

CITY OF WORCESTER **VISION ZERO** DRAFT SAFETY ACTION PLAN

Appendices

JANUARY 2025





City of Worcester

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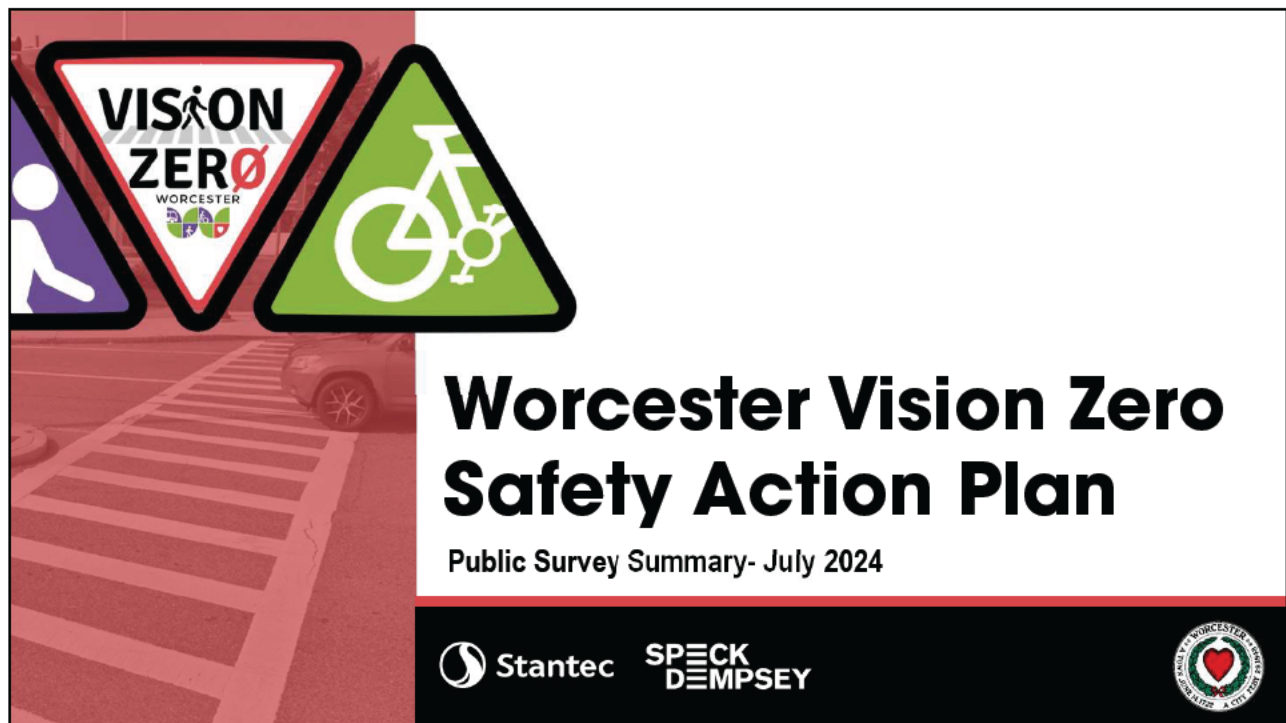
SPECK DEMPSEY

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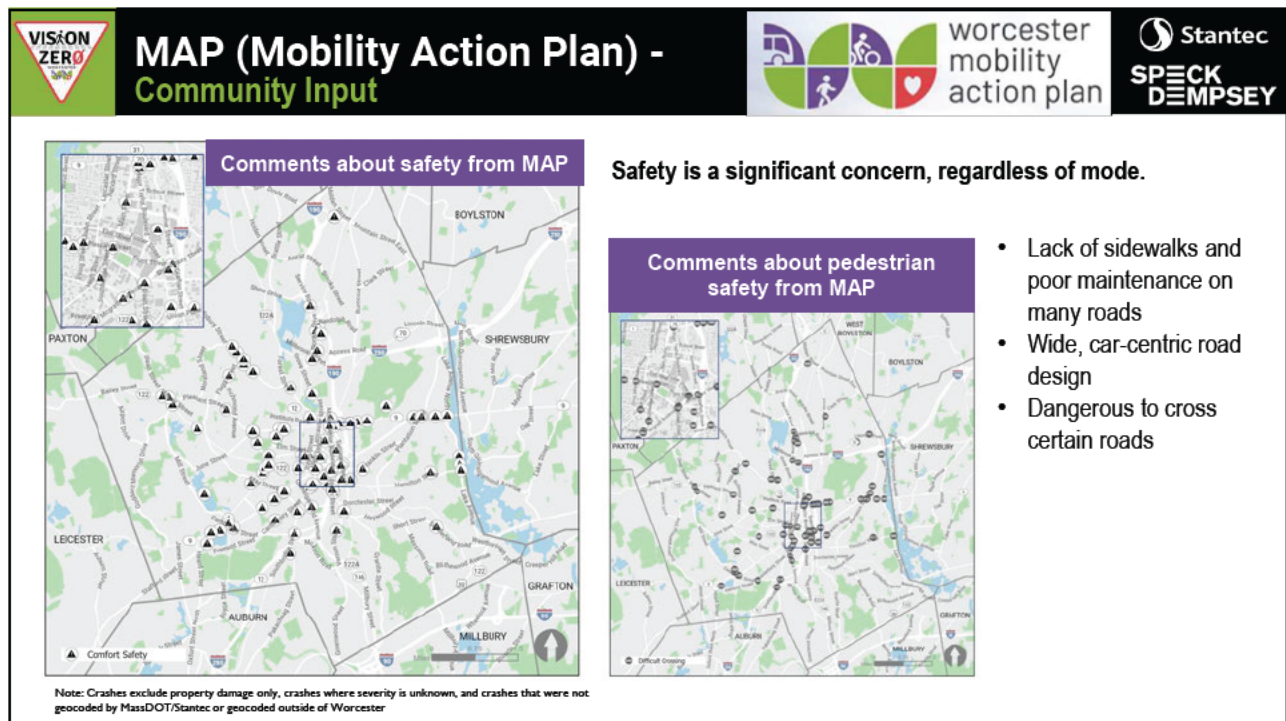
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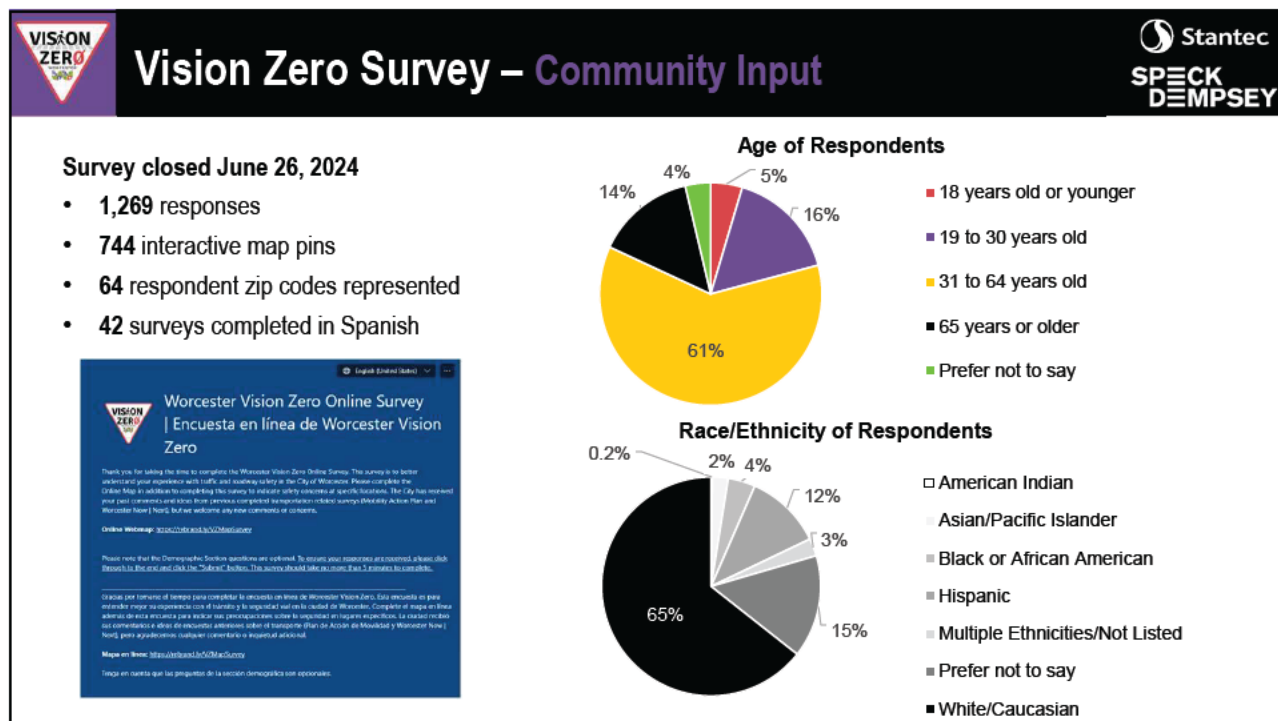
Appendix A. Public Survey Analysis



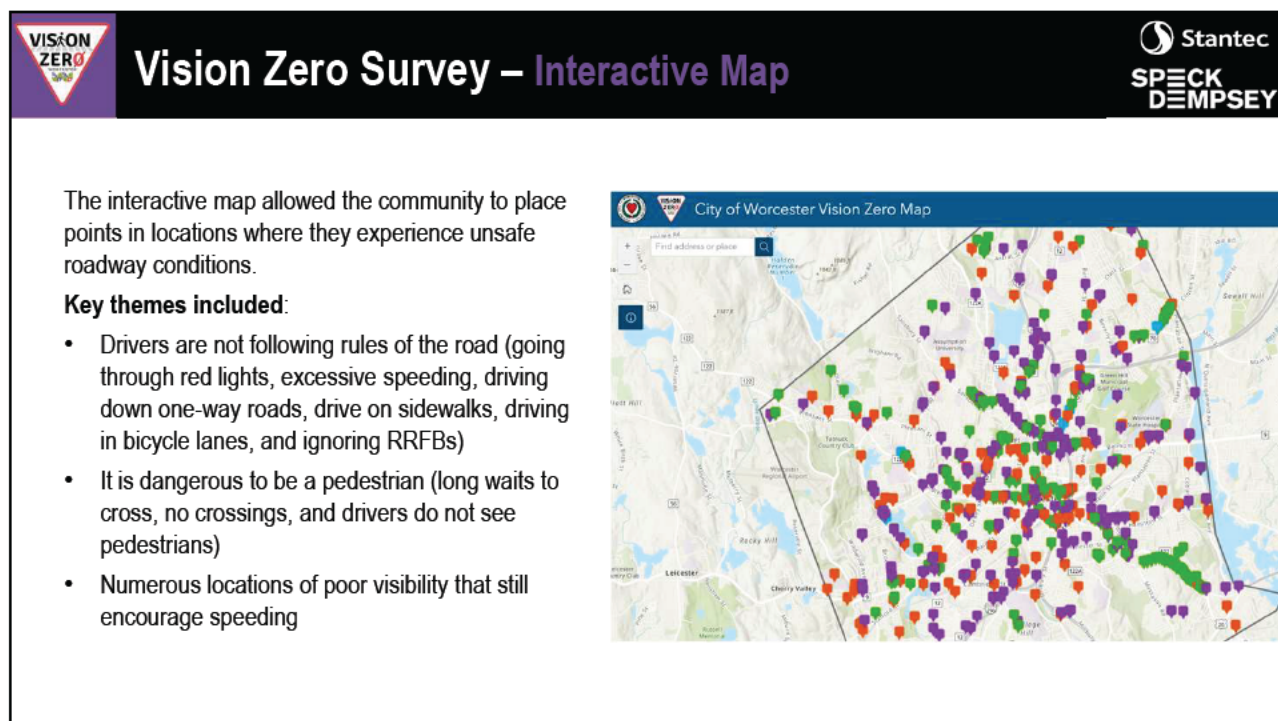
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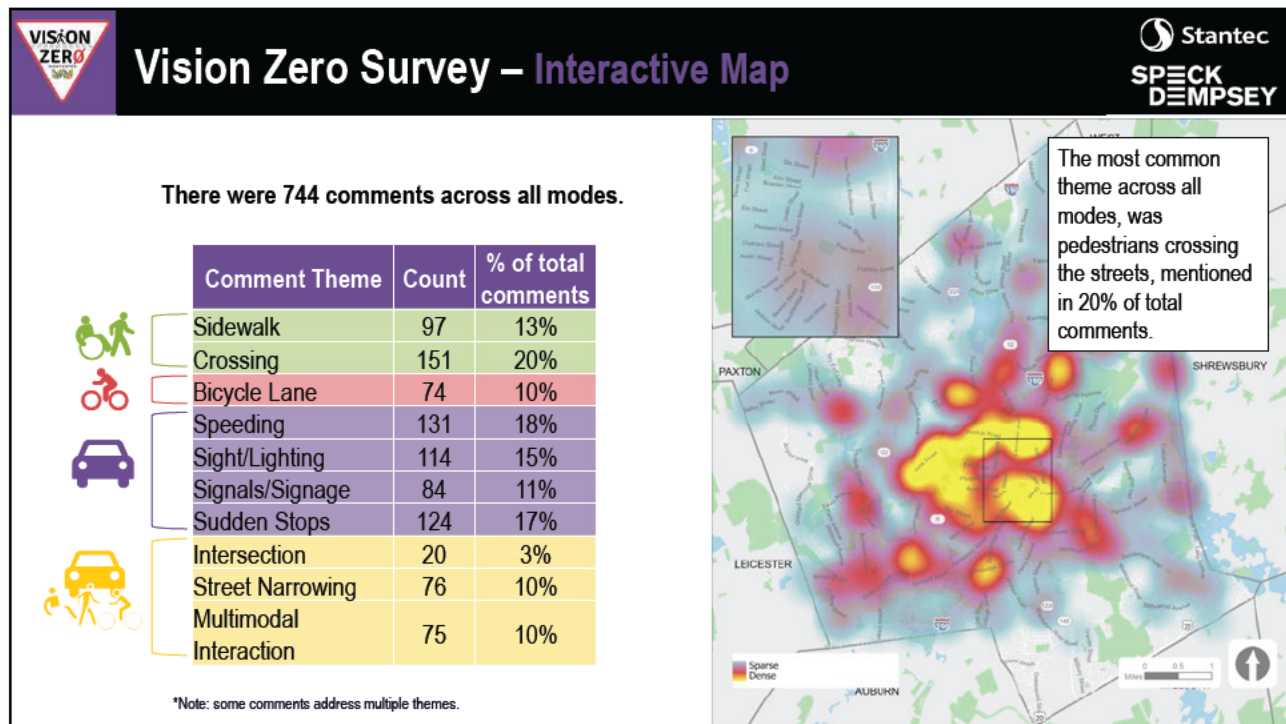
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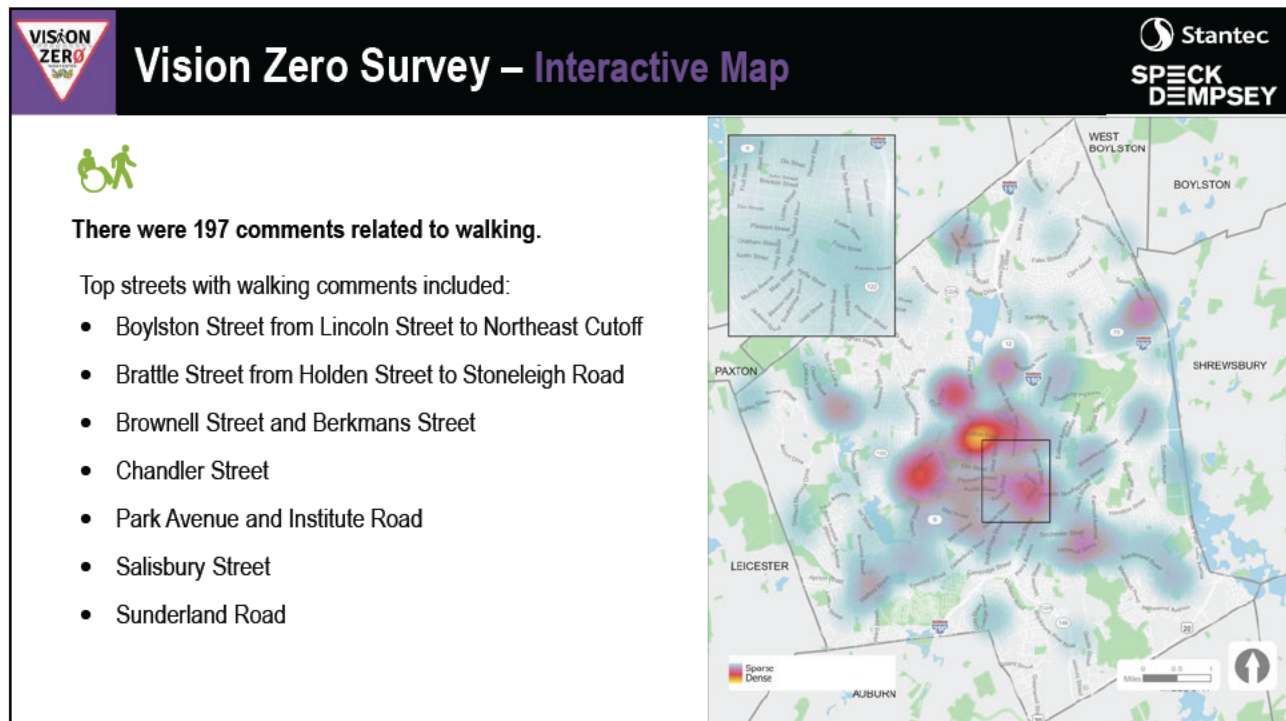
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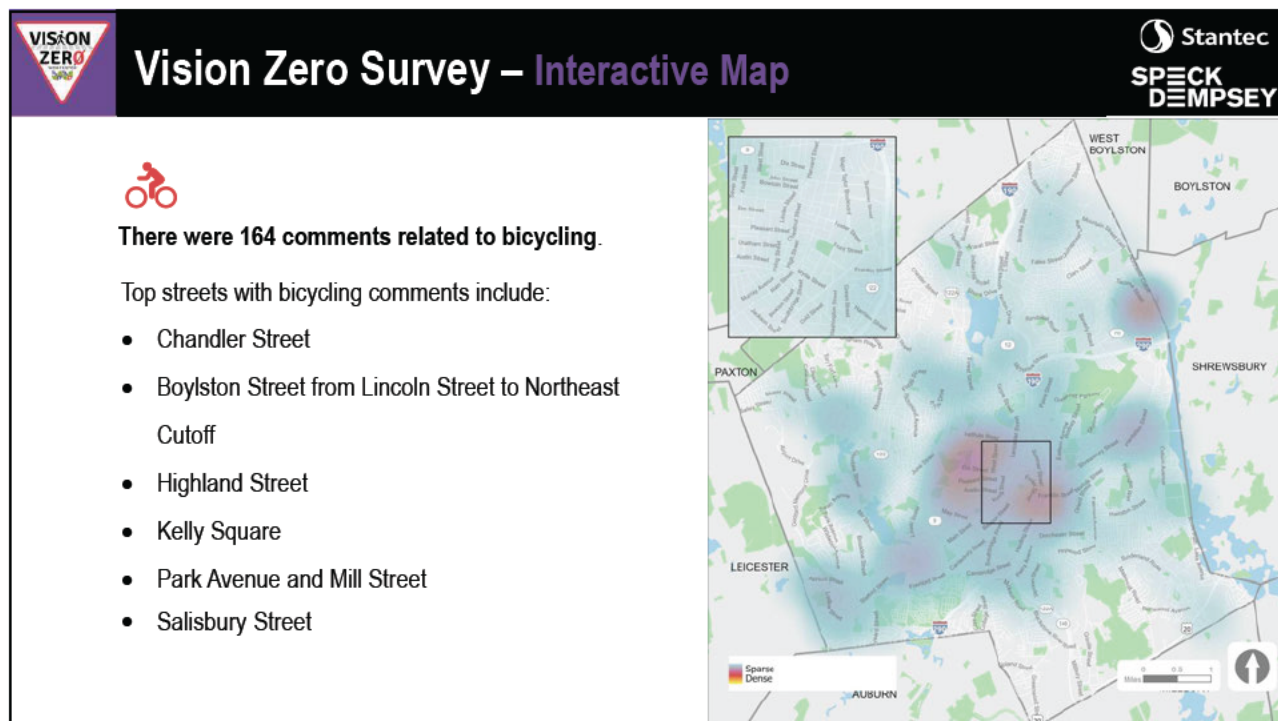
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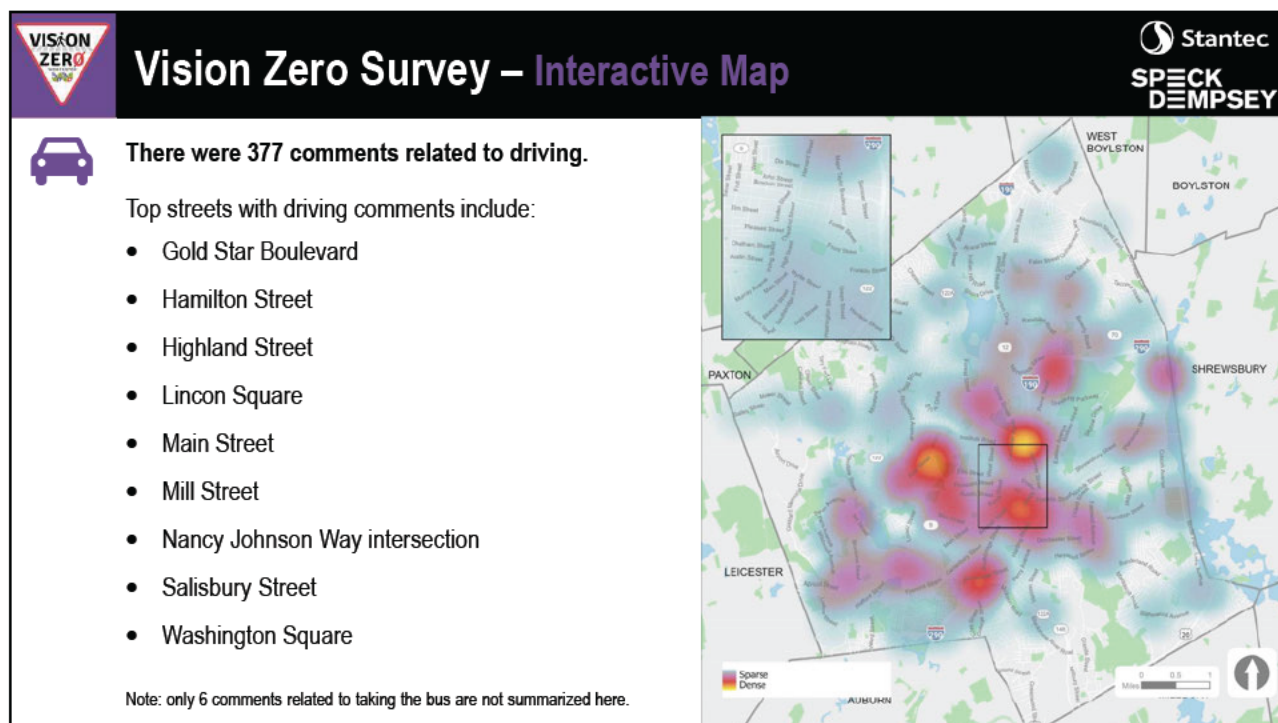
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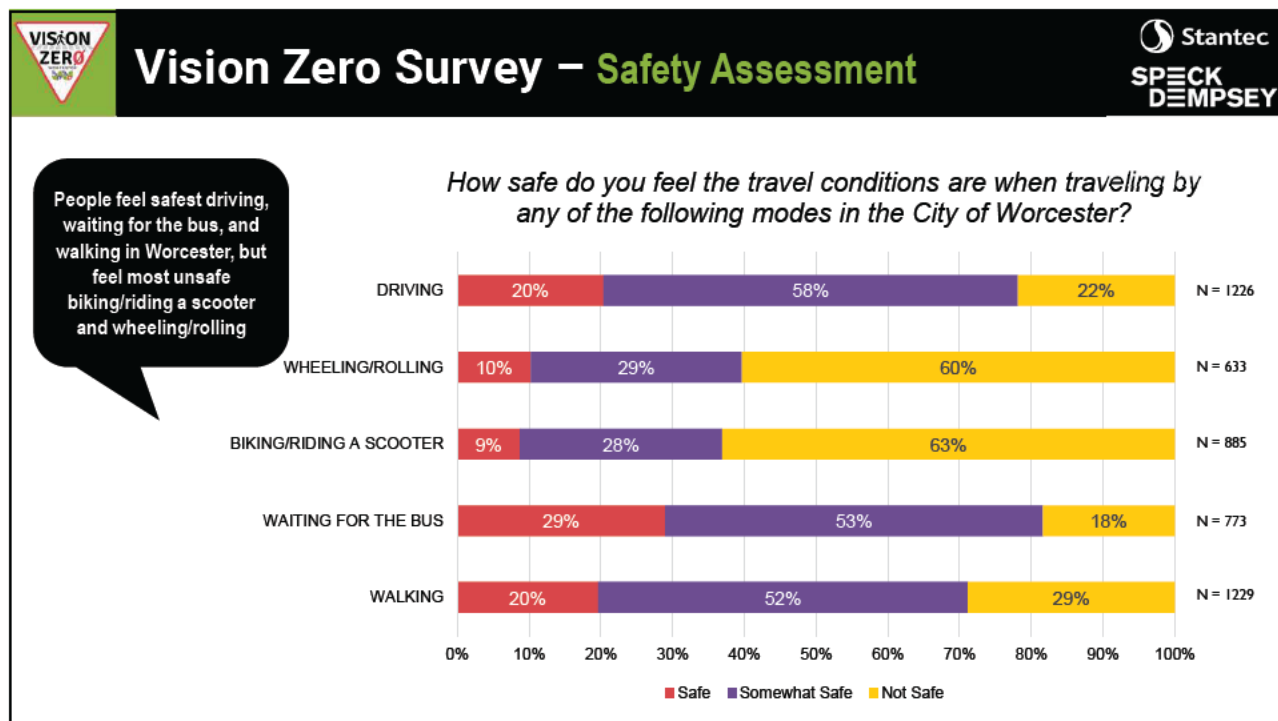
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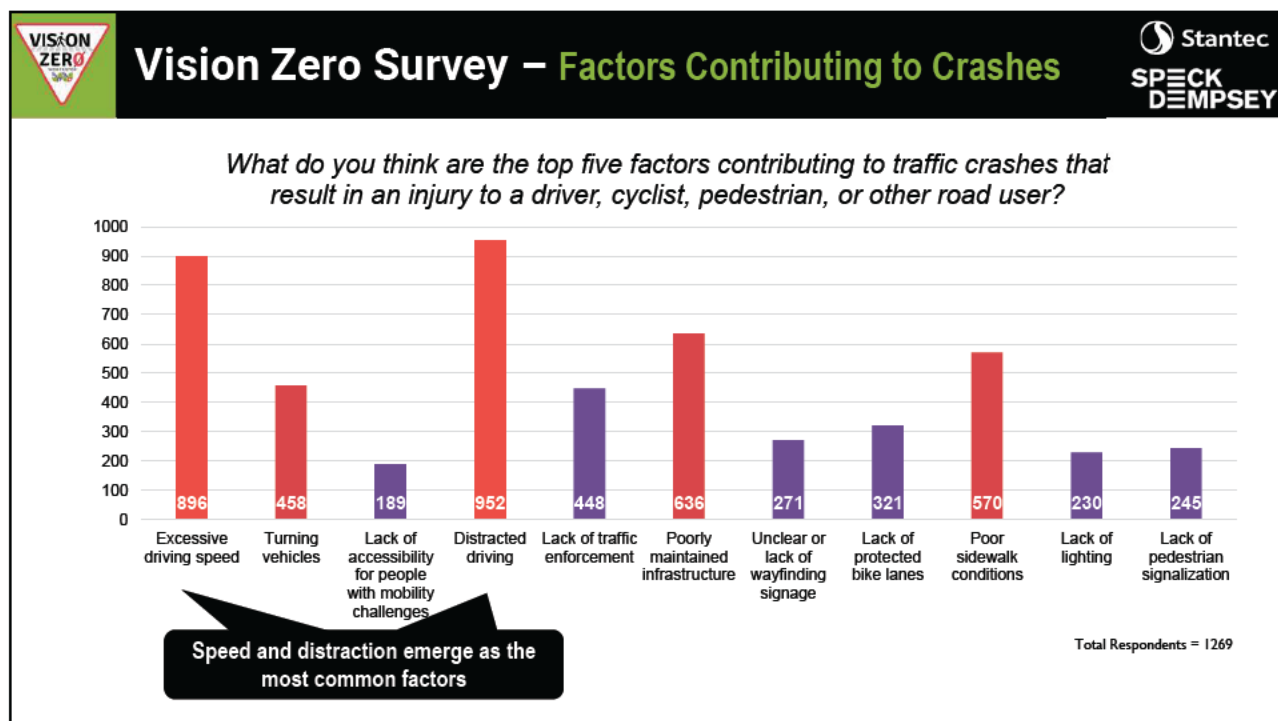
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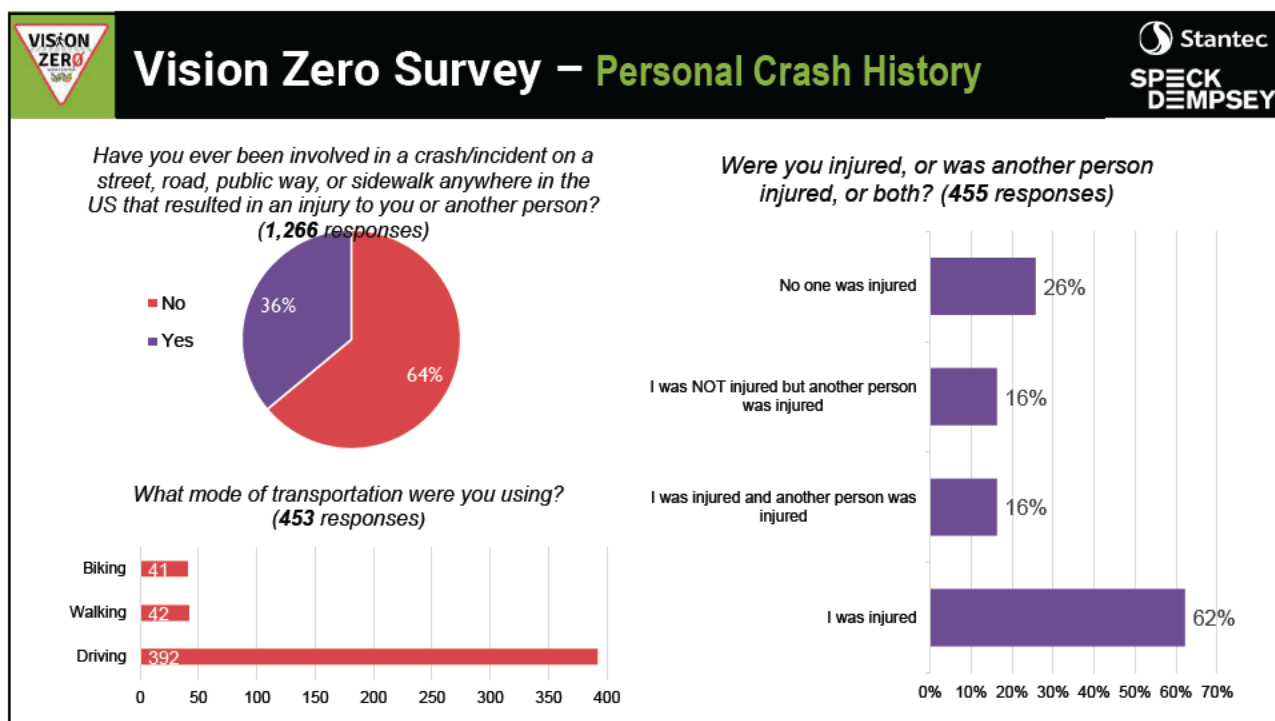
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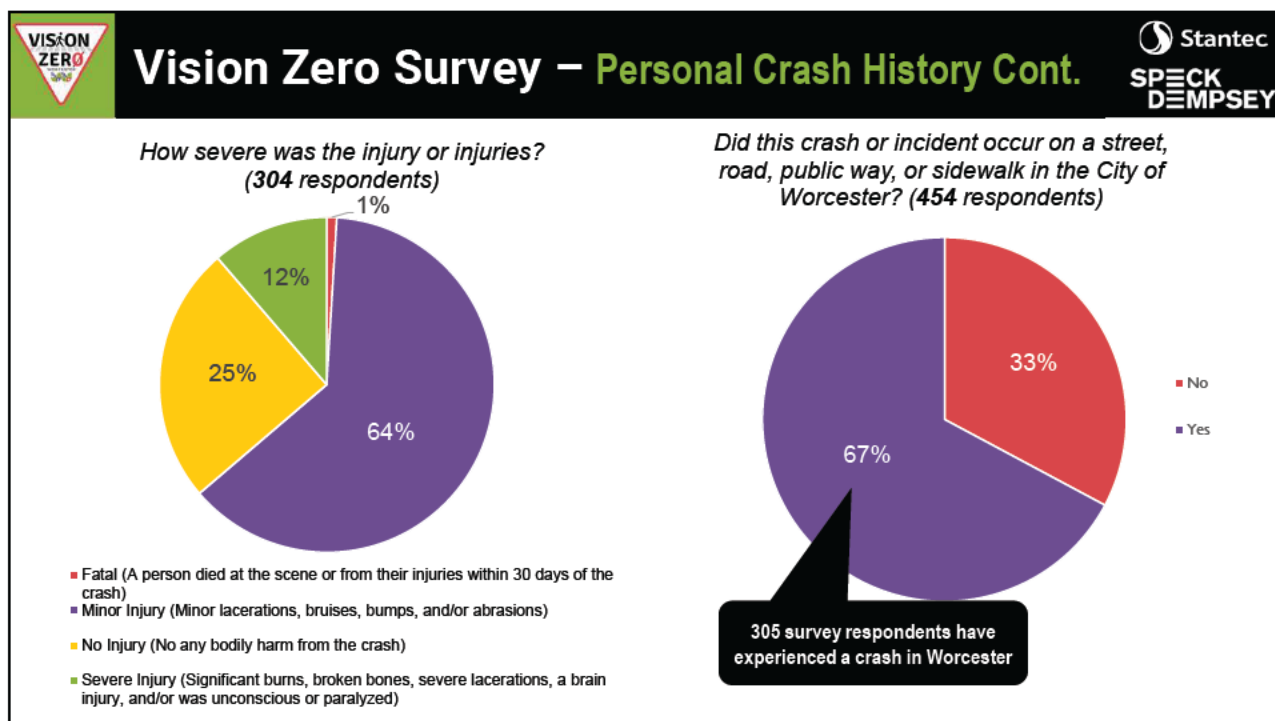
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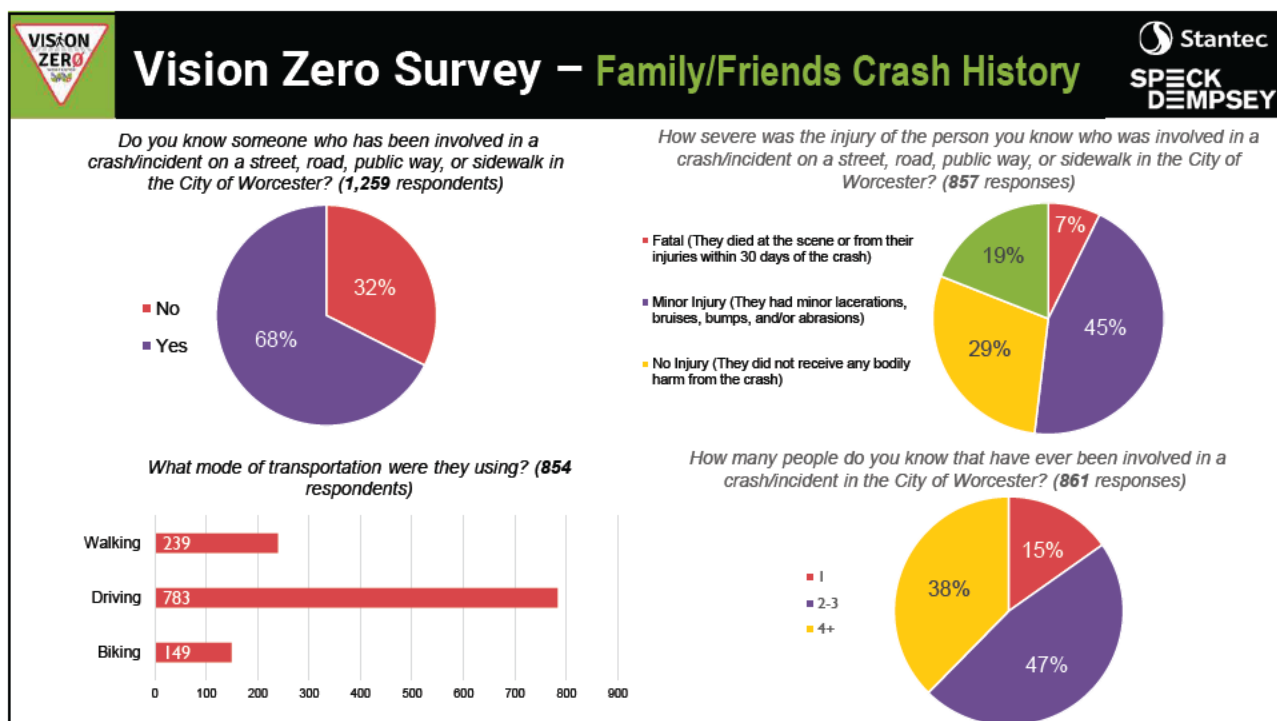
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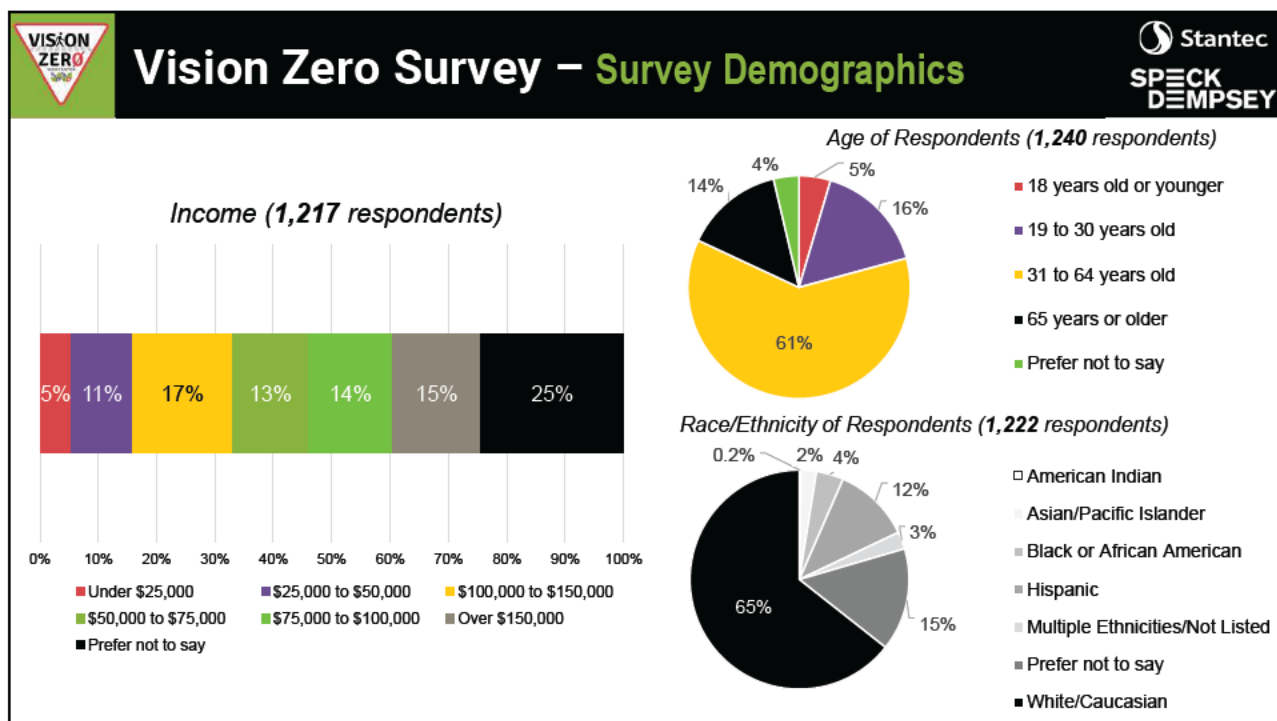
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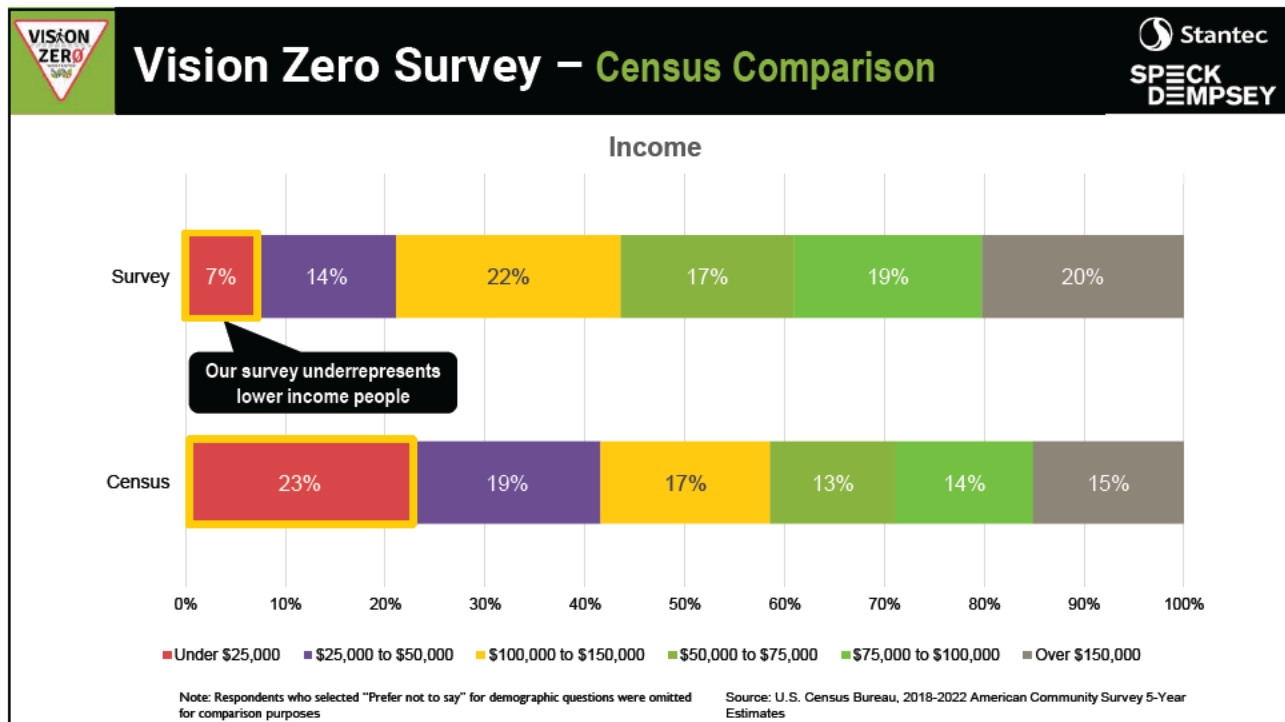
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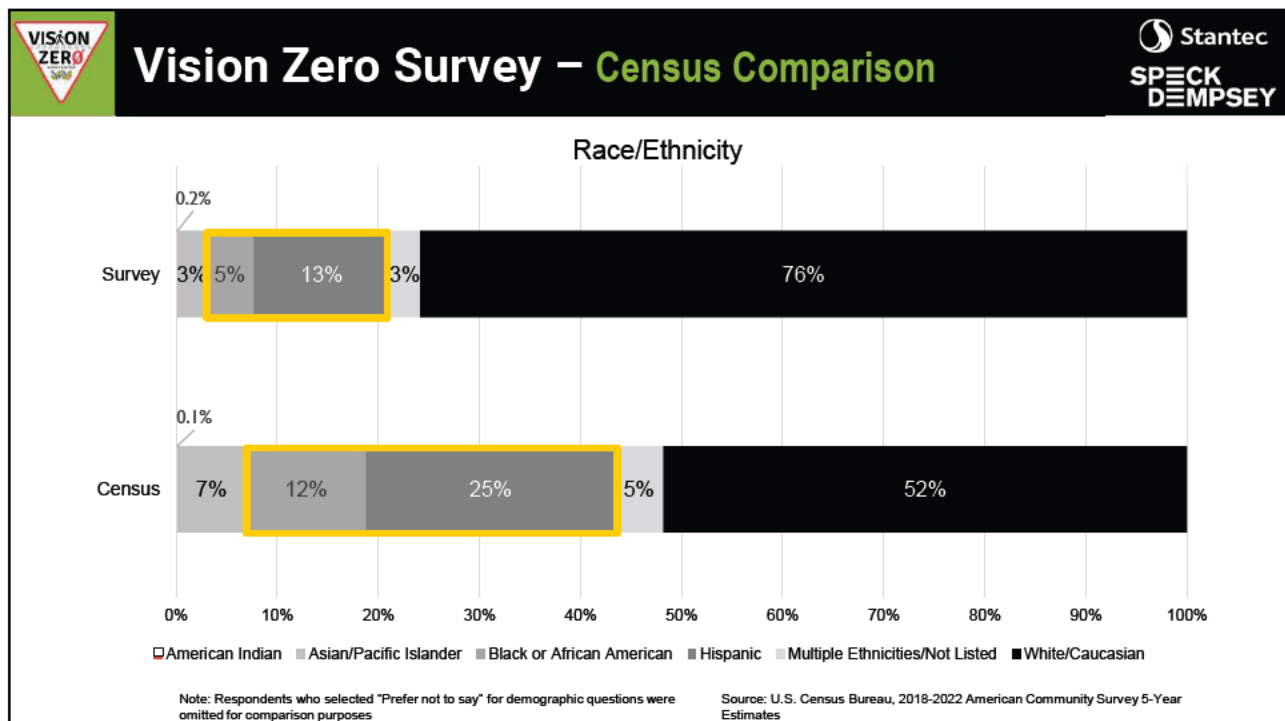
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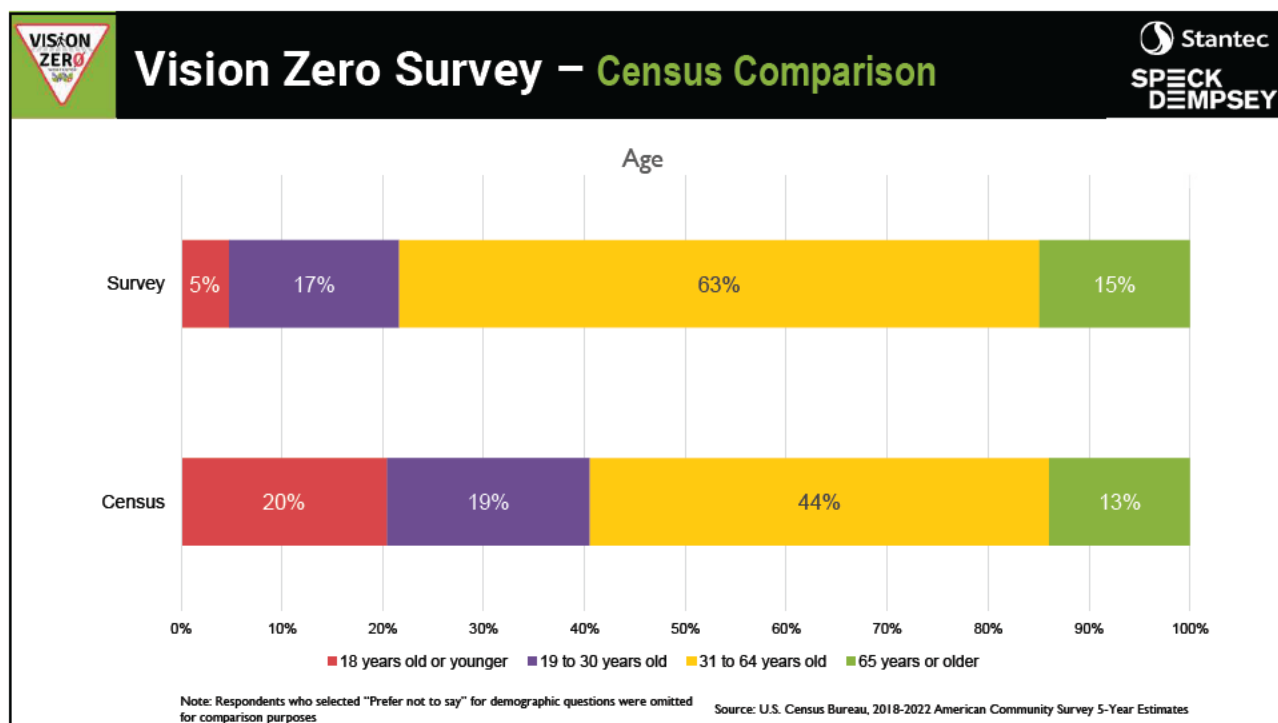
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Vision Zero Survey – Personal Stories



"Driving on Belmont Street last year, I slowed to come to a stop behind another vehicle that had stopped at a cross walk to allow a pedestrian to cross at a marked sidewalk. As a result of slowing down from the speed of traffic to a full stop and the excessive speed of the driver behind me, I was rear ended near Bell Hill Park and have suffered whiplash symptoms for over a year. I ... now fear that I might experience chronic pain for my foreseeable future. I think that traffic goes too fast on Belmont St to be safe for pedestrians or the drivers stopping for pedestrians."

