

Worcester Indian Lake Walk Audit: Recommendations Memo

Background

The Worcester Indian Lake Virtual Walk Audit was conducted by WalkBoston, WalkBike Worcester, and the Worcester Department of Public Health Mass in Motion Program. This walk audit was requested by the Indian Lake Community Association, Inc., who is working to help build a strong, healthy, vibrant connected community through community building and beautification initiatives. In light of the COVID-19 pandemic, this walk audit was conducted virtually. This was the second virtual walk audit that had been conducted by WalkBoston. We are refining this process and will be supporting WalkBike Worcester in adopting this as a tool for their organizational work and partnership with the city.

For the virtual walk audit process, participants were invited to join WalkBoston for 2 online conversations (via Zoom video conference) and to take a self-led walk in the Indian Lake neighborhood along a predetermined route. Prior to their walk audits, participants were led through a Ped101 workshop to learn more about the elements of walkability and to learn how to conduct a self-led walk audit. During their self-led walk audit, participants were asked to make written and photo/video observations to share back with the group. For recordings of this process and a presentation summarizing the residents' walk audit findings and improvement recommendations please visit the website that was created to organize the virtual walk audit process: <https://sites.google.com/walkboston.org/walkbostonworchester/home>

This virtual walk audit was completed through the Massachusetts Department of Public Health's Mass in Motion Program, which grants funding and provides technical assistance to help communities with healthy eating and active living initiatives.

Walk Audit Prescribed Route

The walk audit route details and pedestrian crash data can be found by clicking [HERE](#)

Walk Audit Findings and Recommendations

A summary of the participants' walk audit findings and corresponding recommendations is provided in the tables below. For photos of the findings, please see the Walk Audit Recommendations Powerpoint presentation on the homepage of the website linked above.

SECTION 1

Prescribed route: Participants started at 151 W Boylston Dr, Worcester, MA 01606 (Mass State Lottery parking lot). Walked towards I-190, under the first underpass, and right on Norton Drive. Walked about halfway down the street; turned around, headed back to the intersection and took a right under the second underpass to the corner of W Boylston Dr and Mattson Ave / Parcel 149 entrance.

SECTION 1

Features that support walking	
<ul style="list-style-type: none"> low volume of traffic when many people conducted their audits, so people felt they could cross wherever right now on W Boylston Drive. 	<ul style="list-style-type: none"> Well lit, but mostly highway style lighting due to I-190 on/off ramps. For the most part, crosswalks are located where people want to cross
<i>Mass Lottery Area: W. Boylston Drive & Neponset St intersection to the underpass</i>	
Opportunities for improving the walking environment	
Issue	Recommendation
<ul style="list-style-type: none"> missing curb ramps 	<p><u>Long-term:</u> Improve accessibility by repairing and improving existing curb ramps. All ramps should be ADA compliant and should have tactile warning panels that are correctly aligned with the crosswalk.</p> <ul style="list-style-type: none"> Add curb ramps at all corners of Neponset St & W Boylston Dr.
<ul style="list-style-type: none"> Lack of ped crossings 	<p><u>Long-term:</u></p> <ul style="list-style-type: none"> Add crosswalk & ramps across Neponset St & W Boylston Dr.
<ul style="list-style-type: none"> Intersection of W Boylston Dr & Neponset St mostly acts as a free turn despite Stop sign 	<p><u>Long-term:</u></p> <ul style="list-style-type: none"> Evaluate the feasibility of adding full signalized intersection for protected pedestrian phase to cross W Boylston Dr w/ potential for added vehicles in/out of Neponset St with Amazon location.
<ul style="list-style-type: none"> Overgrown hedges force people to walk into street 	<p><u>Short-term:</u></p> <ul style="list-style-type: none"> Work with property owners to ensure that landscaping is regularly

	<p>maintained and does not obstruct the sidewalk.</p> <ul style="list-style-type: none"> • Work with municipal departments to establish a 311 call response plan that addresses residents' reports of sidewalk obstructions.
<ul style="list-style-type: none"> • Uneven sidewalks are tripping hazard 	<p><u>Long-term:</u></p> <ul style="list-style-type: none"> • Conduct a sidewalk inventory and repair and replace sidewalks. The full W. Boylston Dr corridor should have an uninterrupted sidewalk network that is made of concrete and a minimum of 5 feet. The sidewalk should be enhanced with a verge that separates people walking from cars. This verge should have uniformly spaced street trees.

