete Streets plan

6. Explore long-term solutions for pedestrian safety and crossings at convergence of Birnie Avenue ramp and Route 20/Plainfield Street

The convergence of the Birnie Avenue ramp with Route 20/Plainfield Street is extremely inhospitable to pedestrians and bicyclists. At this location there are no pedestrian crossings from the sidewalk-less northern side of the Route 20/Plainfield Street bridge to the sidewalk on the southern side of the bridge. As a result pedestrians and bikers often engage in risky and unsafe behavior, either by crossing to the southern side of the bridge to access the sidewalk there despite the lack of a protected crossing, or by walking or biking along the northern side of the bridge against the flow of traffic, with no sidewalk and no physical separation from oncoming high-speed motor vehicles.

In the near term, MGM plans to install wayfinding signage to direct pedestrians from Birnie Avenue to the crossing at Plainfield/West/Avocado Streets (MGM Springfield Final Environmental Impact Report, pg. 3-88). In the long term, MGM noted that “The Plainfield Street / West Street (US Route 20) corridor between the I-91 northbound ramps and the North End Bridge will be evaluated as part of a future Road Safety Assessment (RSA) to investigate long-term operational and safety improvements along this corridor. The proposed improvements at this location will be reviewed with the City of Springfield Department of Public Works and MassDOT” (MGM Springfield Final Environmental Impact Report, pg. 3-87). The RSA report for the US Route 20 corridor was released on December 15, 2015.

WalkBoston recommends that the City of Springfield follow up the Road Safety Assessment process to push for pedestrian accommodations at the convergence of the Birnie Avenue ramp with Route 20 and Plainfield Street, including potential pedestrian crossings across the Birnie Street ramp and across Route 20/Plainfield Street, as well as the potential addition of a sidewalk along the northern side of the Route 20/Plainfield Street bridge. The RSA team made these same recommendations as well (US Route 20 Corridor Road Safety Assessment report, pg. 30). Constructing a sidewalk along the northern side of the bridge in particular will give residents in the Edgewater Apartment Complex and the broader neighborhood around West Street a much safer and more direct route to access goods and services on Main Street.



A lack of pedestrian facilities at the convergence of the Birnie Avenue ramp with Route 20/Plainfield Street leads to risky and unsafe pedestrian and bicyclist behavior.

7. Invest in sidewalk replacement and repair throughout the neighborhood and evaluate lighting to improve visibility and safety at night

Ensuring that sidewalks are in good condition and that pedestrian areas are well-lit at night throughout the Brightwood neighborhood are critical to ensuring a safe, easily navigable and pleasant walking environment. WalkBoston recommends that the City of Springfield undertake a comprehensive survey of existing sidewalk and lighting conditions in Brightwood to identify key areas for improvements and to prioritize infrastructure upgrades accordingly.



A sidewalk in poor condition along the northern side of West Street opposite the Pride Service Station.

Appendix A.

List of Walk Assessment Participants

Karen Pohlman, Baystate Medical Center
Jose Claudio, New North Citizens' Council
Paul Kelly, MassDOT
Catherine Ratte, Pioneer Valley Planning Commission
Moraima Mendoza, Riverview Senior Center
Kiah McAndrew-Davis, Springfield Mass in Motion
Gleny Vargas, Springfield Department of Elder Affairs
Matt Sokop, Springfield Department of Public Works
Mini Marrero, Springfield Mayor's Office
Ivan Rojas, Springfield Police Department
Stacey Beuttell, WalkBoston
Adi Nochur, WalkBoston

Appendix B. Terminology

Below are images and definitions of the terms used to describe the walking environment in this report.

Crosswalk and Stop Line

Crosswalks can be painted in a variety of ways, some of which are more effective in warning drivers of pedestrians. Crosswalks are usually accompanied with stop lines. These lines act as the legally mandated stopping point for vehicles, and discourage drivers from stopping in the middle of the crosswalk.



Crosswalk patterns
Source: USFHA



Crosswalk and stop line
Source: http://safety.fhwa.dot.gov/ped_bike/tools_solve/ped_scdproj/sys_impact_rpt/images/fig16.jpg

Curb Ramp and Detectable Warning Strip

Curb ramps provide access from the sidewalk to the street for people using wheel chairs and strollers. They are most commonly found at intersections. While curb ramps have improved access for wheelchair-bound people, they are problematic for visually impaired people who use the curb as an indication of the side of the street. Detectable warning strips, a distinctive surface pattern of domes detectable by cane or underfoot, are now used to alert people with vision impairments of their approach to streets and hazardous drop-offs.



Curb ramp and detectable warning strip in Woburn, MA

Curb Extension/Curb Bulb-out

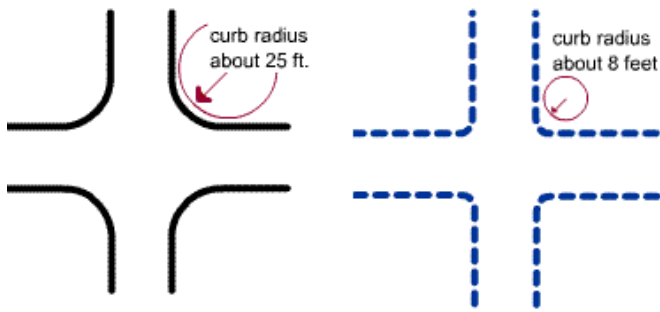
A sidewalk extension into the street (into the parking lane) shortens crossing distance, increases visibility for walkers and encourages eye contact between drivers and walkers.



Curb extensions are often associated with mid-block crossings

Curb Radius

A longer curb radius (on the left in figure below) allows vehicles to turn more quickly and creates longer crossing distance for pedestrians. A shorter curb radius (on the right in the figure below) slows turning speeds and provides pedestrians shorter crossing distances.



There are two excellent examples of the shortening of curb radii in Woburn, MA. The first (A) is a low-cost solution using a gravel-filled zone between the original curb line and the newly established road edge. The second is a higher-cost solution using grass and trees and extending the sidewalks to the new curb. Both work to slow traffic.

Fog Line

A fog line is a solid white line painted along the roadside curb that defines the driving lane and narrows the driver's perspective. Fog lines are most often used in suburban and rural locations, but may be appropriate in some urban conditions.



Fog lines delineate the vehicular driving zone on wide roadways.



(A) Gravel-filled curb extension



(B) Grass, trees and extended sidewalk in curb extension

In-street Pedestrian Crossing Sign

In-street pedestrian crossing signs are used at the road centerline within crosswalks to increase driver awareness of pedestrians in the area. These signs are a relatively low-cost, highly effective tool in slowing traffic by the narrowing travel lanes. They are popular with road maintenance departments since they can be easily moved for snow removal.



Leading Pedestrian Interval (LPI)

A leading pedestrian interval gives pedestrians an advance walk signal before motorists get a green signal, giving the pedestrian several seconds to start walking in the crosswalk before a concurrent signal is provided to vehicles. This makes pedestrians more visible to motorists and motorists more likely to yield to them. Typical LPI settings provide 3 to 6 seconds of advance walk time.



Source: http://safety.fhwa.dot.gov/ped_bike/tools_solve/ped_scdproj/sys_impact_rpt/images/fig34.jpg