-Black or African American person, 19-30 (\$100-150k household income)

"Was walking with my service dog. We had the walking light and a car turned into us. Luckily we weren't hurt. It was very scary and we specifically waited for the walking light not to have this happen"

- White/Caucasian person, 31-64 (\$100-150k household income)

"Our building ... has been hit 6 times in the last 10 years. A mini van ended up inside the office from one collision. We need speed bumps ... and better lighting. We also need the sidewalk extended so we can put bollards in front of our glass storefront. The excessive speeding in the very early morning hours is out of control."

- White/Caucasian person, 31- 64 (\$75-100k household income)

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Appendix B.

Engagement Phase 1 Summary

Worcester Vision Zero Safety Action Plan: Winter 2024 Engagement Events

State of our Streets Forum- February 29, 2024

Event Format and Details

Stantec and Speck Dempsey, together with the City of Worcester, held a public State of Our Streets forum at the Jean McDonough Arts Center (JMAC) in the center of downtown Worcester on February 29, 2024 beginning at 6:00pm and concluding at 8:00pm.

Event Attendees

Stantec attendance included Jason Schrieber (presenter), Catrina Meyer, Whitney Burdge, and Perri Sheinbaum. Speck Dempsey attendance included Jeff Speck (presenter) and Chris Dempsey. From Worcester's Department of Transportation & Mobility, Stephen Rolle, Betsy Goodrich, Todd Kirrane, Brian Pigeon, Afriany Ventura-Padilla, and Mary Turner participated. Other presenters included City Manager Eric Batista, and Worcester's Youth Poet Laureate Serenity Jackson.

The event was advertised to the broader public. Nearly 100 attendees included Worcester residents, business owners, other representatives from the City, including the Police Department, and representatives from advocacy groups.

Connection to the Overall Project Goals

The purpose of this event was to: 1) Introduce the concept of Vision Zero and best practice principles for walkable cities, 2) Take an unfiltered look at some of the real challenges Worcester is facing today as it continues to experience significant safety issues in the transportation network, and 3) Formally launch the effort towards developing a Vision Zero Safety Action Plan, with the goal of encouraging the audience to participate in the process and plan to support and advance the eventual recommendations resulting from the plan.

Evening Agenda

The evening commenced with an open house in the gallery portion of JMAC. Several poster boards were positioned on easels to allow visitors to view some of the early data collected by the project team, including the locations of crashes in recent years. Refreshments were provided.


The formal presentation took place in the theater space of JMAC. City Manager Eric Batista shared a welcome message prior to introducing Serenity Jackson who read a poem that she wrote, specifically on the topic of Vision Zero and safe streets. Jeff Speck, author of the book Walkable City shared a dynamic presentation on a range of transportation topics, including the evolution of how people move in cities, best practices for walkability seen around the country and the world, and his early observations about some of the potential opportunities on some of Worcester's streets. His presentation was followed by an introduction

by Project Manager Jason Schrieber on the timeline and intent of the Vision Zero Safety Action Plan to give attendees an understanding of what to expect in the coming months and how to stay tuned for opportunities to engage.

APPENDIX I

State of our Streets Forum Program

State of our Streets Forum Program



February 29, 2024

Tonight's Agenda

CITY MANAGER ERIC D. BATISTA

- Welcome

SERENITY JACKSON (WORCESTER YOUTH POET LAUREATE)





JEFF SPECK (WALKABLE CITY AUTHOR)

- Safe Streets Best Practice and State of Worcester's Streets

STANTEC

- Vision Zero Safety Action Plan Overview


This presentation is being recorded.




City of Worcester Vision Zero Plan

Walk and wheel with us on this journey!


Upcoming opportunities to engage




Online Survey
Live now!
Scan the QR code or visit <http://tinyurl.com/WVZSurvey>



2 Public Meetings
Late spring and early fall



Pop-up Events
Spring



Project Website
Ongoing updates!
<http://worcesterma.gov/mobility/vision-zero>





The attendees represented a wide range of people invested in Worcester



City Manager Eric Batista asks the audience to commit to Vision Zero planning effort

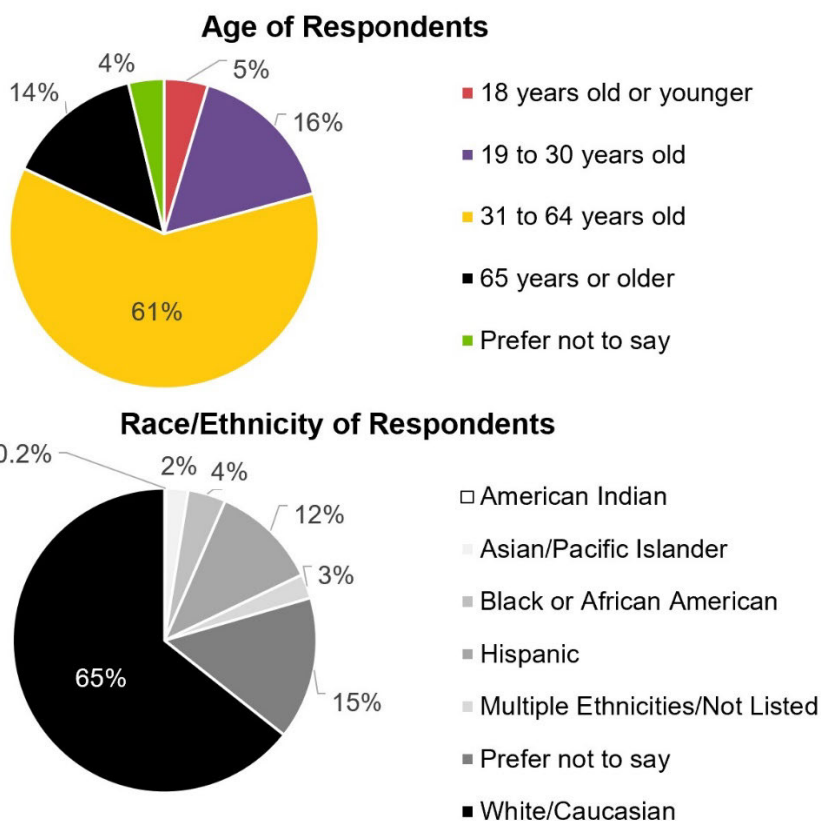
Public Survey

Format and Details

The public was invited to participate in a survey as the first outreach data collection effort in the Safety Action Plan process. The survey was originally advertised as being available online between February 29th and March 31st, 2024. The survey period was later extended through June 26th to allow for an increased number of participants, particularly those representing vulnerable communities. The survey was advertised and available in both English and Spanish. The community could access the survey either through a direct weblink or by scanning a QR code. The survey included several questions about safety generally, as well as an interactive component allowing respondents a chance to place virtual pins on a map of Worcester to identify locations of safety issues that they had observed or experienced.

Survey Participants


In total, 1,269 responses were received, and 744 virtual pins placed on the virtual map. 64 respondent zip codes were represented. 42 surveys were completed in Spanish. The age and race ratios of participants is identified below.



Connection to the Overall Project Goals

The survey information was used to support additional quantitative data analysis being conducted by the project team to inform the development of 1. A mapped Priority Network, and 2. a series of prioritized actions and policies to make Worcester's streets safer.

There were 744 comments across all modes.



Comment Theme	Count	% of total comments
Sidewalk	97	13%
Crossing	151	20%
Bicycle Lane	74	10%
Speeding	131	18%
Sight/Lighting	114	15%
Signals/Signage	84	11%
Sudden Stops	124	17%
Intersection	20	3%
Street Narrowing	76	10%
Multimodal Interaction	75	10%

A summary of the types of safety concerns raised in survey comments

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Appendix C.

Engagement Phase 2 Summary

Worcester Vision Zero Safety Action Plan: June 2024 Engagement Events Summary

Walk Audit 1: City View Elementary School

Event Format and Details

Stantec and the City of Worcester led a community walk audit in the City View Elementary School neighborhood on June 1, 2024, beginning at 10:00am and concluding at 11:30am.

Event Attendees

The walk audit was led by Stantec's Jason Schrieber, accompanied by Perri Sheinbaum. From Worcester's Department of Transportation & Mobility (DTM), Commissioner Stephen Rolle and Mary Turner participated. Sandy Amoakohene from Worcester's Division of Public Health co-led the walk audit with Jason Schrieber. Two public participants joined the community walk audit: Erin Derr, the Principal of City View Elementary School, and her daughter.

Connection to the Overall Project Goals

The purpose of this walk audit was to educate and build public awareness on how to assess roadway safety conditions in neighborhoods. While this walk audit was led by trained transportation and public health staff members, community members should feel empowered and learn to complete their own walk audits in their neighborhoods to be drivers of community change.

Existing Conditions and Comments Received

The route began at City View Elementary School, walking up Eastern Avenue to East Shelby Street. Participants noted the poor crosswalk connectivity at the intersection of these two streets. The route continued on East Shelby Street to the Cristoforo Colombo Park. Here, discussion focused on the lack of wayfinding signage and/or gateway signage to the park. The group continued down Gage Street to Berkeley Street, where the route deviated to the east and continued on Shamrock Street. There was group consensus that the sidewalks in the neighborhood were wide enough and allowed people to comfortably walk.

Upon reaching Shrewsbury Street by way of Shamrock Street, the discussion was mainly focused on the noise-level from passing traffic, the wide intersection, and unsafe crossing at the fork at East Central Street and Shrewsbury Street. Continuing west on East Central Street, the group noticed vehicles parked in crosswalks and an uncomfortable walking environment for pedestrians because they were close to traffic.

At the East Central Street, Eastern Avenue, Mulberry Street six-way intersection, three pedestrian crossings exist in order to reach the other side of the street. For those coming from East Central Street and arriving at Mulberry Street, this is unsafe, uncomfortable, and requires waiting for multiple traffic signals. Three legs of this intersection have channelized or slip lane right turns and one leg does not have a

crosswalk, further limiting pedestrian access and exposing pedestrians to risk. Potential improvements discussed for this intersection included: adding a roundabout, improving pedestrian signals, and adding a yield sign.


The walk audit continued up Mulberry Street, turning east onto Prospect Street to arrive back at the Elementary School. Observations on this segment included a lack of sidewalks on the southern side of the street and that the sidewalk on the north is not buffered from traffic, nor is it shaded. Students walking up the hill to the school would need to cross Mulberry Street to the sidewalk on the north side and cross at the entrance to the parking lot, where there is currently no crosswalk.



The Walk Audit group walks on an uneven driveway

APPENDIX I


Walk Audit Handout



Worcester Vision Zero Safety Action Plan

City View School Walk Audit

June 1 2024- 80 Prospect Street



Directions: Complete the check list for every block included on the route or specific segments between key intersections.

WALK AUDIT CHECKLIST: Location

SIDEWALKS

- ☐ No sidewalk or walking paths
- ☐ Sidewalk is not buffered from traffic
- ☐ Sidewalk has tripping hazards/is uneven
- ☐ Sidewalk is too narrow at obstructions (trees, poles, signs)
- ☐ Sidewalk is not continuous
- ☐ Sidewalk is not wide enough (two people cannot walk side by side)
- ☐ Sidewalk is not shaded

SAFETY

- ☐ No street lighting on sidewalks or near crosswalks
- ☐ No posted speed limits
- ☐ Crosswalk signs needed
- ☐ Wait for walk signal is long
- ☐ Walk time is too short
- ☐ Route does not feel safe or welcoming

STREET CROSSINGS

- ☐ Crosswalk is missing
- ☐ No curb ramp for strollers, wheelchairs, walkers, etc
- ☐ Curb ramp is not ADA compliant
- ☐ Road is too wide to cross safely
- ☐ Crossing needs pedestrian signal
- ☐ Poor sightline(s) to motorists
- ☐ Crossing markings are insufficient

DRIVER BEHAVIOR

- ☐ High speeds
- ☐ High speed turns
- ☐ Frequent lane changes
- ☐ Drivers do not stop at stop signs
- ☐ Drivers do not yield to pedestrians in crosswalk
- ☐ Drivers are distracted
- ☐ No on-street parking or buffer


CONNECTIONS

- ☐ More crosswalks needed
- ☐ Crossing is misaligned from desire line(s)
- ☐ Crossing is too far from intersection

COMFORT

- ☐ Missing benches and resting places
- ☐ No trash cans
- ☐ No on-street parking
- ☐ No street trees /shade
- ☐ No inviting storefronts
- ☐ No landscaping/grass/greenery

What else do you notice on your walk? Note any specific locations with problems or issues.



Worcester Vision Zero Safety Action Plan

City View School Walk Audit


June 1 2024- 80 Prospect Street



Please note your observations on the map

Walk Audit Agenda

9:50 am- Arrive and check in
10:00 am- Safety briefing and begin route
11:15 am- Complete the route
11:30 am- 3:00 pm Join us at the World of Foods Festival popup at Elm Park



For more information about this effort, visit worcestermma.gov/mobility

Summary of Map Comments

This route was primarily focused on Mulberry Street and East Central Street, with concerns about signals and crosswalks.

Location	Comment
Prospect St right past corner of Prospect & Mulberry	Grassy sidewalk
Mulberry St & East Central St	No detectable warning plates
East Central St approaching Mulberry	Slip lane does not have a yield sign
East Central St approaching Mulberry	Crossing blocked by car
Shamrock St & Shrewsbury St	Large intersection
Mulberry St & East Central St	No signal
East Central St approaching Mulberry	Dangerous crossing

Summary of Checklist Comments

Similar to map comments, the checklist focused on pedestrian crossings and the overall pedestrian network. Pedestrian facilities are not comfortable along the walking route, with missing crosswalks, sidewalks, and a lack of general maintenance. Additional measures are needed to ensure a safer walking experience.

Category	Note
Sidewalks	No sidewalk or walking paths
Sidewalks	Sidewalk is not buffered from traffic
Sidewalks	Sidewalk has tripping hazards/is uneven
Sidewalks	Sidewalk is not continuous
Sidewalks	Sidewalk is not shaded
Street crossings	Crosswalk is missing
Street crossings	No curb ramp
Street crossings	Poor sightlines to motorists
Street crossings	Crossing markings are insufficient
Driver behavior	Drivers do not stop at stop signs
Connections	More crosswalks needed
Comfort	Missing benches and resting places
Comfort	No trash cans
Comfort	No street trees
Other	Trash
Other	People aren't able to walk side by side
Other	No signage to fields/park
Other	More welcoming to Cristoforo Colombo Park
Other	Many apex ramps
Other	Shrewsbury/Shamrock intersection dangerous and wide



World of Food Event

Event Format and Details

Stantec and the City of Worcester tabled at the World of Food event on June 1, 2024, from 12:00-3:00pm at Elm Park in Worcester. From Stantec, Whitney Burdge, Perri Sheinbaum, and Jason Schrieber attended. From DTM, Brian Pigeon, Mary Turner, Afriany Ventura-Padilla, and Commissioner Stephen Rolle attended and provided valuable City input and expertise on the community.

The table welcomed event attendees to stop by and learn about Worcester Vision Zero. The tent included interactive boards with information for visitors to understand the overall concept of Vision Zero, data on Worcester crashes for people walking, biking, and driving, and to add their safety concerns to a map. The table also featured Vision Zero Safety Toolkits (a short booklet of information and interactive pages) for takeaway, bottles of water, engaging stickers for children, and a kit-of-parts activity for people to “redesign” Highland Street, the street in front of Elm Park. The activity allowed participants to assemble different cross sections for the street within the existing right-of-way using pre-made components. A poster also included a QR code that could be scanned for visitors to access the online survey and more information about the project through the DTM website.

Event Attendees

Generally, the overall event was very well-attended and attracted a crowd of diverse ages and ethnicities, likely including some of the City’s residents who are particularly vulnerable to crashes. More than 30 people stopped by to engage with the initiative, whether to voice opinions about locations of specific safety concerns, other transportation-related efforts in the City, or to simply grab a sticker for their child or engage with the kit-of-parts street redesign activity. Many of the attendees had not heard of Vision Zero prior to the event, and some were only aware of the Worcester Vision Zero project through exposure to the recent transportation changes implemented on Mill Street.

Connection to the Overall Project Goals

The purpose of this event was to “meet people where they are at” and reach a new group of Worcester residents and visitors who may not have previously heard of this initiative. The tabling materials sought to share information about Vision Zero and invite participation, primarily through the parallel online survey.



Afriany Ventura-Padilla, of DTM, engaging with community members

Walk Audit: Sullivan Middle School

Event Format Details

Stantec, with the City of Worcester, led a community walk audit in the Sullivan Middle School neighborhood on June 10, 2024, beginning at 3:00pm and concluding at 4:15pm.

Event Attendees

Stantec attendance included Jason Schrieber and Catrina Meyer. From Worcester's DTM Brian Pigeon participated. Sandy Amoakohene from Worcester's Division of Public Health co-led the walk audit with Jason Schrieber. Participants from the community included:

- City Council office representative
- Jay Patel – Central Massachusetts Regional Planning Commission (CMRPC)
- Eric Gemperline – CMRPC
- Karin Valentine Goins – Walk/Bike Worcester
- Liz Myska and sighted guide – Accessibility Advisory Commission
- Ernest Dominguez and child – Sullivan Middle School parent and student
- Steven Barrett and dog – Webster Square Neighborhood

Connection to the Overall Project Goals

The purpose of this walk audit was to educate and build public awareness on how to assess roadway safety conditions in neighborhoods. While this walk audit was led by trained transportation and public health staff members, community members should feel empowered and learn to complete their own walk audits in their neighborhoods to be drivers of community change.

Existing Conditions and Comments Received

The walk audit began at Sullivan Middle School where the group walked east on Apricot Street to Goddard Memorial Drive. On Apricot Street the group discussed the lack of crosswalks across Apricot Street, between the south side of the street and the north side where the school is located, a particular concern for

the attendees affiliated with the school. There are three driveway entrances to the Middle School and High School complex, and only the middle entrance, west of where the walk audit started, includes an Apricot Street crosswalk, making it difficult for even the closest students to access the school from the other side of Apricot Street.

On the driveway where the walk audit started, the group discussed access to the school. While there is a sidewalk on the driveway it is only present on one side of the driveway, the side further from the school and next to the fields, and it is narrow and in poor condition. Furthermore, there is only one opportunity to cross from the sidewalk to the school, located more than 400 feet down the driveway.

The group walked east on the north side of Apricot Street, which has a sidewalk; the south side does not have a sidewalk. Along Apricot Street the group noted that there was a landscaping buffer separating the sidewalk from the street. Still, wide lanes and fast-moving vehicles created a feeling of being unsafe. Adjacent to Parson's Cider Mill Park, the group remarked that it was good to see signs drawing attention to the entrance of the park, and that the entry seemed overgrown and not inviting. This segment also included a guardrail between the sidewalk and the roadway. While some participants noted that this guardrail made them feel safer, Jason shared that this treatment may give drivers the feeling of being on a highway thus indicating to drivers that it is acceptable to speed and reinforcing the unsafe conditions.

The Apricot Street and Goddard Memorial Drive intersection was under construction at the time of the walk audit, but the group was still able to cross the intersection. This intersection has four lanes on each Goddard Memorial Drive leg and three lanes on each Apricot Street leg. Here the group discussed the large turning radii at the intersection corners, contributing to the long crossing distances. Only two legs of the intersection have crosswalks, north and east, making it difficult to connect to Main Street on foot, because one has to first travel to the east side of Goddard Memorial Drive before they can cross Apricot Street to travel south, the path that the group followed.

The group then continued south, down Goddard Memorial Drive to Main Street, taking a different direction than originally planned on the map. At Main Street and Goddard Memorial Drive the group noted that the recent restriping on the north leg was an improvement because it used striping to reduce the curb radius and replaced a left turn lane with a painted median. The group also noted the difference between the large turning radii on the north leg compared to much smaller turning radii on the south, New Ludlow Street, leg.

On the south side of Main Street, the primary concern was a narrow sidewalk with frequent obstructions. Some of these obstructions included businesses using the sidewalks for signs and storage. At Main Street and Apricot Street, the group crossed back to the north side of Main Street at an uncontrolled crossing. Participants felt that this crossing was very unsafe because there is no traffic control device (flashing beacon, stop sign, etc.) and there are two lanes in each direction, so pedestrians must rely on four cars to stop.

Top observations included: many sidewalk obstructions, making it difficult to walk safely with trees and/or poles blocking the way; high speeding vehicles; sidewalk has tripping hazards and is not continuous; and more crosswalks needed. Others noted that the streets are very wide and not conducive to pedestrian safety or comfort.





The Walk Audit participants stop to discuss the condition of the sidewalk and its surrounding



Appendix 1

Walk Audit Handout

VISION ZERO Worcester Vision Zero Safety Action Plan
Sullivan School Walk Audit
June 10 2024- 140 Apricot Street

Directions: Complete the check list for every block included on the route or specific segments between key intersections.

WALK AUDIT CHECKLIST: Location _____

SIDEWALKS

- ☐ No sidewalk or walking paths
- ☐ Sidewalk is not buffered from traffic
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- ☐ Sidewalk is too narrow at obstructions (trees, poles, signs)
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- ☐ Poor sightline(s) to motorists
- ☐ Crossing markings are insufficient

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- ☐ Wait for walk signal is long
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- ☐ Missing benches and resting places
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What else do you notice on your walk? Note any specific locations with problems or issues.

VISION ZERO Worcester Vision Zero Safety Action Plan
Sullivan School Walk Audit
June 10 2024- 140 Apricot Street

Please note your observations on the map

Walk Audit Agenda
2:50 pm- Arrive and check in
3:00 am- Safety briefing and begin route
4:15 am- Complete the route

For more information about this effort, visit worcesterna.gov/mobility

Summary of Map Comments

Apricot Street had the highest number of map comments; these comments focused on issues related to traversing sidewalks safely.

Location	Comment
School driveway at Apricot St	Not ADA compliant
Apricot St between Dracut and Gould Hill	Low on Signages
Apricot St at Gould Hill Rd	Obstruction
Apricot St near Armandale St	Obstruction
Apricot and Goddard Memorial Dr	Complex intersection
Sidewalk on right side of Goddard Memorial Dr	Sidewalk not maintained



Summary of Checklist Comments

Similar to the map comments, the most common issue was sidewalk obstruction. The sidewalks on this walk audit were not a comfortable or safe environment for pedestrians.

Category	Note	Count
Sidewalks	Sidewalk has tripping hazards/is uneven	3
Sidewalks	Sidewalk is too narrow at obstructions (trees, poles, signs)	4
Sidewalks	Sidewalk is not continuous	3
Sidewalks	Sidewalk is not wide enough (two people cannot walk side by side)	2
Sidewalks	Sidewalk is not shaded	2
Sidewalks	Sidewalk not buffered from traffic	1
Street Crossings	Crosswalk is missing	2
Street Crossings	Road is too wide to cross safely	2
Street Crossings	Crossing needs pedestrian signal	2
Street Crossings	Crossing markings are insufficient	1
Street Crossings	No curb ramp	1
Street Crossings	Poor sightline to motorists	1
Street Crossings	Curb ramp is not ADA compliant	1
Driver Behavior	No on-street parking or buffer	1
Driver Behavior	High speeds	4
Driver Behavior	high speed turns	3
Driver Behavior	Drivers to not yield to pedestrians in crosswalk	2
Connections	More crosswalks needed	3
Connections	Crossings misaligned from desire line	1
Safety	No street lighting on sidewalks or near crosswalks	1
Safety	No posted speed limits	2
Safety	Crosswalk signs needed	2
Safety	Route does not feel safe or welcoming	2
Safety	Wait for walk signal is too long	1
Comfort	No on-street parking	1
Comfort	No inviting storefronts	1
Comfort	No landscaping/greenery	2
Comfort	Missing benches and resting places	1
Other	No one clears island in street at Goddard & Apricot	1
Other	Overgrown grasses	1
Other	Sidewalk not wide enough	1
Other	Signs faded for bus and crosswalk	1
Other	No school sign	1
Other	No crosswalk on merchant and Apricot	1

Other	No sign or signal	1
Other	France Square no signs for crossing	1
Other	Crosswalks too narrow to be visible to drivers	1
Other	little to no street trees	1
Other	Access to park/trail	1
Other	Unkempt properties/overgrown bush	1
Other	Signage for new traffic patterns	1
Other	Sunken curbs	1
Other	End of sidewalk network	1
Other	Overgrown trees	1
Other	signal on Main St by Goddard Dr in front of tap is behind guard rail and crosswalk is 7ft to left of signal	1
Other	Wide turning radius	1
Other	Driveway slope violates sidewalk	1
Other	LOUD on Main St	1
Other	No greenery	1
Other	No signals audible	1

Tactical Demonstration Project

Event Format and Details

Stantec, in partnership with the City of Worcester, helped lead and execute an intensive day of public outreach, including three unique events at Vernon Hill Elementary School to promote Vision Zero principles, highlight road safety challenges, and showcase potential solutions in action. This event occurred on **June 10th, 2024**, from **9:00am-4:00pm** at Vernon Hill Elementary School on Providence Street.

The following representatives from various organizations participated during some or all of the day's events:

DTM- Commissioner Stephen Rolle; Todd Kirrane; Betsy Goodrich; Brian Pigeon; Afriany Ventura-Padilla, Pedro Shimizu Costa; Mary Turner

Stantec- Whitney Burdge; Catrina Meyer; Yeojin Kim; Jason Schrieber

Speck Dempsey- Clara de Castro; Sulaya Ranjit

CMRPC- Yahaira Graxirena; Eric Gemperline

MassBike- Michael O'Neill; Jacob Evangelista

Worcester Earn-A-Bike- Brian Monteverde

Worcester Police Department- Officer Rudis R. Rodriguez



Representatives from the following organizations visited during a portion of the day's events:

Worcester City Council- George Russell, District 3 City Councilor

Worcester Public Schools- Matt Morse, Ryan Hacker

Vernon Hill Elementary School- Craig Dottin; Kelly Boyd

Worcester Public Health Department- Sandy Amoakohene

Worcester Department of Public Works

Garden Fresh

Representatives from the following organizations also assisted in planning for a component of the day's events:

WRTA- Nick Burnham; Jamie Winters

Worcester Fire Department

Worcester Department of Public Works & Parks (DPW&P)- Richard Saltrick

Massachusetts Safe Routes to School Program- Maggie Burke (AECOM)

MassBike- Galen Mook; Alex Salcedo

Event Components

Tactical Demonstration Project

The first portion of the day involved installation of an in-street, temporary demonstration of safety improvements on Providence Street. The demonstration project intended to use a combination of highly-visual techniques to both calm traffic speeds immediately outside the Elementary School along Providence Street, as well as integrate and test out a protected bicycle lane. With the assistance of the Police Department and DPW, the segment of Providence Street between Ames Street and Astrid Avenue was closed to vehicle traffic between 9:00am and 1:30pm.

The Stantec, Speck Dempsey, and DTM team members installed the essential elements of the project including: temporary reflective white striping for a 6-foot bike lane with a 4-foot buffer, traffic cones to delineate the buffer, hay wattles to create curb bumpouts at existing crosswalks, additional color at existing crosswalks, advanced yield markings for the central crossing in front of the school, and the outline for a zig-zag design in the center of the Upsala Street intersection.

From 10:45-11:30am, a 4th and a 5th grade class (with approximately 15 students each) joined the team to help paint the zig-zag design in the Upsala Street intersection. The students also painted handprints, using temporary paint, in the shoulder in front of the school entrance. Following completion of the installation, the street was reopened for school dismissal, allowing typical pedestrian and vehicle traffic through and buses to pick up students. The final installation is shown below.

The temporary installation was removed by 4:00PM. The colorful paint in the Upsala Street intersection and the other crosswalks remained and the Department of Transportation & Mobility came in after the event to add a permanent version of the white advanced yield markings for the central crossing and touchup the white paint on the crosswalks.



Students assist the team with painting the central school crossing area



School children and the public experience the demonstration project after school

Bike Rodeo and Pop-Up Event

After the school day, students were invited to participate in a bike rodeo that began in the school playground. The event was advertised ahead of time in English, Spanish, and Portuguese to encourage participation. Two representatives from MassBike led the students through exercises to learn about safe practices and help them become more comfortable riding bikes. Bicycles and helmets were provided during the bike rodeo for students who did not own or bring them. Once the educational portion of the rodeo was complete, the students put safe urban biking skills into practice and got to experience the temporary bike lane. MassBike leaders led the bicycling students, in a single row, around a circuit from the playground and to/along the temporary bike lane that was established on the street.

At the front of the school, a tent and table were set up to allow bike rodeo attendees, their families, other students, and the general public to come and learn about Worcester Vision Zero. The tent included interactive boards with information for visitors about the overall concept of Vision Zero, data on Worcester crashes for people walking, biking, and driving, and the opportunity to add their safety concerns to a map.

The table also featured Vision Zero Safety Toolkits for takeaway, bottles of water, apples, and granola bars (donated by Garden Fresh), engaging stickers for children, and a kit-of-parts activity for people to “redesign” Providence Street. A poster also included a QR code that could be scanned if visitors wanted to find more information about the project through the DTM website. Staff members were on hand to communicate in Spanish or Portuguese, if needed.



Bike rodeo participants test out the temporary bike lane (l). The pop-up tent had a good level of visitors and general participation (r).

Map My Route Activity

During the school day while the team was assembling the street improvements, teachers helped students complete a Map My Route activity to provide an understanding of where children perceive transportation challenges and to help them learn how to identify issues. Each child was given a map to draw the route from their home to school, and to mark locations of safety challenges. The combined information will help the team identify priority solutions. To encourage participation in the activity, five students were randomly selected to receive an award of a bike light, for completion of the activity.



A sample completed Map My Route activity page (l). A map developed by DTM staff to indicate all locations where students identified challenging places on their routes (r).

Event Attendees

Generally, the Vernon Hill School events were well-attended and attracted interest and positive response from those who utilized the improved street infrastructure or who were driving by. Many people stopped by the pop-up tent but did not spend much time engaging with the details of the materials being shared. The students who participated in the bike rodeo generally shared positive feedback. Parents and crossing guards shared gratitude and positive feedback for the project because it slowed drivers on Providence Street making them feel safer and feel that their students would be safer.

Connection to the Overall Project Goals

This event sought to show the Worcester community that transportation safety improvements can be fun and effective. The event aimed at overcoming the barrier and opposition that people can feel about something they have never seen or experienced before. By seeing and experiencing a different street design, people can take that experience to their neighbors and communities, to create a broader understanding of what safer streets look like. Furthermore, the event demonstrated how much change can be done in a short period of time and with more affordable resources than a full street reconstruction. The purpose of this event was also to engage with a younger resident group in Worcester, to both understand the perspective of children about safety concerns and promote a better understanding of street safety and the topic of Vision Zero to a group who may not have been otherwise familiar with it.

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Appendix D.

Engagement Phase 3 Summary

Worcester Vision Zero Safety Action Plan: September 2024 Priority Network Walk Audits Summary

Connection to the Overall Project Goals

This round of walk audits was scheduled on five locations that were identified as part of Worcester's Priority Network. Corridors on the High Injury Network that also met other community thresholds and have been identified for near-term priority investment as part of the Vision Zero program. The purpose of these five walk audits was to work with the community to understand safety concerns and ideate potential solutions. These events offered an opportunity for a dialogue between community members and leaders to educate and build public awareness on how to identify safety conditions in neighborhoods. While this walk audit was led by trained transportation and public health staff members, community members should feel empowered and learn to complete their own walk audits in their neighborhoods to be drivers of community change.

Walk Audit 1: Belmont Street West

Event Format Details

Stantec, together with the City of Worcester, led a community walk audit on Belmont Street near the Belmont Street Community School and the UMass Medical Memorial Campus. The walk audit took place on September 9th, beginning at 3:00pm and concluding at 4:15pm.

Event Attendees

In total, 36 people attended, including 32 members of the public. Some attendees of note included:

- From Worcester's Department of Transportation & Mobility (DTM), Betsy Goodrich, Scott Galbraith, Jason Ly, and Brian Pigeon
- Ben Franzone and Kayanna James represented State Senator Kennedy's office
- City Councilor Candy Mero-Carlson
- Chief Martin Dyer of the Worcester Fire Department
- Sandy Amoakohene (formerly) from Worcester Division of Public Health (DPH)
- Olivia Houle from Worcester's Planning Department
- Worcester School Committee Member Susan Coghlin Mailman
- Members of the Worcester Public School staff, including Matt Morse, Assistant Principal Mike Dunphy, and Principal Jen Keating

- Nathan Lewis from CMRPC
- Administrator Joshua Richman and Assistant General Manager Joseph Cambell of the WRTA
- Karin Valentine Goins from Walk/Bike Worcester
- Dan Reidy from Spectrum News

The Stantec team, led by Jason Schrieber led the walks audit, supported by, Catrina Meyer, Yeojin Kim, and Tim Dowling.

Existing Conditions and Comments Received

The Walk Audit group met at Belmont Street Community School, and then headed east walking up the hill to the basketball court by Bell Hill Park. It was noted that vulnerable users, especially children, walk along the sidewalk and use the crosswalk to access the basketball court and the park. The group noted the vehicles driving at high speeds down the hill along Belmont Street and the lack of protection for pedestrians crossing the street. This highlighted the need for safer crossings.

The group then walked west down Belmont Street and paused between Everal Street and Elizabeth Street. It was noted that due to the steep terrain, vehicles speed down the street and with minimal barrier between the sidewalk and the traffic lane this segment of Belmont is unsafe for pedestrians. The group noted drivers do not yield to pedestrians crossing the street and discussed street design elements such as curb extensions and pedestrian signals that can improve safety for pedestrians. The pedestrian bridge by Belmont Street Community School is not well utilized and the group noted that it does not fit the scale of the neighborhood.

The group continued down to the UMass Memorial Medical Center. The group highlighted potential opportunity to partner with the hospital to improve walkability on Belmont Street and reduce crash fatalities and severe injuries. While some noted the need for wide travel lanes and removing obstruction for emergency vehicles accessing the hospital, others voiced concerns regarding unsafe road conditions, speeding vehicles, and lack of safe pedestrian infrastructure that may result in severe injury and fatal crashes right outside the hospital.



The Walk Audit participants squeeze at the narrow sidewalk by the barber shop to discuss and complete the checklist.

Appendix

Walk Audit Handout

Worcester Vision Zero Safety Action Plan
Walk Audit 1: Belmont Street
September 9, 2024

Directions: Complete the check list for every block included on the route or specific segments between key intersections.

WALK AUDIT CHECKLIST: Location _____

SIDEWALKS

- ☐ No sidewalk or walking paths
- ☐ Sidewalk is not buffered from traffic
- ☐ Sidewalk has tripping hazards/is uneven
- ☐ Sidewalk is too narrow at obstructions (trees, poles, signs)
- ☐ Sidewalk is not continuous
- ☐ Sidewalk is not wide enough (two people cannot walk side by side)
- ☐ Sidewalk is not shaded

STREET CROSSINGS

- ☐ Crosswalk is missing
- ☐ No curb ramp for strollers, wheelchairs, walkers, etc
- ☐ Curb ramp is not ADA compliant
- ☐ Road is too wide to cross safely
- ☐ Crossing needs pedestrian signal
- ☐ Poor sightline(s) to motorists
- ☐ Crossing markings are insufficient

DRIVER BEHAVIOR

- ☐ High speeds
- ☐ High speed turns
- ☐ Frequent lane changes
- ☐ Drivers do not stop at stop signs
- ☐ Drivers do not yield to pedestrians in crosswalk
- ☐ Drivers are distracted
- ☐ No on-street parking or buffer

CONNECTIONS

- ☐ More crosswalks needed
- ☐ Crossing is misaligned from desire line(s)
- ☐ Crossing is too far from intersection

SAFETY

- ☐ No street lighting on sidewalks or near crosswalks
- ☐ No posted speed limits
- ☐ Crosswalk signs needed
- ☐ Wait for walk signal is long
- ☐ Walk time is too short
- ☐ Route does not feel safe or welcoming

COMFORT

- ☐ Missing benches and resting places
- ☐ No trash cans
- ☐ No on-street parking
- ☐ No street trees /shade
- ☐ No inviting storefronts
- ☐ No landscaping/grass/greenery

What else do you notice on your walk? Note any specific locations with problems or issues.

Worcester Vision Zero Safety Action Plan
Walk Audit 1: Belmont Street
September 9, 2024

Please note your observations on the map

Walk Audit Agenda
2:50 pm- Arrive and check in
3:00 pm- Safety briefing and begin route
4:15 pm- Complete the route

For more information about this effort, visit worcestermg.gov/mobility

Summary of Map Comments

Location	Comment
Hospital	Collaboration with health facilities to improve walkability
Oak Avenue @ Belmont St	Traffic signal needed
Non-specific	Key bus route, businesses, hospital, food
Pedestrian bridge	Pedestrian bridge area doesn't work at a neighborhood scale. What would work instead? Curb extensions?
Elizabeth St	Not walking friendly!
Eastern Ave	Wide width. Lighting could be better
Hooper St @ Belmont	Need traffic light



Summary of Checklist Comments

Category	Note	Count
Sidewalks	No sidewalk or walking paths	
Sidewalks	Sidewalk is not buffered from traffic	3
Sidewalks	Sidewalk has tripping hazards/is uneven	2
Sidewalks	Sidewalk is too narrow at obstructions (trees, poles, signs)	2
Sidewalks	Sidewalk is not continuous	
Sidewalks	Sidewalk is not wide enough	1
Sidewalks	Sidewalk is not shaded	2
Street Crossings	Crosswalk is missing	
Street Crossings	No curb ramp for strollers, wheelchairs, walkers, etc.	
Street Crossings	Road is too wide to cross safely	4
Street Crossings	Crossing needs pedestrian signal	3
Street Crossings	Curb ramp is not ADA compliant	1
Street Crossings	Poor sightline(s) to motorists	2
Street Crossings	Crossing markings are insufficient	2
Driver behavior	High speeds	5
Driver behavior	High speed turns	3
Driver behavior	Frequent lane changes	2
Driver behavior	Drivers do not stop at stop signs	
Driver behavior	Driver to not yield to pedestrians in crosswalk	3
Driver behavior	Drivers are distracted	2
Driver behavior	No on-street parking or buffer	4
Connections	More crosswalks needed	1
Connections	Crossing is misaligned from desire lines	
Connections	Crossing is too far from intersection	1
Safety	No street lighting on sidewalks or near crosswalks	1
Safety	No posted speed limits	1
Safety	Crosswalk signs needed	3

Safety	Wait for walk signal is too long	
Safety	Walk time is too short	
Safety	Route does not feel safe or welcoming	4
Comfort	Missing benches and resting places	2
Comfort	No trash cans	2
Comfort	No on-street parking	3
Comfort	No street trees/shade	2
Comfort	No inviting storefronts	1
Comfort	No landscaping/grass/greenery	2
Other	No guardrail between me and cars	1
Other	Motor bike on sidewalk	1
Other	Speed, speed, speed	1
Other	Shark teeth/raised x-waves	1
Other	Reduce width and # of travel lanes	1
Other	Flexible bollards along yellow line - cars drive on wrong side of road to get around traffic to make left turn	1
Other	Bus stop with bump out	1
Other	Traffic lights on Hooper St and Belmont	1



Walk Audit 2: Belmont Street East

Event Format Details

Stantec, together with the City of Worcester, led a community walk audit on Belmont Street between Shrewsbury Street and Lake Ave, near the UMass Memorial University Campus. The walk audit took place on September 9th, beginning at 5:00pm and concluding at 6:00pm.

Event Attendees

In total, 29 people attended, including 25 members of the public. Some attendees of note included:

- From Worcester's DTM, Scott Galbraith, Brian Pigeon, and Betsy Goodrich
- State Senator Robyn Kennedy
- City Councilors Candy Mero-Carlson and Khrystian King
- Members of the Worcester Public School staff, Kelly McNamara, Matt Morse, Charles Kline, and Assistant Principal Mike Dunphy.
- Administrator Joshua Richman and Assistant General Manager Joseph Cambell of the WRTA
- Karin Valentine Goins from Walk/Bike Worcester
- Nathan Lewis from CMRPC

The Stantec team, led by Catrina Meyer led the walks audit, supported by, Jason Schrieber, Yeojin Kim, and Tim Dowling.

Existing Conditions and Comments Received

The route began at the intersection on Shrewsbury St and Aitchison St. The group first walked southwest down Shrewsbury Street towards a recent crash site, where it was noted that the pedestrian crossing signal was not operational. Next, the group walked east on Belmont Street to the Plantation Street intersection. With three lanes one direction and five lanes in the other direction, the crosswalks were very long. Some members of the group had vision impairments and used canes. These group members remarked that the pedestrian signal is not long enough for them to cross at a comfortable pace.

The group was split off as the latter half of the group did not have enough time to make it to the other end of the Belmont Street. While waiting at the northeast corner of the Belmont Street and Plantation Street intersection, the group noted the wide turning radii southbound on Plantation Street and wide slip lane entering northbound Plantation Street which allows drivers to take a fast, swooping right turn. The group observed there is a bicycle lane present heading westbound on Belmont Street, but it is highly inadequate. The bicycle lane sits between the right-turn slip lane and the travel lanes. There is no physical protection, or paint to define the lane, making cyclists vulnerable to vehicles using the right-turn slip lane.

The group continued east down Belmont Street, stopping in front of a driveway to the UMass Memorial Campus. At this location, the group first discussed the lack of pedestrian connectivity across Belmont Street. One member remarked that many students live in the neighborhood south of Belmont Street, and then often jaywalk across the six lanes of traffic in order to reach the campus on the north side. This is because there is over 2000 feet between designated crossings on Belmont Street. The group then discussed different ways that safer crossings could be established on the street, such as reducing the number of lanes, and adding rectangular rapid flashing beacons (RRFB) and high-intensity activated crosswalk beacon (HAWK) signal crossings. Next, the group noted the poor state of the sidewalk. Many stones and loose debris from the adjacent wall had crumbled onto the sidewalk, posing tripping hazards - especially for those using a cane.



Catrina Meyer, the consultant project manager, introduces the goal and context for Walk Audit

Appendix

Walk Audit Handout

Worcester Vision Zero Safety Action Plan
Walk Audit 2: Belmont Street
 September 9, 2024

Directions: Complete the check list for every block included on the route or specific segments between key intersections.

WALK AUDIT CHECKLIST: Location _____

SIDEWALKS

- ☐ No sidewalk or walking paths
- ☐ Sidewalk is not buffered from traffic
- ☐ Sidewalk has tripping hazards/is uneven
- ☐ Sidewalk is too narrow at obstructions (trees, poles, signs)
- ☐ Sidewalk is not continuous
- ☐ Sidewalk is not wide enough (two people cannot walk side by side)
- ☐ Sidewalk is not shaded

STREET CROSSINGS

- ☐ Crosswalk is missing
- ☐ No curb ramp for strollers, wheelchairs, walkers, etc.
- ☐ Curb ramp is not ADA compliant
- ☐ Road is too wide to cross safely
- ☐ Crossing needs pedestrian signal
- ☐ Poor sightline(s) to motorists
- ☐ Crossing markings are insufficient

DRIVER BEHAVIOR

- ☐ High speeds
- ☐ High speed turns
- ☐ Frequent lane changes
- ☐ Drivers do not stop at stop signs
- ☐ Drivers do not yield to pedestrians in crosswalk
- ☐ Drivers are distracted
- ☐ No on-street parking or buffer

CONNECTIONS

- ☐ More crosswalks needed
- ☐ Crossing is misaligned from desire line(s)
- ☐ Crossing is too far from intersection

SAFETY

- ☐ No street lighting on sidewalks or near crosswalks
- ☐ No posted speed limits
- ☐ Crosswalk signs needed
- ☐ Wait for walk signal is long
- ☐ Walk time is too short
- ☐ Route does not feel safe or welcoming

COMFORT

- ☐ Missing benches and resting places
- ☐ No trash cans
- ☐ No on-street parking
- ☐ No street trees / shade
- ☐ No inviting storefronts
- ☐ No landscaping/grass/greenery

What else do you notice on your walk? Note any specific locations with problems or issues.