<i>Norton Drive</i>	
Opportunities for improving the walking environment	
Issue	Recommendation
<ul style="list-style-type: none"> • High volume, high speed traffic. <i>"Norton Dr SB is three wide lanes. Vehicles approach the intersection at high speed."</i> 	<p>Implement traffic calming strategies to reduce driving speeds:</p> <p><u>Short-term:</u></p> <ul style="list-style-type: none"> • Add speed limit signage. Work with law enforcement on intermittent use of flashing speed feedback signs to reduce speeds • Create a living sign of coniferous shrubs spelling out " Home of Worcester Red Sox" or Home of WooSox" <p><u>Long-term:</u></p> <ul style="list-style-type: none"> • Narrow vehicle travel lanes & evaluate a road diet for this stretch of road by repurposing excess pavement for other mode uses, such as protected bike lanes or wider multi-use path to help complete loop around the lake. • Remove highway-center divide to make it more of a neighborhood

	<p>street.</p> <ul style="list-style-type: none"> • Add gateway treatments that give neighborhood identity to the corridor and notify drivers that they are entering a place where people are walking and biking. Strategies to consider could include Indian Lake Neighborhood branded entrance signage paired with a wayfinding and banner program to highlight local businesses and parks.
<ul style="list-style-type: none"> • Incomplete sidewalks. There are sidewalks on both sides of Norton Dr SB, but the east side ends abruptly with no crossing option. 	<p>Complete sidewalk network and make sure it is accessible year round.</p> <p><u>Short-term:</u></p> <ul style="list-style-type: none"> • Contact St Gobain to investigate the possibility of opening access to property along Norton Drive for a more pedestrian-friendly walking path. • Determine jurisdiction of all sidewalks so sidewalks and curb ramps can be cleared of snow. <p><u>Long-term:</u></p> <ul style="list-style-type: none"> • Narrow vehicle travel lanes for wider multi-use path to help complete loop around the lake and ensure full sidewalk network. • Work with property owners to develop a snow maintenance plan so sidewalks are accessible year round.

<i>I-190 underpasses / transition points</i>	
Opportunities for improving the walking environment	
Issue	Recommendation
<ul style="list-style-type: none"> • Outdated & missing pedestrian signals: no accessible features (audible, tactile) 	<p><u>Long-term:</u></p> <ul style="list-style-type: none"> • Upgrade all traffic signal heads to include pedestrian signals and phases for pedestrians to cross. • Each intersection should include accessible pedestrian signals.
<ul style="list-style-type: none"> • Need maintenance under the 	<p><u>Long-term:</u></p>

<p>overpass</p> <ul style="list-style-type: none"> • Aesthetically uninviting area and landscaping; 'transition point' between jurisdictions & upkeep responsibility • Inspiration: Lynn lights project that transform the space into a well lit colorful community space creating a safe inviting space. (Beyond Walls) 	<ul style="list-style-type: none"> • Work with property owner (MassDOT) to develop a maintenance plan. Continued cleanup is required for weeds, trash, & pigeon droppings.
<ul style="list-style-type: none"> • Snow: poor (or no) clearance in places, barriers left behind in others where one property owner cleared to their line or plows left on corners 	<p><u>Long-term:</u></p> <ul style="list-style-type: none"> • Work with property owners along corridor to develop a snow maintenance plan. While under the overpass is MassDOT responsibility, determine responsibility of plowing sidewalks in area and curb ramps and work with the city on enforcement. Since this is a transition point for jurisdictions, ensure all parties know of their responsibilities or community benefit responsibilities. <p><i>Possible funding model:</i> <i>In the past, New Balance sponsored MassDCR's plowing costs to maintain the Charles River paths near their headquarters during winter to ensure it remained clear for people walking, running, biking.</i></p>