Worcester Vision Zero Safety Action Plan
Walk Audit 2: Belmont Street
 September 9, 2024
 Please note your observations on the map

Walk Audit Agenda
 4:50 pm- Arrive and check in
 5:00 pm- Safety briefing and begin route
 6:15 pm- Complete the route

START HERE

Belmont St

For more information about this effort, visit worcestermay.gov/mobility

Summary of Map Comments

Location	Comment
Atchinson St @ Belmont St	No ped button
Belmont St slip lane onto Plantation	Ped button does not work
Non-specific	Music, police, LOUD
Belmont St sidewalk	Spike from cut off sign
Plantation St	"Right lane must turn right" violation
Plantation St @ Belmont intersection	Quick slip lane
Plantation St @ Belmont intersection	Swoopy right turn
Plantation St @ Belmont intersection	30 second crossing
Plantation St @ Belmont intersection	Slip lane

Plantation St @ Belmont intersection	Two legs to cross
Plantation St @ Belmont intersection	Pedestrian flashed 30 seconds, then stopped showing
Plantation St @ Belmont intersection	Slip lane ped signal doesn't work
Bemont St	Med students run across at night
Bemont St	Needs shade!
Bemont St @ Locust Ave	Desire line
Bemont St @ Locust Ave	Nowhere to go....wall
Non-specific	2400ft between crosswalks
Non-specific	Horn count: 7
Belmont @ Dustin St	Major desire path
Non-specific	Truncated dome facing the wrong way beeps from the pedestrian signal
Non-specific	Crosswalk button should be a chirper
Non-specific	Would like ladder crosswalks
Non-specific	No protection on sidewalk
Shrewsbury Street @ Belmont	Confusing car intersection makes unpredictable driver behavior
Belmont St	No crossing here, nowhere to hide
Neighborhood streets	I don't think parking is helpful here, more protected bike lanes, trees, etc.
Plantation St @ Belmont intersection	Turn lane accommodates a lot of cars
Plantation St @ Belmont intersection	Bike lane is only on slip lane
Shrewsbury Street @ Atchinson	No PB
Shrewsbury St @ Belmont	Can't cross Belmont
Non-specific	Take queues from Kelley Sq, peanut wall direct pedestrians
Plantation St @ Belmont intersection	Pothole in sidewalk
South Rd	Fencing for pedestrian "herding"
Belmont St	Remember winter travel - ICE

Summary of Checklist Comments

Category	Note	Count
Sidewalks	No sidewalk or walking paths	
Sidewalks	Sidewalk is not buffered from traffic	5
Sidewalks	Sidewalk has tripping hazards/is uneven	5

Sidewalks	Sidewalk is too narrow at obstructions (trees, poles, signs)	4
Sidewalks	Sidewalk is not continuous	
Sidewalks	Sidewalk is not wide enough	
Sidewalks	Sidewalk is not shaded	5
Street Crossings	Crosswalk is missing	
Street Crossings	No curb ramp for strollers, wheelchairs, walkers, etc	
Street Crossings	Road is too wide to cross safely	6
Street Crossings	Crossing needs pedestrian signal	4
Street Crossings	Curb ramp is not ADA compliant	2
Street Crossings	Poor sightline(s) to motorists	2
Street Crossings	Crossing markings are insufficient	1
Driver behavior	High speeds	6
Driver behavior	High speed turns	4
Driver behavior	Frequent lane changes	2
Driver behavior	Drivers do not stop at stop signs	
Driver behavior	Driver to not yield to pedestrians in crosswalk	5
Driver behavior	Drivers are distracted	2
Driver behavior	No on-street parking or buffer	4
Connections	More crosswalks needed	3
Connections	Crossing is misaligned from desire lines	3
Connections	Crossing is too far from intersection	1
Safety	No street lighting on sidewalks or near crosswalks	1
Safety	No posted speed limits	2
Safety	Crosswalk signs needed	
Safety	Wait for walk signal is too long	5
Safety	Walk time is too short	5
Safety	Route does not feel safe or welcoming	6
Comfort	Missing benches and resting places	4
Comfort	No trash cans	5
Comfort	No on-street parking	5

Comfort	No street trees/shade	5
Comfort	No inviting storefronts	4
Comfort	No landscaping/grass/greenery	5
Other	Flashing lights insufficient to stop traffic esp. at bottom of hill	1
Other	6 lanes is too many!	1
Other	LOUD!	1
Other	Highway design, not a street	1
Other	Narrow and add trees to side to narrow driver vision	1
Other	Consider reducing lanes to reuse space in a better way: BRT, raised bike lanes, parkway with benches?	1
Other	Caught-in-between accident waiting to happen	1
Other	Have speed bumps	1
Other	Travel lanes don't need to be this wide	1
Other	1 lane & 2 lanes @ intersection to have buffer	1
Other	While some one is crossing, people zoom past when they haven't fully crossed	1
Other	No ped crossing buttons	1
Other	Desire path across Belmont St (med students use)	1
Other	Stones fell out of wall near Beachwood Hotel	1
Other	Holes in crosswalks	1
Other	Call buttons don't work	1
Other	Pieces of sign post on sidewalk @ 495 Shrewsbury St	1
Other	No button on walk at Shrewsbury St near McDonalds	1
Other	Crosswalk needed @ Dustin	1
Other	Street lights in the middle of sidewalk	1
Other	McDonald's no button at Achinson St	1
Other	Shrewsbury St Garden Planting in the median strip	1
Other	Add fence like South Rd at Umass	1
Other	Very loud + distressing	1
Other	Discarded sharps	1
Other	Near Atchinson - 6" of cut signpost coming out of sidewalk, another one ON Atchinson	1
Other	Lots of overgrown shrubs=gives the impression no one cares about the neighborhood	1
Other	Curved right lane = fast vehicles	1
Other	Tripping hazard IN the crosswalk	1
Other	Remove 1 lane of traffic	1
Other	No ped access from neighborhood south of Rt 9 to the Hospital, need a crosswalk + sidewalks on Umass campus	1



Other	Need traffic slowing measures - speed humps and additional light between lake + Plantation st	1
Other	Flashing lights @ crosswalk as a minimum	1
Other	Add a full set of lights midway down Belmont (HAWK)	1
Other	As a physician at Umass, I have always been shocked at how unfriendly Belmont St. is for all non-motorist. A fully overhead traffic signal with lights is needed for pedestrians to cross Belmont St to Umass. Belmont & Plantation is a terrible intersection that needs making for diagonal crossings with long times to cross - Alex Wenk-Bodenmiller, MD	1

Walk Audit 3: Lincoln Street

Event Format Details

Stantec, together with the City of Worcester, led a community walk audit on Lincoln Street between Beverly Road and Tyler Prentice Road. The walk audit took place on September 9th, beginning at 6:00pm and concluding at 7:15pm.

Event Attendees

In total, 23 people attended, including 21 members of the public. Some attendees of note included:

- From Worcester's DTM, Pedro Shimizu Costa and Betsy Goodrich
- State Senator Robyn Kennedy
- Worcester City Council Jenny Pacillo
- Members of the Worcester Public School staff, Karen Allen, Matthew Heenan, and Matt Morse
- Adam Wriggins from CMRPC
- Karin Valentine Goins from Walk/Bike Worcester

The Stantec team, led by Jason Schrieber led the walks audit, supported by Yeojin Kim.

Existing Conditions and Comments Received

This Walk Audit route started at the intersection by Lincoln Street and Country Club Boulevard. The travel lanes are wide with two to three lanes in each direction. The center median ends at the stop bar and do not extend further to create a pedestrian refuge island. As the group walked and rolled across the street from the south to the north, they noted the long and exposed crosswalks, wide intersection with wide turning radii that feel unsafe for pedestrians. The Stantec team found a major issue with the traffic signals as the perpendicular traffic signal turned green while the pedestrian signal signified to walk creating conflict between the pedestrian and drivers. While there are bicycle lanes on both side of Lincoln Street, the group remarked that there were no barriers between travel lane and the bicycle lane.

The group continued to walk up along the northeastern side of Lincoln Street. The sidewalk was narrow making it uncomfortable and unsafe for two people to walk next to each other. Alongside Che! Empanada and AutoZone, the group highlighted an obstruction, further narrowing the sidewalk. Crossing the street by Lincoln Street School, the group remarked that the crosswalk was shorter with a pedestrian median island and a pedestrian signal which was different than the other crosswalks on Lincoln Street. The group paused by Lincoln Street School and discussed further treatments that can be implemented on Lincoln Street to improve safety especially for students and people accessing businesses and retails in the area by foot.

While the official walk audit ended at Lincoln Street School due to time constraints, a few residents and the consultant team walked to the southwestern end of the Walk Audit route in the dark. The residents noted that the light pole by Trinity Ave and Lincoln Street intersection obstructs driver's view turning right and creates conflict with pedestrians crossing the street. As the light pole was present in the past, a resident



fondly shared memories of childhood playing by the light pole but remarked that a creative solution is needed to protect pedestrians crossing the street while preserving the light pole.



The Walk Audit participants highlight the long and exposed crosswalks and the traffic signal issue at the Lincoln St and Country Club Blvd intersection

Appendix

Walk Audit Handout

Worcester Vision Zero Safety Action Plan
Walk Audit 3: Lincoln Street
September 9, 2024

Directions: Complete the check list for every block included on the route or specific segments between key intersections.

WALK AUDIT CHECKLIST: Location _____

SIDEWALKS

- ☐ No sidewalk or walking paths
- ☐ Sidewalk is not buffered from traffic
- ☐ Sidewalk has tripping hazards/is uneven
- ☐ Sidewalk is too narrow at obstructions (trees, poles, signs)
- ☐ Sidewalk is not continuous
- ☐ Sidewalk is not wide enough (two people cannot walk side by side)
- ☐ Sidewalk is not shaded

STREET CROSSINGS

- ☐ Crosswalk is missing
- ☐ No curb ramp for strollers, wheelchairs, walkers, etc
- ☐ Curb ramp is not ADA compliant
- ☐ Road is too wide to cross safely
- ☐ Crossing needs pedestrian signal
- ☐ Poor sightline(s) to motorists
- ☐ Crossing markings are insufficient

DRIVER BEHAVIOR

- ☐ High speeds
- ☐ High speed turns
- ☐ Frequent lane changes
- ☐ Drivers do not stop at stop signs
- ☐ Drivers do not yield to pedestrians in crosswalk
- ☐ Drivers are distracted
- ☐ No on-street parking or buffer

CONNECTIONS

- ☐ More crosswalks needed
- ☐ Crossing is misaligned from desire line(s)
- ☐ Crossing is too far from intersection

SAFETY

- ☐ No street lighting on sidewalks or near crosswalks
- ☐ No posted speed limits
- ☐ Crosswalk signs needed
- ☐ Wait for walk signal is long
- ☐ Walk time is too short
- ☐ Route does not feel safe or welcoming

COMFORT

- ☐ Missing benches and resting places
- ☐ No trash cans
- ☐ No on-street parking
- ☐ No street trees / shade
- ☐ No inviting storefronts
- ☐ No landscaping/grass/greenery

What else do you notice on your walk? Note any specific locations with problems or issues.

Worcester Vision Zero Safety Action Plan
Walk Audit 3: Lincoln Street
September 9, 2024

Please note your observations on the map

Walk Audit Agenda
5:50 pm- Arrive and check in
6:00 pm- Safety briefing and begin route
7:15 pm- Complete the route

For more information about this effort, visit worcestermma.gov/mobility

Summary of Map Comments

Location	Comment
Country Club Blvd @ Lincoln St	Ped signals not enough
Country Club Blvd @ Lincoln St	All green queue, always ped light
Country Club Blvd @ Lincoln St	High ridership bus stop
Lincoln St opposite Stop and Shop	Crosswalk missing

Summary of Checklist Comments

Category	Note	Count
Sidewalks	No sidewalk or walking paths	
Sidewalks	Sidewalk is not buffered from traffic	3
Sidewalks	Sidewalk has tripping hazards/is uneven	1



Sidewalks	Sidewalk is too narrow at obstructions (trees, poles, signs)	3
Sidewalks	Sidewalk is not continuous	1
Sidewalks	Sidewalk is not wide enough	2
Sidewalks	Sidewalk is not shaded	2
Street Crossings	Crosswalk is missing	1
Street Crossings	No curb ramp for strollers, wheelchairs, walkers, etc	
Street Crossings	Road is too wide to cross safely	3
Street Crossings	Crossing needs pedestrian signal	
Street Crossings	Curb ramp is not ADA compliant	2
Street Crossings	Poor sightline(s) to motorists	1
Street Crossings	Crossing markings are insufficient	1
Driver behavior	High speeds	3
Driver behavior	High speed turns	2
Driver behavior	Frequent lane changes	2
Driver behavior	Drivers do not stop at stop signs	
Driver behavior	Driver to not yield to pedestrians in crosswalk	2
Driver behavior	Drivers are distracted	3
Driver behavior	No on-street parking or buffer	1
Connections	More crosswalks needed	1
Connections	Crossing is misaligned from desire lines	
Connections	Crossing is too far from intersection	
Safety	No street lighting on sidewalks or near crosswalks	1
Safety	No posted speed limits	2
Safety	Crosswalk signs needed	
Safety	Wait for walk signal is too long	1
Safety	Walk time is too short	3
Safety	Route does not feel safe or welcoming	2
Comfort	Missing benches and resting places	1
Comfort	No trash cans	2
Comfort	No on-street parking	2
Comfort	No street trees/shade	2
Comfort	No inviting storefronts	1
Comfort	No landscaping/grass/greenery	1
Other	Illegal walks while green (concurrent where it shouldn't be)	1

Other	Popular bus stop	1
Other	No ramp on steps from texas road house to Lincoln st	1
Other	When signs says walk the parallel cars are green and can turn where the pedestrian is walking	1
Other	Weeds in the sidewalk	1
Other	The crosswalk across Lincoln is saying cross the street while the cars coming from Country Club have a green light. Same when crossing country club with green light on Lincoln	1
Other	As a physician at UMass & primary care doctor at the Hahnemann Family Health Center on Lincoln St, I have long been concerned about how unfriendly Lincoln St is to pedestrians. It is an extreme safety hazard for my patients and change needs to happen immediately - Alex Wenk-Bodenmiller, MD	1



Walk Audit 4: Cambridge Street

Event Format Details

Stantec, together with the City of Worcester and Speck-Dempsey, led a community walk audit on Cambridge Street between Haynes Street and Canterbury Street. The walk audit took place on September 12th, beginning at 3:00pm and concluding at 4:15pm.

Event Attendees

In total, 43 people attended, including 39 members of the public. Some attendees of note included:

- Worcester's DTM staff Stephen Rolle, Todd Kirrane, Betsy Goodrich, Brian Pigeon, Scott Galbraith, Mary Turner, and Eli Johnson
- Manny Boakye from the City Manager's Office
- Aidan Giasson from the City Council office
- City Councilor Luis Ojeda
- Sandy Amoakohene (formerly) from Worcester DPH
- Susan Coghlin Mailman from Worcester School Committee
- John Odell and Jessica Davis from the City of Worcester Sustainability Department
- Michelle Smith and Victor Panak from the City of Worcester Planning Department
- Adam Wriggins from CMRPC
- Administrator Joshua Richman, Assistant General Manager Joseph Cambell, and Karen Andersen Walsh of the WRTA
- Karin Valentine Goins from Walk/Bike Worcester
- Liz Myska, Worcester Accessibility Advisory Commission

The consultant team, led by Jeff Speck (of Speck Dempsey) and Catrina Meyer (of Stantec) led the walks audit, supported by, Yeojin Kim (Stantec), and Jahnvi Kirtane (Speck Dempsey).

Existing Conditions and Comments Received

The route began at the Price Chopper parking lot by Cambridge Street. Since the street from Price Chopper leading to Cambridge Street does not have sidewalk, the group walked through a landscaped area. With no sidewalk present, a person with limited vision had challenges in navigating the area. The group stopped at the intersection, walked towards the Salvation Army, and paused. There, they discussed design elements that can improve safety such as adding streetlights and trees, installing curb extensions to increase visibility of pedestrians crossing the street and using extra travel lane widths for bike lanes or on-street parking.

At the Cambridge and Richards Street intersection, the group noted the speed at which vehicles drive down the hill on Richards St, wide travel lane, and the long pedestrian crossing. Jeff Speck suggested T-ing up the intersection to narrow down the travel lanes, shorten the crossing distance, and tighten the turning radii. Along the walk on the Cambridge Street bridge to the east, the participants noted trash lying on the sidewalk and the steel barrier and expressed it was an unpleasant walk.

At the Fremont Street and Cambridge Street intersection, the discussion focused on the large intersection with wide turning radii on both Fremont and Canterbury St. As the group walked across the street, they were split up as it was a very long crosswalk, and vehicles were waiting behind the stop bar by the stop sign. The participants suggested similar treatment of T-ing up the intersection and adding rectangular rapid flashing beacons to notify vehicles of pedestrians crossing the street.



After completing the Cambridge Street Walk Audit, the participants pose for a group photo.

Appendix

Walk Audit Map

Worchester Vision Zero Safety Action Plan

Walk Audit 4: Cambridge Street

September 12, 2024

Directions: Complete the check list for every block included on the route or specific segments between key intersections.

WALK AUDIT CHECKLIST: Location _____

SIDEWALKS

- ☐ No sidewalk or walking path
- ☐ Sidewalk is not buffered from traffic
- ☐ Sidewalk has tripping hazards/is uneven
- ☐ Sidewalk is too narrow at obstructions (trees, poles, signs)
- ☐ Sidewalk is not continuous
- ☐ Sidewalk is not wide enough (two people cannot walk side by side)
- ☐ Sidewalk is not shaded

STREET CROSSINGS

- ☐ Crosswalk is missing
- ☐ No curb ramp for strollers, wheelchairs, walkers, etc
- ☐ Curb ramp is not ADA compliant
- ☐ Road is too wide to cross safely
- ☐ Crossing needs pedestrian signal
- ☐ Poor sightline(s) to motorists
- ☐ Crossing markings are insufficient

DRIVER BEHAVIOR

- ☐ High speeds
- ☐ High speed turns
- ☐ Frequent lane changes
- ☐ Drivers do not stop at stop signs
- ☐ Drivers do not yield to pedestrians in crosswalk
- ☐ Drivers are distracted
- ☐ No on-street parking or buffer

CONNECTIONS

- ☐ More crosswalks needed
- ☐ Crossing is misaligned from desire line(s)
- ☐ Crossing is too far from intersection

SAFETY

- ☐ No street lighting on sidewalks or near crosswalks
- ☐ No posted speed limits
- ☐ Crosswalk signs needed
- ☐ Wait for walk signal is long
- ☐ Walk time is too short
- ☐ Route does not feel safe or welcoming

COMFORT

- ☐ Missing benches and resting places
- ☐ No trash cans
- ☐ No on-street parking
- ☐ No street trees /shade
- ☐ No inviting storefronts
- ☐ No landscaping/grass/greenery

What else do you notice on your walk? Note any specific locations with problems or issues.

Worchester Vision Zero Safety Action Plan

Walk Audit 4: Cambridge Street

September 12, 2024

Please note your observations on the map

Walk Audit Agenda
2:50 pm - Arrive and check in
3:00 pm - Safety briefing and begin route
4:15 pm - Complete the route

For more information about this effort, visit worcesterma.gov/mobility

Summary of Map Comments

Location	Comment
Haynes St @ Cambridge	Crosswalk required
Haynes St @ Cambridge	Traffic light in tree!!
Cambridge St	Bike lanes along Cambridge
Crosswalk at eastern side of Salvation Army Building	Crosswalk needs bump out and flashing lights
Cambridge St	Needs more street trees
Freeland St @ Cambridge	Blind corner, dangerous
Illinois St @ Richards St	Stop signs needed, dangerous blind corner
Freemont St @ Cambridge	90' Crosswalk - blind corners
Crosswalk at eastern side of Salvation Army Building	Needs pedestrian flashing beacon, shark teeth yield markings, speed table, raised crosswalk
Cambridge St @ Richard St	All way stops, T-up
Canterbury St @ Cambridge	T up, long crosswalks

Duncan Ave @ Cambridge	Missing crosswalk
Richards St @ Cambridge	Crosswalks, lighting, stop signs
Walker @ Cambridge	Crosswalk is missing
Ives St	Crosswalk is missing

Summary of Checklist Comments

Category	Note	Count
Sidewalks	No sidewalk or walking paths	7
Sidewalks	Sidewalk is not buffered from traffic	7
Sidewalks	Sidewalk has tripping hazards/is uneven	1
Sidewalks	Sidewalk is too narrow at obstructions (trees, poles, signs)	2
Sidewalks	Sidewalk is not continuous	2
Sidewalks	Sidewalk is not wide enough	2
Sidewalks	Sidewalk is not shaded	5
Street Crossings	Crosswalk is missing	8
Street Crossings	No curb ramp for strollers, wheelchairs, walkers, etc	1
Street Crossings	Road is too wide to cross safely	7
Street Crossings	Crossing needs pedestrian signal	6
Street Crossings	Curb ramp is not ADA compliant	4
Street Crossings	Poor sightline(s) to motorists	6
Street Crossings	Crossing markings are insufficient	5
Driver behavior	High speeds	7
Driver behavior	High speed turns	5
Driver behavior	Frequent lane changes	
Driver behavior	Drivers do not stop at stop signs	2
Driver behavior	Driver to not yield to pedestrians in crosswalk	3
Driver behavior	Drivers are distracted	1
Driver behavior	No on-street parking or buffer	9



Connections	More crosswalks needed	6
Connections	Crossing is misaligned from desire lines	5
Connections	Crossing is too far from intersection	3
Safety	No street lighting on sidewalks or near crosswalks	7
Safety	No posted speed limits	9
Safety	Crosswalk signs needed	7
Safety	Wait for walk signal is too long	
Safety	Walk time is too short	1
Safety	Route does not feel safe or welcoming	5
Comfort	Missing benches and resting places	4
Comfort	No trash cans	6
Comfort	No on-street parking	7
Comfort	No street trees/shade	7
Comfort	No inviting storefronts	6
Comfort	No landscaping/grass/greenery	7
Other	Lots of unused pavement make it feel hostile	1
Other	The Richards St intersection needs to be priority	1
Other	School bus stops in an unsafe area	1
Other	Need lighting bridge	1
Other	Large 18-wheelers/trucks use this road, without a buffer or breakdown lane	1
Other	Bridge incline causes blind spots for drivers coming from connecting streets	1
Other	Traffic light behind tree cover @ Waller Ave	1
Other	Not enough shade trees	1
Other	No signage at crosswalks	1
Other	Richards St is danger zone	1
Other	Fremont @ Cambridge is too wide, need flashing lights on crosswalk	1
Other	Mural artist could upgrade graffiti on metal area at Bridge up from Fremont st	1
Other	Lanes too wide	1
Other	Intersections too wide to cross safely	1
Other	Street traffic is LOUD	1
Other	Add truncated domes placed on apex of curb cut	1
Other	Crosswalk indicators lack sound	1
Other	Trash on bridge	1
Other	Right on reds are an issue, drivers pull up through crossing	1
Other	Crazy intersection by the Flea. Cars go straight thru intersection, difficult to cross from all directions	1

Walk Audit 5: Park Avenue

Event Format Details

Stantec, together with the City of Worcester and Speck-Dempsey, led a community walk audit on Park Avenue between May Street and Route 122. The walk audit took place on September 12th, beginning at 6:00pm and concluding at 7:15pm.

Event Attendees

In total, 47 people attended, including 43 members of the public. Some attendees of note included:

- Worcester's DTM staff Stephen Rolle, Todd Kirrane, Betsy Goodrich, and Brian Pigeon
- Gavin Burnhardt, State Representative LeBoeuf's staffer
- City Councilor Etel Haxhiaj
- John Odell from the City of Worcester Sustainability Department
- Michelle Johnstone and Rose Russell from the City of Worcester Planning Department
- Administrator Joshua Richman and Assistant General Manager Joseph Cambell of the WRTA
- Karin Valentine Goins from Walk/Bike Worcester

S

stantec attendance included Catrina Meyer and Yeojin Kim. From Speck-Dempsey, Jeff Speck and Jahnavi Kirtane were in attendance.

Existing Conditions and Comments Received

This walk audit started at CVS by the May Street and Park Ave intersection. Before the group departed for the walk, the participants had an engaging conversation with Jeff Speck regarding walkability. The group traveled north up Park Ave to the next intersection at Parker Street and Park Ave. Here, they discussed the lack of lighting, trees shades, storefronts and buffer that makes a street comfortable and interesting to walk on. Participants noted the wide travel lanes, especially the ones next to the sidewalk and shared ideas on repurposing the space for other elements such as a median, on-street parking, landscaped area, or bicycle lane. The final stop was at the Park Ave and Chandler Street intersection. In response to the group's comments on the heavier traffic and larger intersection with long crosswalks, Jeff Speck shared design elements that can improve walkability and reduce vehicle speed.





Jeff Speck and the Walk Audit participants stop in the middle of the sidewalk to comment on the traffic and pedestrian facility condition.

Appendix

Walk Audit Handout

Worcester Vision Zero Safety Action Plan
Walk Audit 5: Park Avenue
September 12, 2024

Directions: Complete the check list for every block included on the route or specific segments between key intersections.

WALK AUDIT CHECKLIST: Location _____

SIDEWALKS

- ☐ No sidewalk or walking paths
- ☐ Sidewalk is not buffered from traffic
- ☐ Sidewalk has tripping hazards/is uneven
- ☐ Sidewalk is too narrow at obstructions (trees, poles, signs)
- ☐ Sidewalk is not continuous
- ☐ Sidewalk is not wide enough (two people cannot walk side by side)
- ☐ Sidewalk is not shaded

STREET CROSSINGS

- ☐ Crosswalk is missing
- ☐ No curb ramp for strollers, wheelchairs, walkers, etc
- ☐ Curb ramp is not ADA compliant
- ☐ Road is too wide to cross safely
- ☐ Crossing needs pedestrian signal
- ☐ Poor sightline(s) to motorists
- ☐ Crossing markings are insufficient

DRIVER BEHAVIOR

- ☐ High speeds
- ☐ High speed turns
- ☐ Frequent lane changes
- ☐ Drivers do not stop at stop signs
- ☐ Drivers do not yield to pedestrians in crosswalk
- ☐ Drivers are distracted
- ☐ No on-street parking or buffer

CONNECTIONS

- ☐ More crosswalks needed
- ☐ Crossing is misaligned from desire line(s)
- ☐ Crossing is too far from intersection

SAFETY

- ☐ No street lighting on sidewalks or near crosswalks
- ☐ No posted speed limits
- ☐ Crosswalk signs needed
- ☐ Wait for walk signal is long
- ☐ Walk time is too short
- ☐ Route does not feel safe or welcoming

COMFORT

- ☐ Missing benches and resting places
- ☐ No trash cans
- ☐ No on-street parking
- ☐ No street trees / shade
- ☐ No inviting storefronts
- ☐ No landscaping/grass/greenery

What else do you notice on your walk? Note any specific locations with problems or issues.

Worcester Vision Zero Safety Action Plan
Walk Audit 5: Park Avenue
September 12, 2024

Please note your observations on the map

Walk Audit Agenda
5:50 pm- Arrive and check in
6:00 pm- Safety briefing and begin route
7:15 pm- Complete the route

START HERE

For more information about this effort, visit worcesterma.gov/mobility

Summary of Map Comments

Location	Comment
West side of Park after May St	No lighting
Chandler Park Ave heading west	3 lanes into 1 lane

Summary of Checklist Comments

Category	Note	Count
Sidewalks	No sidewalk or walking paths	
Sidewalks	Sidewalk is not buffered from traffic	17
Sidewalks	Sidewalk has tripping hazards/is uneven	12
Sidewalks	Sidewalk is too narrow at obstructions (trees, poles, signs)	2
Sidewalks	Sidewalk is not continuous	1

Sidewalks	Sidewalk is not wide enough	
Sidewalks	Sidewalk is not shaded	19
Street Crossings	Crosswalk is missing	3
Street Crossings	No curb ramp for strollers, wheelchairs, walkers, etc	4
Street Crossings	Road is too wide to cross safely	23
Street Crossings	Crossing needs pedestrian signal	17
Street Crossings	Curb ramp is not ADA compliant	8
Street Crossings	Poor sightline(s) to motorists	10
Street Crossings	Crossing markings are insufficient	11
Driver behavior	High speeds	30
Driver behavior	High speed turns	15
Driver behavior	Frequent lane changes	19
Driver behavior	Drivers do not stop at stop signs	3
Driver behavior	Driver to not yield to pedestrians in crosswalk	17
Driver behavior	Drivers are distracted	17
Driver behavior	No on-street parking or buffer	14
Connections	More crosswalks needed	10
Connections	Crossing is misaligned from deisre lines	4
Connections	Crossing is too far from intersection	1
Safety	No street lighting on sidewalks or near crosswalks	23
Safety	No posted speed limits	25
Safety	Crosswalk signs needed	24
Safety	Wait for walk signal is too long	2
Safety	Walk time is too short	4
Safety	Route does not feel safe or welcoming	20
Comfort	Missing benches and resting places	25
Comfort	No trash cans	27
Comfort	No on-street parking	7
Comfort	No street trees/shade	19

Comfort	No inviting storefronts	16
Comfort	No landscaping/grass/greenery	20
Other	Zoning needs updating	1
Other	Walk time is only 13 seconds	1
Other	Cars can still turn right on red traffic lights while ped has the signal to walk	1
Other	Possibly install truncated dome mats at intersection and attach to the traffic light to automatically request ped crossing	1
Other	Speed hump at intersection across Park, both directions	1
Other	Where possible along Park, place center turning lane	1
Other	If possible, extend sidewalk out more towards street on both sides, have micromobility lane away from passing lane/parked cars	1
Other	A lot of trash, especially near liquor store	1
Other	Very few street lights, the one next to the liquor store doesn't work	1
Other	The light over the Park and Parker intersection doesn't work	1
Other	There is a large lot for sale, wouldn't that be a great place for an urban forest?	1
Other	I would love to see protected bike lanes, especially as they will be a part of Chandler. Protected bike lanes from the west side to downtown would encourage more biking.	1
Other	Lots of trash	1
Other	Very hot in the summer	1
Other	Traffic lights are inconsistent with what the traffic pattern actually is	1
Other	Lane designations are absent to drivers approaching the intersection. This is true for most of the city	1
Other	Lighting is auto oriented, poor lighting at sidewalk level	1
Other	Light out at Parker St crossing	1
Other	Trash next to sidewalk opposite to cat hospital	1
Other	Parker St - 2 crosswalks add to confusion	1
Other	On-street parking exists, but nobody uses it	1
Other	More street lights!	1
Other	Corner of Parker St/Park where ADA markers are angled to the middle of the road, not to the adjacent sidewalk	1
Other	Truncated domes angle directly into traffic rather than towards crosswalk	1
Other	Very loud traffic	1
Other	Lots of trash, vacant stores	1
Other	Grates on street trees	1
Other	No one moves over for emergency vehicles	1
Other	Good number of street trees in some areas, but not in others	1
Other	Trash, dying trees, bus stop next to intersection, old sign posts	1
Other	Turning cars often speed by to get through oncoming traffic	1
Other	On-street parking exists, but nobody uses it	1



Other	Traffic entering roadway from private parking lots often don't look for or can't see peds on sidewalk	1
Other	Speed table at Park + Parker Ave	1
Other	No street lights	1
Other	Lights out at pedestrian level	1
Other	People use bikes/scooters on sidewalk	1
Other	Trees overhang low on sidewalks	1
Other	Highland St from Park Ave to Lancaster St is severely lacking crosswalks	1
Other	Too busy to ever take a left turn, therefor people are aggressive and take non-safe oppurtunities	1
Other	There is no crosswalk by Attea's, so when people are parking on the street, there is nowhere to safely cross	1
Other	I LOVE crosswalk flashing lights especially on wide roads	1
Other	Lack of destinations to walk to	1
Other	Need more shade trees	1
Other	Move crosswalks back from instersection	1
Other	Need crosswalks to get to abroretum	1
Other	Maybe needs stop signs on May st?	1
Other	Park Ave and Chandler --> missing turning signs	1

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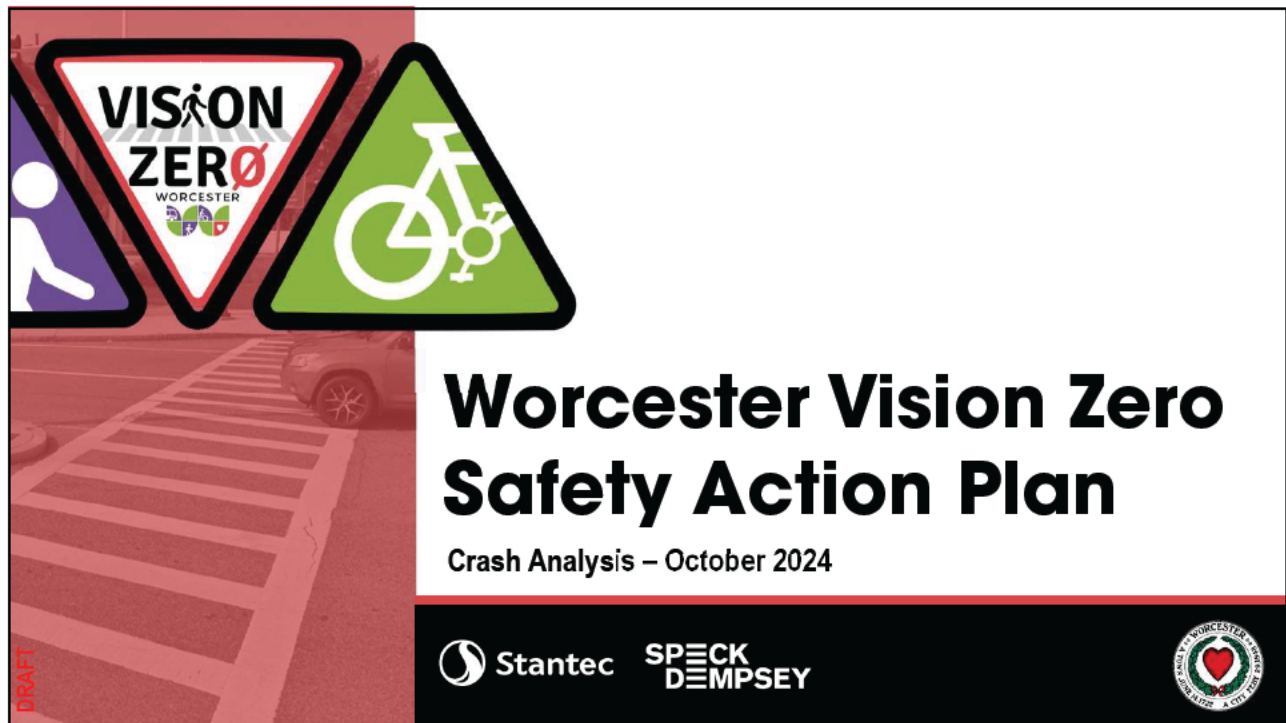
Appendix E. Data Analysis

[illegible]

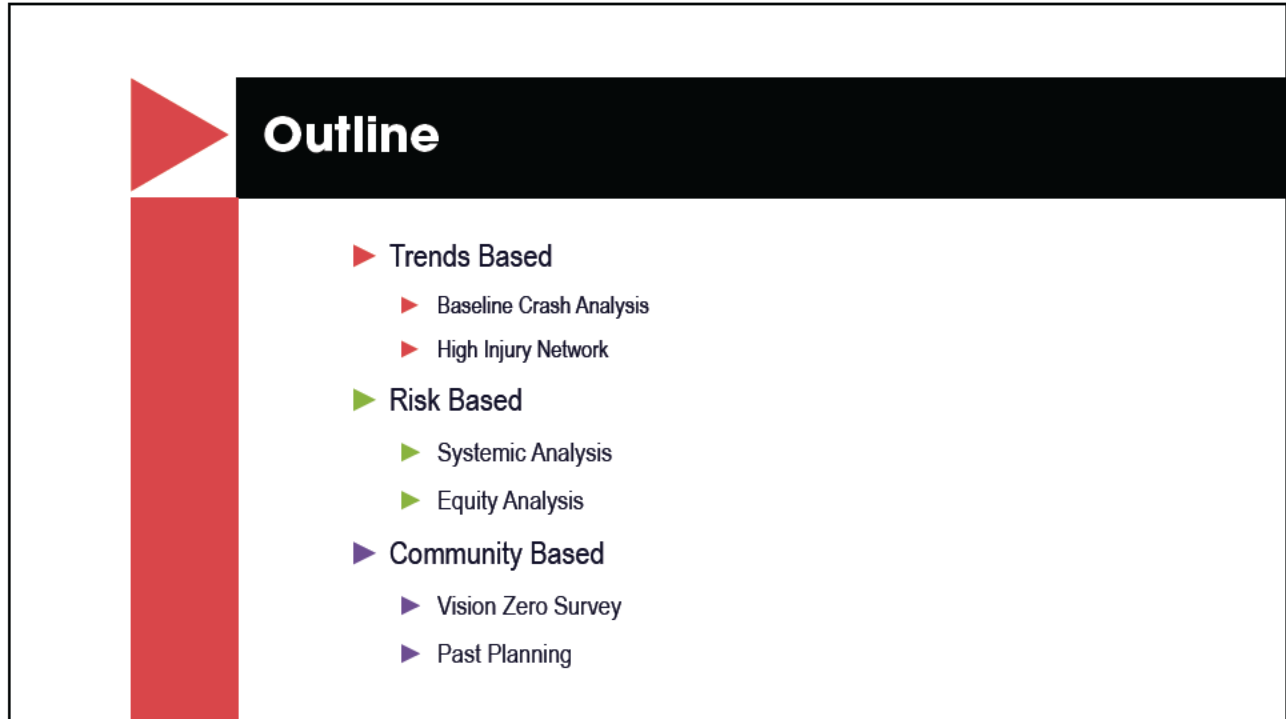
		Context																															
			Bike Lanes		Transit	Pedestrian		Signalization	Posted Speed					Observed Speed						Travel Lanes				AADT									
Crash Details	Vehicle Crashes	All	Bicycle Lanes	Bicycle Lanes Protected	Bus Stops	Sidewalk	Poor Sidewalk Condition	Crosswalk Ramps	Traffic Signals	25-30	30-35	35-45	45-55	55-65	<10	10-20	20-25	25-30	30-35	35-45	45-55	55-68	1-2 lanes	3 lanes	4 lanes	<2,500	2,500-5,000	5,000-10,000	10,000-15,000	15,000-25,000	25,000-50,000	50,000-100,000	100,000-144,848
	Collision Type	4,772	7%	2%	45%	15%	33%	67%	30%	0%	74%	11%	11%	3%	4%	15%	19%	15%	7%	6%	1%	12%	70%	11%	4%	15%	5%	16%	26%	17%	11%	4%	4%
	Angle	1,855	9%	3%	50%	7%	40%	81%	35%	0%	82%	12%	5%	1%	3%	17%	22%	15%	7%	7%	0%	3%	75%	0%	0%	17%	5%	16%	26%	17%	11%	1%	1%
	Rear-end	1,292	6%	2%	45%	20%	27%	59%	29%	0%	63%	13%	19%	5%	5%	13%	19%	18%	7%	4%	1%	22%	60%	0%	0%	7%	3%	12%	22%	21%	12%	7%	10%
	Single vehicle crash	546	5%	2%	30%	33%	26%	43%	19%	0%	60%	9%	20%	11%	4%	9%	8%	11%	9%	6%	2%	28%	62%	0%	0%	15%	5%	11%	18%	11%	9%	13%	9%
	Sideswipe, same direction	397	3%	1%	38%	18%	30%	57%	26%	0%	71%	11%	15%	3%	3%	15%	15%	16%	7%	2%	1%	16%	65%	0%	0%	16%	4%	11%	15%	18%	11%	8%	5%
	Sideswipe, opposite direction	106	7%	2%	38%	10%	32%	64%	22%	0%	87%	7%	4%	3%	5%	12%	16%	12%	9%	4%	0%	4%	88%	0%	0%	31%	6%	8%	22%	20%	3%	1%	0%
	Front to Rear	100	8%	1%	52%	9%	26%	62%	35%	0%	88%	10%	2%	0%	7%	14%	26%	11%	7%	2%	1%	0%	74%	0%	0%	22%	5%	19%	22%	17%	9%	0%	0%
	Front to Front	84	7%	4%	52%	7%	35%	77%	32%	0%	90%	5%	4%	1%	4%	21%	20%	8%	5%	5%	0%	1%	80%	1%	1%	18%	8%	11%	20%	25%	6%	0%	0%
Crash Details	Collision Type	4,772	340	112	2129	700	1591	3183	1429	1	3,530	544	537	157	190	697	902	725	348	272	30	564	3324	545	545	711	220	668	1,061	835	508	205	213
	Angle	1,855	173	55	931	129	735	1499	644	0	1,525	221	99	10	59	324	417	279	139	139	4	49	1396	7	7	322	99	298	474	314	208	11	15
	Rear-end	1,292	76	26	579	263	349	760	371	1	808	167	247	67	65	173	246	235	89	56	11	280	773	1	1	90	39	154	284	270	157	89	129
	Single vehicle crash	546	28	12	164	178	144	233	104	0	329	47	109	60	24	47	44	62	50	33	9	155	341	0	0	80	28	62	101	62	50	70	47
	Sideswipe, same direction	397	13	2	152	70	120	227	104	0	282	44	58	13	13	59	59	63	27	6	5	65	258	0	0	64	17	45	61	71	43	31	19
	Sideswipe, opposite direction	106	7	2	40	11	34	68	23	0	92	7	4	3	5	13	17	13	10	4	0	4	93	0	0	33	6	9	23	21	3	1	0
	Front to Rear	100	8	1	52	9	26	62	35	0	88	10	2	0	7	14	26	11	7	2	1	0	74	0	0	22	5	19	22	17	9	0	0
	Front to Front	84	6	3	44	6	29	65	27	0	76	4	3	1	3	18	17	7	4	4	0	1	67	1	1	15	7	9	17	21	5	0	0
	TOTAL	4,380	311	101	1,962	666	1,437	2,914	1,308	1	3,200	500	522	154	176	648	826	670	326	244	30	554	3,002	9	9	626	201	596	982	776	475	202	210

		Context																														
			Transit	Pedestrian		Signalization	Posted Speed					Observed Speed							Travel Lanes			AADT										
Pedestrian Crashes					Poor Sidewalk	Crosswalk	Traffic																									
		All	BusStops	Sidewalk	Condition	Ramps	Signals	25-30	30-35	35-45	45-55	55-65	<10	10-20	20-25	25-30	30-35	35-45	45-55	55-68	1-2 lanes	3 lanes	4 lanes	<2,500	2,500-5,000	5,000-10,000	10,000-15,000	15,000-25,000	25,000-50,000	50,000-100,000	100,000-144,848	
Crash Details	Collision Type	341	62%	3%	27%	79%	38%	1%	92%	5%	2%	0%	9%	25%	23%	13%	4%	2%	0%	1%	69%	3 lanes	4 lanes		19%	5%	13%	24%	21%	11%	0%	0%
	Angle	18	72%	6%	33%	89%	22%	0%	100%	0%	0%	0%	17%	33%	28%	6%	0%	6%	0%	0%	67%	0%	0%	22%	6%	22%	6%	17%	17%	0%	0%	
	Rear-end	8	88%	0%	13%	50%	13%	0%	100%	0%	0%	0%	25%	38%	13%	0%	0%	0%	0%	0%	75%	0%	0%	13%	0%	13%	50%	13%	0%	0%	0%	
	Single vehicle crash	239	61%	4%	28%	79%	38%	1%	90%	7%	3%	0%	8%	23%	24%	15%	4%	3%	0%	2%	66%	0%	0%	17%	4%	11%	26%	20%	14%	0%	0%	
	Sideswipe, same direction	9	56%	0%	44%	78%	44%	0%	100%	0%	0%	0%	11%	11%	11%	0%	0%	11%	0%	0%	89%	0%	0%	22%	11%	0%	22%	22%	0%	0%	0%	
	Sideswipe, opposite direction	3	0%	0%	67%	33%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	33%	0%	33%	33%	0%	0%	0%	0%	
	Front to Rear	2	50%	0%	0%	50%	0%	0%	100%	0%	0%	0%	0%	50%	0%	0%	0%	0%	0%	0%	100%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	
	Front to Front	2	50%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	50%	50%	0%	0%	0%	
	Collision Type	341	210	11	93	271	128	3	315	16	6	0	30	85	78	43	12	8	0	5	235	22	22	66	17	43	81	70	37	0	1	
	Angle	18	13	1	6	16	4	0	18	0	0	0	3	6	5	1	0	1	0	0	12	0	0	4	1	4	1	3	3	0	0	
	Rear-end	8	7	0	1	4	1	0	8	0	0	0	2	3	1	0	0	0	0	0	6	0	0	1	0	1	4	1	0	0	0	
	Single vehicle crash	239	146	10	66	189	91	2	214	16	6	0	18	54	57	36	10	6	0	5	158	0	0	40	10	27	61	48	33	0	1	
	Sideswipe, same direction	9	5	0	4	7	4	0	9	0	0	0	1	1	1	0	0	1	0	0	8	0	0	2	1	0	2	2	0	0	0	
	Sideswipe, opposite direction	3	0	0	2	1	0	0	3	0	0	0	0	0	0	0	0	0	0	0	3	0	0	1	0	1	1	0	0	0	0	
	Front to Rear	2	1	0	0	1	0	0	2	0	0	0	0	1	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	
	Front to Front	2	1	0	0	0	0	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	
	TOTAL	281	173	11	79	218	100	2	256	16	6	0	24	67	64	37	10	8	0	5	189	0	0	50	12	33	70	55	36	0	1	
	Vehicle Action	341	210	11	93	271	128	3	315	16	6	0	30	85	78	43	12	8	0	5	235	1	1	66	17	43	81	70	37	0	1	
	Travelling straight ahead	184	111	6	50	145	69	0	170	10	3	0	18	45	33	28	8	6	0	2	122	0	0	27	10	19	52	47	14	0	1	
	Turning left	78	51	0	19	68	37	2	73	1	2	0	6	24	24	9	1	0	0	2	49	0	0	12	3	16	15	14	16	0	0	
	Turning right	29	17	3	8	22	10	1	25	2	1	0	1	5	7	4	2	1	0	1	23	1	1	12	1	3	4	3	4	0	0	
	Leaving traffic lane	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Entering traffic lane	2	2	0	1	2	0	0	2	0	0	0	1	0	1	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	
Changing lanes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Overtaking/passing	1	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0		
Backing	9	7	0	4	6	2	0	9	0	0	0	1	2	1	0	0	1	0	0	8	0	0	5	1	1	2	0	0	0	0		
Making U-turn	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Slowing or stopped in traffic	13	8	0	4	12	5	0	12	1	0	0	2	1	6	0	1	1	0	0	12	0	0	3	2	0	3	2	2	0	0		
Parked	12	9	0	2	8	4	0	12	0	0	0	2	3	3	0	0	0	0	0	12	0	0	3	2	2	2	2	0	0	0		
TOTAL	328	205	9	89	263	127	3	304	14	6	0	31	80	75	41	12	9	0	5	229	1	1	63	19	41	78	68	36	0	1		