<p>Corner of W Boylston Dr & Mattson Ave / Parcel 149 entrance</p>	
<p>Opportunities for improving the walking environment</p>	
<p>Issue</p>	<p>Recommendation</p>
<ul style="list-style-type: none"> • Crosswalks and curb ramps missing 	<p><u>Long-term:</u> Improve accessibility by repairing and improving curb ramps. All ramps should be ADA compliant and should have tactile warning panels that are correctly aligned with the crosswalk.</p> <ul style="list-style-type: none"> • Add curb ramps at corner of Mattson Ave & W Boylston Dr • Add crosswalks across both Mattson Ave & W Boylston Dr

	<p><u>Long-term:</u></p> <ul style="list-style-type: none"> Consider I-190 viaduct within Parcel 149 as mural location; participant proposed theme of “History, Culture and Diversity of Worcester”
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SECTION 2

Prescribed Route: Participants started at the Community Garden site / Strand's Ski Shop on W. Boylston (intersection of W. Boylston/Merrill Rd). Walked down W Boylston Dr keeping Strand's Ski Shop on the right, which becomes W Boylston St. Ended at Grove Street intersection.

W. BOYLSTON STREET

Features that support walking	
<ul style="list-style-type: none"> Sidewalks: mostly complete network. New sidewalk at Bud's. Destinations: proximity to lake, businesses, grocery store Transit access: WRTA service On-street parking: narrows lane, slows traffic, separation of sidewalk Mixed-land use: residential in close proximity to commercial Proximity of school: potential for walking and biking to school 	<ul style="list-style-type: none"> Lighting: sufficient night time lighting (but only highway-scale, not pedestrian-scale) Community garden site W. Boylston, Ruthven Ave intersection: enough crossing time Snow shoveled along brick walkways of Frosthalm Memorial, Gallagher's, and Wayne's Pizza
Opportunities for improving the walking environment	
Issue	Recommendation
<ul style="list-style-type: none"> High volume, high speed traffic <ul style="list-style-type: none"> Vehicles are coming off I-190, speeding down West Boylston Street. Do not observe the 30 mph speed limit. No speed limit signage, No indication that entering neighborhood Wide vehicle travel lanes contribute to high speeds 	<p>Implement traffic calming strategies to reduce driving speeds:</p> <p><u>Short-term:</u></p> <ul style="list-style-type: none"> Add speed limit signage. Work with law enforcement on intermittent use of flashing speed feedback signs to reduce speeds. <p><u>Long-term:</u></p> <ul style="list-style-type: none"> Narrow vehicle travel lanes by repurposing excess pavement for other mode uses, such as protected bike lanes or a dedicated bus lane.

	<ul style="list-style-type: none"> ● Evaluate the feasibility of a one-way to two-way conversion to reduce driving speeds and volumes. ● Add gateway treatments that give neighborhood identity to the corridor and notify drivers that they are entering a place where people are walking and biking. Strategies to consider could include Indian Lake Neighborhood branded entrance signage paired with a wayfinding and banner program to highlight local businesses and parks.
<ul style="list-style-type: none"> ● Drivers traveling at high speeds do not yield for people walking 	<p><u>Short-term:</u> Enhance the safety of crosswalks and increase driver yielding compliance by:</p> <ul style="list-style-type: none"> ● Repainting all crosswalks with a high visibility continental stripe pattern. ● Installing Rectangular Rapid Flashing Beacons (RRFBs) at the Broadman Street midblock crossing. ● Adding at-crosswalk pedestrian crossing signage <p><u>Long-term:</u> Consider raised crosswalks at key locations to slow speeds and make people walking more visible to drivers</p>
<ul style="list-style-type: none"> ● Many parking lots and car-centric land-uses like car repair, oil change, car dealership <ul style="list-style-type: none"> ○ Wide curb cuts and many driveways to businesses - drivers not yielding to pedestrians when turning into businesses (Gulf Gas Station, Valvoline, Ramstroms). Have to walk through parking lots (Valvoline) 	<p><u>Short-term:</u></p> <ul style="list-style-type: none"> ● Evaluate zoning restriction strategies to prevent additional car-centric land usage (car dealerships, gas stations, mechanics) along this corridor. ● Ensure a dedicated walking path across driveways using a highly visible material and adding signage at driveways to alert drivers to the presence of people walking. <p><u>Long-term:</u> narrow driveway width to the minimum allowable standard and ensure that there is a clearly marked, highly visible walking path across all driveways.</p>
<ul style="list-style-type: none"> ● Sidewalks in need of replacement, repair, and enhancement <ul style="list-style-type: none"> ○ Not a clear differentiation between sidewalk and parking lot in many places. Cars 	<p><u>Long-term:</u></p> <ul style="list-style-type: none"> ● Conduct a sidewalk inventory and repair and replace sidewalks. The full W. Boylston corridor should have an uninterrupted sidewalk network that is