		Context																													
			Bike Lanes		Transit	Signalization	Posted Speed					Observed Speed							Travel Lanes			AADT									
	Bicycle Crashes	All	Bicycle Lanes	Bicycle Lanes Protected	BusStop s	Traffic Signals	25-30	30-35	35-45	45-55	55-65	<10	10-20	20-25	25-30	30-35	35-45	45-55	55-68	1-2 lanes	3 lanes	4 lanes	<2,500	2,500-5,000	5,000-10,000	10,000-15,000	15,000-25,000	25,000-50,000	50,000-100,000	100,000-144,848	
Crash Details	Collision Type	106	10%	4%	60%	33%	0%	87%	9%	3%	1%	6%	18%	28%	13%	4%	8%	0%	1%	71%	3%	3%	22%	8%	10%	24%	20%	10%	1%	0%	
	Angle	48	8%	2%	63%	35%	0%	92%	6%	2%	0%	8%	19%	29%	13%	2%	8%	0%	0%	73%	2%	2%	29%	6%	15%	17%	13%	15%	0%	0%	
	Rear-end	4	0%	0%	0%	25%	0%	25%	50%	0%	25%	0%	0%	25%	25%	25%	0%	0%	25%	25%	25%	25%	0%	0%	0%	25%	25%	0%	25%	0%	
	Single vehicle crash	29	14%	7%	48%	34%	0%	90%	7%	3%	0%	0%	14%	34%	7%	7%	10%	0%	0%	76%	0%	0%	17%	17%	7%	24%	28%	3%	0%	0%	
	Sideswipe, same direction	4	25%	0%	75%	50%	0%	50%	50%	0%	0%	0%	25%	25%	25%	0%	0%	0%	0%	75%	0%	0%	25%	0%	0%	25%	25%	25%	0%	0%	
	Sideswipe, opposite direction	2	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	
	Front to Rear	2	0%	0%	100%	0%	0%	100%	0%	0%	0%	0%	0%	50%	50%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	50%	50%	0%	0%	0%	
	Front to Front	3	0%	0%	67%	33%	0%	33%	33%	33%	0%	33%	0%	0%	33%	0%	0%	0%	0%	67%	0%	0%	0%	0%	0%	33%	33%	0%	0%	0%	
	Collision Type	106	11	4	64	35	0	92	10	3	1	6	19	30	14	4	8	0	1	75	3	3	23	8	11	25	21	11	1	0	
	Angle	48	4	1	30	17	0	44	3	1	0	4	9	14	6	1	4	0	0	35	1	1	14	3	7	8	6	7	0	0	
	Rear-end	4	0	0	0	1	0	1	2	0	1	0	0	1	1	1	0	0	1	1	1	1	0	0	0	1	1	0	1	0	
	Single vehicle crash	29	4	2	14	10	0	26	2	1	0	0	4	10	2	2	3	0	0	22	0	0	5	5	2	7	8	1	0	0	
	Sideswipe, same direction	4	1	0	3	2	0	2	2	0	0	0	1	1	1	0	0	0	0	3	0	0	1	0	0	1	1	1	0	0	
	Sideswipe, opposite direction	2	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	
	Front to Rear	2	0	0	2	0	0	2	0	0	0	0	0	1	1	0	0	0	0	2	0	0	0	0	0	1	1	0	0	0	
	Front to Front	3	0	0	2	1	0	1	1	1	0	1	0	0	1	0	0	0	0	2	0	0	0	0	0	1	1	0	0	0	
	TOTAL	92	9	3	51	31	0	78	10	3	1	5	14	27	12	4	7	0	1	67	2	2	22	8	9	19	18	9	1	0	

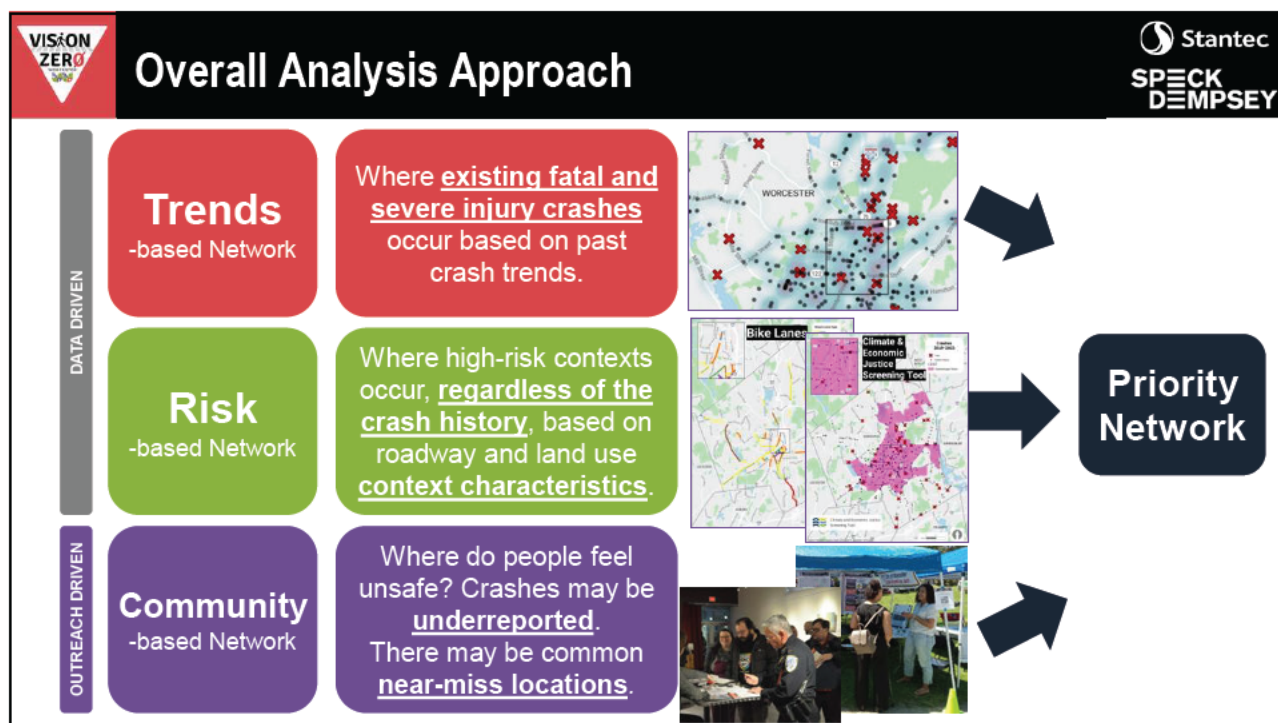


1

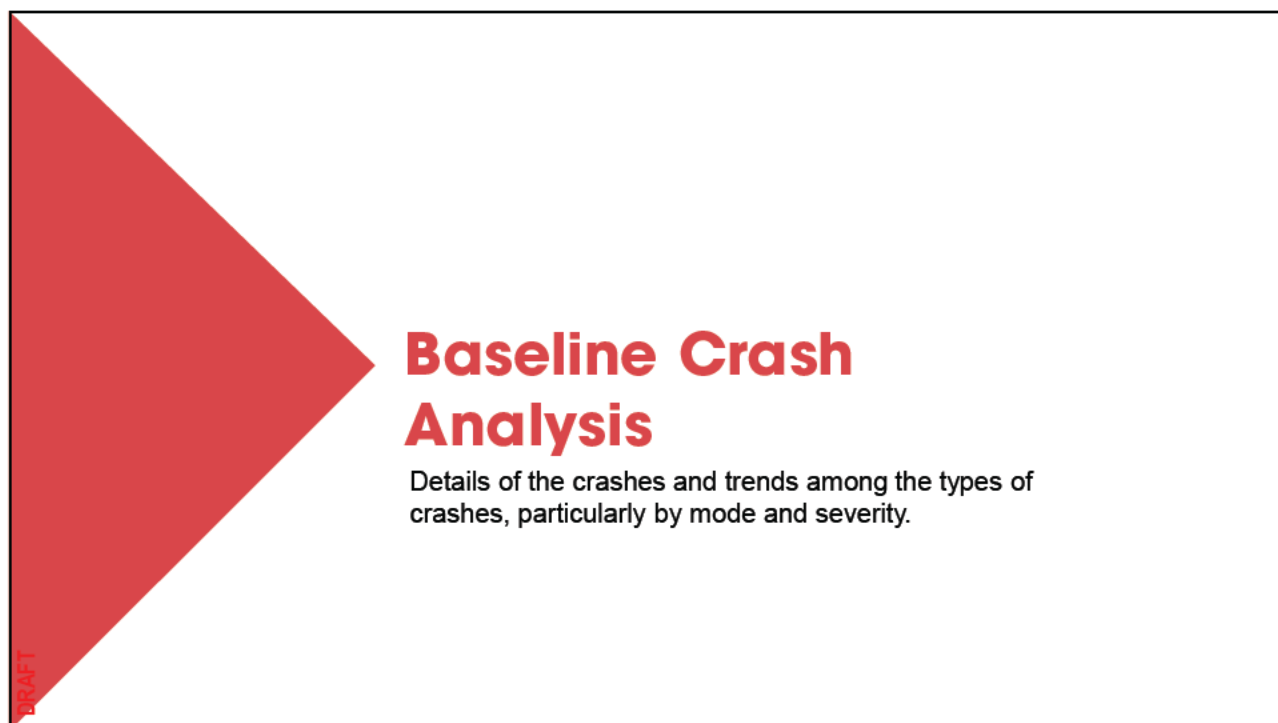


2





3



4

- Obtain crash data from MassDOT Impact (2019 to 2023).
- Rectify differences between multiple fields reporting on key attributes such as:
 - Crash severity, and
 - Modes of transportation included.
- Geocode crashes based on XY coordinates using the following process:
 - Geocoded 22,261 out of 23,054 (793 remaining) based on initial coordinates, then
 - Use address geocoder to geocode 793 remaining crashes. Geocoded 530 out of 793 (263 excluded).
- Remove crashes geocoded to locations outside of Worcester (99).
- **Total Crashes (Geocoded and within Worcester): 22,657.**
- Proceed to map and spreadsheet analysis excluding:
 - Property Damage Only (PDO) crashes; and
 - Crashes where the severity is Unknown.
- **Remaining injury crashes mapped: 5,218.**

Notes:

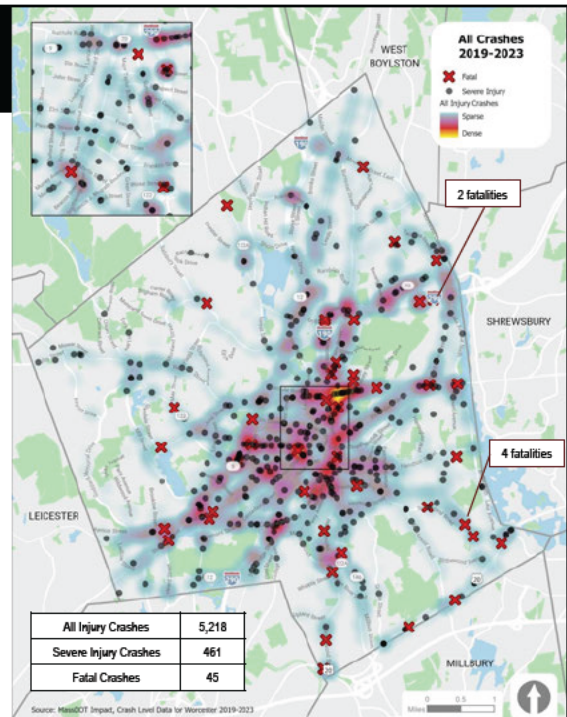
¹ Crashes exclude where severity is labeled "Property Damage Only" or "Unknown", and crashes that were not geocoded by MassDOT/Stanec or geocoded outside of Worcester. Crashes also include severity labeled "Not Reported" as non-severe injury crash to account for underreported injury crashes.

² Fatality Analysis Reporting System classifies as fatal injury as occurring within 30 days of the crash. For this analysis, a death occurring past the 30 days is included.

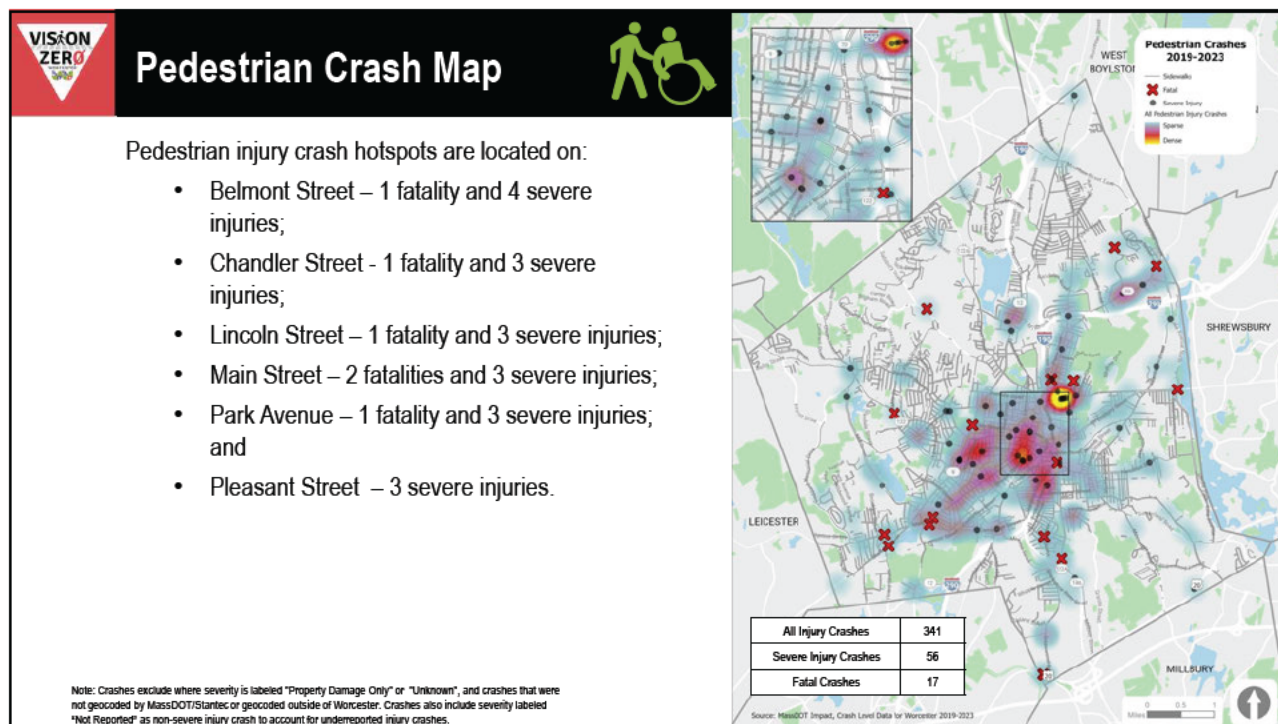
5

- Even one death on Worcester's roadways is too many – in the last 5 years there were 45.
- This Vision Zero analysis focuses on only injury crashes to center the human experience and prioritize the highest risk of injury, therefore excluding property damage only (PDO) crashes from the analysis.
- Based on the map of all injury crashes, clear hot spots emerge on major arterials radiating from the Downtown area.

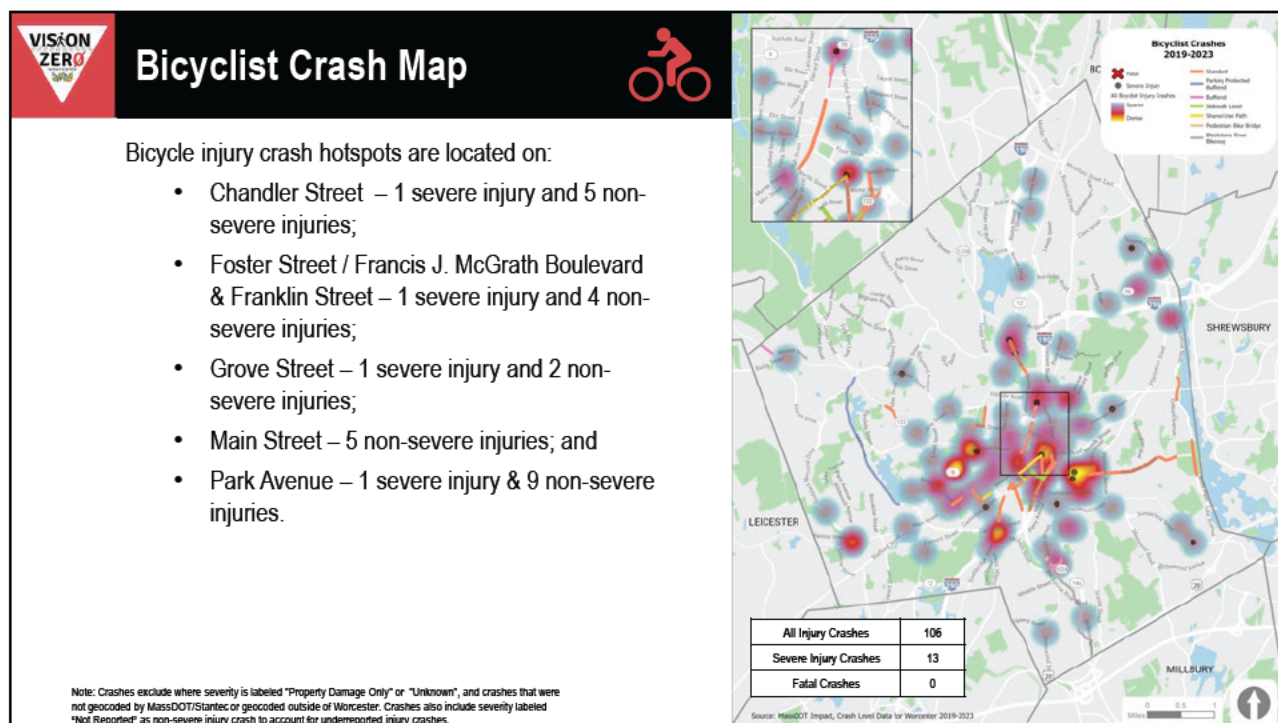
Note: Crashes exclude where severity is labeled "Property Damage Only" or "Unknown", and crashes that were not geocoded by MassDOT/Stanec or geocoded outside of Worcester. Crashes also include severity labeled "Not Reported" as non-severe injury crash to account for underreported injury crashes.



6



7



8

Frequency of Injuries and Fatalities

Every day, nearly 3 injury crashes occur in Worcester

Every 3.5 days, there is one serious or fatal injury crash

In Worcester,  Every 5 days, one pedestrian injury crash occurs

Every 25 days, one serious injury or fatal injury pedestrian crash occurs

In Worcester,  Every 17 days, one bicyclist injury crash occurs

Every 140 days, one serious injury bicyclist crash occurs

In Worcester,  Every day, three vehicle injury crashes occur on Worcester streets.

Every 4 days, one serious injury or fatal injury vehicle crash occurs

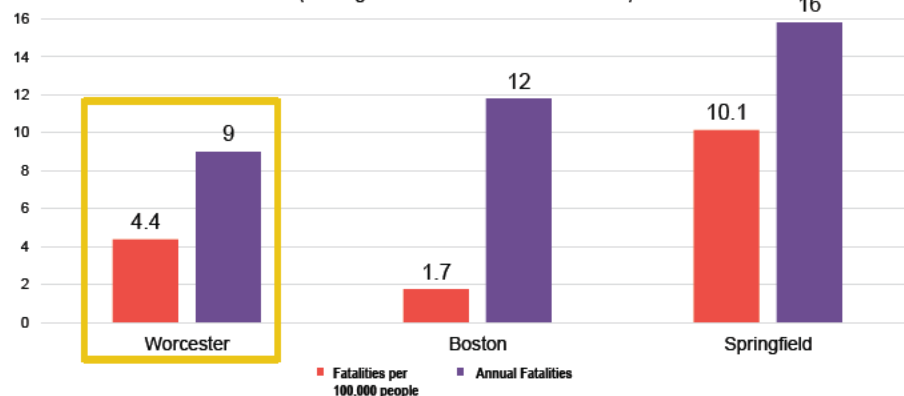
Note: Crashes exclude where severity is labeled "Property Damage Only" or "Unknown", and crashes that were not geocoded by MassDOT/Stanec or geocoded outside of Worcester. Crashes also include severity labeled "Not Reported" as non-severe injury crash to account for underreported injury crashes.

9

Crash Rate Comparison (per population)

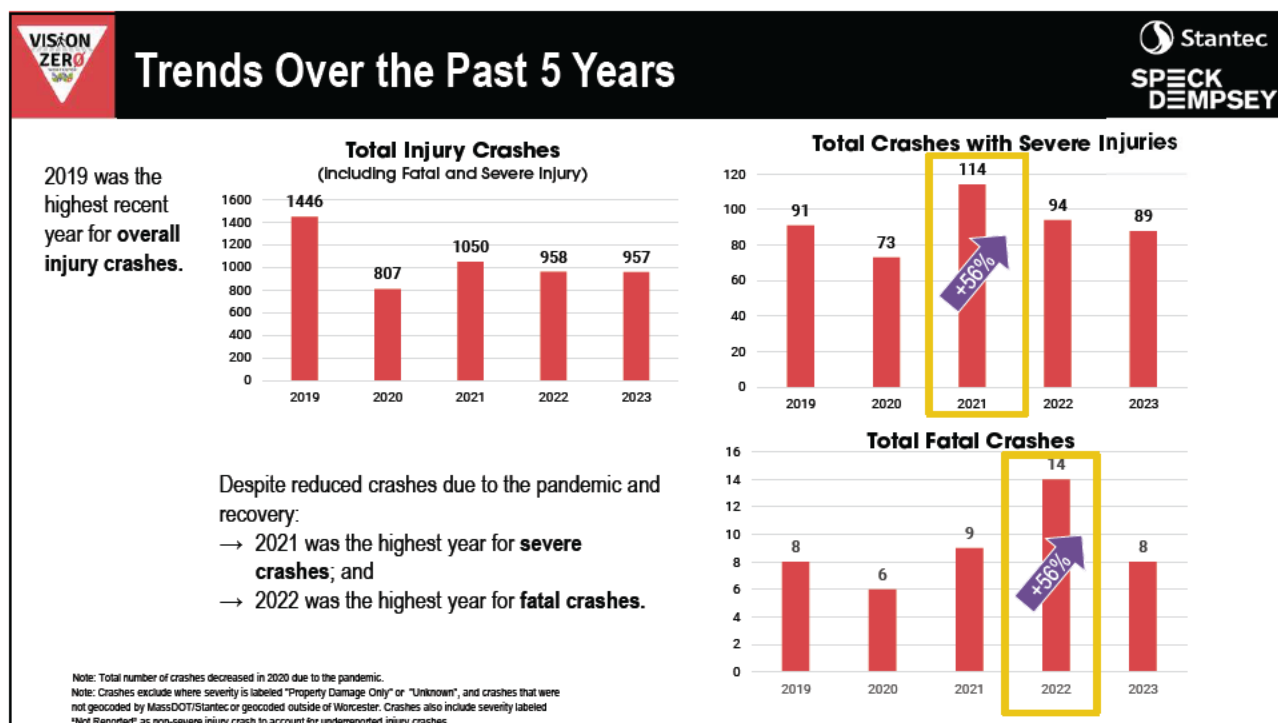
Worcester has *fewer* average annual fatalities compared to Boston, but a *higher* number of fatalities per 100,000 people.

Worcester Comparison to Nearby Cities
(Average Annual based on 2019-2023)

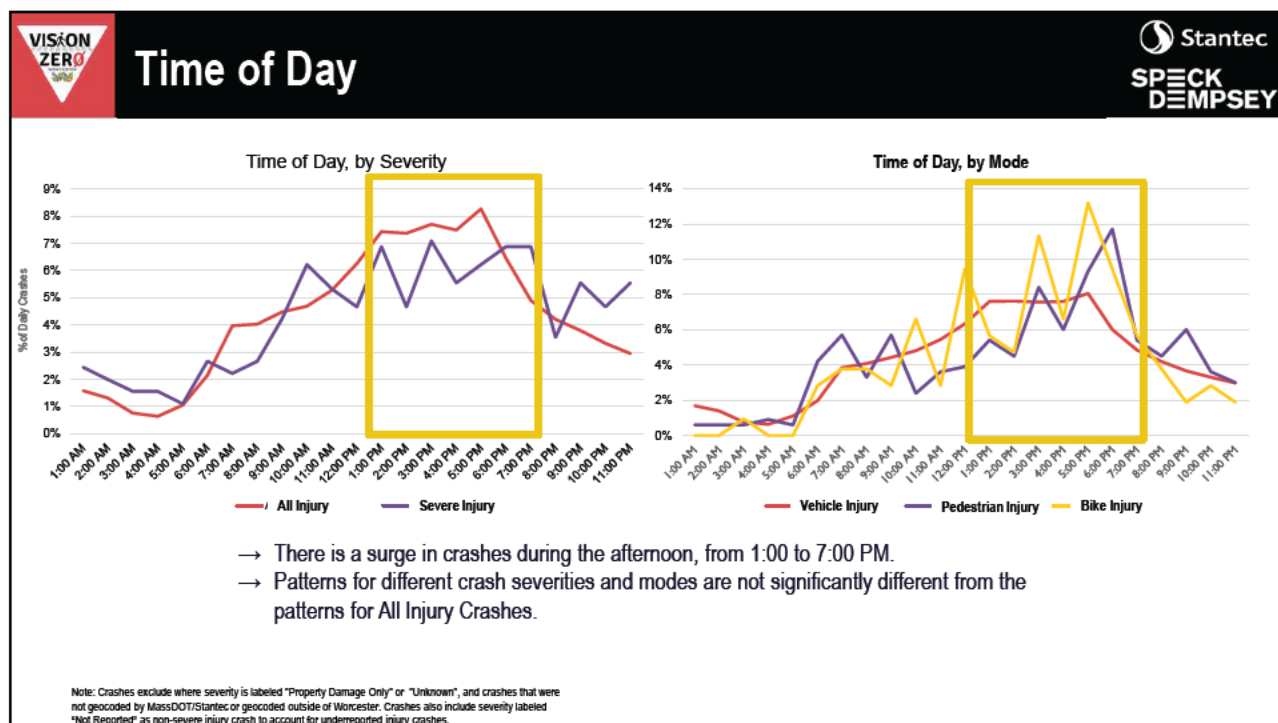


Note: Crashes exclude where severity is labeled "Property Damage Only" or "Unknown", and crashes that were not geocoded by MassDOT/Stanec or geocoded outside of Worcester. Crashes also include severity labeled "Not Reported" as non-severe injury crash to account for underreported injury crashes.

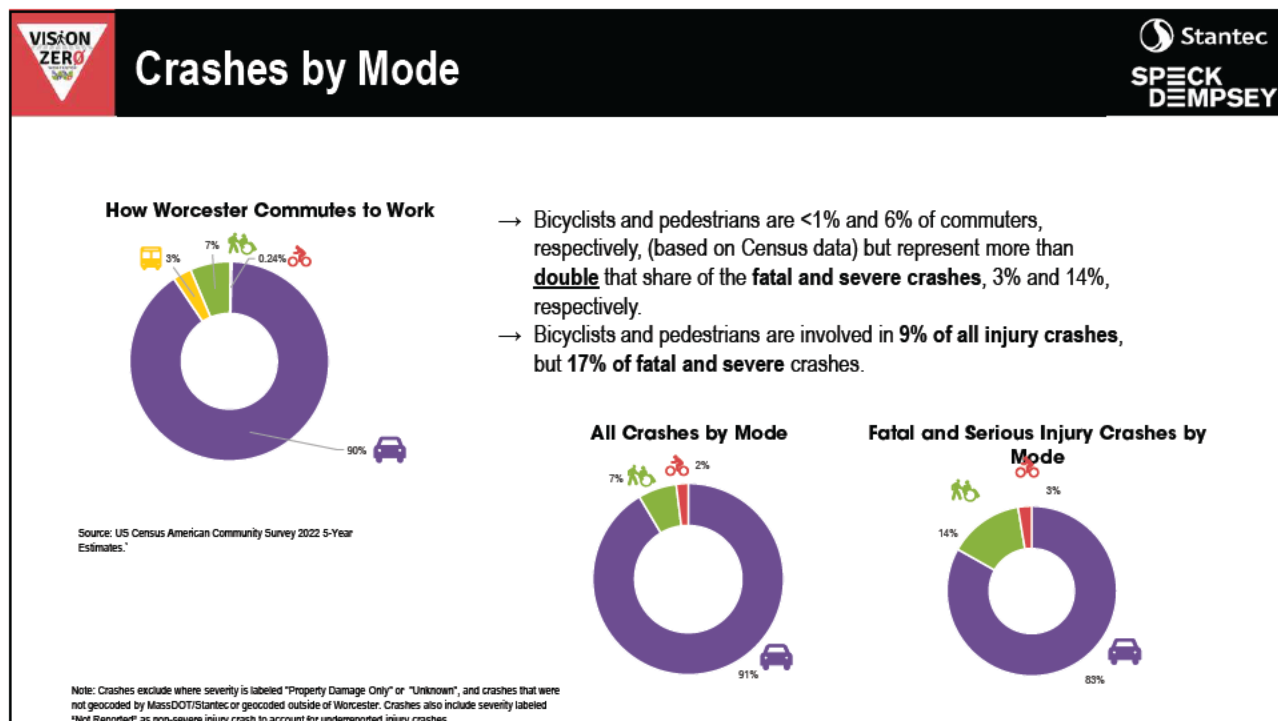
10



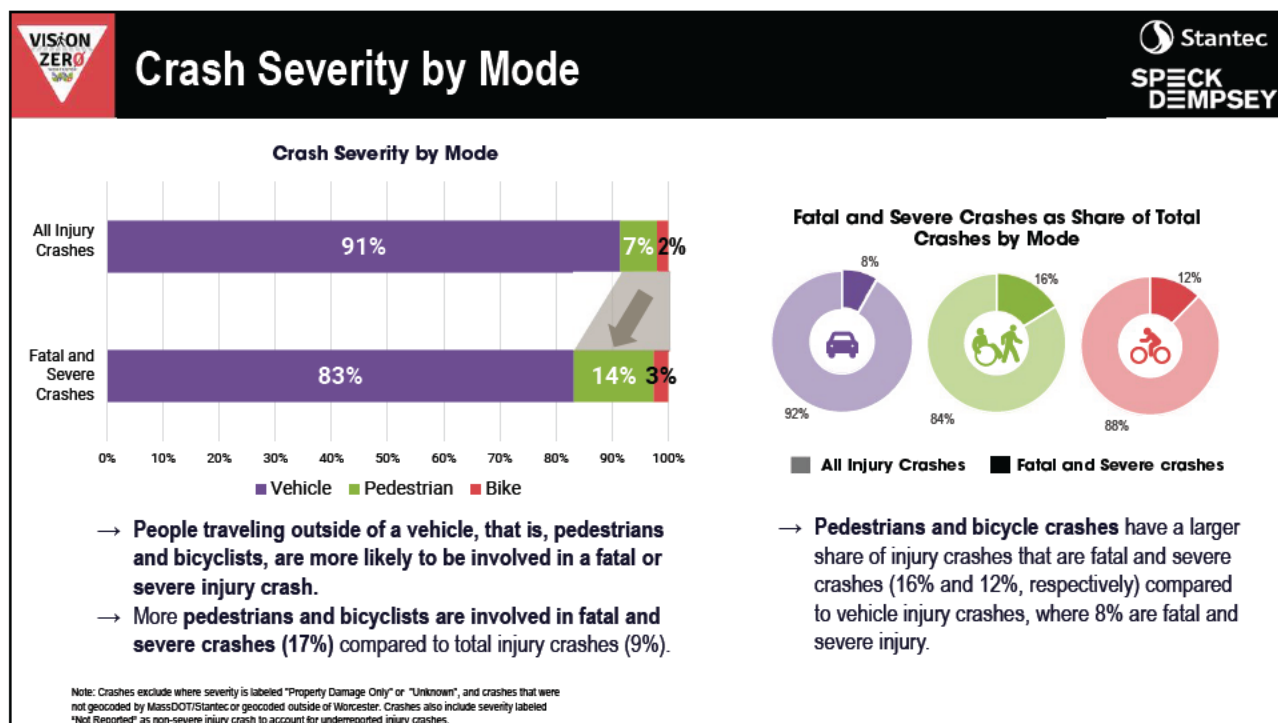
11



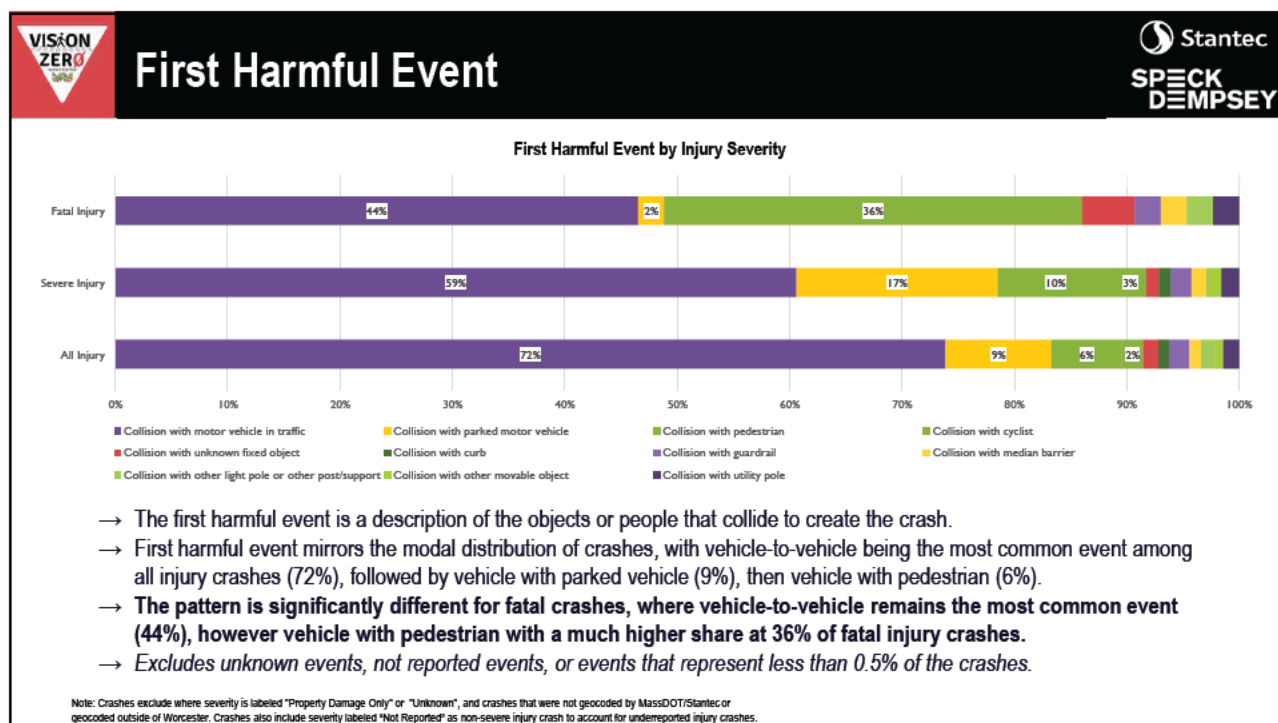
12



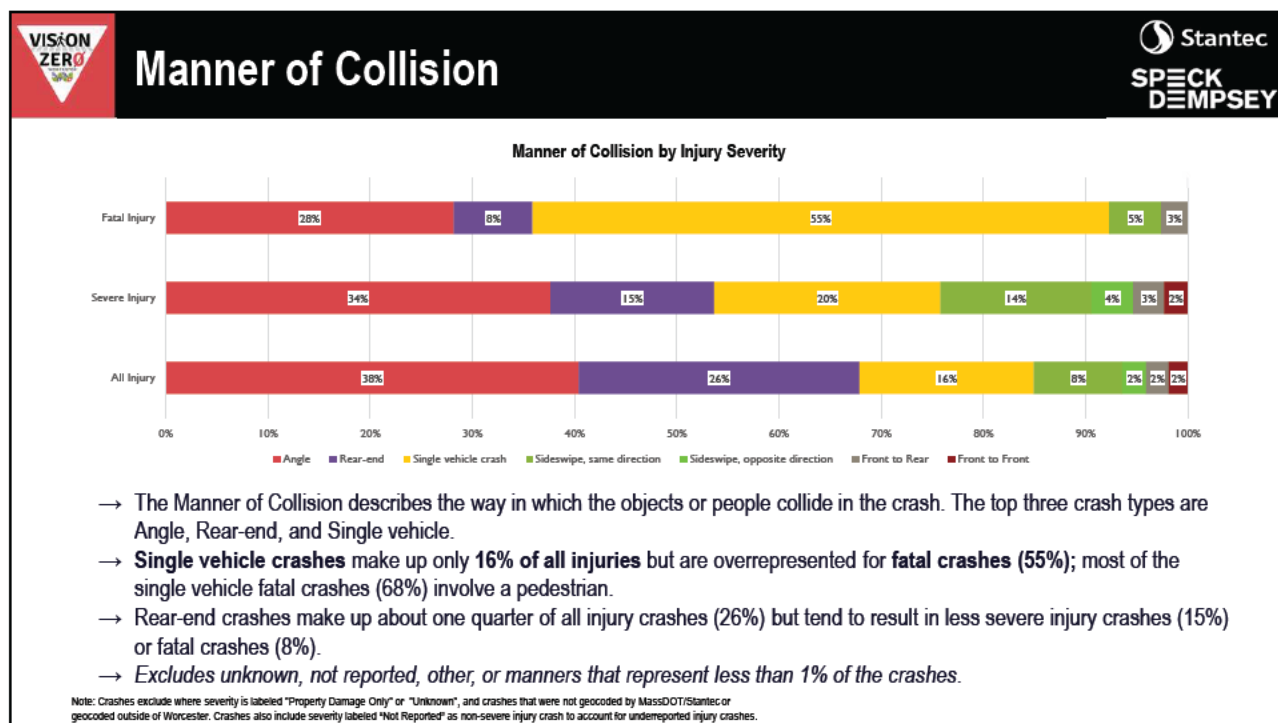
13



14



15



16

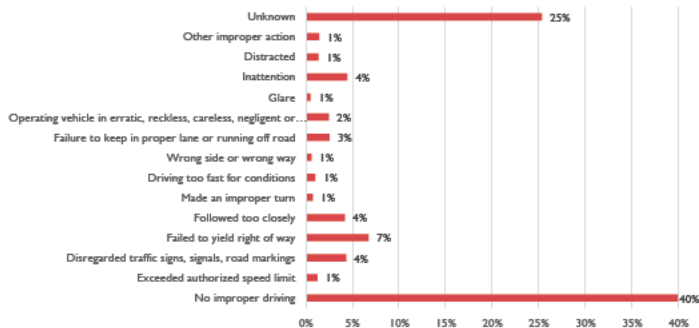


Contributing Circumstances

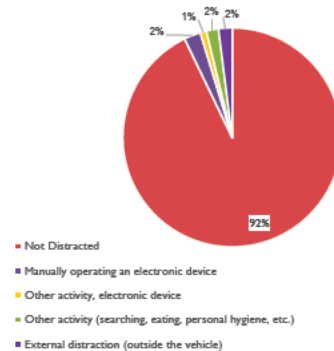
Note: summaries based
on available data in
crash reports



Driver Contributing Circumstances



Driver Distractions



- One contributing circumstance is selected for each driver involved in a crash; the Driver Contributing Circumstances and Distracted Driving fields in a crash report are often not indicated by police due to the difficulty of discerning prior driver behavior.
- **No improper driving** is the most commonly selected option for the driver contributing circumstance (40% of drivers).
- 43% of crashes list at least one driver having an improper driving contributing circumstance.
- Most drivers are **not distracted** when a crash occurs (92%), based on the manner in which this data is collected.

Note: Crashes exclude where severity is labeled "Property Damage Only" or "Unknown", and crashes that were not geocoded by MassDOT/Stantec or geocoded outside of Worcester. Crashes also include severity labeled "Not Reported" as non-severe injury crash to account for underreported injury crashes. Due to reporting mechanism at the time, distracted driving was underrepresented.

17

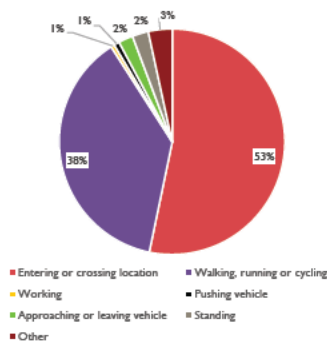


Vulnerable Road User

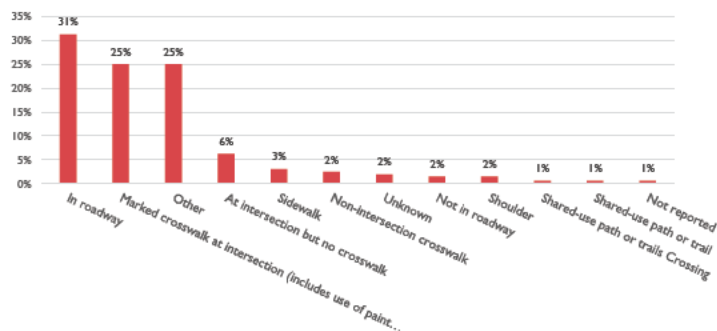
Note: summaries based
on available data in
crash reports



Vulnerable User Action



Vulnerable User Location

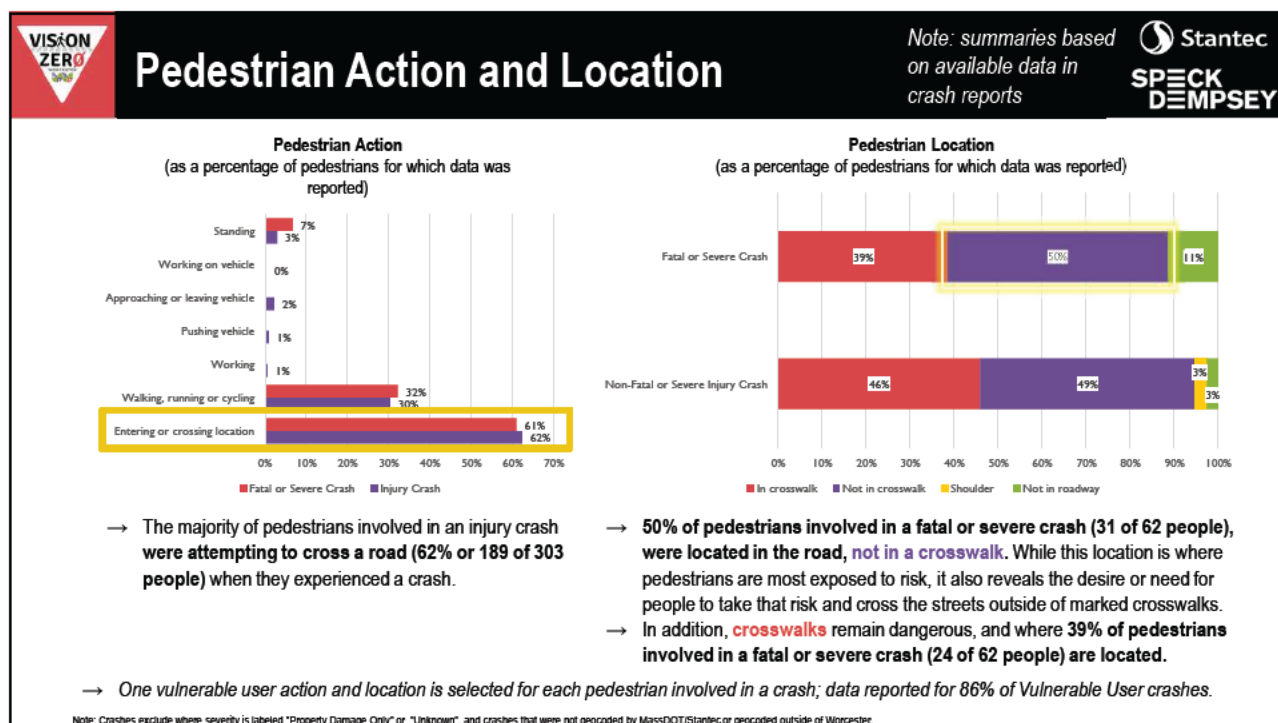


- Mass General law defines **"Vulnerable Users"** on the road to include **people walking and biking, using a wheelchair, operating motorized bicycles, scooters, skateboards, roller skates, and other micromobility devices, using farm equipment, driving horse-drawn carriages, roadside workers, and horse riders.** One vulnerable user action and location is selected for each involved in a crash; data reported for 86% of Vulnerable User crashes.
- The majority of vulnerable road users were **attempting to cross a road (53%)** when they experienced a collision.
- Vulnerable road users were primarily located **in the roadway (31%), more so than in a marked crosswalk (25%)**, when a collision occurred, reflecting the prevalence of risk associated with crossing outside of a crosswalk.

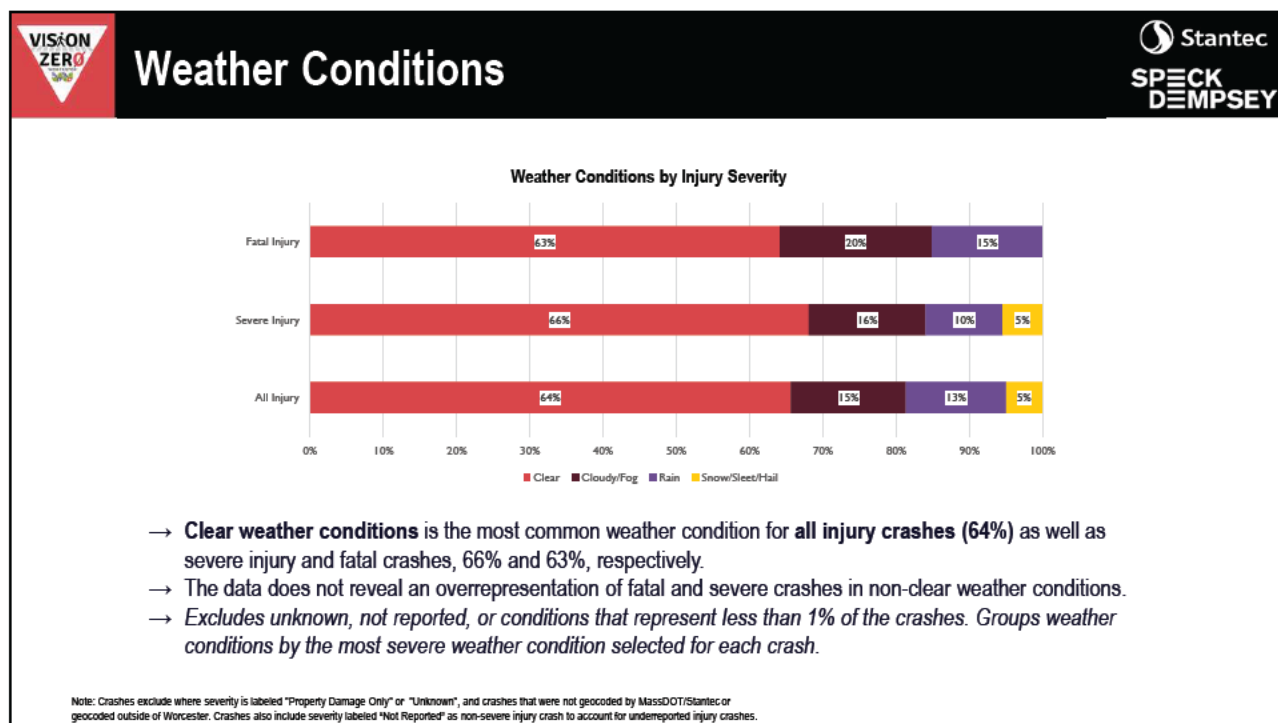
Note: Crashes exclude where severity is labeled "Property Damage Only" or "Unknown", and crashes that were not geocoded by MassDOT/Stantec or geocoded outside of Worcester. Crashes also include severity labeled "Not Reported" as non-severe injury crash to account for underreported injury crashes.