<p>parked over the “sidewalk” (just North of Fastway)</p> <ul style="list-style-type: none"> ○ Long Dunkin Donuts car queue blocks sidewalks and goes into street ○ ATM machine of Bank of America blocks ped visibility ○ Valvoline waving arm man hit people walking on windy days 	<p>made of concrete and a minimum of 5 feet. The sidewalk should be enhanced with a verge that separates people walking from cars. This verge should have uniformly spaced street trees.</p> <ul style="list-style-type: none"> ● Ensure that the sidewalk is not interrupted by utility poles or other obstacles. ● Ensure that all driveways have a walking path across them. Using a material that is contrasting with the driveway and highly visible to drivers <p><u>Short-term:</u></p> <ul style="list-style-type: none"> ● Work with property owners to ensure that landscaping is regularly maintained and does not obstruct the sidewalk. ● Work with municipal departments to establish a 311 call response plan that addresses residents’ reports of sidewalk obstructions. ● Add signage to driveways to indicate prohibition of blocking sidewalks when in a queue and enforce this. ● Work with businesses to ensure that sidewalks and visibility are not blocked by business property (waving arm man at Valvoline, ATM machine at Bank of America)
<ul style="list-style-type: none"> ● Uneven crosswalks: cross-slope of crosswalks limits accessibility (Boardman, Huntington) 	<p><u>Long-term:</u> Improve accessibility by leveling out uneven crosswalks. Work across municipal departments to evaluate and level the cross-slopes of crosswalks in this corridor to improve walkability for people using wheeled mobility devices and people pushing strollers. Prioritize improvements at the severely sloped Boardman St & Huntington Ave.</p>
<ul style="list-style-type: none"> ● Curb ramps in need of repair, replacement, ADA compliance + tactile warning panels, alignment (Huntington Ave, Woodbury St) 	<p><u>Long-term:</u> Improve accessibility by repairing and improving curb ramps. All ramps should be ADA compliant and should have tactile warning panels that are correctly aligned with the crosswalk. Focus improvements at Huntington Ave & Woodbury St.</p>