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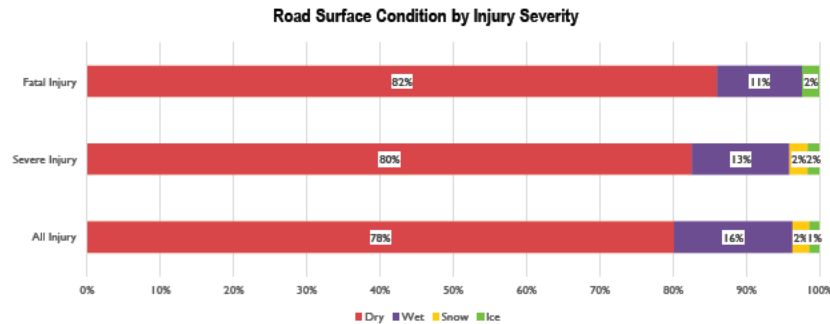




19



20

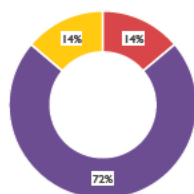


- **Dry roadway conditions** is the most common road surface condition for **all injury crashes (78%)** as well as severe injury and fatal crashes, 80% and 82%, respectively.
- The data does not reveal an overrepresentation of fatal and severe crashes in non-dry road conditions.
- *Excludes unknown, not reported, or conditions that represent less than 1% of the crashes.*

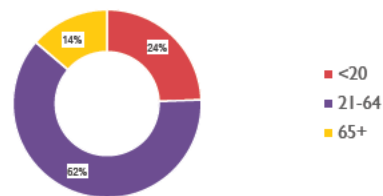
Note: Crashes exclude where severity is labeled "Property Damage Only" or "Unknown", and crashes that were not geocoded by MassDOT/Stantec or geocoded outside of Worcester. Crashes also include severity labeled "Not Reported" as non-severe injury crash to account for underreported injury crashes.

21

Age of Youngest/Oldest Involved in Fatal and Severe Crashes



Age Distribution per the 2022 Census



Source: US Census American Community Survey 2022 5-Year Estimates.

- **Fatal and severe injury crashes** are disproportionately **impacting people aged 21–64**, compared to Census data: 72% of fatal and severe crashes involve this age group, while this age group makes up only 62% of Worcester's population.
- People 65+ are represented in fatal and severe injury crashes (14%), aligning with their share of the population (14%).

Note: Crashes exclude where severity is labeled "Property Damage Only" or "Unknown", and crashes that were not geocoded by MassDOT/Stantec or geocoded outside of Worcester. Crashes also include severity labeled "Not Reported" as non-severe injury crash to account for underreported injury crashes.

22

DRAFT

High Injury Network

Synthesis of crash trends into a network that represents the most common occurrence of the most severe crashes.

23

**VISION
ZERO**

HIN Input Data - Fatal and Severe, All Roadways

Fatal or severe injury crashes per segment.

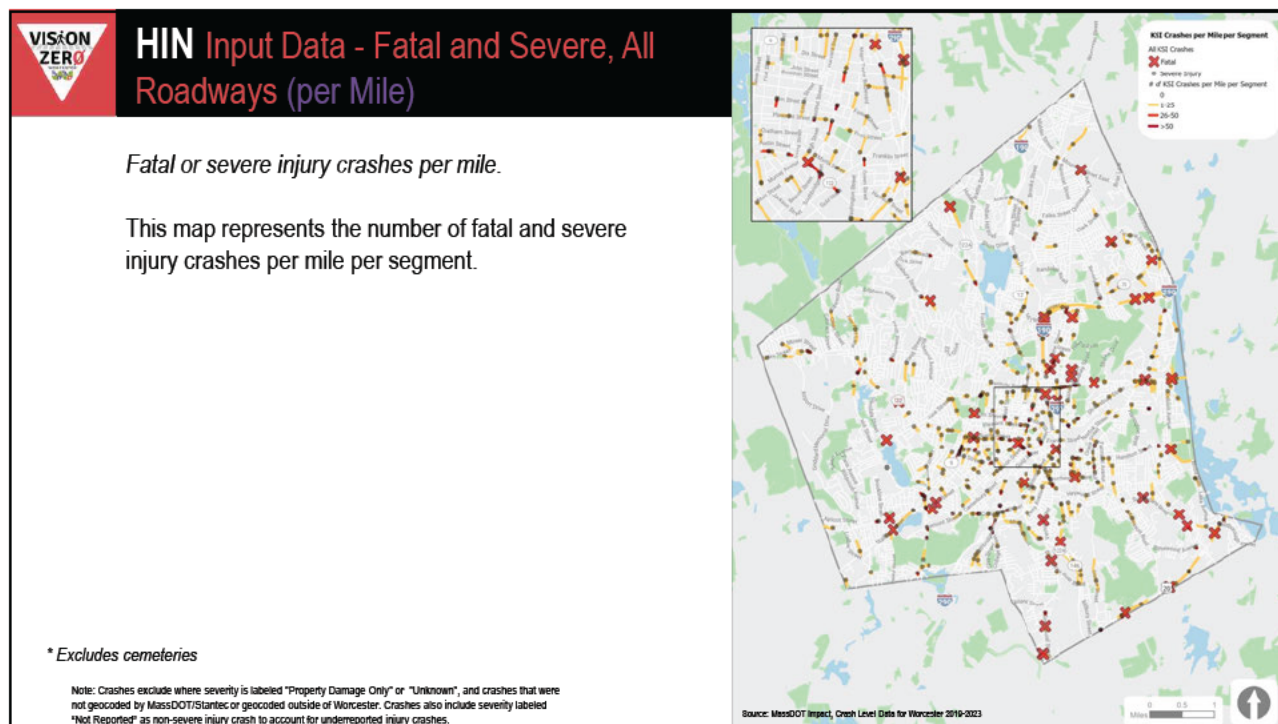
This map represents the number of fatal and severe injury crashes per segment.

Roadways are broken into segments at intersections, so that each segment represents a block.

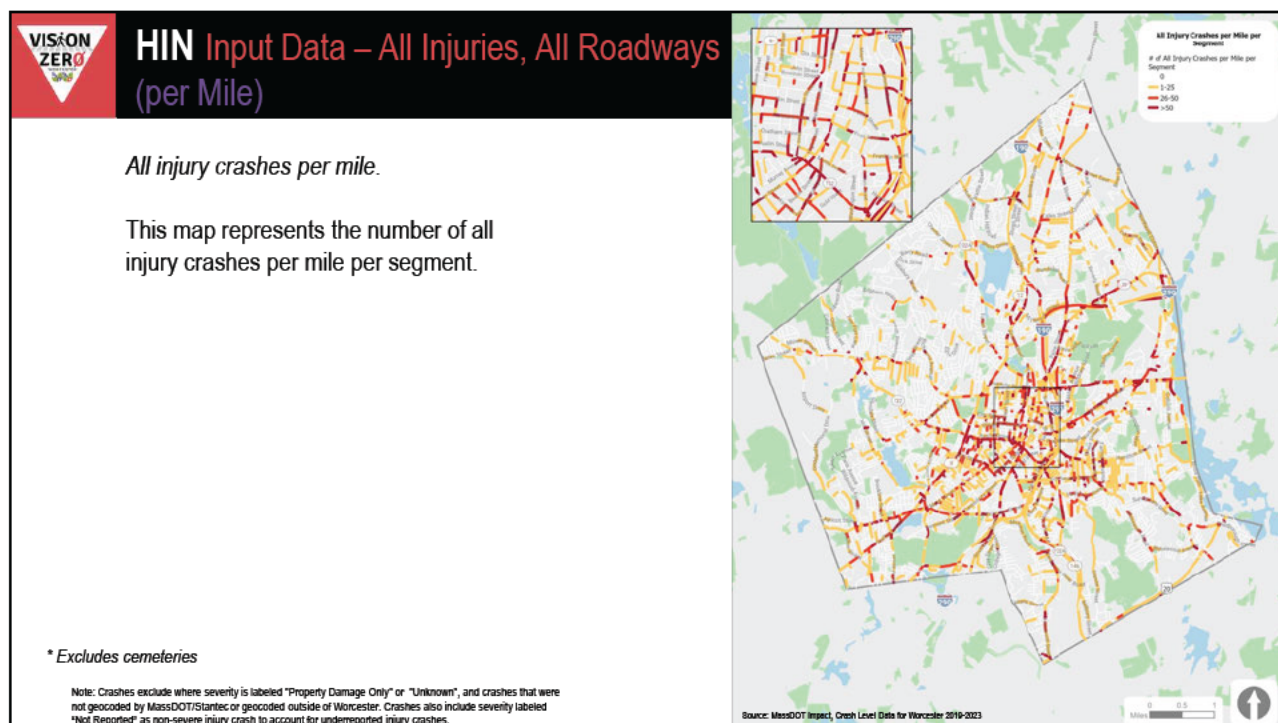
* Excludes cemeteries

Note: Crashes exclude where severity is labeled "Property Damage Only" or "Unknown", and crashes that were not geocoded by MassDOT/Statevec or geocoded outside of Worcester. Crashes also include severity labeled "Not Reported" as non-severe injury crash to account for underreported injury crashes.

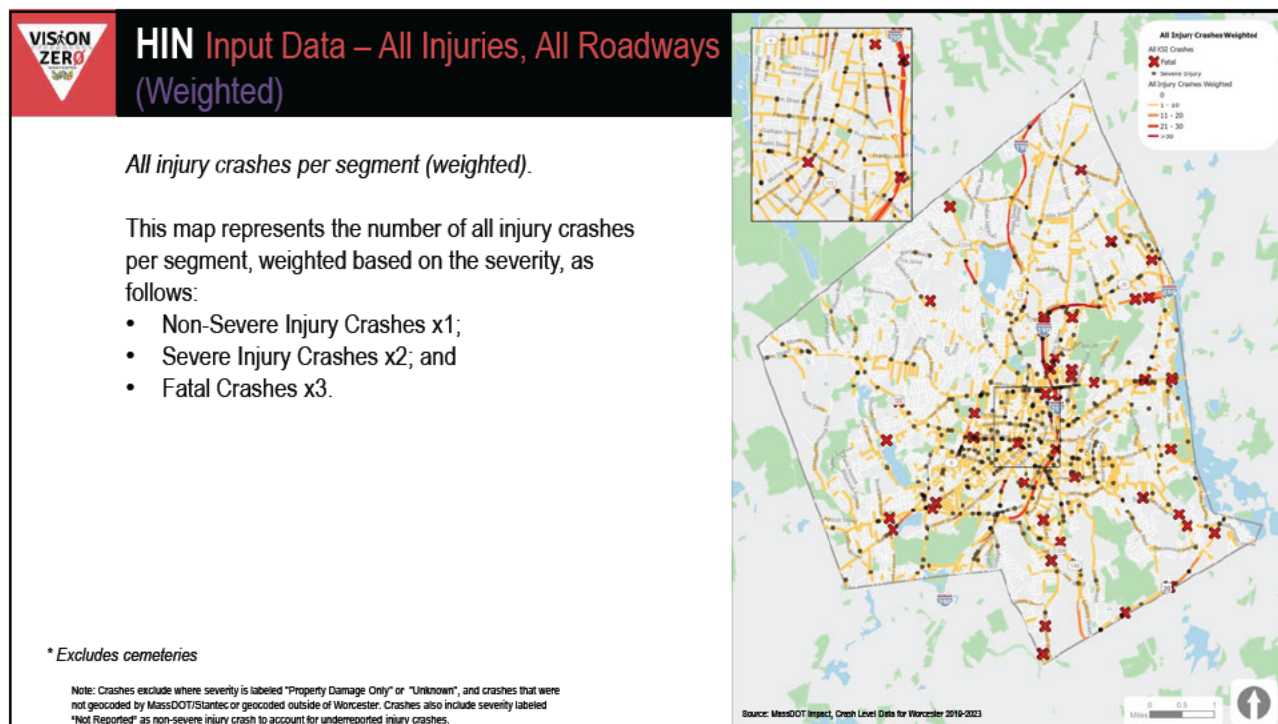
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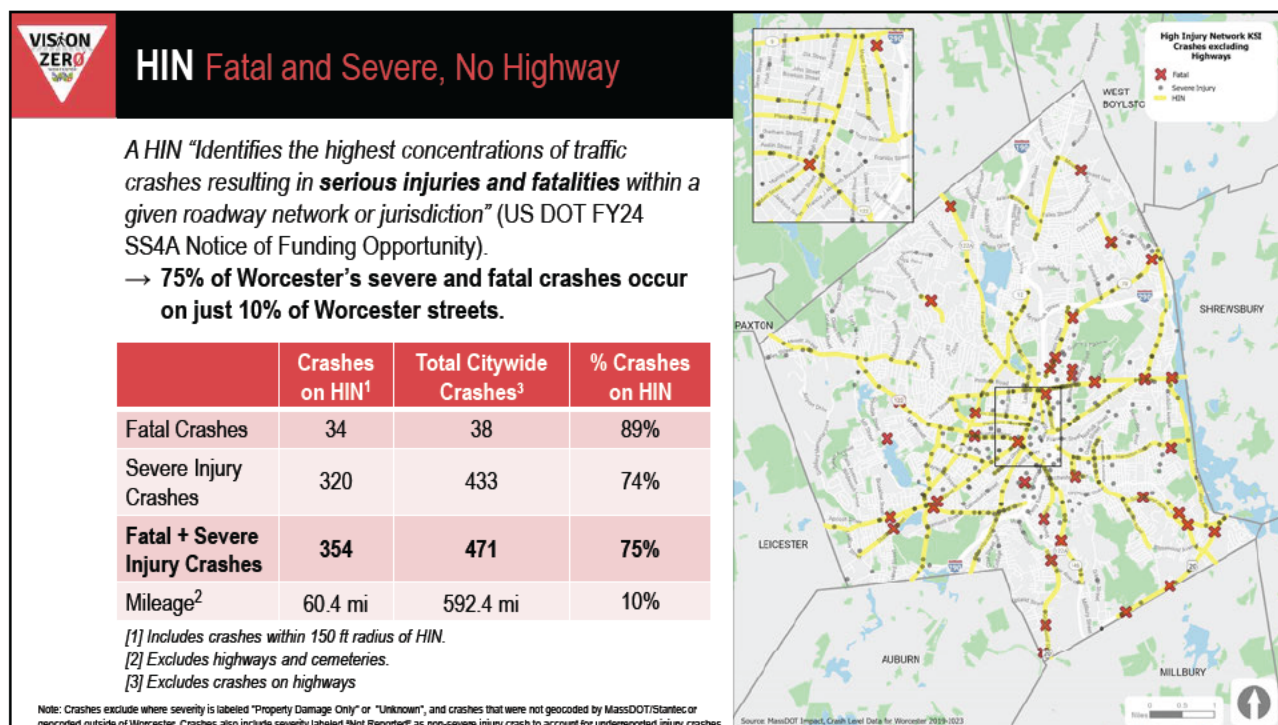
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28



HIN Fatal and Severe, Highway Only

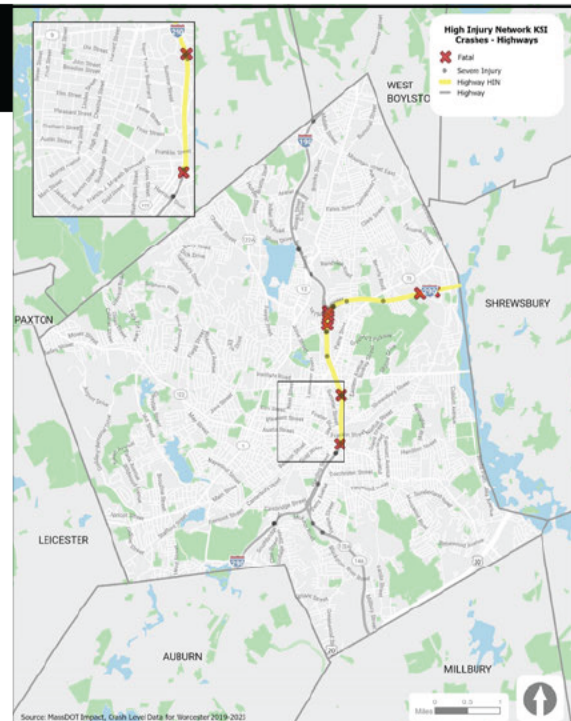
→ 74% of Worcester's severe and fatal crashes occur on just 41% of Worcester's highways and interstates.

	Crashes on HIN ¹	Total Highway Crashes	% Crashes on HIN
Fatal Crashes	7	7	100%
Severe Injury Crashes	19	28	68%
Fatal + Severe Injury Crashes	26	35	74%
Mileage ²	6.4 mi	15.8 mi	41%

[1] Includes crashes within 150 ft radius of HIN.

[2] Includes only highways.

Note: Crashes exclude where severity is labeled "Property Damage Only" or "Unknown", and crashes that were not geocoded by MassDOT/State or geocoded outside of Worcester. Crashes also include severity labeled "Not Reported" as non-severe injury crash to account for underreported injury crashes.



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HIN Fatal and Severe, All Roadway

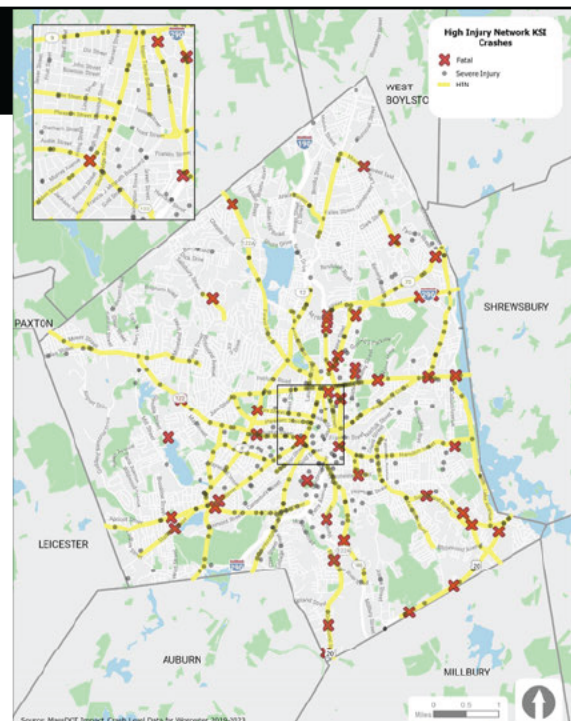
→ 75% of Worcester's severe and fatal crashes occur on just 11% of Worcester streets, highways, and interstates.

	Crashes on HIN ¹	Total Citywide Crashes	% Crashes on HIN
Fatal Crashes	41	45	91%
Severe Injury Crashes	339	461	74%
Fatal + Severe Injury Crashes	380	506	75%
Mileage ²	66.82 mi	604.88 mi	11%

[1] Includes crashes within 150 ft radius of HIN.

[2] Excludes cemeteries.

Note: Crashes exclude where severity is labeled "Property Damage Only" or "Unknown", and crashes that were not geocoded by MassDOT/State or geocoded outside of Worcester. Crashes also include severity labeled "Not Reported" as non-severe injury crash to account for underreported injury crashes.



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HIN and Mass DOT Top Crash Locations

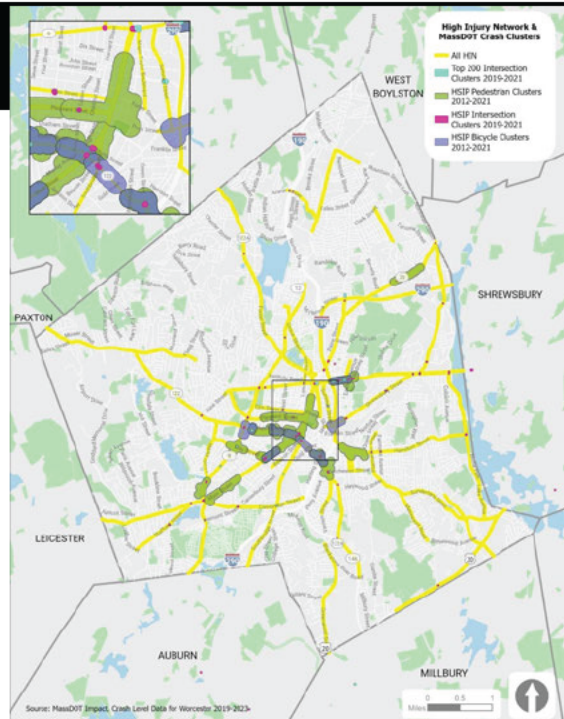
MassDOT's Top Crash Locations are ranked across the state, based on the number crashes, weighted by crash severity.

There are 4 different top crash layers:

1. Top 200 Intersection Crash Clusters 2019-2021;
2. Top 5% Intersection Crash Clusters 2019-2021;
3. Top 5% Bicycle Crash Clusters 2012-2021; and
4. Top 5% Pedestrian Crash Clusters 2012-2021.

→ All locations on the 4 MassDOT crash cluster maps in Worcester are included on the HIN.

Note: Crashes exclude where severity is labeled "Property Damage Only" or "Unknown", and crashes that were not geocoded by MassDOT/Stantec or geocoded outside of Worcester. Crashes also include severity labeled "Not Reported" as non-severe injury crash to account for underreported injury crashes.



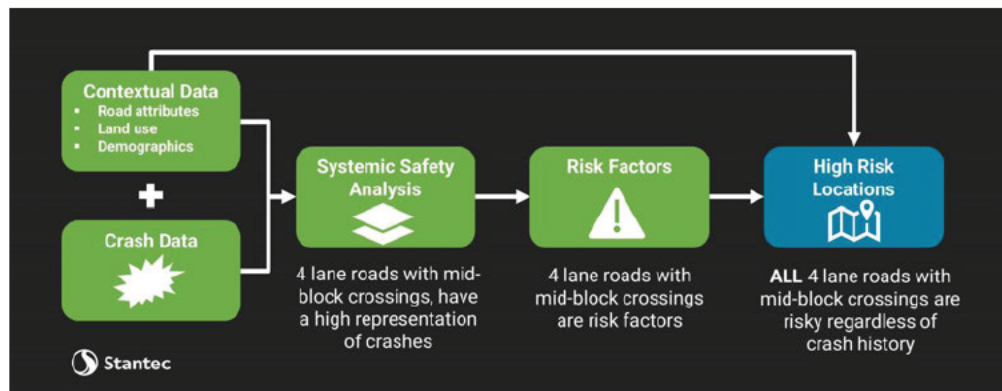
31

Systemic Analysis

Assessment of contextual factors such as roadway, environmental, and land use characteristics, that are overrepresented in the crash data.

32

Example of the Systemic Approach



33

Category	Data	Radius*	Note
Land Use	Mass Environmental Justice (EJ) Population	Overlaps or within 100ft	Meets at least 2 categories
	Federal CEJST Population	Overlaps or within 100ft	CEJST: Climate and Economic Justice Screening Tool
	School	Within 1000 ft	Included Secondary, Middle, Elementary, Alternative, and Pre-schools
	Health Care Facility	Within 1000 ft	
	Community Center & Library	Within 1000 ft	
	Shelter	Within 1000 ft	
	Park	Within 200 ft	
Joined by STN	Bicycle Lane	Within 50 ft	Excluded proposed and future bicycle lanes
	Protected Bicycle Lane	Within 50 ft	Blackstone River Bikeway, Pedestrian Bike Bridge, Shared Use Path, Sidewalk Level, Buffered, Parking Protected Buffered
	Bus Stop	Within 200 ft	
	Sidewalk	Within 100 ft	
	Poor Sidewalk Condition	Within 100 ft	Sidewalk width is less than "5 ft" OR sidewalk condition is "Poor"
	Crosswalk	Within 100 ft	
	Crosswalk Ramp	Within 100 ft	
	Traffic Signal	Within 200 ft	
	Posted Speed Limit	Within 50 ft	With higher speed assigned if two streets are within 50 ft
	Streetlight Observed Speed	Within 50 ft	With higher speed assigned if two streets are within 50 ft
Joined by MassDOT	AADT	MassDOT Proximity Analysis	
	Sidewalk Width		
	Number of Travel Lanes		

*This means that all crashes within the specified radius are captured as near or within the sphere of influence of the variable.

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Contextual Data - Land Use Analysis



Data	Radius	% of Worcester Area	% of All Injury Crashes	% of Fatal and Severe Injury Crashes	% Pedestrian Involved Crashes	% Bicycle Involved Crashes
Mass EJ Population ¹	Overlaps or within 100ft	35%	72%	75%	85%	81%
Federal CEJST Population	Overlaps or within 100ft	28%	69%	68%	81%	80%
School	Within 1000 ft	14%	24%	21%	30%	32%
Health Care Facility	Within 1000 ft	6%	15%	12%	22%	21%
Community Center & Library	Within 1000 ft	4%	8%	9%	14%	14%
Shelter	Within 1000 ft	4%	15%	17%	23%	21%
Park	Overlaps or within 200 ft	9%	9%	9%	10%	7%

[1] Meeting at least 2 criteria

Note: Crashes exclude where severity is labeled "Property Damage Only" or "Unknown", and crashes that were not geocoded by MassDOT/Stanec or geocoded outside of Worcester. Crashes also include severity labeled "Not Reported" as non-severe injury crash to account for underreported injury crashes.

→ This table shows the percentage of Worcester area that is within the specified radius of these land use categories or community facilities, along side the percentage of crashes that are within the same radius.

→ **Red** shading indicates more than a 10% difference in crash representation than area representation including in or near: Mass and Federal EJ populations, schools, health care facilities, community centers, libraries, and shelters. In other words, **red shading indicates these locations are risk-factors because they are overrepresented in the crash data.**

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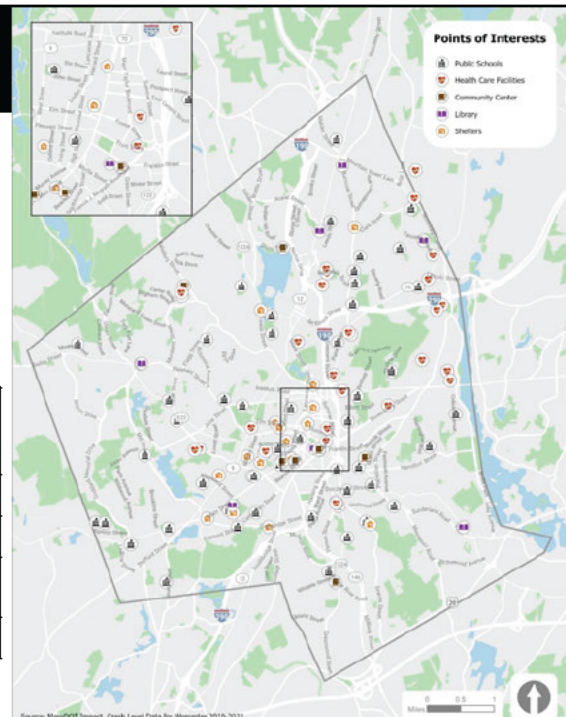
Land Use Points of Interest

→ **Red** shading indicates more than a 10% difference in crash representation than area representation including near: schools, health care facilities, community centers, libraries, and shelters. In other words, **red shading indicates these locations are risk-factors because they are overrepresented in the crash data.**

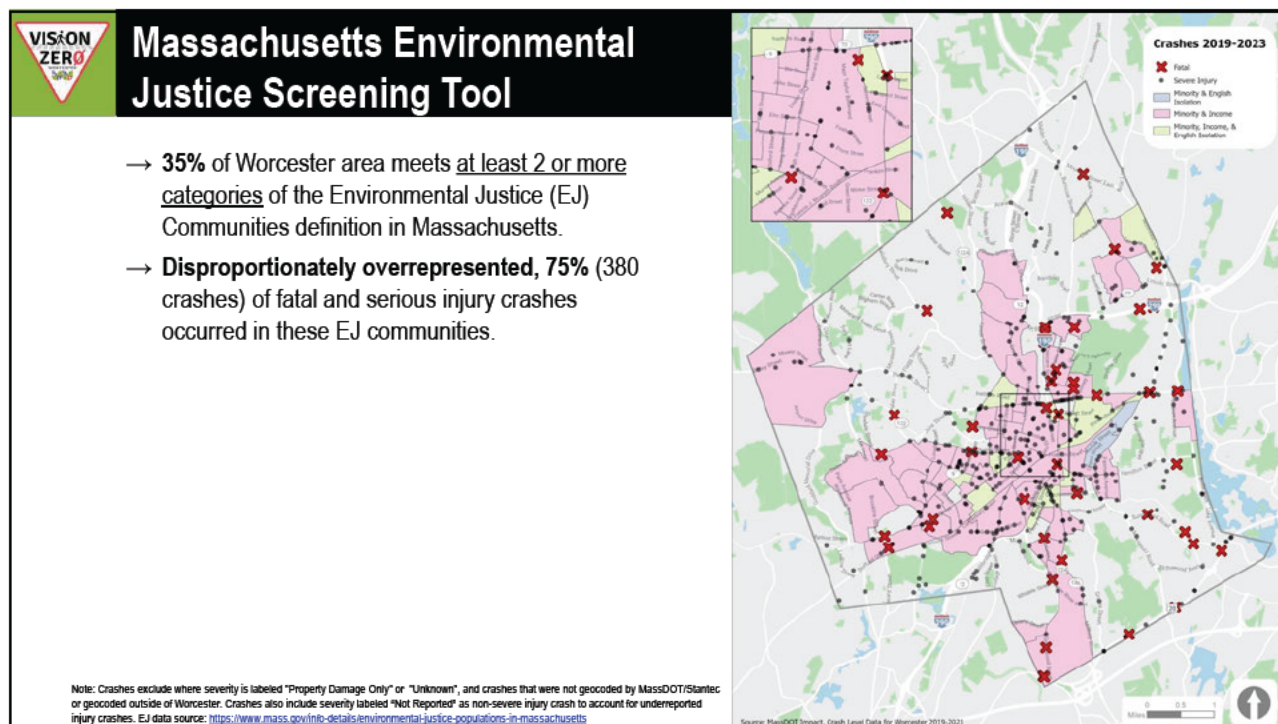


Data	Radius	% of Worcester Area	% of All Injury Crashes	% of Fatal and Severe Injury Crashes	% Pedestrian Involved Crashes	% Bicycle Involved Crashes
School	Within 1000 ft	14%	24%	21%	30%	32%
Health Care Facility	Within 1000 ft	6%	15%	12%	22%	21%
Community Center & Library	Within 1000 ft	4%	8%	9%	14%	14%
Shelter	Within 1000 ft	4%	15%	17%	23%	21%

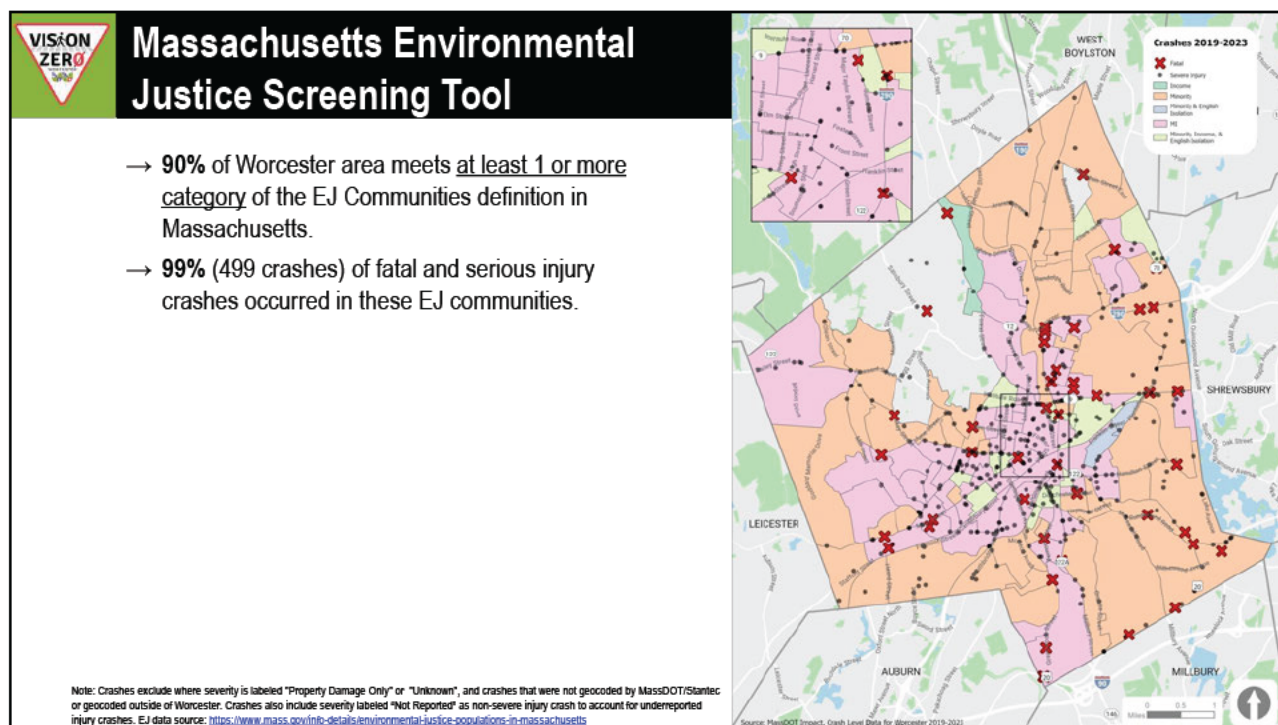
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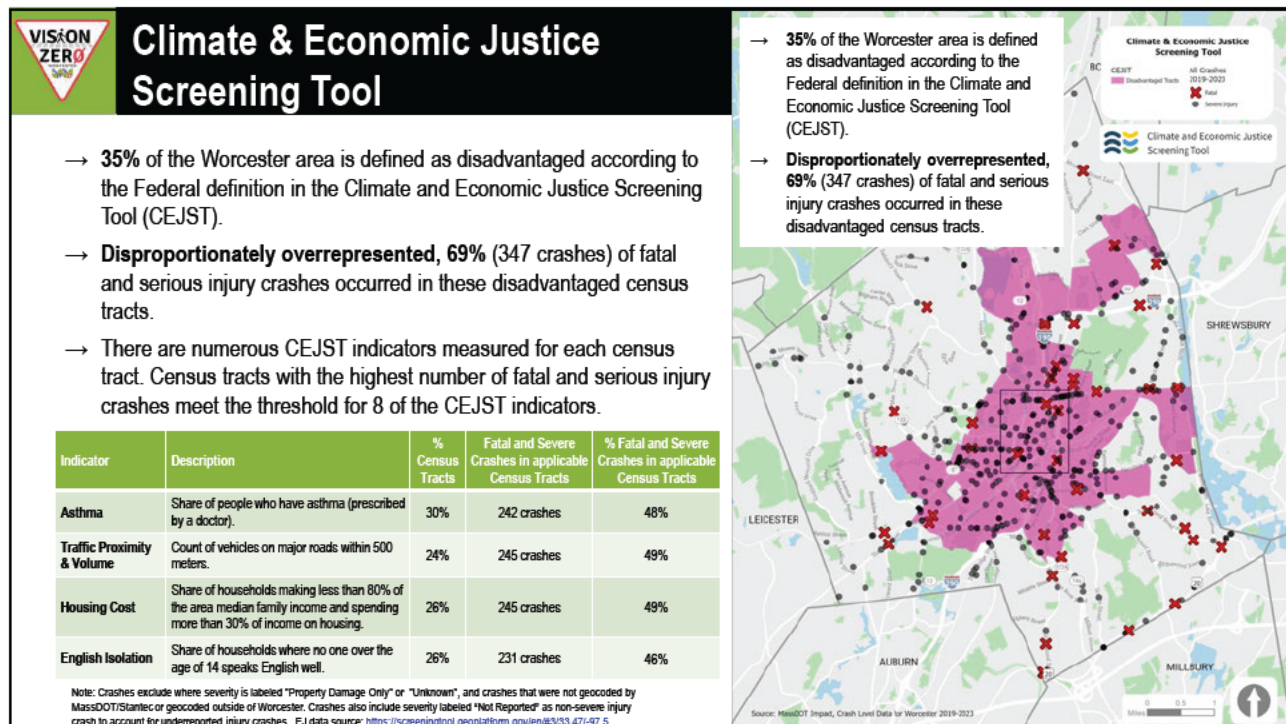


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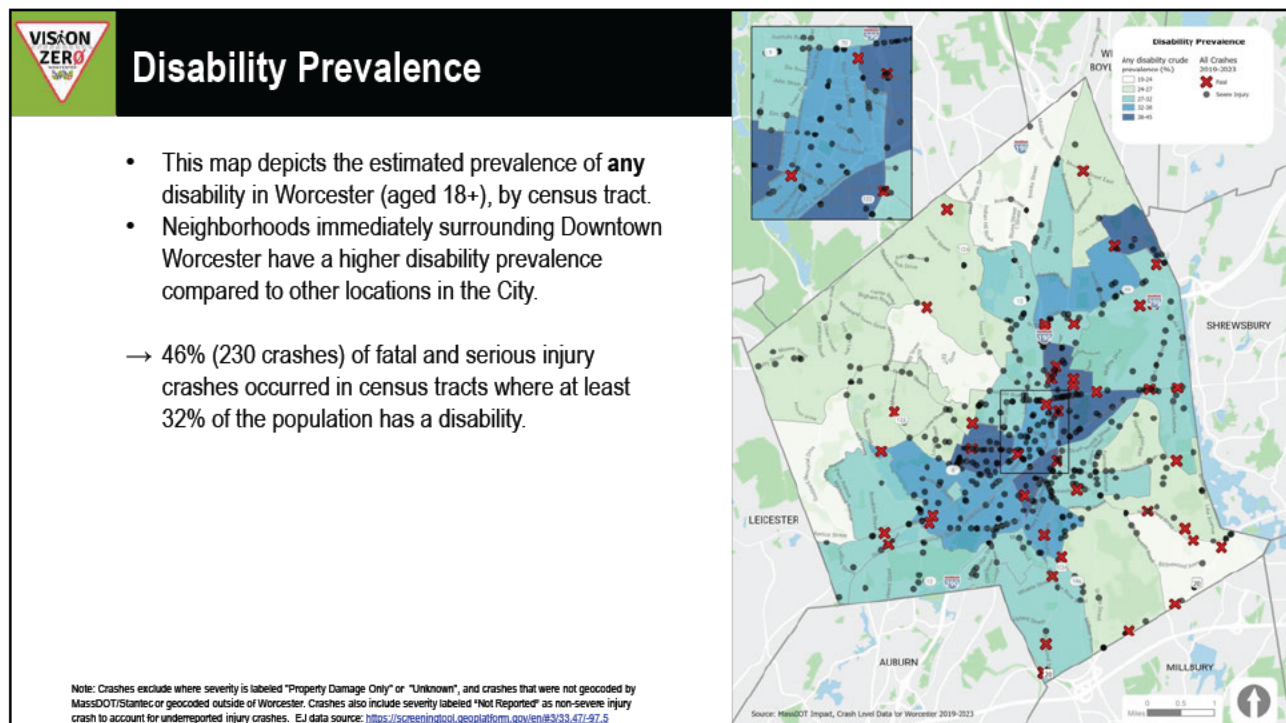


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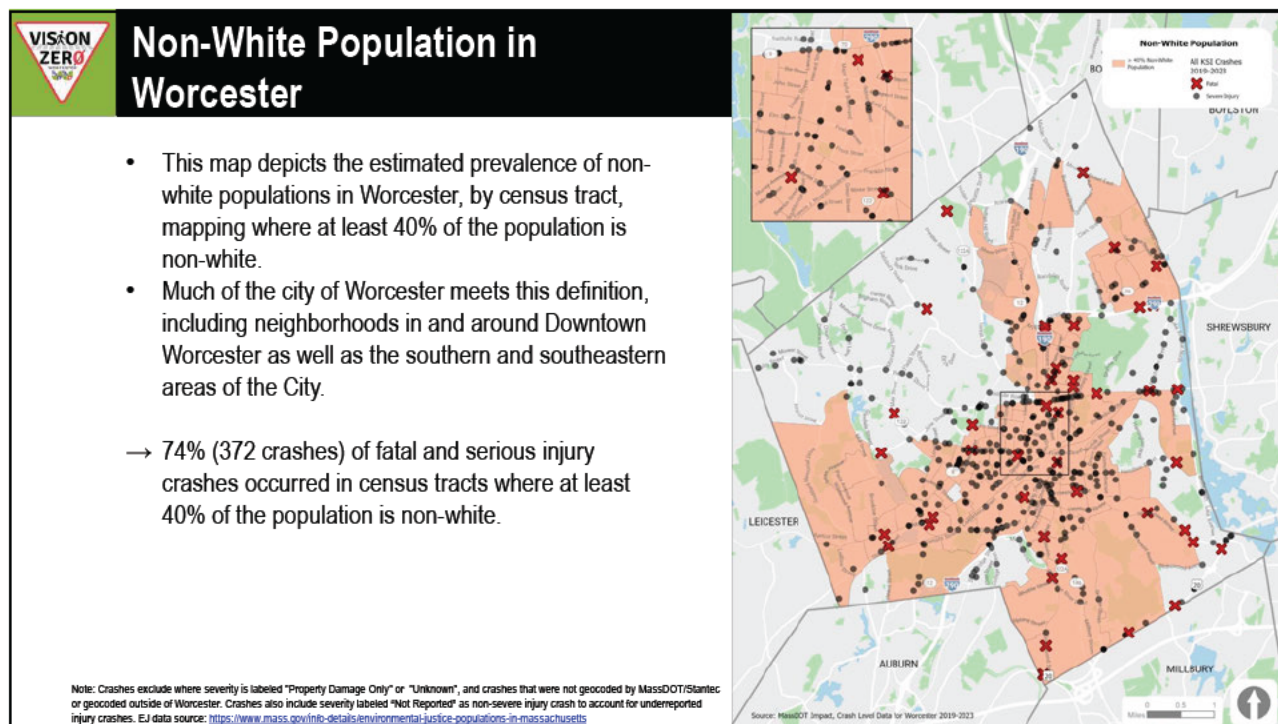




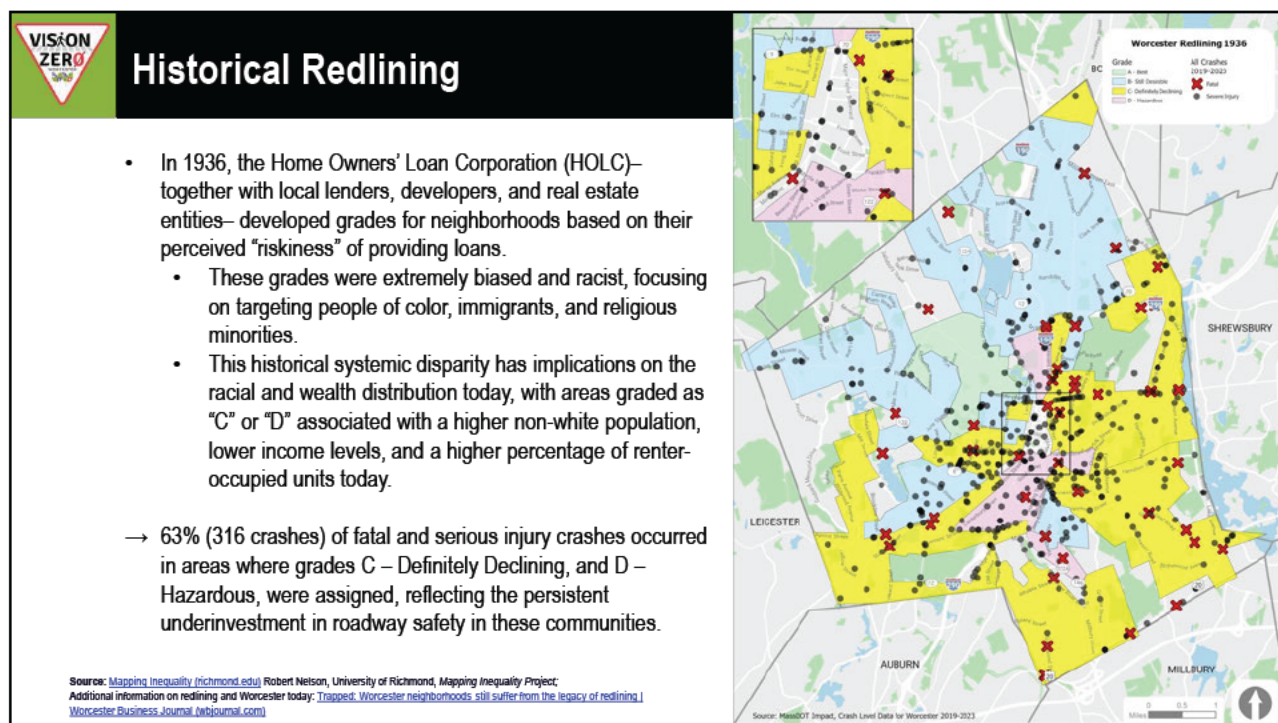
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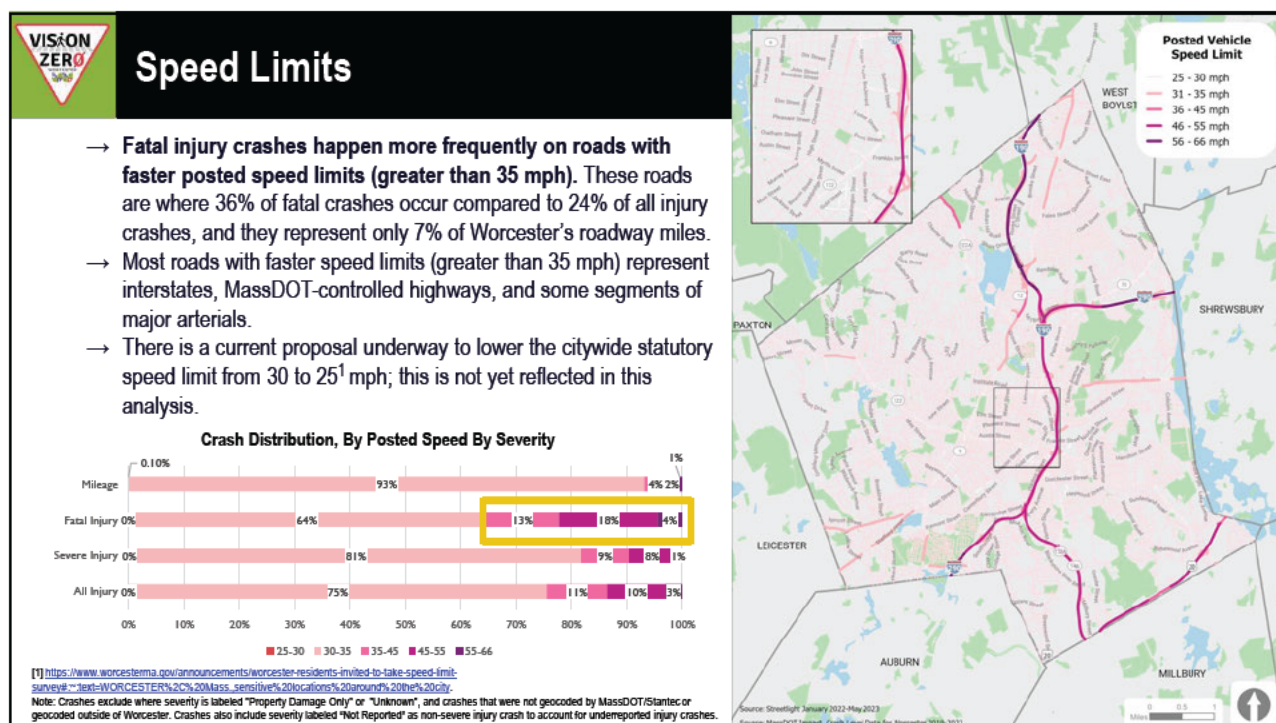


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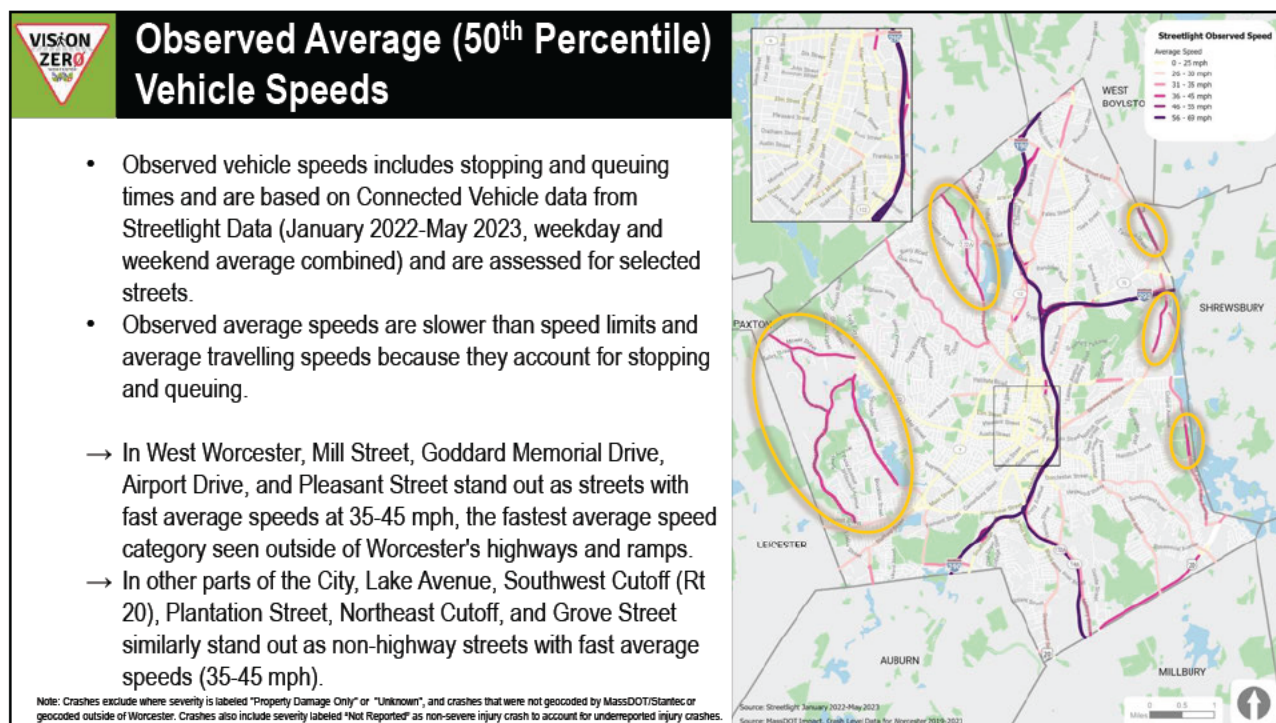


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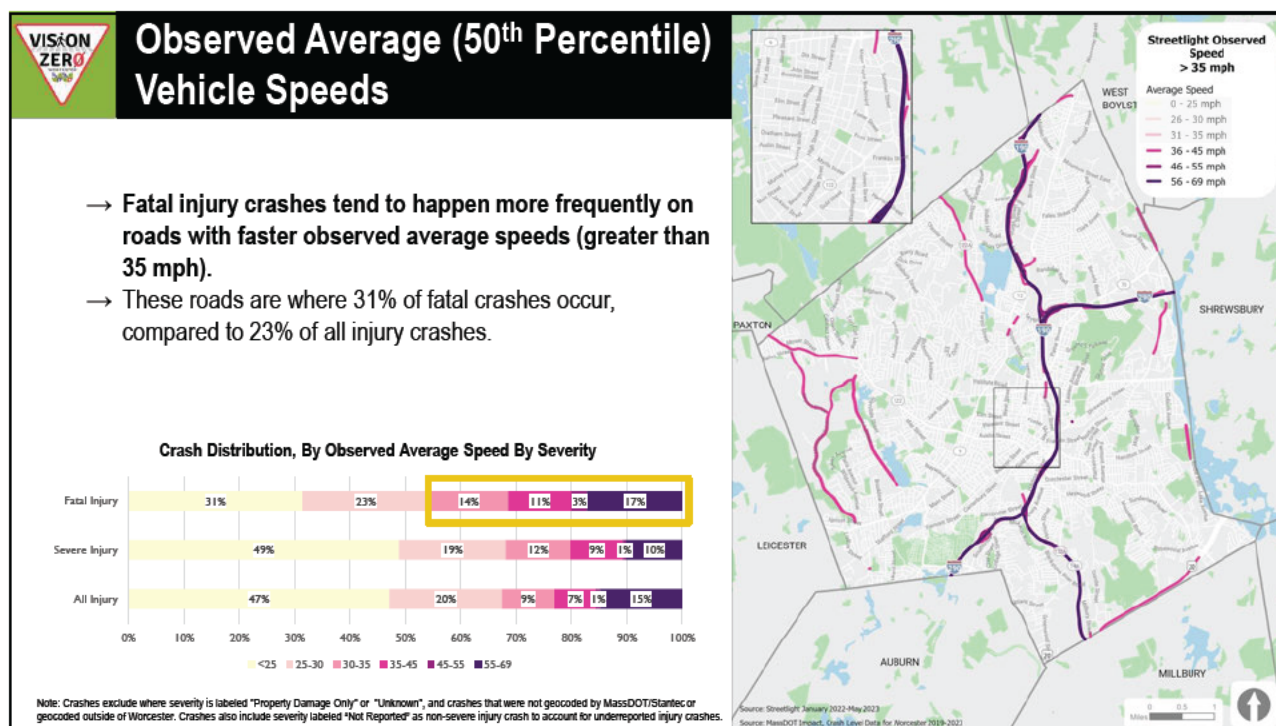




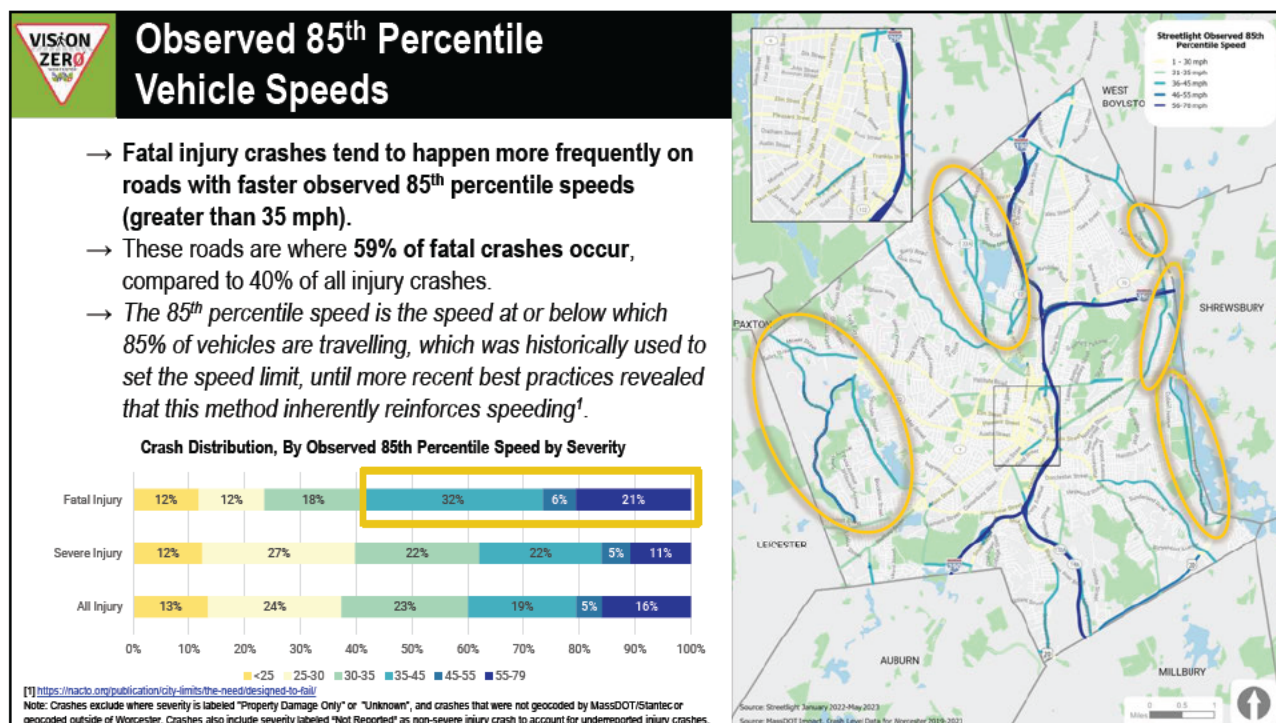
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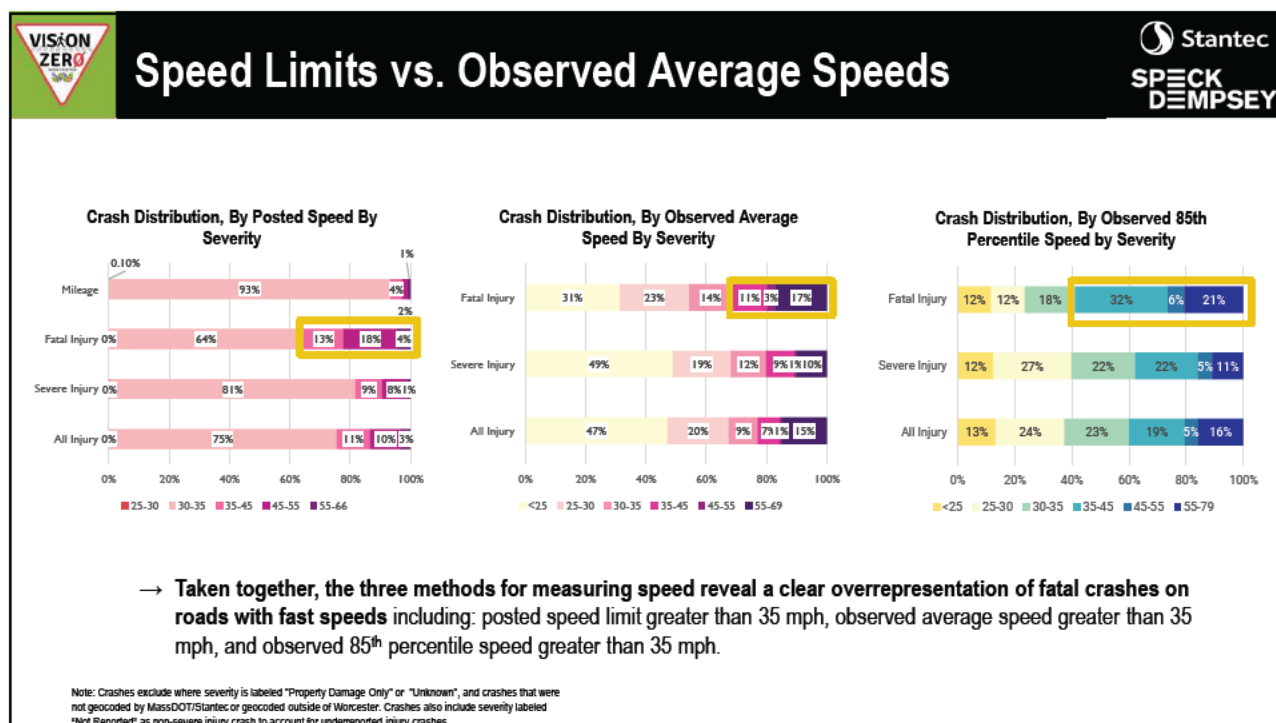
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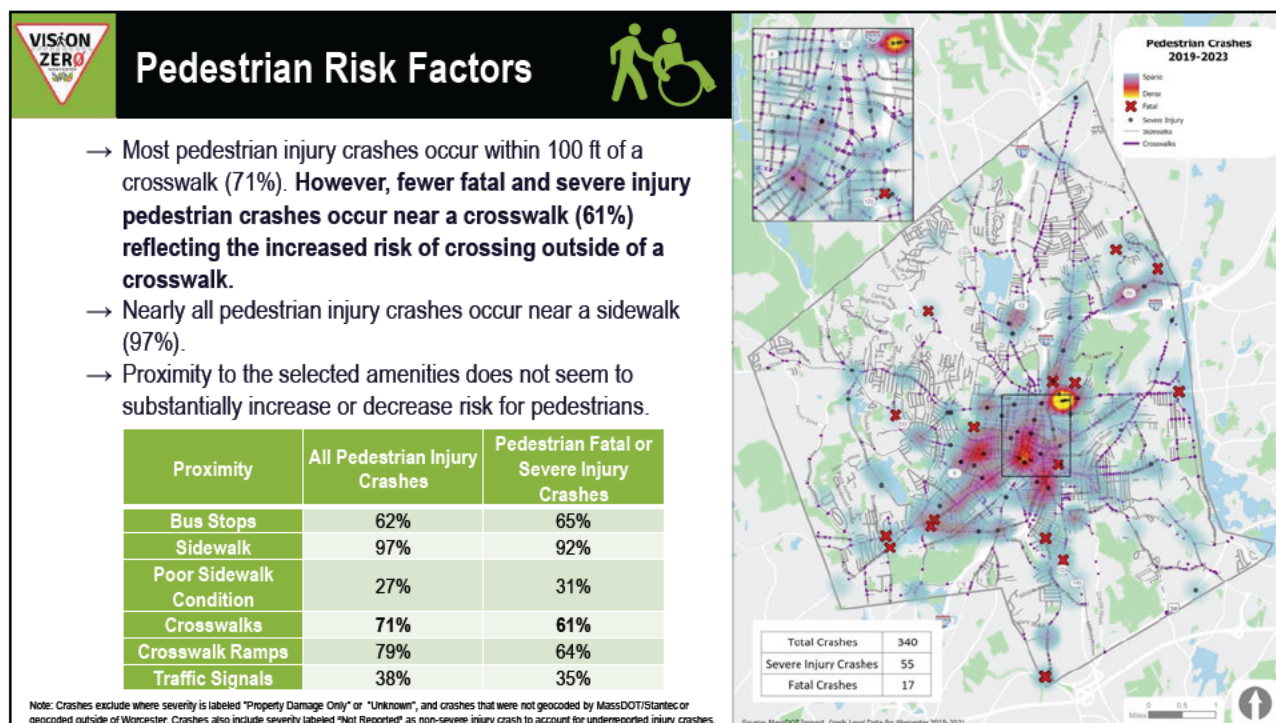
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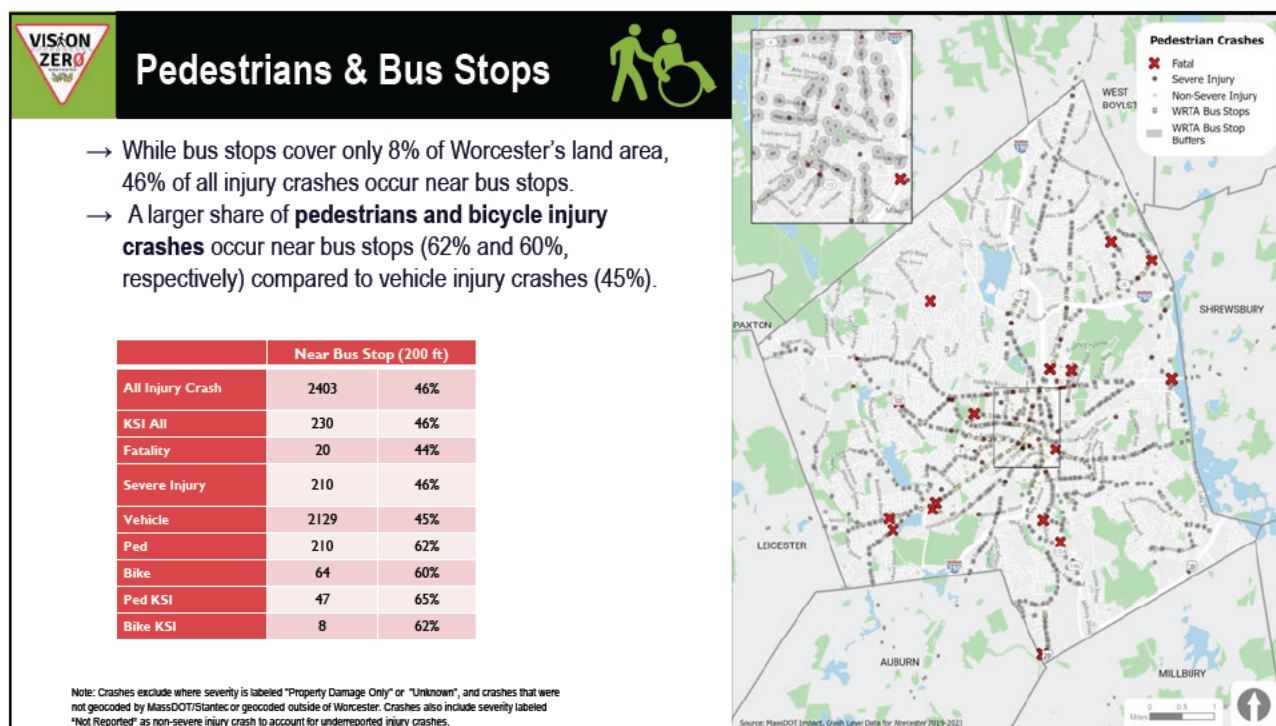
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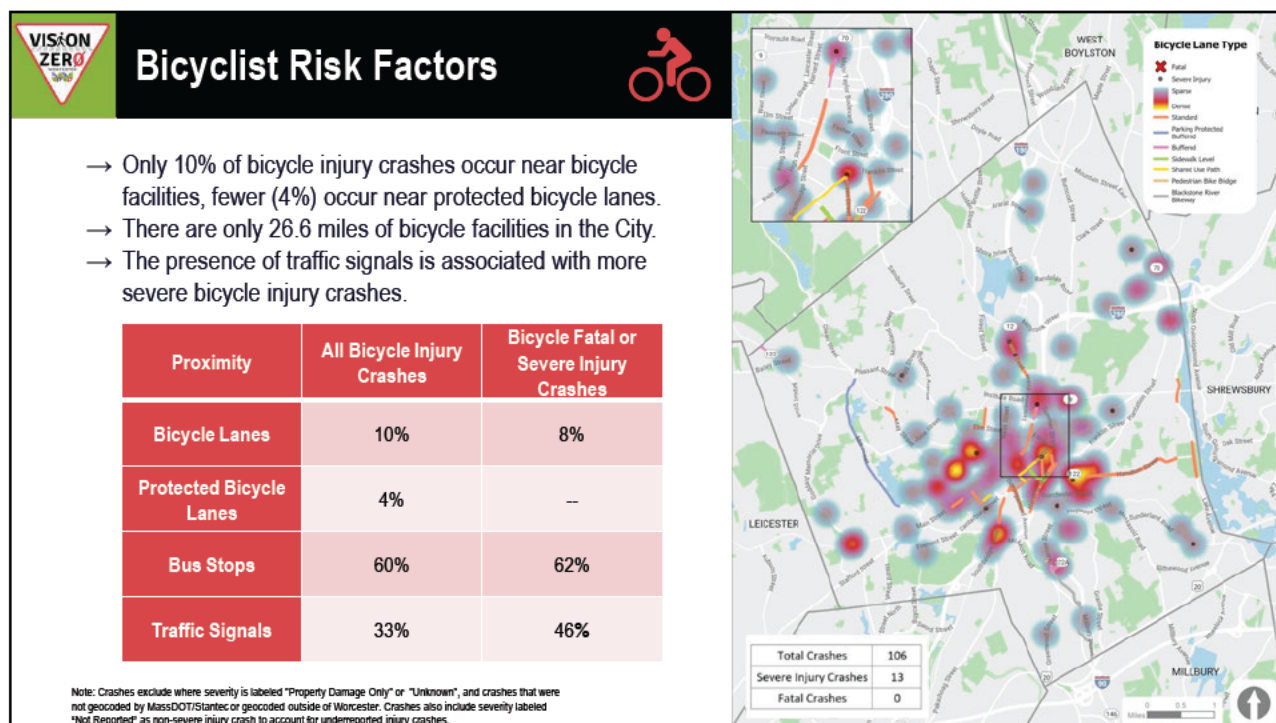
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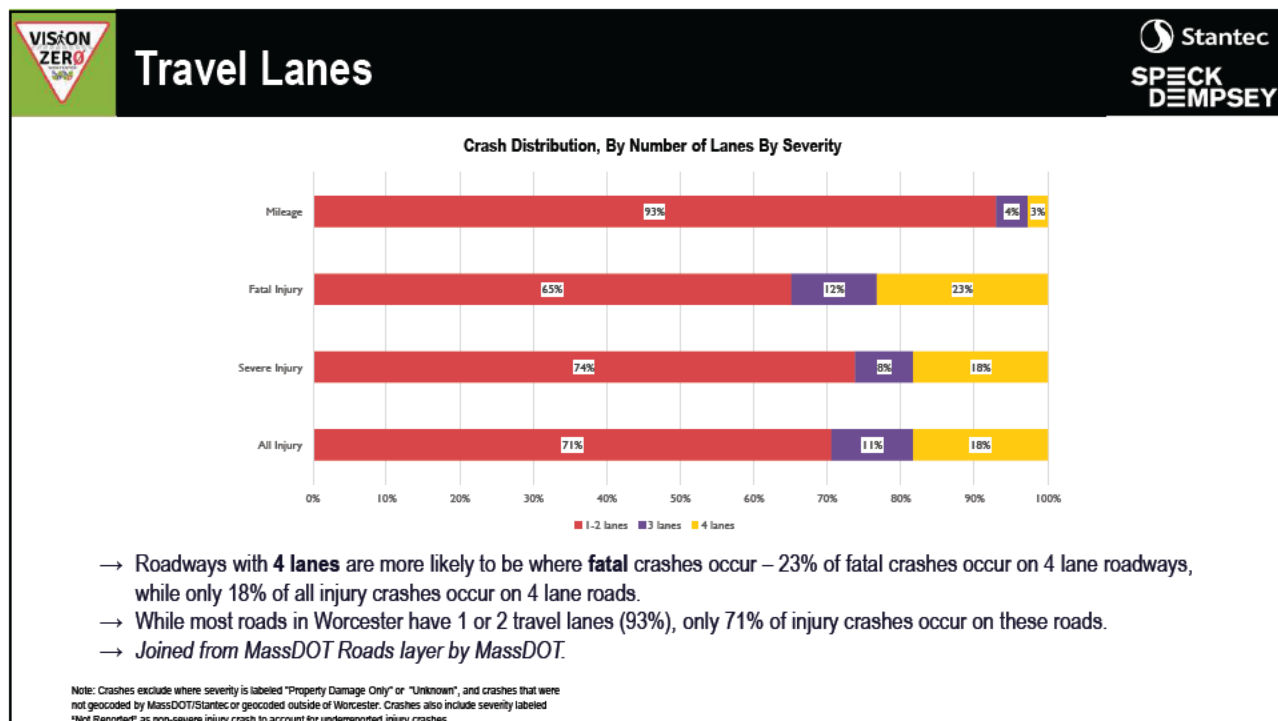
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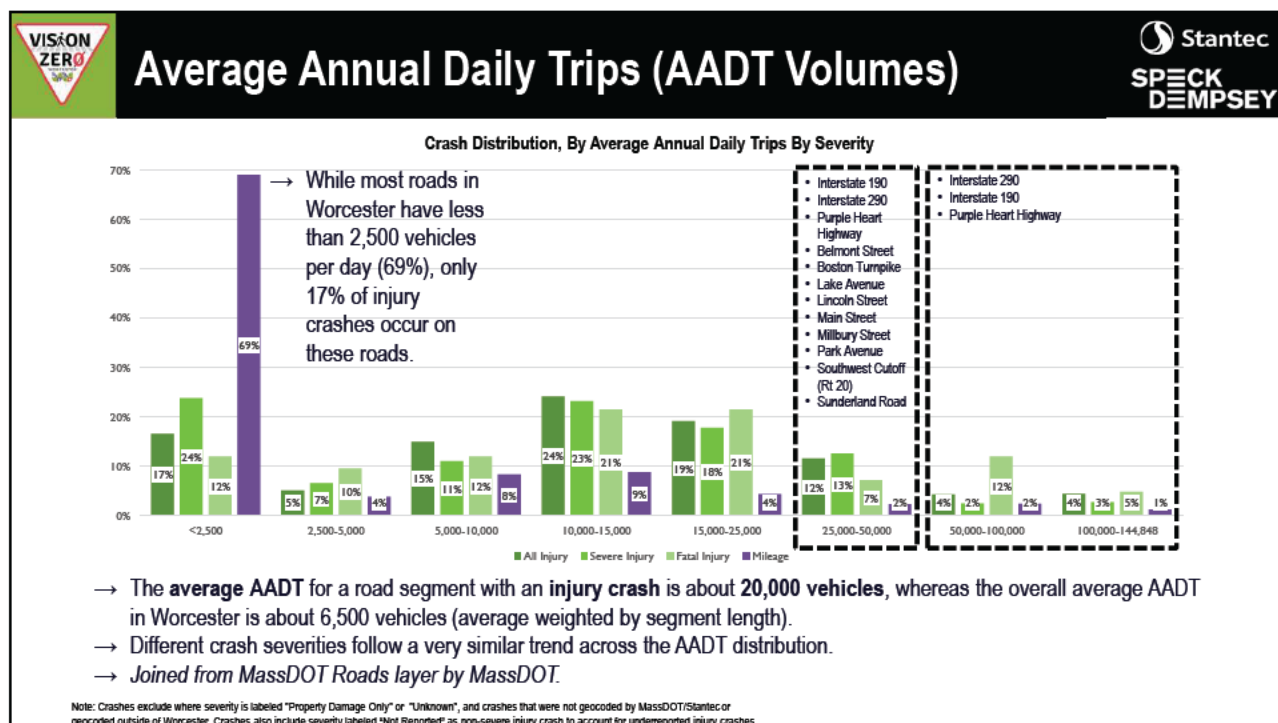
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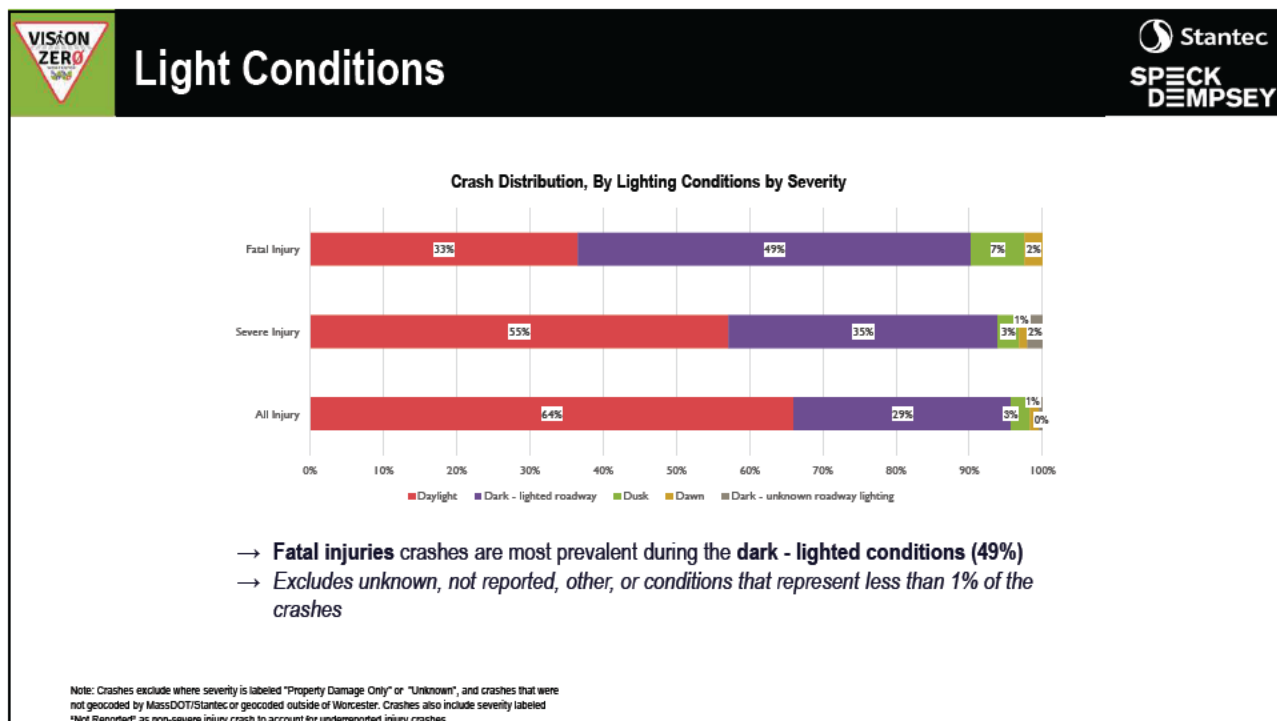
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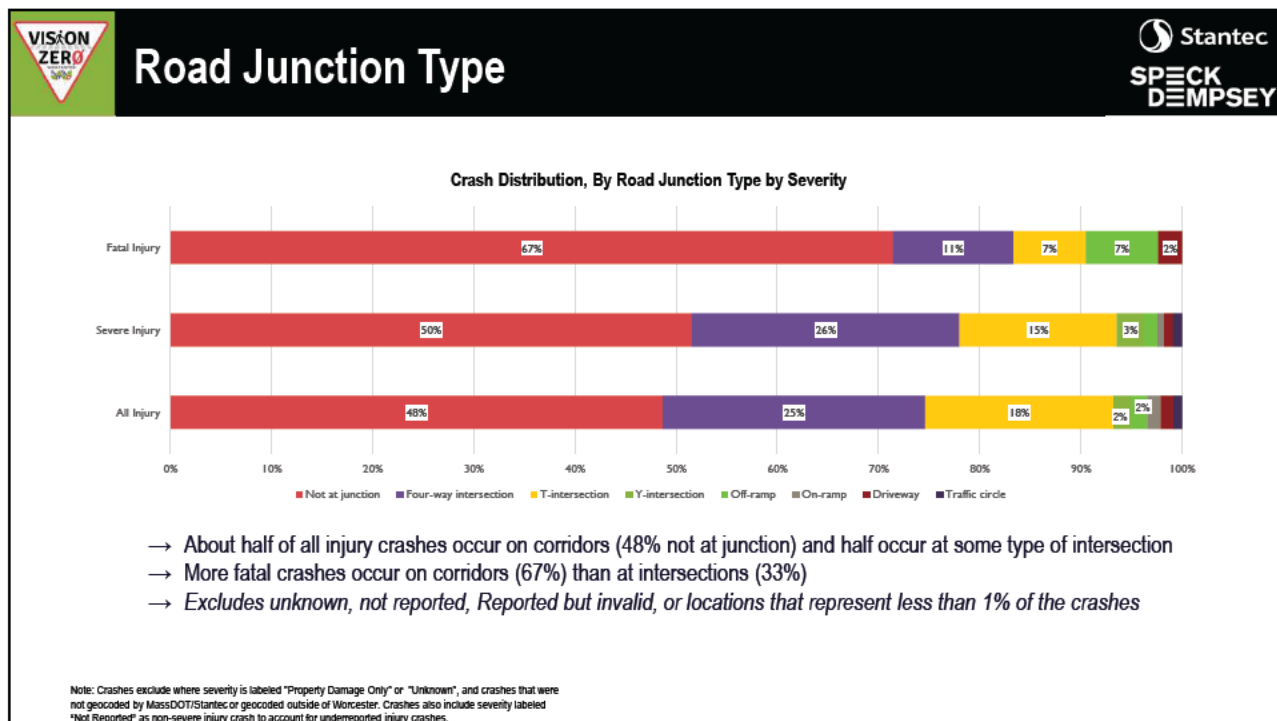
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Contextual Risk Factors



Land Use Risk Factors:

- **Equity:** all EJ communities.
- **All Injury Crashes:** near shelters.
- **Multimodal Injury Crashes:** near schools, health care facilities, community centers, libraries, and shelters.

Roadway Risk Factors:

- **All Injury Crashes:** posted speed limit or observed 85th percentile speed higher than 35 mph.
- **Pedestrian Injury Crashes:** near **crosswalks**.
- **Bicyclist Injury Crashes:** near **traffic signals**.

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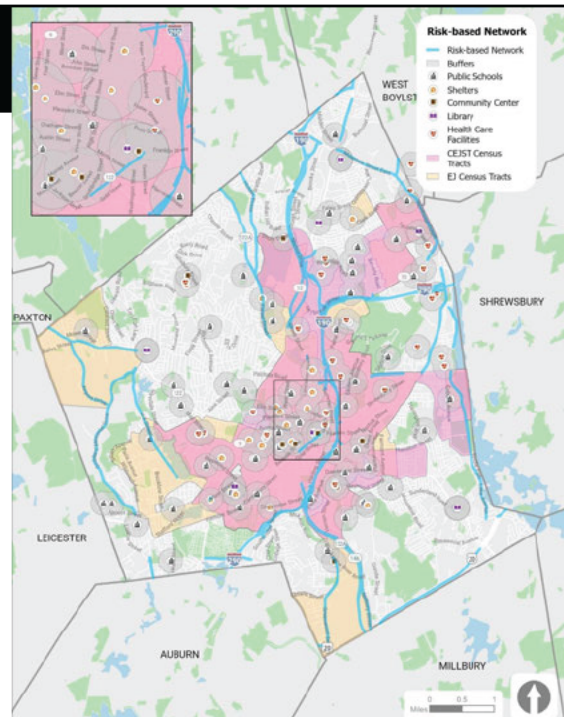


Risk-based Network

High-Risk Locations

- *Mass EJ Population OR Federal CEJST Population*
- *Posted speed limit or observed 85th percentile speed > 35 mph*
- *Near community facilities (within 1000 ft)*

Note: Crashes exclude where severity is labeled "Property Damage Only" or "Unknown", and crashes that were not geocoded by MassDOT/Stanec or geocoded outside of Worcester. Crashes also include severity labeled "Not Reported" as non-severe injury crash to account for underreported injury crashes.

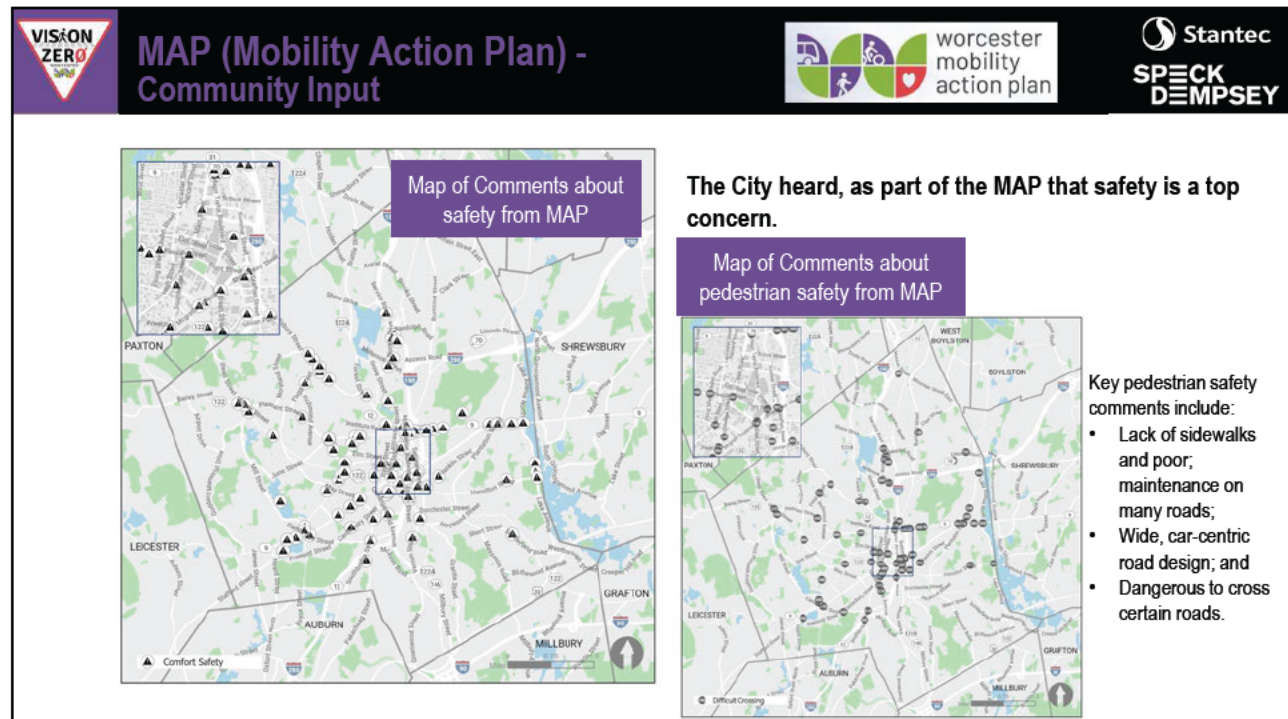


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Past Planning

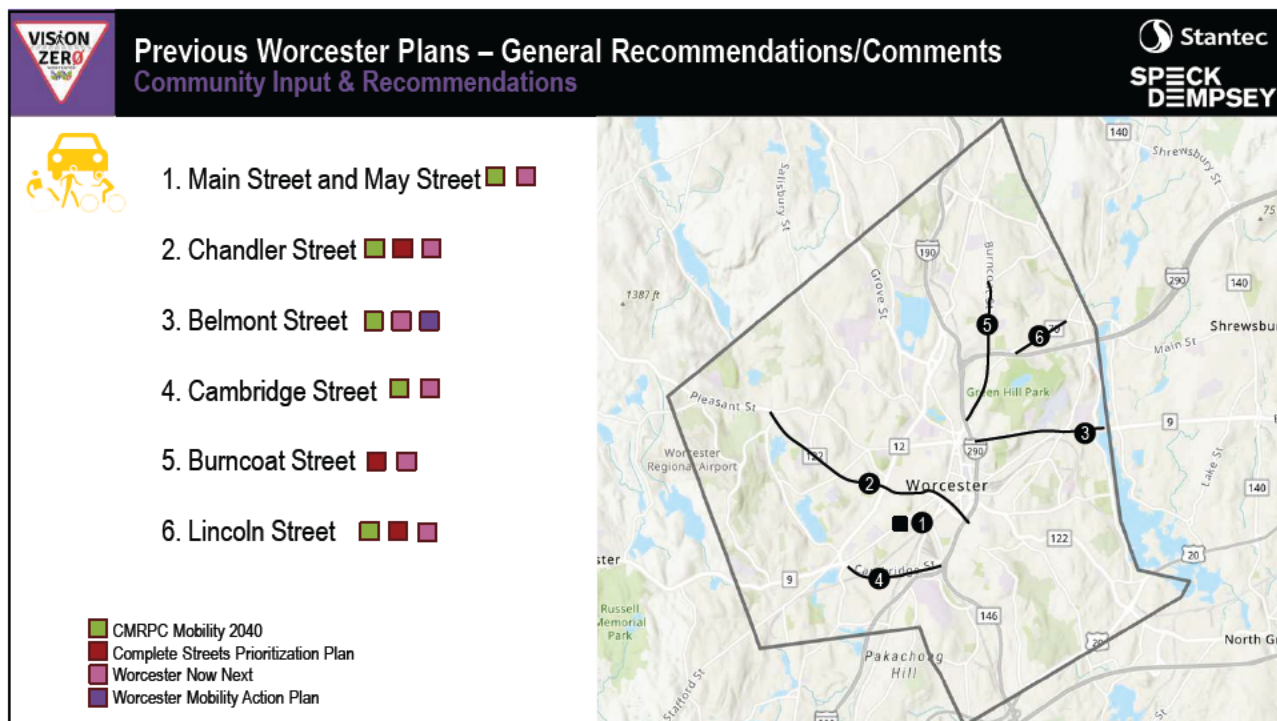
Details of specific safety-related feedback and recommendations in past planning and community engagement.