<ul style="list-style-type: none"> ● Puddling at curb ramps (Ruthven) 	<p><u>Short-term:</u> Improve drainage at curb ramps to prevent puddling and ensure safe all-weather walking conditions. Focus improvements at Ruthven Ave.</p>
<ul style="list-style-type: none"> ● More crosswalks needed (no crosswalk until Boardman). Need crosswalk at: <ul style="list-style-type: none"> ○ Woodbury St by CVS ○ Frosthalm Memorial ○ At bus stop (Huntington St.) ○ West Boylston Terrace 	<p><u>Long-term:</u> Evaluate the feasibility of adding additional crossing opportunities to the corridor. Prioritize the following locations:</p> <ul style="list-style-type: none"> ● Woodbury St by CVS ● Frosthalm Memorial ● At bus stop (Huntington) ● West Boylston Terrace
<ul style="list-style-type: none"> ● Lack of bike facilities <ul style="list-style-type: none"> ○ riding on sidewalk 	<p><u>Long-term:</u> Add on-street, protected bike lanes along the full W. Boylston St. corridor</p>
<ul style="list-style-type: none"> ● Lack of street trees 	<p><u>Short-term:</u> Add street trees spaced at regular intervals along the full corridor</p>
<ul style="list-style-type: none"> ● Lack of landscaping 	<p><u>Short-term:</u> Add vibrancy to the neighborhood with landscaping elements</p>
<ul style="list-style-type: none"> ● Need placemaking features for interstate wall: mural, art installation 	<p><u>Short-term:</u> Add placemaking features along the length of W. Boylston St. such as murals, decorative lighting, and art installations</p>
<p>Wayfinding: to highlight proximity to lake and other destinations</p>	<p><u>Short-term:</u> Install wayfinding signage to highlight proximity to lake and other nearby destinations. List walking and biking distances in minutes (not just in mileage) to encourage more active trips.</p>
<ul style="list-style-type: none"> ● Identity & Placemaking: to highlight the neighborhood; LED lighting like canal district; Banner program to highlight businesses 	<p><u>Short-term:</u> Consider a branding campaign to add identity to the neighborhood: consider a banner program to highlight local businesses and add welcome signage at the ends of the corridor.</p>
<ul style="list-style-type: none"> ● Strands: move dumpsters, prohibit car parking on sidewalk 	<p><u>Short-term:</u> Work with the owners of Strands to move dumpsters further from sidewalk and to add signage indicating the prohibition of car parking on sidewalks.</p>
<p>Bus stop improvements needed: missing crosswalk, missing shelter, littered</p>	<p><u>Short-term:</u> make needed bus stop comfort improvements by adding a bus shelter with clear signage and adding a trash receptacle at this location to discourage littering.</p> <p><u>Long-term:</u> add a crosswalk to connect the grocery store to the bus stop.</p>

<p>Snow maintenance: snow piles on sidewalk, blocking curb ramps. Icy sidewalks - forced into street. ramps of Frosthalm Memorial Boardman curb ramps blocked Barnes Ave sidewalks Yankee sidewalks Bank of America sidewalk</p>	<p><u>Short-term:</u> Work with property owners to develop a snow maintenance plan. Determine responsibility of plowing sidewalks and curb ramps and work with the city on enforcement. Evaluate use of 311 as a means to report unplowed curb ramps and sidewalks to the city. Particular attention to be paid at:</p> <ul style="list-style-type: none"> ● ramps of Frosthalm Memorial ● Boardman curb ramps blocked ● Barnes Ave sidewalks ● Yankee sidewalks ● Bank of America sidewalk
<p>Leaf maintenance: putting leaves in gutters too early. Wet leaves are slippery.</p>	<p><u>Short-term:</u> Educate neighbors on leaf maintenance protocols to ensure proper timing of leaf removal. Work with the city on enforcement. Evaluate use of 311 for reporting leaf maintenance issues.</p>

W. BOYLSTON STREET STREET INTERSECTIONS

Opportunities for improving the walking environment	
<i>Intersection of W. Boylston Street & Millbrook Street</i>	
Issue	Recommendation
<ul style="list-style-type: none"> ● Huge turn radii, no crossing across W Boylston to reach major destination, no curb extensions, apex ramps, puddling at ramps, crosswalk paint faded 	<p><u>Short-term:</u></p> <ul style="list-style-type: none"> ● Improve drainage at the crosswalk ● Replace and realign tactile warning panels ● Repaint crosswalk with highly visible continental stripe pattern <p><u>Long-term:</u></p> <ul style="list-style-type: none"> ● Reduce the turning radius by adding a bump-out at the eastern side of Millbrook Street ● Add a new midblock crosswalk across W. Boylston to access Barnes St. from Millbrook St.
<i>Intersection of W. Boylston Street & Boardman Street</i>	
Issue	Recommendation
<p>Need increased visibility and safety</p>	<p><u>Short-term:</u></p> <ul style="list-style-type: none"> ● Improve safety of midblock crossing at