57

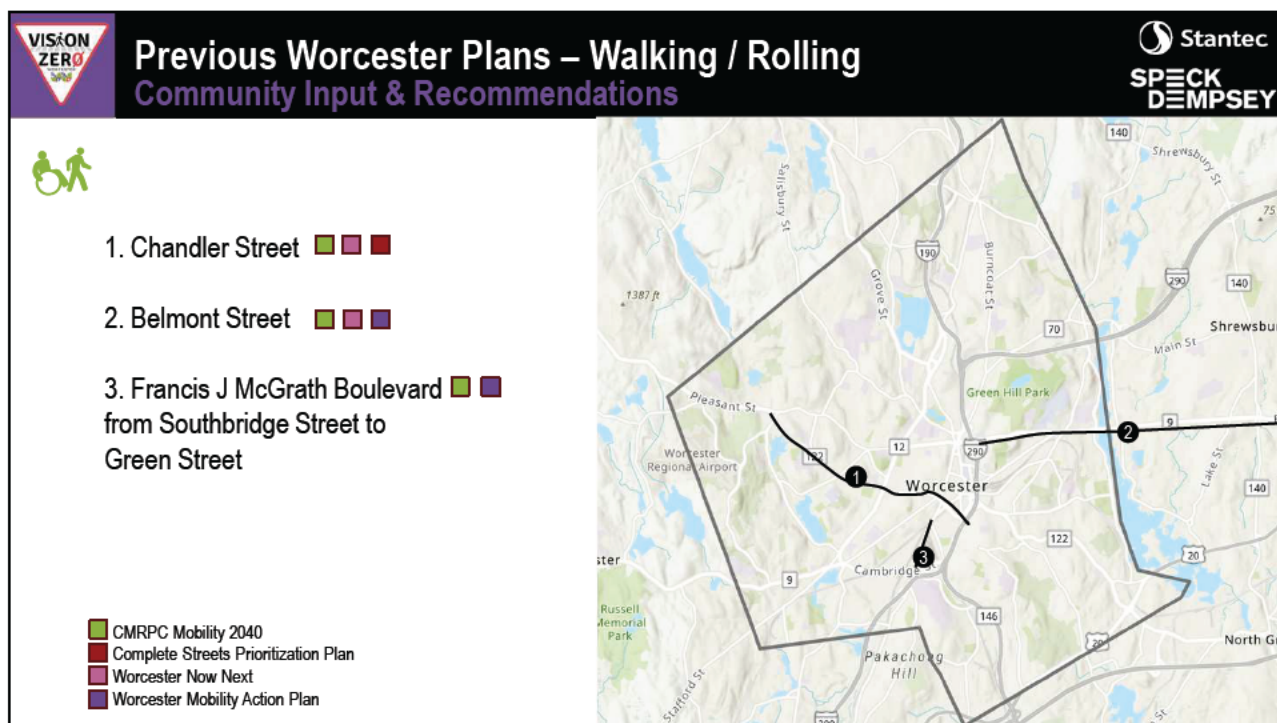


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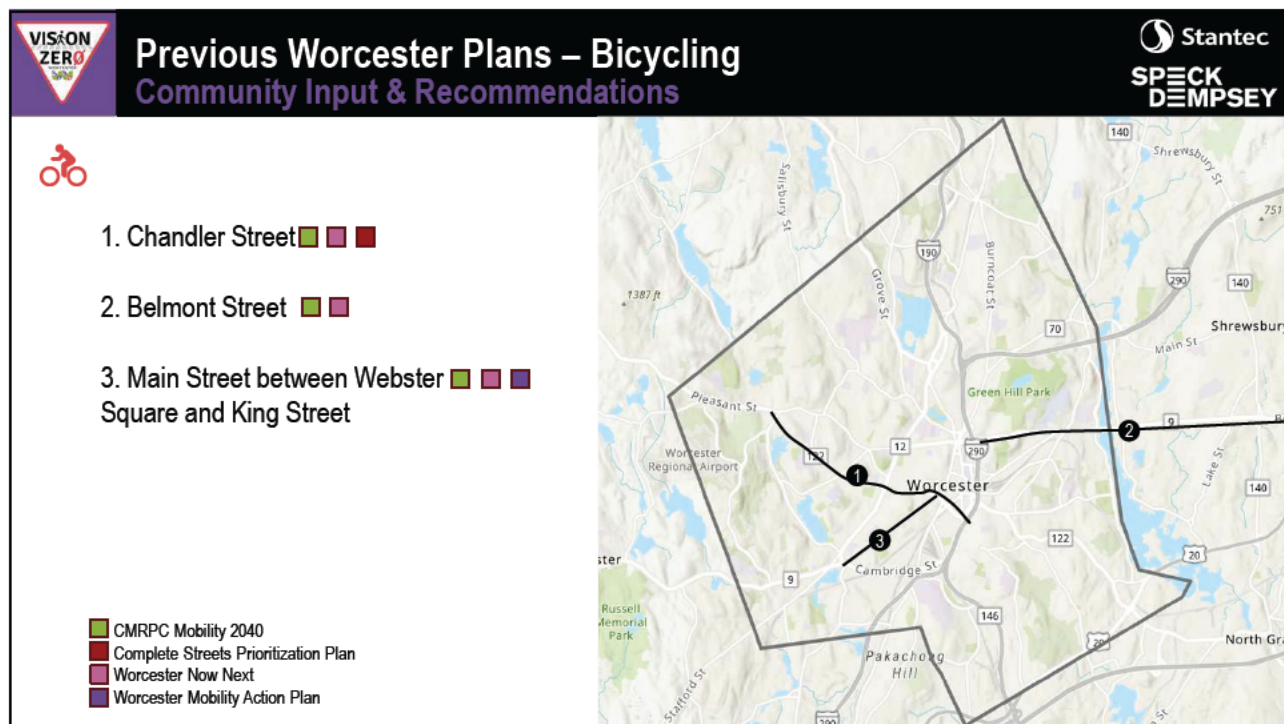




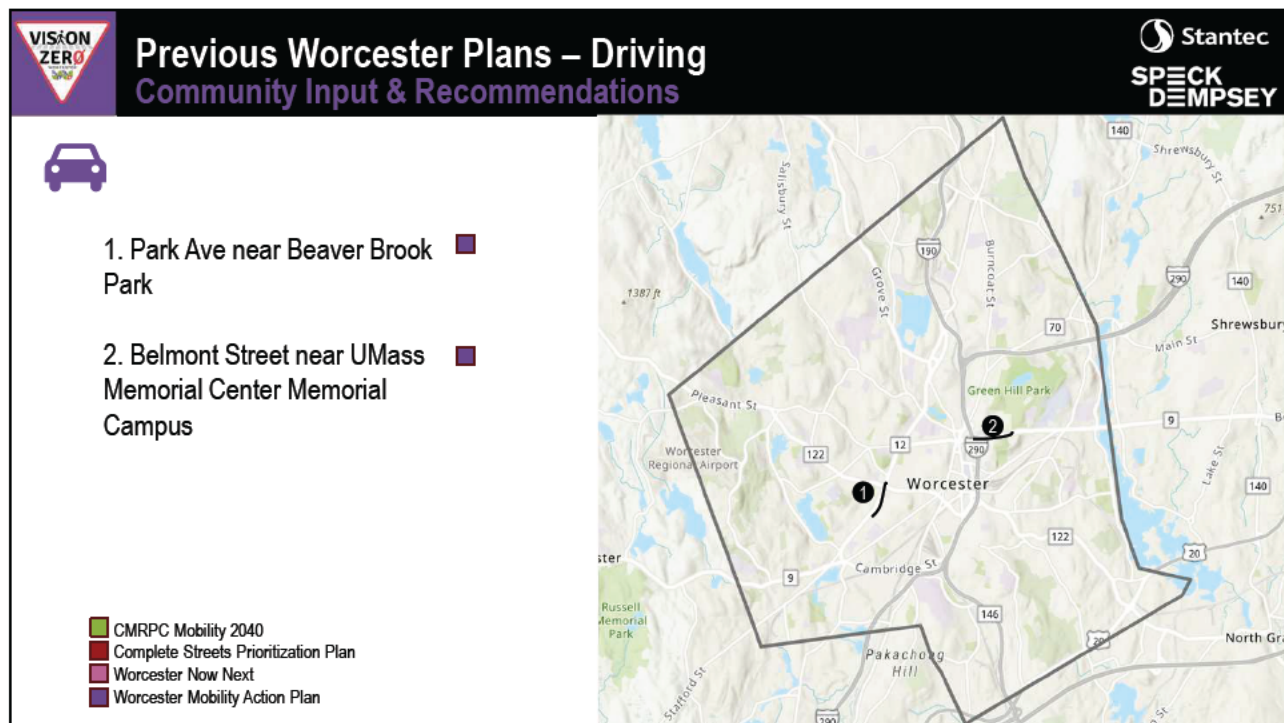
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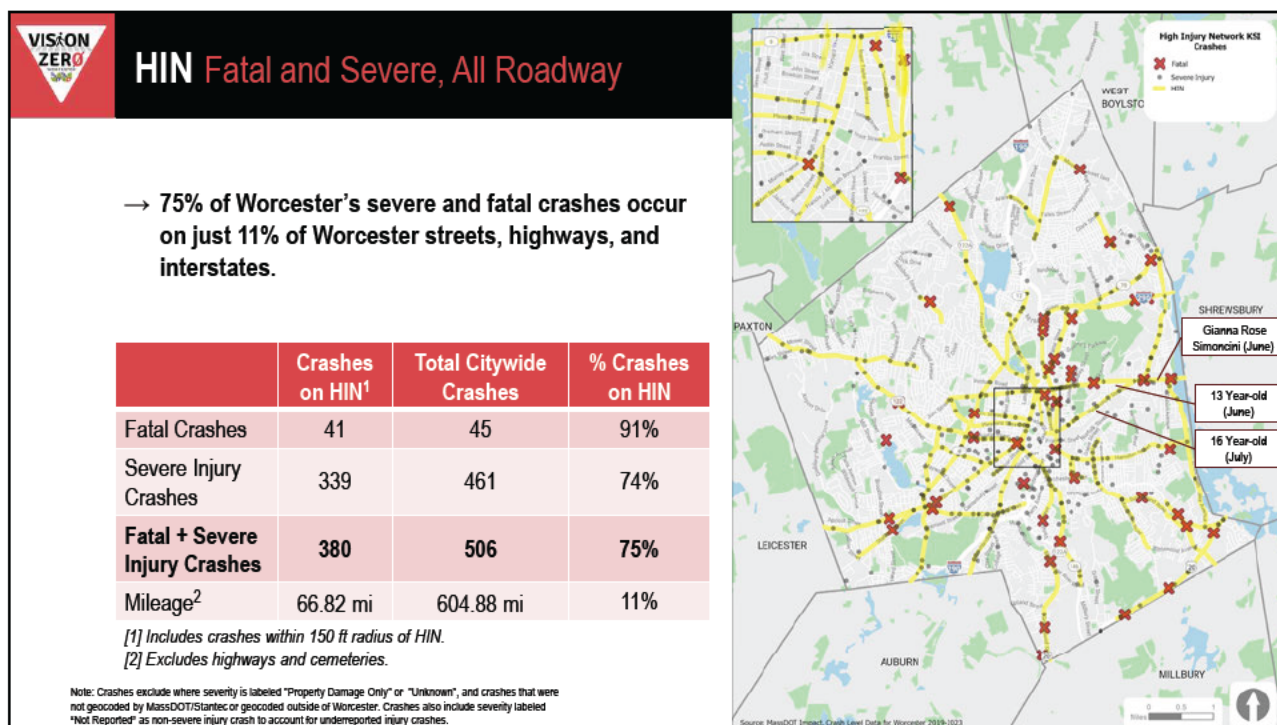
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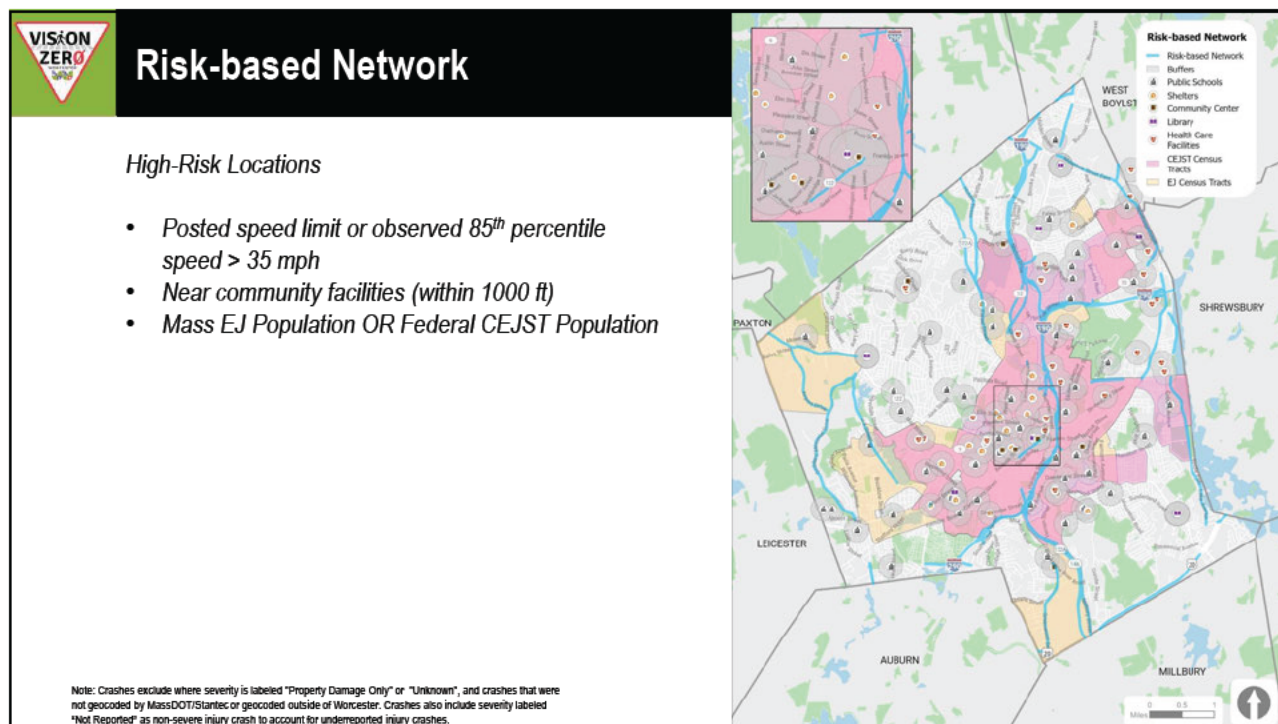
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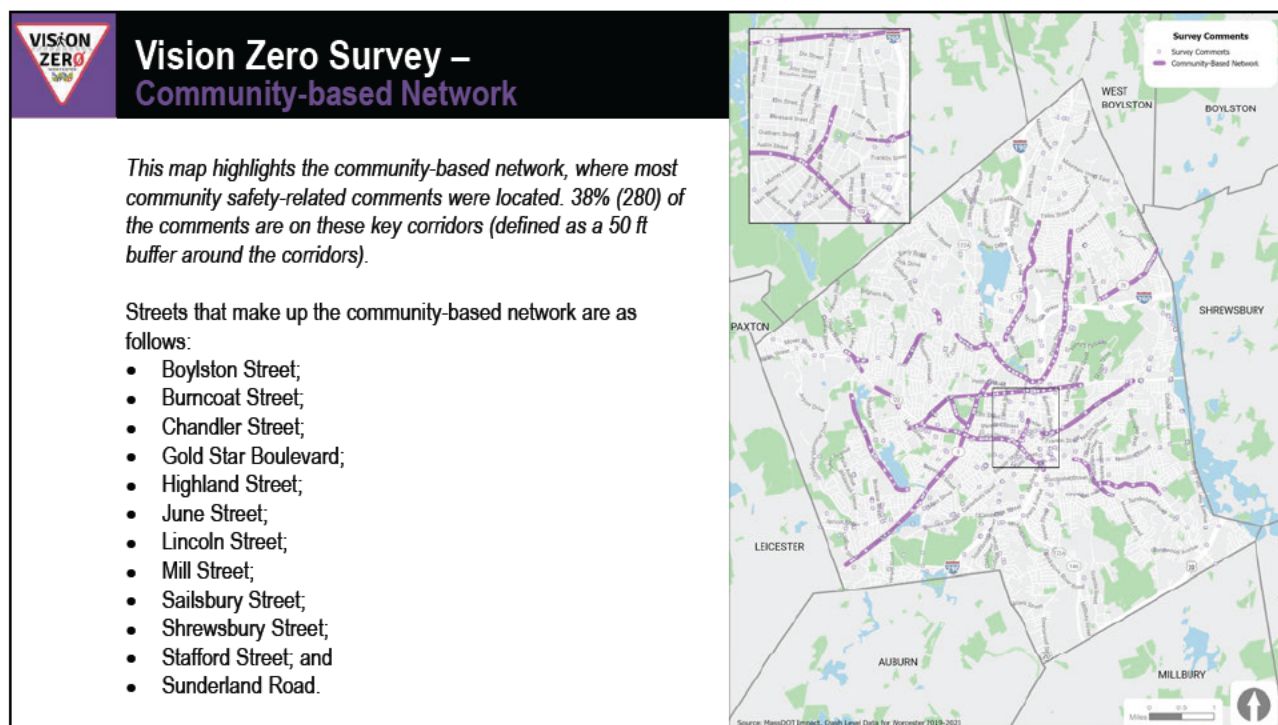
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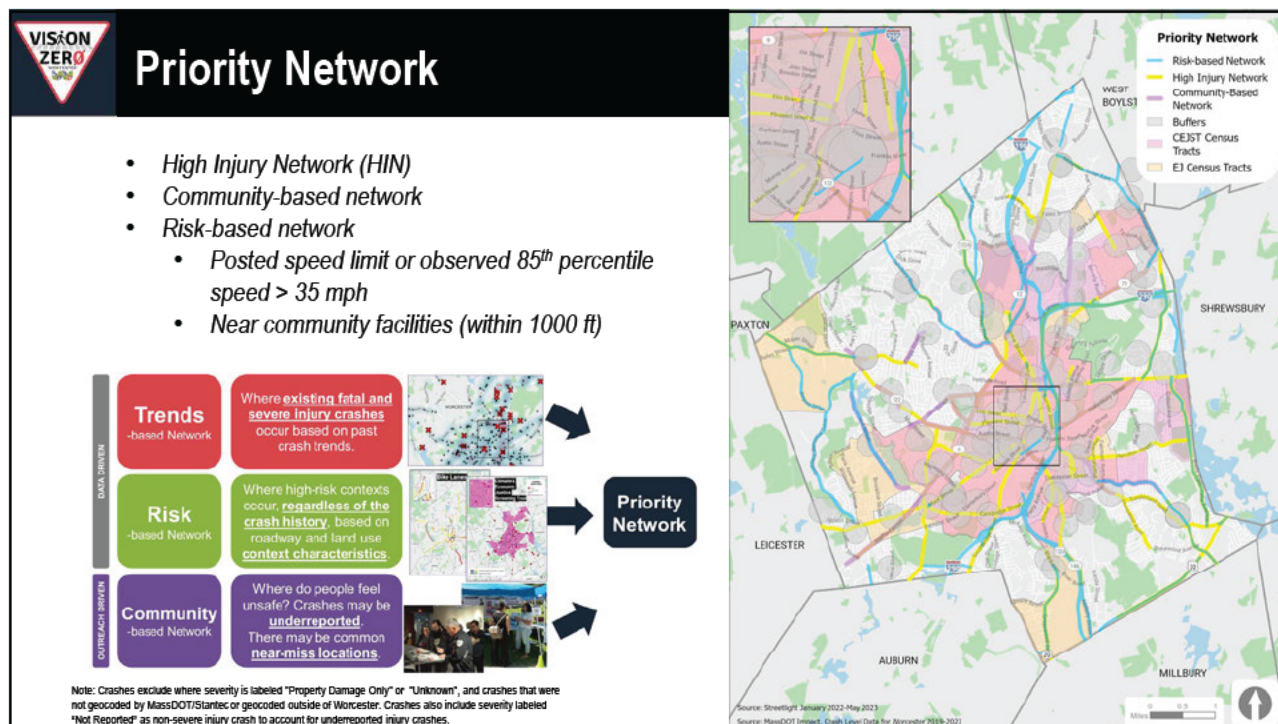
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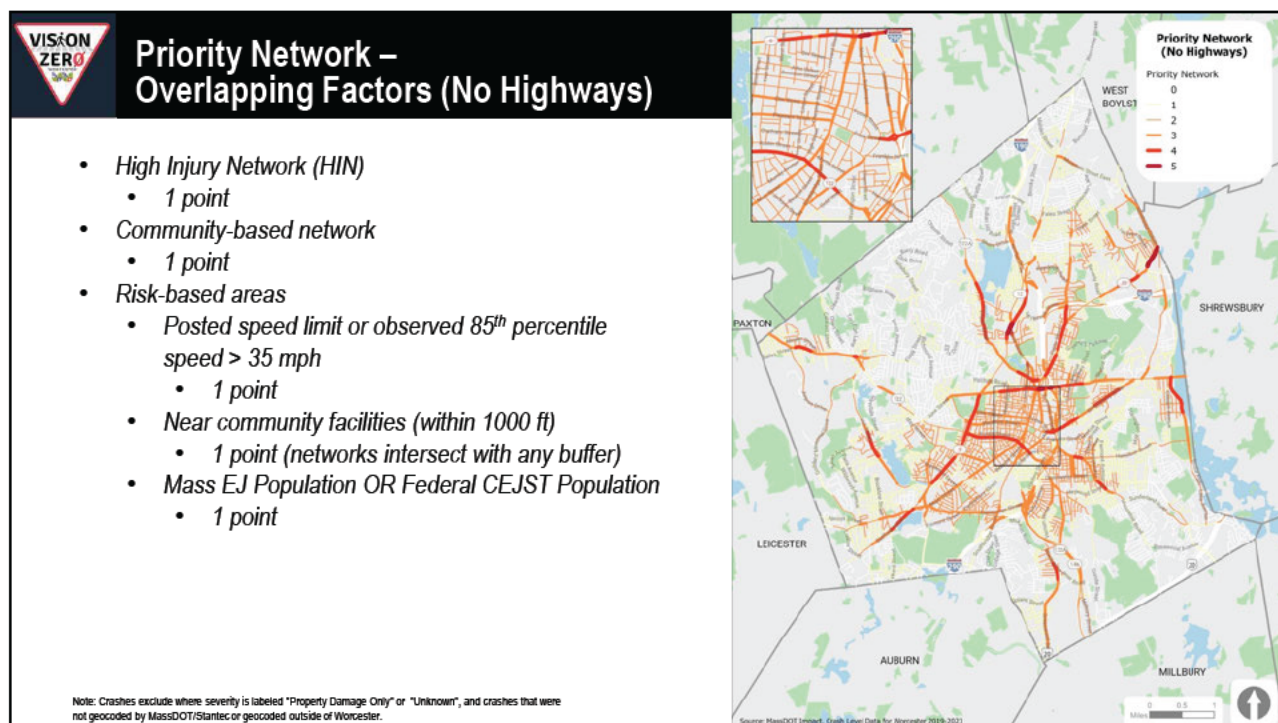
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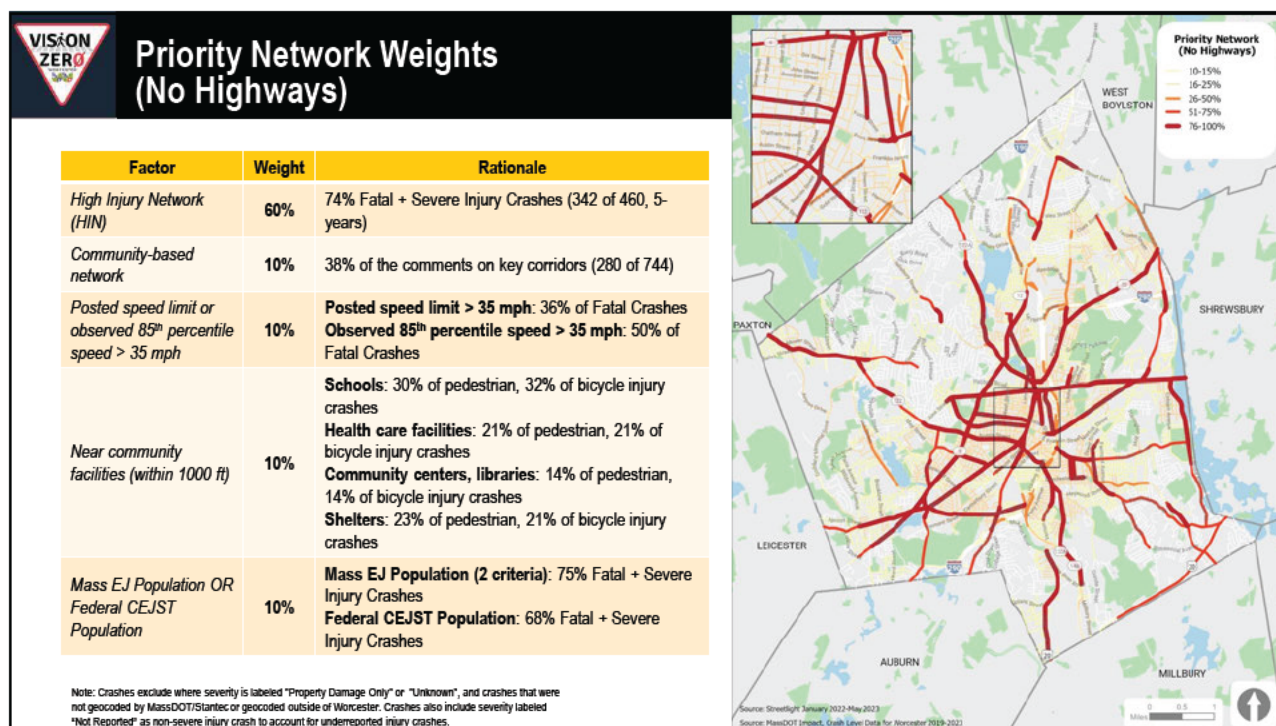
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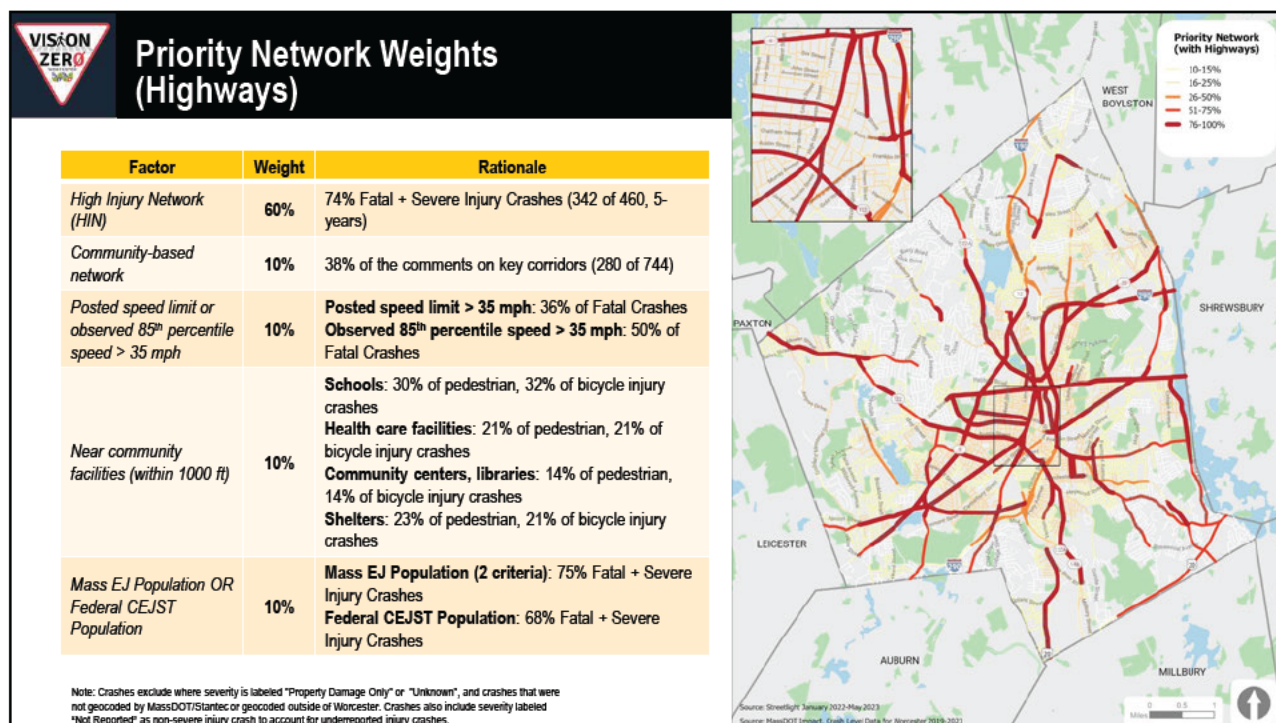
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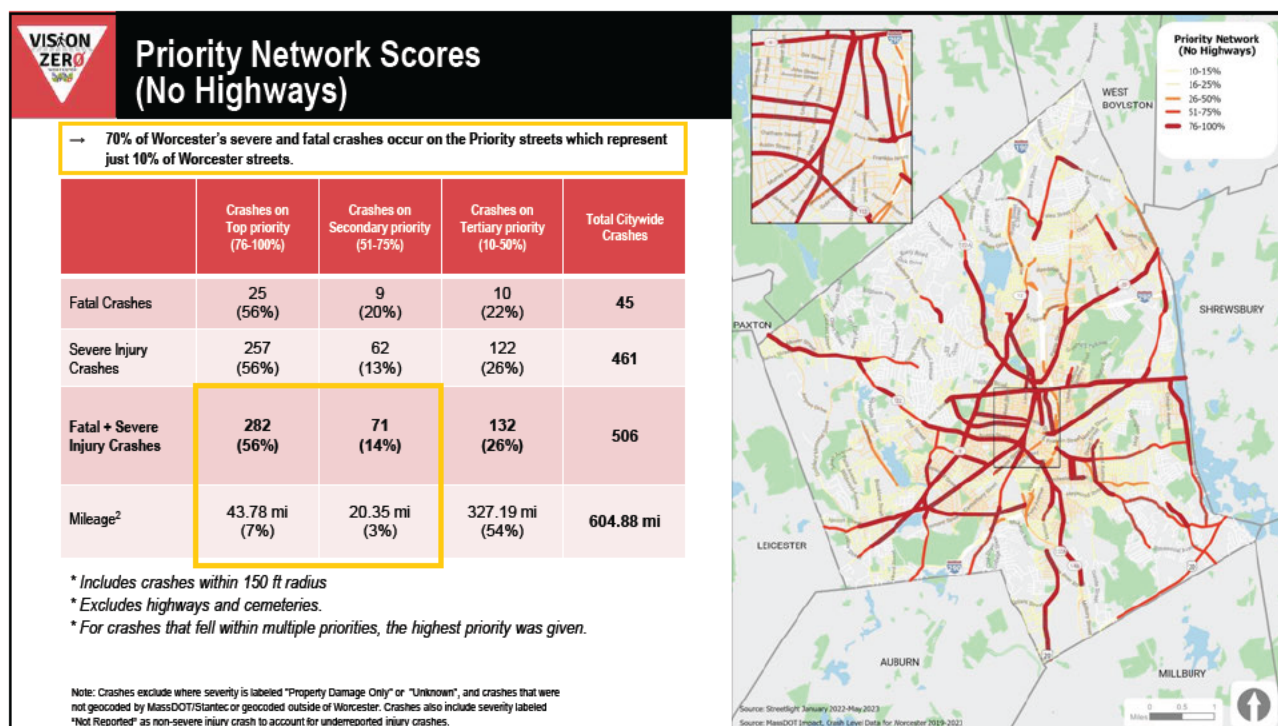
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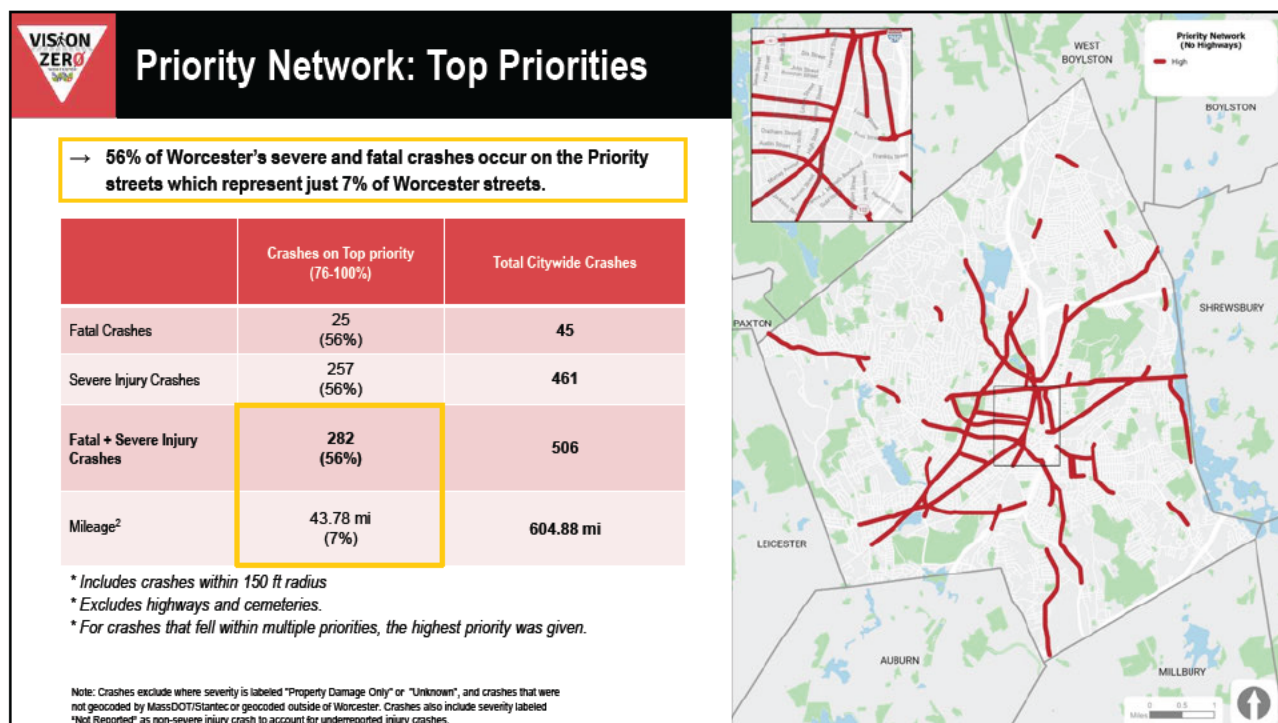
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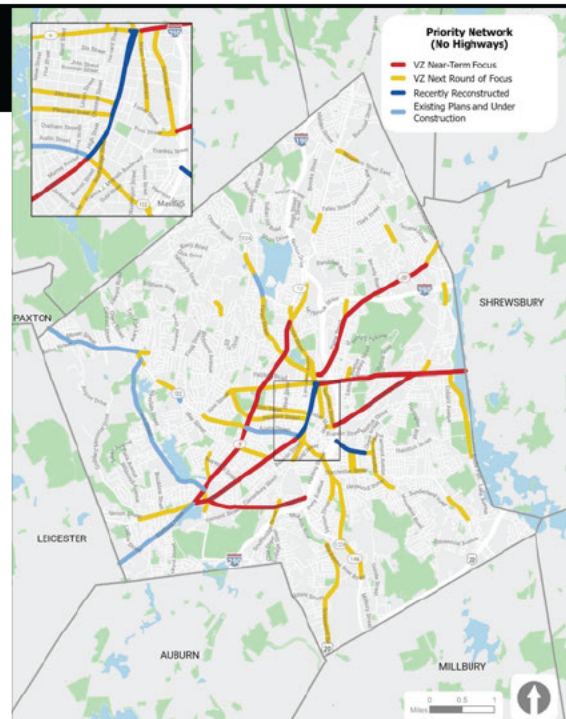


Priority Network: Actions

This map breaks down the Top Priorities into the following four categories:

-  **Progress is underway.** Corridors in light blue already have design or construction projects underway.
-  **Improvements have already been implemented.** Corridors in dark blue were recently reconstructed and have seen promising crash reductions. However, due to the timing of the reconstruction, the improved crash data are not shown in the Vision zero data time period.
-  **Near-Term Focus Corridors represent the highest priority for action.** Most of these corridors were the subject of public Walk Audits conducted by the City the week of
-  **The remainder represent the next round(s) of priorities** where the City will focus their efforts in future years.

Note: Crashes exclude where severity is labeled "Property Damage Only" or "Unknown", and crashes that were not geocoded by MassDOT/Stantec or geocoded outside of Worcester. Crashes also include severity labeled "Not Reported" as non-severe injury crash to account for underreported injury crashes.



Appendix F.

Crash Reduction Factor Table

Crash Mitigation Street Design Approach	Crash Modification Factor Source	Crash Types Impacted	Crash Modification Factor (CMF) <small>The factor used to find the expected number of crashes at a site after implementing the countermeasures</small>	Crash Reduction Factor (CRF) <small>The expected % reduction of crashes at a site after implementing the countermeasures</small>
Install Separated Bicycle Lane	CMF ID: 11552	All	0.552	44.80%
Install Pedestrian Crossings (Signed and marked with curb ramps and extensions)	CMF ID: 1786	All	0.63	37%
Install speed humps/table	CMF ID: 132	All	0.6	40%
Curb Extensions	Oregon DOT Crash Reduction Factor Manual (133-Curb Extensions)	All	0.7	30%
Converting four-lane roadways to three-lane roadways with center turn lane (road diet)	CMF ID: 2841	All	0.53	47%
Prohibit Left Turns	FHWA Toolbox of Pedestrian Countermeasures and Their Potential Effectiveness	Vehicle/Pedestrian	0.9	10%
Install Raised Median	FHWA Toolbox of Pedestrian Countermeasures and Their Potential Effectiveness	Vehicle/Pedestrian	0.75	25%
Install Refuge Island	CMF ID: 1645	Vehicle/Pedestrian	0.44	56%
Install High-Visibility Crosswalk	CMF ID: 4123	Vehicle/Pedestrian	0.6	40%
Daylight Corners	Safety Treatments, SFMTA	All	0.7	30%
Advanced stop or yield markings, ahead of crosswalk	Proven Safety Countermeasures, Crosswalk Visibility Enhancements, FHWA	Vehicle/pedestrian	0.75	0.25
Install Raised Pedestrian Crosswalks	CMF ID: 135	All	0.64	0.36
Pedestrian Hybrid Beacons	Proven Safety Countermeasures, Pedestrian Hybrid Beacons, FHWA	Pedestrian/Vehicle	0.45	55%
		All	0.71	29%
		All Severe and Fatal Crashes	0.85	15%
Rectangular Rapid Flashing Beacons (RRFB)	Proven Safety Countermeasures, Rectangular Rapid Flashing Beacons (RRFB), FHWA	Pedestrian/Vehicle	0.53	47%
Far-side bus stops (bus stop is located after rather than before an intersection)	CMF ID: 2080	Transit-related crashes	0.55	45%
Intersection lighting	Proven Safety Countermeasures, Crosswalk Visibility Enhancements, FHWA	Vehicle/pedestrian	0.58	42%

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Appendix G. Policy and Program Analysis

“All City” Approach

Worcester’s path to achieving Vision Zero will require an “All City” approach, in which every city department recognizes the role it plays in the community’s traffic violence crisis and identifies and adopts actions it can take to reduce serious crashes. Worcester’s leadership understands the need for every department to work together. City Manager Batista kicked off the Vision Zero Internal Working Group in February, 2024, by sharing a call-to-action to department leadership, including the heads of the Police Department, Fire Department, Department of Public Works & Parks, Department of Transportation & Mobility, Executive Office of Economic Development and Division of Planning & Regulatory Services, Department of Sustainability & Resilience, and others assembled around the table. Working together, these departments have demonstrated that the city can be most effective when there is communication and collaboration across the full breadth of city government.

Learning from Best Practices

Worcester is not the first city to set out a goal of Vision Zero. Many communities, including Boston and Providence, have adopted Vision Zero policies and are now working actively to make this objective a reality. Some communities of Worcester’s size have even *achieved* years in which no deaths have occurred due to road safety and traffic violence on city streets. These include:

Municipality	Population	Year of Last Fatality on City Street
Hoboken, NJ	60,000	2015
Jersey City, NJ	290,000	2021
Alexandria, VA	160,000	2022

No two communities are the same, and Worcester faces challenges that differ from these examples. But Worcester can learn from the best practices used in these municipalities and others that have made progress in reducing road deaths and serious injuries in recent years. Many Vision Zero communities have appropriately focused on roadway design, which is typically the most important ingredient in successfully reducing crashes and serious injuries. Roadway design best practices adopted by Vision Zero communities include:

HOBOKEN, NJ

Though this community of 60,000 near New York City has not had a traffic fatality in eight years, it continues to invest in infrastructure improvements to make its streets safer. In 2023 alone, the City installed 61 high visibility crosswalks, 14 multi-way stops, and 78 daylighted intersections, 65 of which border a park, public housing, school, or senior building.



JERSEY CITY, NJ

Jersey City is a more populous city than Worcester but has not had a traffic fatality since 2021. In 2023, Jersey City upgraded over 60 intersections with “quick build” curb extensions. In total, the City has installed 150+ low-cost curb extensions throughout the City since it published its Vision Zero Action Plan in 2019. 80 of these extensions are located within the High Injury Network. The City has also created 21 miles of protected bike lanes since 2019.

ALEXANDRIA, VA

This community of 160,000 has made a concerted effort to improve its infrastructure for pedestrians and cyclists. As a result, it became one of the latest communities in the United States to join the ranks of places that have achieved a full calendar year without a traffic death on city streets. But the community is still building on this success. In 2023, Alexandria installed 300+ linear feet of new sidewalk and enhanced 33+ intersections with traffic-calming measures, like rectangular rapid flashing beacons.

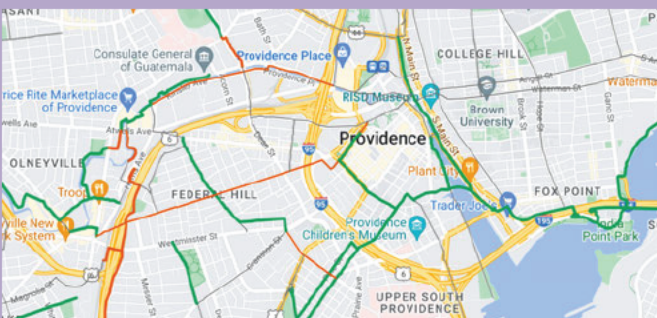


BOSTON, MA

Since Boston's Vision Zero Action Plan was completed in 2016, the City launched several interactive maps depicting the City's High Crash Network, growing bike network, speed hump installations, and safety concern locations.

PROVIDENCE, RI

Providence introduced a Vision Zero program in February 2024, and the City Council unanimously approved a Vision Zero resolution that same month. According to the resolution, the City will establish an internal task force, community advisory group, and updated action plan by February 2025.



Embracing Change

Worcester has a proud tradition as a city of industry, commerce, education, and innovation. It is recognized across New England as a community that is on the rise, with each day bringing more economic opportunity and growth. Worcester is also a great place to live, with both long-time and new residents pointing to the eclectic mix of livable, walkable neighborhoods, strong social networks, and first-rate public services that the community offers. But Worcester's streets are holding it back from its full potential. Many of these streets were last updated in the 1950s and 1960s, when the priority of planners was to try to speed automobile commutes in and out of the city, even at the expense of walkable, vibrant historic neighborhoods. The next chapter of Worcester's story must include rethinking these street redesigns so that the city is creating and supporting places to be, not just places to drive through. In doing so, Worcester won't just make its streets safer, it will also be supporting the local economic development and small business growth that has always been a cornerstone of the city's success.

SWOT Analysis



Strengths

- The Mayor and City Manager have sent a clear message that Worcester must do more to address road safety and traffic violence.
- City department heads have shown willingness to work together on an “All City” approach.

Weaknesses

- For many decades, Worcester’s street designs have prioritized motor vehicles over the safety of other modes of transportation.
- The streets that most need redesign host and serve a high number of vehicles and stakeholders, so coordination is challenging.

Opportunities

- The creation of the Department of Transportation and Mobility has meant a new focus on street design.
- Federal and state funding is available for street redesigns that make them safer and more sustainable.

Threats

- Achieving Vision Zero will require a sustained effort and consistent political leadership, but continuity is not guaranteed.
- Changes in federal leadership could reduce opportunities for future federal funding.

Internal Working Group

As described above, City Manager Batista kicked off the Vision Zero Internal Working Group in February, 2024, calling for the City’s department heads to work together in an “All of City” approach to addressing street safety. The Internal Working Group met five

times over the course of 2024. The Department of Transportation and Mobility and Vision Zero team also met with individual departments for follow-up discussions, which contributed to the Policy Recommendations included as part of this appendix.



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Policy Recommendations Table

The Department of Transportation & Mobility (DTM) will partner with departments on the actions and steps listed in the following table.

Department	Observations	Policies and Documents	Short-Term Steps (next few months)
Economic Development	Economic Development staff and leadership support making Worcester's streets safer. As the community grows, Worcester's continued progress presents an opportunity to update its approach to engaging the development and business sectors in achieving the city's goals.	<ul style="list-style-type: none"> • City of Worcester Urban Design Guidelines • City of Worcester Streetscape Policy 	<ul style="list-style-type: none"> • Post and share information about the economic development benefits of safer streets • Act as a liaison between DTM and small businesses as the City advances Vision Zero-related projects
Fire Department	As an essential first responder and public safety agency, the Fire Department is a key user of Worcester's streets and also has a vested interest in reducing crashes and injuries. The Department responds to hundreds of traffic crashes each year.	<ul style="list-style-type: none"> • Existing Fire Departments Specifications and Standards for vehicle and equipment procurements 	<ul style="list-style-type: none"> • Develop and complete an interagency agreement between Fire Department and DTM
Mayor's Office	Mayor Petty and his staff have demonstrated a strong commitment to reducing traffic violence, including declaring, with the City Manager, a Road Safety and Traffic Violence Crisis.	<ul style="list-style-type: none"> • Statement from Mayor Joseph Petty and City Manager Eric Batista on Worcester's Road Safety and Traffic Violence Crisis 	<ul style="list-style-type: none"> • File a resolution with the City Council expressing the City's commitment to Vision Zero

Medium-Term Steps (within 2 years)	Long-Term Steps (2-5 years)	Reference Resources
<ul style="list-style-type: none"> Establish a process for DTM and Economic Development to jointly review development projects as they move through the pipeline to evaluate opportunities for street and streetscape safety improvements 	<ul style="list-style-type: none"> Work with DTM to update Downtown Streetscape guidelines and develop citywide guidelines that support economic development (e.g., placemaking) and safer streets 	<ul style="list-style-type: none"> Economic impact on local businesses of road safety improvements in Seattle Economic impacts on local businesses of investments in bicycle and pedestrian infrastructure The Complete Business Case for Converting Street Parking Into Bike Lanes
<ul style="list-style-type: none"> Fire Department to review street and roadway alignment changes as part of DTM conceptual design process Commitment from both parties to real-world testing of designs if concerns arise 	<ul style="list-style-type: none"> Procure apparatuses and equipment that perform well on narrow streets and tight corners without decreasing operational response 	<ul style="list-style-type: none"> National Association of City Transportation Officials (NACTO) Webinar: Fire Trucks and Vision Zero City of Austin Transportation Department Memo: Austin Transportation and Austin Fire Department
<ul style="list-style-type: none"> Continue to be a convener and leader on important community conversations about road safety and traffic violence 	<ul style="list-style-type: none"> Measure the City's progress toward achieving Vision Zero and recommend course correction if Worcester is not on track 	<ul style="list-style-type: none"> Resolution establishing Providence, RI, as a Vision Zero City City of Alexandria, VA, Vision Zero Resolution City of Cambridge, MA, Vision Zero Resolution



Department	Observations	Policies and Documents	Short-Term Steps (next few months)
Planning & Regulatory Services	Worcester has a strong and capable Planning Department, whose leadership has demonstrated strong commitment to Vision Zero.	<ul style="list-style-type: none"> • City of Worcester Subdivision Regulations (Adopted 1992, last Amended 2013) 	<ul style="list-style-type: none"> • Connect Worcester Now / Next implementation as well as other ongoing and future planning efforts to the Vision Zero Priority Network
Police Department (WPD)	Interim Police Chief Saucier has been a strong partner to this Vision Zero planning effort. Some members of the police force, especially in the Traffic Enforcement Division, have made Vision Zero efforts a priority. More work needs to be done to assist and support the department in being a leading organization on the City's path to Vision Zero.	<ul style="list-style-type: none"> • https://www.facebook.com/WorcesterPolice (Note social media posts in support of safe driving and reporting on traffic crash trends in comparison to prior years.) 	<ul style="list-style-type: none"> • Develop and complete an interagency agreement between Police Department and DTM • Plan monthly meetings and coordination between DTM and WPD traffic enforcement • Adopt MassDOT "Crash," not accident terminology • Continue crossing guard training in conjunction with WPS • Step up department role as a messenger and leader on Vision Zero and street safety public relations campaign

Medium-Term Steps (within 2 years)	Long-Term Steps (2-5 years)	Reference Resources
<ul style="list-style-type: none"> Amend zoning ordinance to include requirements related to transportation demand management (TDM) and promote walkable, transit-oriented development and street designs that promote the safety of all users 	<ul style="list-style-type: none"> Work with DTM on citywide transportation guidelines that advance Vision Zero (e.g., bike parking guidelines and sidewalk and pedestrian crossing guidelines) 	<ul style="list-style-type: none"> SF Better Streets Developer Requirements Resources City of Portland Design Guide for Public Street Improvements
<ul style="list-style-type: none"> Include traffic violence statistics in Police Department's reporting dashboard Develop plan, in conjunction with DTM, for enforcement of speeding and reckless driving focused on Priority Network Collaborate with DTM on crash reporting training Deploy digital crash reports Deploy digital citation technology for superior enforcement tracking Expand in-cruiser Lidar technology throughout department to allow for increased traffic enforcement 	<ul style="list-style-type: none"> Support securing and allocating more resources for enforcement Support and allocate more resources for training of office Advance initiatives that instill roadway safety as a top priority of the Worcester Police Department 	<ul style="list-style-type: none"> NYPD Crash Dashboard Priority Network Map MassDOT Crash Reporting Course Options



Department	Observations	Policies and Documents	Short-Term Steps (next few months)
Public Health	<p>The City of Worcester's Division of Public Health has been an active leader in advancing efforts on safer streets and understands the immense public health implications of traffic crashes. The Division is a strong messenger on the importance of making change. More work is required to effectively integrate the activities and resources of the Division with the Department of Transportation and Mobility and future Vision Zero efforts.</p>	<ul style="list-style-type: none"> • 2024 Greater Worcester Regional Community Health Assessment 	<ul style="list-style-type: none"> • Commit to co-leading Vision Zero working group with DTM • Integrate Vision Zero into departmental messaging
Public Schools (WPS)	<p>Worcester Public Schools are an essential partner in the City's work to improve street safety for vulnerable road users. Allocating more resources and support to WPS would allow the organization to elevate its efforts.</p>	<ul style="list-style-type: none"> • Safe Routes to School Awards Belmont Street Community School 	<ul style="list-style-type: none"> • Formalize School Department commitment to Vision Zero and Safe Routes to School • Consider School Committee resolution in support of active transportation to and from Worcester Schools • Support Vision Zero and street safety public relations campaign • Encourage bottom-up and community-based actions from school administrators and parents' organizations, including walking buses, bike buses, and safety communications • Meet with DTM and Girls Inc. to discuss success of Walking Bus for Vernon Hill after-school program and how it can be expanded to other schools • Create Safe Routes to School Strategic Plan

Medium-Term Steps (within 2 years)	Long-Term Steps (2-5 years)	Reference Resources
<ul style="list-style-type: none"> • Conduct public health surveillance on traffic-related hospitalizations and fatalities • Provide Vision Zero task force with public health data to target safety interventions 	<ul style="list-style-type: none"> • Update and formalize Division of Public Health Walk Audit process, guidelines, and reporting 	<ul style="list-style-type: none"> • The central role of public health in Vision Zero • Center for Disease Control Transportation Safety page
<ul style="list-style-type: none"> • Create “Safe Routes to School Director” position • Identify and take part in school bus camera pilot program to identify vehicles passing illegally 	<ul style="list-style-type: none"> • Explore more Safe Routes to Schools grants with MassDOT 	<ul style="list-style-type: none"> • Active Living Research: Active Education Research Brief • The Walking School Bus and Children’s Physical Activity Study • MassDOT Safe Routes to School program

Department	Observations	Policies and Documents	Short-Term Steps (next few months)
Public Works & Parks (DPW&P)	The Department of Public Works & Parks is experiencing a change in leadership. This presents an opportunity to enhance DPW&P's capacity to prioritize safe streets through its construction, maintenance and operations program.	<ul style="list-style-type: none"> • DPW&P Standard Construction Specifications and Details 	<ul style="list-style-type: none"> • Commit to co-leading Vision Zero working group with DTM • Commit to training and resource allocation for Vision Zero • Commit to mandating defensive driving training • Institute a policy regarding cell phone use while driving • Develop and complete an interagency agreement between DPW&P and DTM • Install safe bike passing signs/ magnets on all fleet vehicles • Continue to coordinate road safety improvements when planning and implementing roadway maintenance with DTM
Senior Center	Worcester's Senior Center is both the voice and home of Worcester's senior community and has an important role to play in advancing Vision Zero educational efforts for this vulnerable population.	<ul style="list-style-type: none"> • Senior Center Guidebook 	<ul style="list-style-type: none"> • Integrate Vision Zero into departmental messaging and the Age Friendly Worcester Initiative
Sustainability & Resilience	Safer streets are more sustainable and resilient streets. The office of Sustainability and Resilience has incorporated street improvement into its Green Worcester Plan and supported DTM's efforts to calm streets, plant trees, and advance zero- and low-emissions forms of transportation, such as walking and biking.	<ul style="list-style-type: none"> • Green Worcester Plan 	<ul style="list-style-type: none"> • Continue to partner with DTM on messaging and programming around the importance of safer streets for Worcester's sustainability efforts

Medium-Term Steps (within 2 years)	Long-Term Steps (2-5 years)	Reference Resources
<ul style="list-style-type: none"> Consider hiring a complete-streets focused engineer as a liaison to DTM Purchase equipment to maintain bike lanes in all seasons Inventory current vehicle fleet for needed safety features Develop protocols and plans for maintenance of bike facilities Expand snow removal and treatment operations to include bike facilities and key sidewalks/ crosswalks Include safety updates as part of planned improvements and maintenance 	<ul style="list-style-type: none"> Update guidelines and reviewing operations Purchase fleet vehicles that meet and improve safety standards Update Complete Streets policy periodically to improve processes Develop a 5-yr transportation capital improvement plan to identify projects earlier, allowing sufficient time for planning 	<ul style="list-style-type: none"> City of Austin Street Design Guide NYC DOT Street Design Manual City of Jersey City Bikeway Design Guide City of Ann Arbor Street Snow Removal Guidelines City of Cambridge Construction Standards
<ul style="list-style-type: none"> Provide seminars at Senior Center on traffic safety & travel tips for older adults 	<ul style="list-style-type: none"> Work with DTM on raising awareness of Priority Network and addressing problem areas near senior-focused communities 	<ul style="list-style-type: none"> AARP Livable Communities Documentation
<ul style="list-style-type: none"> Develop goals for non-driving mode shares that reduce emissions while the city invests in more walking and biking infrastructure 	<ul style="list-style-type: none"> Incorporate Vision Zero into the long-term Green Worcester plan 	<ul style="list-style-type: none"> NACTO's Sustainable Complete Streets



Additional Opportunities for Cross-Departmental Collaboration

In addition to the cross-departmental recommendations described in the Policy Recommendations Table, there are city-wide policies that Worcester should consider, including:

- **Fleet Management / Fleet Safety:** The City purchases and operates hundreds of public vehicles that are driven on Worcester's roads by municipal employees. The City should consider setting citywide purchasing policies that encourage safer vehicles, including low-tech solutions, such as sideguards on trucks, and high-tech solutions, such as speed limiters and safety monitors. (In 2022, New York City launched the nation's first municipal intelligent speed assistance (ISA) pilot on 50 City fleet vehicles. ISA prevents vehicles from speeding and uses GPS technology to adjust to changing speed limits throughout travel.)
- **Funding and Resources:** The "All of City" effort that the City Manager has commenced will require resources. Municipal budgets are tight, but the City should consider dedicating increased funding to future budgets so that all departments can achieve the goals outlined in the Policy Recommendations Table and other Vision Zero goals that may arise over time.