	<p>Boardman Street by adding an RRFB at the midblock crosswalk across W. Boylston St at this location.</p> <ul style="list-style-type: none"> • Repaint crosswalks to highly visible continental stripe pattern. • Repair curb ramps to full ADA compliance and replace cracked tactile warning panels. Each crosswalk needs a separate tactile panel that aligns with the crosswalk. <p><u>Long-term:</u></p> <ul style="list-style-type: none"> • Shorten the crossing distance of the crosswalk across Boardman Street by adding bumpouts. • Level the W. Boardman Street crosswalk cross-slope.
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Intersection of W. Boylston Street & Boylston Terrace

Issue	Recommendation
<ul style="list-style-type: none"> • Need increased visibility, accessibility, and safety 	<p><u>Short-term:</u> Improve safety at W. Boylston Terrace intersection: repair curb ramps, replace tactile warning panels, and repaint crosswalk with con.</p>

Intersection of W. Boylston Street & Woodbury Street

Issue	Recommendation
<ul style="list-style-type: none"> • Missing crosswalk • Poor visibility • Long crossing distance • Sight distance issues + drivers don't look for peds 	<p><u>Long-term:</u> Add crosswalk across Woodbury Street and across W. Boylston Street at this location. Increase visibility by adding signage at both crosswalks and an RRFB at the midblock crosswalk. Decrease crossing distance across Woodbury St. with bump-outs. Bump-out will help tighten the turning radius and improve visibility at this location. Consider changing yield sign to a full STOP or convert to a signalized intersection to discourage use of Woodbury St as a high-speed off ramp.</p>

Intersection of W. Boylston Street & Grove Street

Issue	Recommendation
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<ul style="list-style-type: none"> • Outdated ped signal; no countdown. • Slip lane 	<p><u>Long-term</u>: Update the pedestrian signal to one that is fully accessible with tactile and audible warning features. Add a countdown WALK signal. Consider removal of slip lane to improve walking safety. (Read about the benefits of slip lane replacement here.)</p>
<i>Intersection of W. Boylston Street & Gifford Street</i>	
Issue	Recommendation
<ul style="list-style-type: none"> • Wide turn radius • Missing crosswalk 	<p><u>Short-term</u>: Paint a continental striped crosswalk and STOP bar at this location and re-align tactile warning panels.</p> <p><u>Long-term</u>: Bring turning radius closer to perpendicular to slow turning speeds</p>
<i>Intersection of W. Boylston Street & W. Boylston Drive</i>	
Issue	Recommendation
<ul style="list-style-type: none"> • Missing crosswalk • Poor visibility 	<p><u>Short-term</u>: add crosswalk with daylighting at STOP sign</p>

GROVE STREET

Opportunities for improving the walking environment	
Issue	Recommendation
<ul style="list-style-type: none"> • Grove St sidewalks near school in need of repair, replacement; need to bring sidewalk around mature trees 	<p><u>Long-term</u>: Inventory, repair, and replace Grove St sidewalks near school. Consider strategies that repurpose excess lane width to bring a new walking route around mature trees.</p>

INDIAN LAKE

Opportunities for improving the walking environment	
Issue	Recommendation
<ul style="list-style-type: none"> • Desire for enhancements and programming 	<p><u>Short-term</u>:</p> <ul style="list-style-type: none"> • Plan for new community programming opportunities to highlight ecology and environment • Work with municipal and community-based partners on extension of the litter removal time

	<p>period and to increase litter removal frequency. Set a lake clean-up day for residents to take part in lake stewardship and build community.</p> <ul style="list-style-type: none">● Jet ski ban <p><u>Long-term:</u></p> <ul style="list-style-type: none">● Plan for Morgan Landing enhancements: beautification, emphasize this as a community resource, center ecological health efforts, offer family-friendly programming & water sports: sailing, canoeing, kayaking, etc. example: savebuzzardsbay.org
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