Existing Plan Review

The Vision Zero Team's policy work included a review of many of the pre-existing documents developed by the City of Worcester that relate to Vision Zero. A summary of those documents is included below.

[City of Worcester Complete Streets Policy \(2017\)](#)

Worcester's *Complete Streets Policy*, established in 2017 by the City Manager, states the City's commitment to integrating principles of the Complete Streets approach into its street planning, design, construction, maintenance, and operational processes. The Policy intends to support the long-term growth of a connected multi-modal transportation network that offers safe and useful

walking, bicycling, driving, and transit options. As a result, the City of Worcester can achieve improved safety, economic strength, equity, health, and livability by applying the Complete Streets framework. Read the *Complete Streets Policy* in full [here](#).

[Becoming Worcester: The Evolution of A Creative City \(2019\)](#)

Becoming Worcester, developed by the City of Worcester, the Greater Worcester Community Foundation, and the Worcester Cultural Coalition, is Worcester's first comprehensive Cultural Plan. Adopted by the Worcester City Council in 2019, this Plan depicts a collective vision for Worcester's long-term success by valuing the arts, culture, and creativity as necessary conduits for safety, equity, livability, and resiliency within communities.

One of the Plan's five focal goals, Public Space Design and Activation, posits the value of appealing, active, accessible, and linked public spaces that promote diverse mobility modes, life experiences, and creative expressions. In addition, the Plan's designated Top 20 Priorities include enhancing the City's public transportation system and expanding the *Complete Street Policy's* execution, with an emphasis on areas abutting schools and common spaces. Within the latter goal, the Plan details streetscape updates, such as planting street trees and installing lighting to facilitate a safe ambiance. While not crafted with the explicit aim of fostering safe streets, *Becoming Worcester* contributes an essential interdisciplinary perspective that adds nuance to ongoing efforts to cultivate a more connected, equitable, and prosperous Worcester. Access the final Plan [here](#).



[The Green Worcester Sustainability and](#)

[Resilience Strategic Plan \(2021\)](#)

Adopted by the Worcester City Council in 2021, the *Green Worcester Sustainability and Resilience Strategic Plan* provides a robust framework for City leadership, in partnership with residents, businesses, nonprofits, and the like, to achieve sustainability and climate resiliency goals in Worcester by 2050.

Among the Plan's central visions is ensuring sustainable multi-modal transportation and mobility options within the City. The City can commit itself to this objective by implementing safe, comfortable, convenient, and reliable networks of pedestrian infrastructure, bicycle facilities, and public transportation and encouraging electric vehicles. The Plan highlights pursuing priority Complete Streets projects, leveraging safety data to identify the routes most deserving of immediate investment, and planning accessible mixed-use walkable centers that can link surrounding neighborhoods as action items. Access the full Plan [here](#).

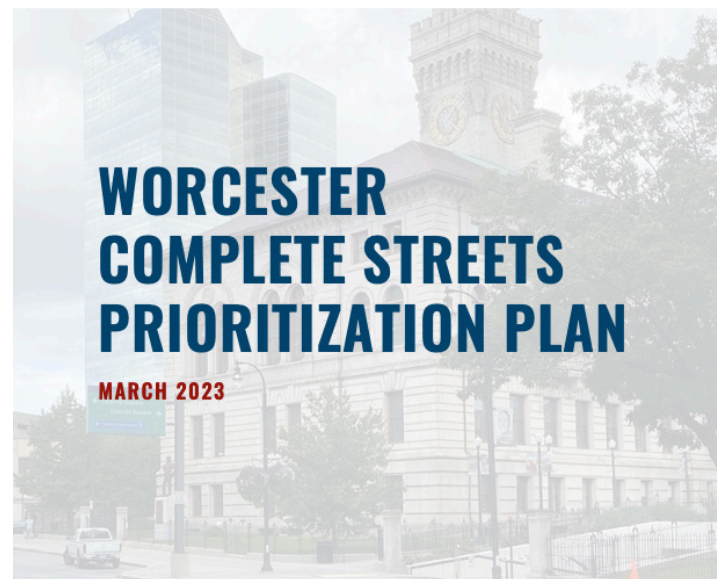


[Worcester Complete Streets Prioritization Plan \(2023\)](#)

Completed in March of 2023, the *Worcester Complete Streets Prioritization Plan (CSPP)* presents recommendations for programs, policies, and street design mechanisms that support the City's *Complete Streets Policy*, introduced in 2017 by the City Manager. The plan foregrounds a toolkit for use by City officials and stakeholders, a process and timeline for taking action, and an initial ranked list of 22 project priority locations within the City.

This prioritization framework enables the City to procure funding for improvement and redesign efforts through the MassDOT Complete Streets Program, in addition to state and federal funding sources. A plan meant to evolve in accordance with shifting transportation needs in Worcester, *CSPP* is a vital step in bettering access and safety for pedestrians, cyclists, and drivers and holds critical potential for

future short-term actions. Access the *CSPP* [here](#).



[Worcester Now | Next \(2024\)](#)

A two-year-long citywide planning process that gained endorsement by the Worcester City Council in March of 2024, *Worcester Now | Next* is the City of Worcester's long-range plan that sutures past, present, and future economic, housing, land use, open space and recreation, natural and cultural resources, and transportation and mobility projects, among others, throughout the City.

Values like equity, connection, and accessibility shape the Plan, which advocates for better-maintained pedestrian and bicycle facilities, the construction of walkable, mixed-used corridors, and street redesign that privileges the safety of all users, not just motorists. A cohesive high-level framework for the City's future development rather than an exhaustive exploration of specific relevant issues, *Worcester Now | Next* offers a rich basis to inspire short- and long-term improvements within the City. Read the complete *Worcester Now | Next* [here](#).



Now | Next
Worcester's Citywide Plan



[2050 Connections \(2024\)](#)

2050 Connections, the Long-Range Transportation Plan (LRTP) for the south/central Massachusetts planning region, was produced and endorsed by the Central Massachusetts Metropolitan Planning Organization (CMMPO) in 2023. This federally mandated document identifies this region's multi-modal transportation needs, available funding sources, and project initiatives planned in the next 25 years.

Consistent with the CMMPO's belief that effective public policy requires a safe and useful multi-modal transportation system, thoughtful land use planning, and sound economic development, the LRTP outlines tactics to foster such effectual policies. These strategies range from seeking funding from MassDOT's Complete Streets Program to strengthening transportation linkages to engaging the public through walk audits that can subsequently inform investments in pedestrian infrastructure. While extensive, the LRTP's wide scope precludes it from addressing Worcester's multi-modal transportation needs in detail. Rather, *2050 Connections'* broad approach enables it to assert a vision of Central Massachusetts as a connected network of healthy, livable, resilient, safe, and sustainable communities with flourishing multi-modal mobility. Access the complete plan [here](#).

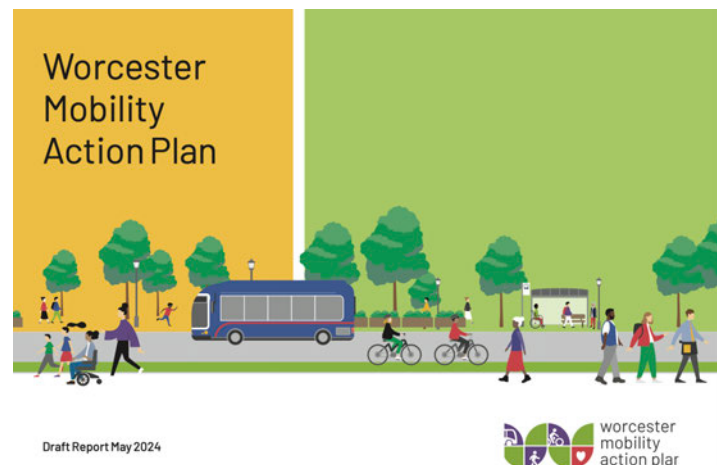


[Worcester Mobility Action Plan for Safe, Equitable and Sustainable Transportation Draft Report \(2024\)](#)

Released in May of 2024, the *Worcester Mobility Action Plan for Safe, Equitable and Sustainable Transportation (Mobility Action Plan)* contains policies, programs, projects, and tactics the Worcester DTM can consult to better the City's transportation network. This long-range transportation plan, which

adopts a Vision Zero approach, hinges on the belief that the City of Worcester's transportation system should provide individuals of all abilities and ages with safe, equitable, and sustainable mobility options.

Replete with 46 data-driven strategies for the City to enact, from designing sidewalk and curb ramp implementation plans to collecting an inventory of existing bike parking facilities to formulating a bus shelter and bench policy, the *Mobility Action Plan* can inspire valuable measures to improve mobility for all in Worcester. Read the *Draft Report* [here](#).



[The City of Worcester Strategic Plan \(FY 2025-2029\)](#)

Central to the City Manager's Office and Administration, the *City of Worcester's Fiscal Year 2025-2029 Strategic Plan* analyzes the mission, values, vision, objectives, and strategies poised to shape municipal operations in the next five years. Guided by internal reflection and community insights collected through focus groups, listening sessions, and surveys, the Plan supports Worcester residents' needs and primary concerns alongside the City's institutional vision of an efficient, equitable, and inclusive local government.

The *Strategic Plan* stresses six priority goals, two of which are Public Health and Safety and Clean City Initiatives, respectively. In conjunction with numerous data-driven tactics to arrive at a better Worcester, the Plan proposes green spaces in Environmental Justice communities and the greater urban core, a Vision Zero Action Plan, and the growth and maintenance of accessible, clean, and engaging public spaces.

Though the desire for safer streets does not principally drive the *Strategic Plan*, it nonetheless offers an imperative viewpoint for enriching Worcester’s cultural and functional character. Access the complete Plan [here](#).



Connect the Dots: Complete Streets Training

On Friday, October 18 from 9 am to 3 pm, more than a dozen City staff members from departments ranging from Engineering to Sustainability & Resilience to Public Schools gathered in City Hall to participate in a Complete Streets Training led by Stantec’s Jason Schrieber and Catrina Meyer. This training sought to contextualize the Complete Streets Approach on a nationwide and local level, introduce design tools that can produce safer streets, and initiate nuanced and thoughtful dialogues about the prospects and challenges of tangibly embracing Vision Zero’s mission across all departments in Worcester. The workshop opened with a briefing of Complete Street’s foundational tenets and current applications with specificity to Worcester’s current context.

Then, Schrieber pivoted to an exploration of the successes of and barriers to Complete Streets in Massachusetts, prompting attendees to reflect on the policy, programmatic, and design possibilities and impediments for Complete Streets in Worcester. This background helped inform a site walk to the Major Taylor Boulevard and Foster Street intersection and subsequent design session, which empowered staff members to employ concepts presented in the workshop to a real-world context. This exercise catalyzed a closing conversation about future action items and hurdles for the City’s cultural and material commitment to Complete Streets.

Fruitful discussions emerged throughout the session, during which participants clarified technical details, posed abstract questions about the City, and more broadly, State’s long-term vision for safer streets, and brainstormed the potential risks and opportunities to implement facets of Complete Streets into their work. Several attendees voiced concerns about budgeting, convoluted and lengthy development review processes, and historically siloed departments, which underlines the necessity of increased cross-departmental collaboration and communication within the City.



Appendix H.

Working Group Meeting Summaries



Agenda

**Worcester Vision Zero
Internal Working Group**

Location: TBD

Date: February 26, 2024

Meeting Attendees:

- City of Worcester Internal Working Group
 - Eric D. Batista, City Manager
 - Erica Cawley, Council Chief of Staff
 - Peter Dunn, Chief Development Officer
 - Martin W. Dyer, Fire Chief
 - Jay J. Fink, Commissioner of Public Works and Parks
 - Dr. Michael P. Hirsh, Surgeon-In-Chief, Pediatric Surgery, Umass Memorial Medical Center
 - Thomas Matthews, Media and Public Relations Administrator
 - Hung Nguyen, Assistant City Manager
 - John W. Odell, Chief Sustainability Officer
 - Victor Perez, Interim Director of the Office of Human Rights
 - Paul B. Saucier, Interim Police Chief
 - Michelle Smith, Director of Planning
 - Michael E. Traynor, City Solicitor
 - Amy Waters, Director at Worcester Senior Center
 - Adam J. Roche, Assistant Fire Chief
 - Paul Payer, Assistant City Solicitor
- City of Worcester DTM staff
 - Stephen Rolle
 - Betsy Goodrich
- Stantec
 - Catrina Meyer
 - Jason Schrieber
- Speck & Dempsey
 - Chris Dempsey

Meeting Agenda, Notes, and Action Items

Agenda:

1. Why we are here
 - a. Problem Statement and urgency
 - b. Some initial crash data
2. *All city* approach to Vision Zero
 - a. Everyone at the table has a role in developing solutions
3. How does this happen?
 - a. Other examples from other communities
 - b. How have other cities been successful
4. Project Schedule

Design with community in mind

- a. Points for re-engagement with this group
 - b. First public meeting
 - c. External Working Group
5. Discussion and questions
 6. Next Steps

Discussion Notes

- Safety concerns/stories while walking
 - Near Green Hill Park - walking dog from neighborhood to park
 - Drivers do not stop for midblock crossing
 - No bump-out, no flashing beacon
 - Intentionally purchased a home in a walkable neighborhood with mature tree cover
 - Police Chief - Channel Street - walking fatality hotspot - what can be done?
 - 4 lanes of traffic, and 2 lanes parking
 - Adding bump-outs would remove parking
 - **City is working in improving, approaching 25% design**, convert to 3 lanes (two travel lanes and one two-way-center-turn-lane)
 - See a lot of close calls because drivers in inner lanes cannot see pedestrians in crosswalks
 - Concerns with people not crossing @ crosswalks
 - Dr. Hirsh - Belmont Street
 - Many people crossing between UMass locations
 - Dr. Hirsh administers a fund for learners - many requests related to crashes
 - Left out of side streets, from garages, to get on Belmont causes risks
 - Added a playground so children would not run into the street
 - Also added ped push button and overpass
 - Community group keeps raising the issues - not totally solved
 - SR 9 - under local jurisdiction
 - Child hit getting off school bus at the top of Pleasant Street
 - Convinced MassDOT to remove a lane
 - Evidence of this change fixing the safety issues and traffic is still working
- Local conversation is focused on Mill Street
 - Mill Street improved with paint – people are still asking for more enforcement
 - **Important that IWG is speaking the same language around the new and creative ideas around speed and safety**
 - The Police Chief helped the politics by defending the change to 25 mph posted speed limit
 - Police have always felt the all 3 Es (engineering, education, enforcement) matter - they do not have enough staff to enforce all locations all the time
- Importance of ongoing engagement
 - Need to fuse these concepts into all other related planning tasks
- Would love to do camera speed monitoring
 - Cannot issue violations based on MA law
- For this group, would be valuable to elucidate the flow of how a street gets re-designed
 - Resurfacing vs. reconstruction
 - **Helpful to share/establish a flow chart internally to the city about how the sausage gets made for roadway redesign**
 - Some if this is still being worked on between DTM and DPW as part of DTM evolving role and MAP process



Worcester Vision Zero Working Groups

May 2, 2024

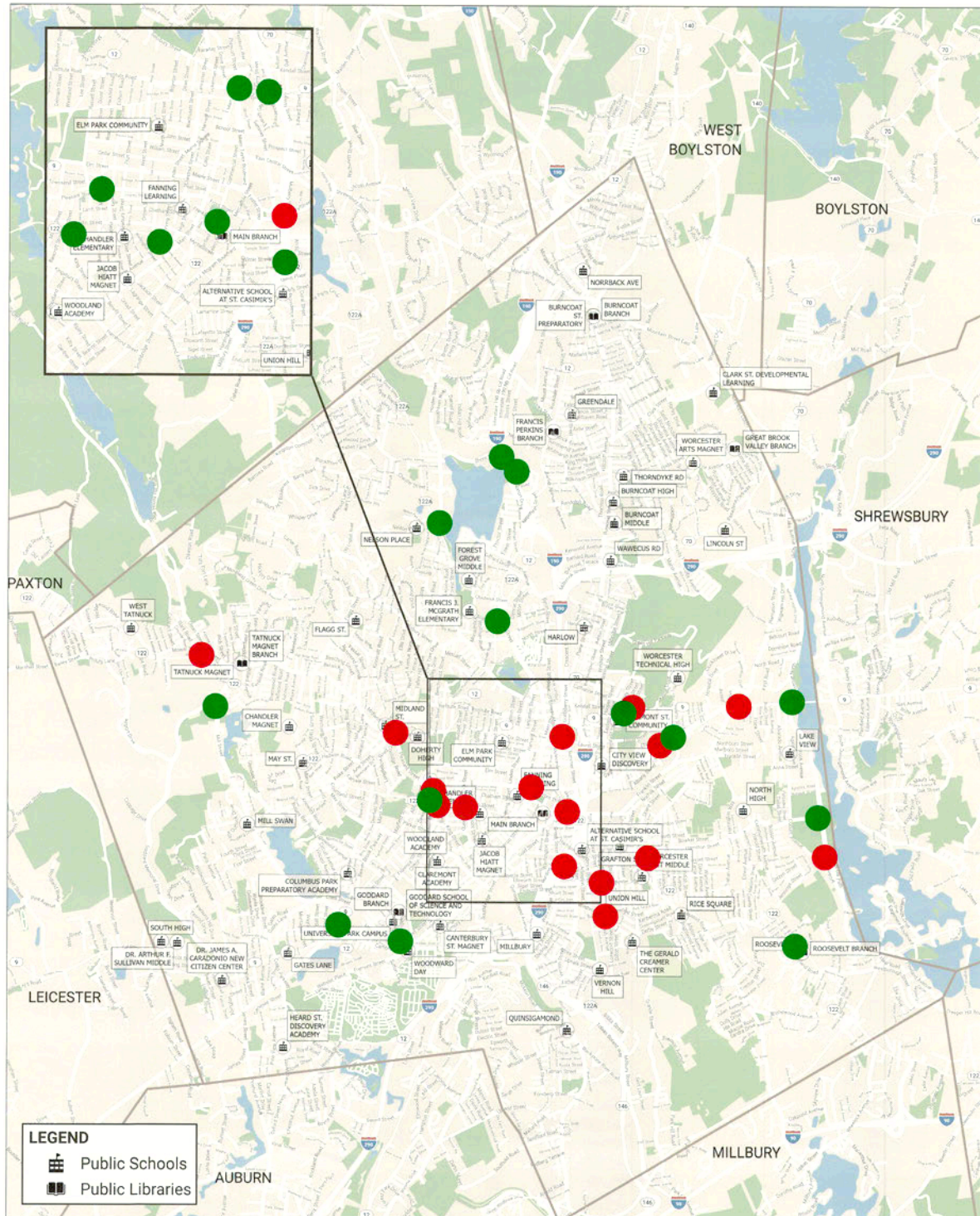
External

- Eyes on top Worcester program to look into?
- Good to see density of comments regarding Sunderland Rd, but more input would be useful
- Broadly for the whole system, there is a lack of unified design approach, many transitions between condition
- WRTA have 15 electric buses they want to be better utilized
- Parent behavior, especially for school/camp drop-offs as they rush to work, needs to be addressed
- Most crashes are within 500' of a bus stop
- Crash reports are state mandated, so some limits in how they can be parsed out into a dashboard

Internal

- Senior center is having a presentation in June from AARP that may be useful
- Economic guidelines are being reviewed but need to be codified to be enforced/moved forward
- Design center guidelines are from the 1980s
- Planning Dept- bike parking requirements are early action items, ped crossings fall under DPW, current regulations only apply to private development
- Important to note the high insurance auto rates for living in Worcester. Would be nice to see correlation with actuary law
- DPW- use contract services through winter to do ticketing and also clear sidewalks, etc. if people don't comply

Where have YOU experienced safety issues on the streets?
Please write on the map below to show and tell us where.



Worcester Vision Zero

Date/Time: July 30, 2024

Meeting Attendees: City of Worcester Department of Transportation and Mobility

- Betsy Goodrich
- Stephen Rolle
- Brian Pigeon
- Mary Turner
- Afriany Ventura-Padilla
- Scott Galbraith

Community Working Group

- Alex Salcedo (Mass Bike)
- Matt Morse (WPS Safety)
- Phone number – 15xxxxxxx38
- Andrew Piazza (WSU Professor, Public Health)
- Joe Bellil (Easter Seals MA)
- Suzanne Wood (UMass Chan Med School)
- Karin Valentine Goins (Walk/Bike Worcester, UMass Med School)
- Mimi Sheller (WPI Professor, Global School)
- Josh Rickman (WRTA)
- Eric Gemperline (CMRPC)
- Sandy Amoakohene (City of Worcester Division of Public Health)
- Anthony Clough (Worcester Regional Research Bureau)
- Che Anderson (UMass Chan Med School)

Stantec

- Catrina Meyer
- Yeojin Kim

Item	Notes	Action
1. Trends-based Network	<ul style="list-style-type: none"> • What % of the arterials are on HIN? • Are there sections of the arterials that are safer and can be a model? 	
2. Systemic Approach	<ul style="list-style-type: none"> • Do you have data on pedestrian density and is there a correlation with community assets? – not necessarily available on comprehensive way • AADT Volumes - Lexington Street is a typo or a data error. 	STN – Remove the erroneous street name Lexington Street in the AADT Volumes slide.

Design with community in mind

Item	Notes	Action
3. Vision Zero Survey	<ul style="list-style-type: none"> No Comments specifically to this section 	
4. Priority Network	<ul style="list-style-type: none"> No Comments specifically to this section 	
5. Discussion	<p>Karin</p> <ul style="list-style-type: none"> Interested to see how the community survey and input will be integrated into the data analysis. How was the 85th percentile speed used? <ul style="list-style-type: none"> It was used to highlight where drivers are speeding. <p>Mimi</p> <ul style="list-style-type: none"> Is there demographic data included in the data analysis? We had only age data, limited by what is collected in crash reports <p>Josh</p> <ul style="list-style-type: none"> Was analysis done to consider differences in crash numbers for weekend and weekday? Thinking about this in the context of transit service provided Evening has an over-representation. <p>Andrew</p> <ul style="list-style-type: none"> Was demographic data collected in the survey and what was the demographic representation? Did we get a representation of diverse community to reflect Worcester's demographics? <ul style="list-style-type: none"> Demographics was collected for the survey but not everyone responded. <p>Mimi</p> <ul style="list-style-type: none"> Is there a way to cross reference CEJST / EJ community? What percentage of community is without a car and does that correlate with more pedestrian walking and transit in certain parts of Worcester? <p>Alex</p> <ul style="list-style-type: none"> The large number of survey responses reflects the community's interest in safety and hope for change. Gives hope that the community is responding! 	

Worcester Vision Zero Internal Working Group Meeting

Location: City Hall 3rd Floor

Date: August 21, 2024

Meeting Attendees:

- City of Worcester Internal Working Group
 - Michael Hirsh – Health - Pediatric Trauma UMass
 - Casey Starr – Public Schools
 - John Odell – Sustainability and Resilience
 - Rick Saltrick – Engineering DPW
 - Michelle Smith – Planning Department
 - Martin Dyer – Fire Department
 - Peter Dunn – Economic Development
 - Eliana Agudelo – Mayor’s Office
 - Paul Saucier – Police
- City of Worcester DTM staff
 - Betsy Goodrich
 - Steven Rolle
 - Todd Kirrane
- Stantec
 - Jason Schrieber
 - Yeojin Kim
- Speck & Dempsey
 - Chris Dempsey

Meeting Agenda, Notes, and Action Items

Item	Notes
Worcester’s Road Safety and Traffic Violence Crisis	<p>Response to the Mayor’s Traffic Violence Statement</p> <p>John</p> <ul style="list-style-type: none"> • Recognize it is an opportunity to accelerate Vision Zero as a reality. Horrible way to get attention but every crisis is an opportunity. <p>Casey</p> <ul style="list-style-type: none"> • Heart breaking: the teenager was new to the country • Family reaching out to support the victim families • Due for this statement • Statement felt united • Do not know what it exactly means and what the specific next steps are

Item	Notes
	<ul style="list-style-type: none"> ○ What is the focus? <p>Chris</p> <ul style="list-style-type: none"> • Departments are on the front lines • You all are part of the response with the DTM • Next steps include Walk Audits on high-risk corridors and releasing priority network map • This is all part of city's effort to addressing this crisis <p>Dr. Hirsh</p> <ul style="list-style-type: none"> • Demoralizing trauma to take care of • Safety quest – roll out to the public schools <ul style="list-style-type: none"> ○ Safety on crossing streets • This issue will be discussed with the Board members on 9/9 <p>Peter</p> <ul style="list-style-type: none"> • Next steps will be very important • Tone and the reinforcement of the language – “traffic violence” – is important <p>It is mostly drivers who are speeding and distracted.</p>
VZ Example City: Hoboken	N/A
Policy Best Practices Discussion	<p>Discussion Questions:</p> <ul style="list-style-type: none"> • What are some challenges and opportunities facing your colleague's department? • What does your college see as the most impactful ways for their department to help Worcester respond to the road safety crisis and achieve Vision Zero? • What specific steps are being taken to achieve those goals? • What help does your colleague need to achieve those steps/goals? • What are your colleagues committing to do to help the City of Worcester address its Road Safety Crisis? <p>What help do they need from DTM to accomplish these goals?</p>
Discussion Share Out: Public Health & Public School	<p>Public School</p> <p>Challenges</p> <ul style="list-style-type: none"> • Principals to sign in to safe routes to school program <ul style="list-style-type: none"> ○ Tough getting all principals to sign on to safe routes to school ○ Problem may be that crossings are not convenient to parents and unwilling to follow safer route ○ Education – Principals and parents to take the safer routes • Parents are afraid <ul style="list-style-type: none"> ○ Fear of unsafe streets preventing them from letting their children walk home

Item	Notes
	<ul style="list-style-type: none"> ○ Overarching fear of danger on the streets which increases auto drop-off instead of taking the bus and walking, which makes it more dangerous ○ Parents who are driving increases congestion • Safety quest <ul style="list-style-type: none"> ○ Coordinate with the public school system ○ Part of the 5th grade curriculum ○ Safety quest will be part of required fifth grade education. But a lot of families are opting out due to mistrust <p>Public Health</p> <ul style="list-style-type: none"> • More students attending UMass • Commuter students driving poor, unsafe vehicles • Coordinate support to access public transportation or shuttles <ul style="list-style-type: none"> ○ They are currently going to parking lots rather than to key destinations in the city or to transit stations • Culture changes required <ul style="list-style-type: none"> ○ How do we collaborate to make a cultural change?
Discussion Share Out: Sustainability and Engineering	<p>Sustainability</p> <ul style="list-style-type: none"> • Coordinating with DTM to add resiliency planning <p>Challenges</p> <ul style="list-style-type: none"> • Push it to the finish line <p>Support Needed</p> <ul style="list-style-type: none"> • Grant writing support <p>Engineering/DPW</p> <p>Responsibilities</p> <ul style="list-style-type: none"> • Take the design from DTM, and confirm they match standards and can be built • Implements - makes sure that it happens on the ground • Updating design standards currently and working with DTM <ul style="list-style-type: none"> ○ Big first step <p>Impactful way to respond</p> <ul style="list-style-type: none"> • Helping DTM implement the design change they want to see • Making sure that construction pieces come together <p>Support Needed</p> <ul style="list-style-type: none"> • Resources • Staffing and funding • Having more implementation money this year but still not enough
Discussion Share Out: Planning and Police	<p>Planning – Michelle</p> <p>Responsibilities</p> <ul style="list-style-type: none"> • Work on revising subdivision plans and updating regulation <ul style="list-style-type: none"> ○ Complex process and touches many facets of government • Focus on getting streets right from the beginning <p>Support Needed</p>

Item	Notes
	<ul style="list-style-type: none"> • Need more capacity to accomplish whether through staff or consulting <p>Fire</p> <ul style="list-style-type: none"> • Boots on the ground • Can be part of ensuring designs are compatible with emergency response • Should be part of crash review • Want fire department staff to buy into making good changes <ul style="list-style-type: none"> ○ Comfortable with changes before they come along ○ E.g. New traffic calming devices <ul style="list-style-type: none"> ▪ For everyone to get comfortable before putting it in ▪ Their staff is buying to the changes ▪ Not just complaining about the designing ▪ Embracing the change • Purchasing smaller equipment <ul style="list-style-type: none"> ○ The more equipment you can carry the better, but trying to get smaller equipment ○ Easier for the truck to navigate ○ Explore smaller equipment that can do the job but navigate the narrower streets ○ Can reduce turning radius ○ Trend of bigger is better does not work in Worcester. Have our own smaller specification for equipment. Need small pump handles for instance
Discussion Share Out: Engineering and Mayor's Office	<p>Mayor's Office</p> <p>Responsibility</p> <ul style="list-style-type: none"> • Public response • Supporting Vision Zero and policy related to transportation • Hear from people • Spokesperson <ul style="list-style-type: none"> ○ Staff and her team – site visit speak to the constituents ○ Go out and speak to people <p>What would be helpful?</p> <ul style="list-style-type: none"> • Unanimous city Council support <p>Economic Development</p> <p>Responsibilities</p> <ul style="list-style-type: none"> • Working with businesses to help people get there safely • Problem areas • Access <p>Responding</p> <ul style="list-style-type: none"> • Expressing support for road safety crisis through supporting construction <p>Achieve</p> <ul style="list-style-type: none"> • Regulations • Changing subdivision regulations to be up to date • Ensuring regulations are up to date with best practices <p>Support Needed</p> <ul style="list-style-type: none"> • Need capacity building for materials that go to developers

Item	Notes
	<ul style="list-style-type: none">• Capacity building – updating guidelines• Accessible to developers<ul style="list-style-type: none">○ Keep up with best practices○ Best design recommendations○ Materials they can use
Workshop Agenda	Shared in slides Scheduled for 10/7

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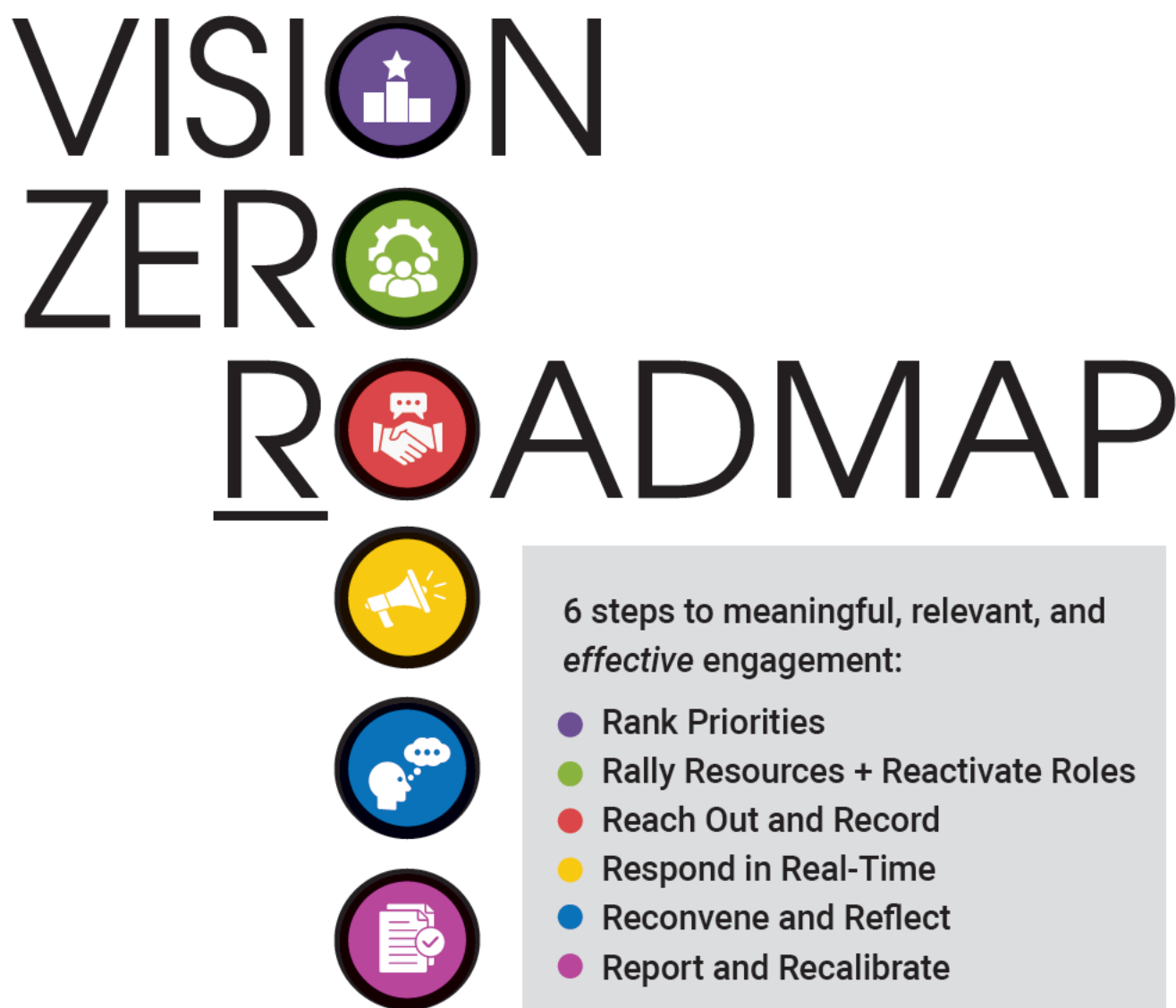
Appendix I.

Continued Engagement Approach

A roadmap to continue building on the Vision Zero message

Throughout the 2024 Vision Zero Safety Action Plan process, the DTM team demonstrated exceptional ability in rallying resources and proactively engaging with the community through a wide range of platforms and events to communicate the Vision Zero message to a wide audience.

The following pages outline recommended yearly cycle of essential steps to continue the momentum.





Rank Priorities

Early in the new year, the TAG, DTM, and others as desired, should discuss at a high-level the priorities for engagement in the coming year to inform the best approach, format, frequency, etc. In addition to defining a formal, long-term Vision Zero theme/slogan, the following questions are a good starting point:

Engagement Intent Questions

- Which neighborhoods or locations were particularly impacted by traffic violence in the prior year according to the latest High Injury or Priority Network Maps?
- Which groups have we not yet or recently engaged with substantially regarding the Vision Zero message? (e.g., cultural groups, age groups, specific mode users, etc.)
- What are lessons learned from engagement activities in the prior year that may inform where we should continue our efforts or pivot with a different approach make the most impact?

Discussions resulting from these questions will create focus for the engagement approach, such as- *"This year, broader/general education campaigns and activities rank as higher priority than those that target specific small groups."* This will further help narrow the list of opportunities that are most relevant in the year ahead.

The group should then start developing a list of opportunities, such as with the example table below. Questions to help finalize a list of selected opportunities for the year may include the following:

Specific Opportunity Questions

- What is the realistic level of staff or supporting partner capacity to plan and execute engagement activities that are specific only to Vision Zero vs. tagging onto relevant activities planned by others?
- Which opportunities best align with the engagement priorities we identified for the year?
- What other tools or resources (financial or otherwise) would we need to be successful?

List of Potential Engagement Opportunities or Trigger Periods 202# (Note: table is an example, only)						
Month	Focus Audience	Opportunity	Potential Org. Lead	DTM Staff Capacity?	Metric for Success	Notes/Considerations
Jan.						
Feb.						
Mar.						
Apr.						
May	Youth	National Bike Month	Earn-a-Bike	Y	# new program sign-ups	Earn-a-bike has event on ____
Jun.	General	World of Foods Worcester	DTM	Y	feedback from # people	Registration due _____
Jul.	General	Worcester Dine Out Event	Health Dept.	N	# people signed up for Vision Zero newsletter	Fee of \$ to table
Aug.						
Sep.						
Oct.						
Nov.	Families	World Day of Remembrance	DTM/Police	Y	# attendees	3rd Sunday of the month
Dec.						





Rally Resources and Reactivate Roles

With a defined list of engagement pursuits for the year, the team can advance the planning of specific activities with more focus, including the allocation of roles, needs for resources, contacts for logistical coordination, and more.

Transportation Advisory Group

The TAG is responsible for leading the effort of the Vision Zero Safety Action Plan and it will be necessary to engage with them regularly to understand the timeline of implementation or progress of various recommendations, and for them to potentially act as liaisons with other parties that may have a role to play in planned engagement. Roles and expectations of TAG members in the planning and execution of engagement events should be clearly communicated; a sub-group for related planning may be desirable.

External Resource List



A master list of contacts should be regularly updated to include organizations, businesses, individuals, etc. who have provided engagement support in some way in past efforts, or have vocalized wanting to provide support for future efforts. Details about their resources and tools available to support Vision Zero-related engagement should also be included, such as information about ownership, process and protocols for accessing or requesting resources, potential associated costs, and other essential details. Below is a sample of what kinds of items should be included on the list.

Some resources that have potential for providing a wider range of support services for engagement may warrant a coordination call to discuss potential opportunities for Vision Zero involvement. Sports teams are one example. The following three pages include a sample toolkit of potential opportunities using the Worcester Railers Ice Hockey Team, as an example.

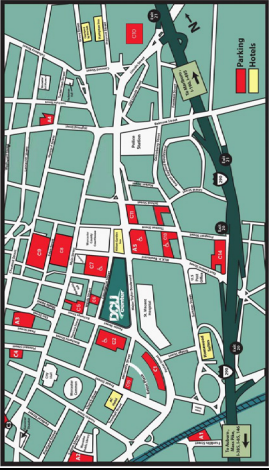
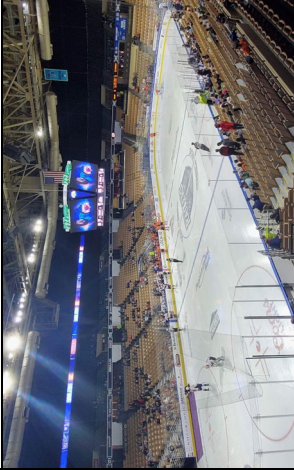

List of Potential Resources (current as of ____)				
Contact Name/Org.	Email	Resource Type	Resource (examples)	Notes/Considerations
-	-	Advertising	Social Media Accounts	Passwords, access
-	-	Advertising	Internal Bus Posters/Ads	Cost, duration of ads
-	-	Advertising	Sports Team Promotion	Event/mascot schedule, technology resources
-	-	Labor	Tabling Volunteers	Training needed, how they are supervised
-	-	Labor	Translation Services	Format (i.e., one-on-one, live-meeting translation)
-	-	Labor	Survey/Data Collection	Training needed, tech available, data documentation
-	-	Education	Bike Rodeo Trainers	Notice time needed to request, max. size of group
-	-	Education	MA Vision Zero Coalition	Resources, support for Vision Zero events
-	-	Equipment	Road Striping Machine	Rental cost, who is licensed to operate
-	-	Equipment	Drone for photography	Rental cost, who is licensed to operate, file access
-	-	Donations	Snacks, Catering	Pick up or delivery options
-	-	Donations	Printing Services	Size, volume available (e.g., 100x color postcards)
-	-	Venue	Community Hall	Layout options, cost, access via different modes

Worcester Vision Zero- Toolbox for Engagement with Local Sports Teams

(The Railers and their activities have been mentioned below, as an example)

Suggested Activity/Approach	Level of Effort	Frequency or Specific Date	Details	What DTM can provide	What Team(s) can provide	Notes
General community support and education						
Invite hockey players and mascot (if appropriate) to Safety Action Plan or Vision Zero Annual Report launches	Medium	TBD	Depending on tone of event, representatives from Railers attend launch to demonstrate solidarity	Callout/acknowledgement of community support, including Railers, during event	General visibility of support, post photo of event on social media	
Stadium "Moment of Silence" pre-game on World Remembrance Day	Low	20-Nov	Stadium announcer shares a pre-game message, such as "We would like you to participate with us as we lower the lights and hold one minute of silence in remembrance of those who have lost their lives on Worcester's roads in recent years... *silence* ...Thank you and we encourage you to drive with extra caution when leaving the game tonight."	Language for stadium announcer	Announcer, coordination with light crew	
Social Media Posts	Medium	Intermittent	As appropriate/relevant, the team could make posts of mascot, players, etc at different locations (e.g., at the crosswalk in front of DCU Center, in front of a speed limit sign) making a "zero" hand symbol with the posts reading something "We are Vision Zero Heroes!" These may be timed with unique events, such as on a rainy or snowy day that a game is scheduled, with additional language saying something such as "The roads are slick tonight. Take it slow so we don't have any permanently empty seats at the game. We need ALL of our fans"	Develop content and visuals for social media platforms	Make and manage posts	
Railers Walk Audit	High	One Time	DTM can lead Railers staff, the mascot, and invite a special community group or select members of public to join a Walk Audit from the station to DCU center	Provide walk audit checklists, lead audit	Attend audit and post about it on social media	
Railerize Event	Low	Annual	Include Vision Zero toolkit and/or handout on "How to make your business more walk/bike friendly"	Printouts of Toolkit or develop and print a two-sided guide page with tips on making businesses more walk and bike friendly	Include materials in giveaway bags	



Ongoing education for fans and game attendees					
Incentive for game attendees to ride their bike/promote National Bike Month	Medium	During all home games in April (Railers season ends in April) or May (for other teams that may be active)	Announcement in news blasts or wherever ticket sales are advertised, such as "Ahead of National Bike Month in May, we invite all who are able to ride their bike to our home games in April to receive a special giveaway! Bike parking will be provided near the main entrance."	Language, graphics for newsletter, social media, or other relevant platforms. Potentially help with provision of temporary, secure bike racks (depending on what is available on site).	This could also occur at other relevant times of the year, like the first week of spring, the first week of school, to encourage more riders
	Medium	Update as available	Parking/Directions' webpage and map is updated to show locations of bus stops, bike parking/racks, and walking routes highlighted from train station, bus stops, and designated parking facilities. https://www.dcucenter.com/venue-info/parking-directions/	Advertisement Giveaway swag for bike-riders (handed to riders as they park their bikes and show proof of ticket)	
Promote alternative transportation to games	Medium			Map updates designed map using DTM's information	
DCU interior messaging	Low	Intermittent but could start on Opening Day, Oct 19?	Scrolling banner message at intermittent periods of the game, such as "The Railers support Vision Zero in Worcester. Safe Streets for All! Visit the City website to learn what you can do"	Provide language and graphics	
DCU exterior messaging	Low	Intermittent but could start on Opening Day, Oct 19?	Pop-up screen with Vision Zero slogan or message, such as "Any close calls on the road to the game tonight? Worcester aims to be a Vision Zero City with your help!" or "Eyes Up!" says the Pup!	Team integrates into tech	

Ongoing education for children and parents					
Kids Club giveaways	Medium	Ongoing	"Eyes Up" says the Pup! Campaign. In addition to printed material, this might include neon flags as giveaways to each child to wave and carry with them when they cross the street. Alternately, a brief quiz could be included that features facts about road safety, and one winner could receive a flag.	Provide printed materials and flags	Takes a few minutes during Kids Club to feature campaign
Flagship Program for 4th Graders	Low	Ongoing	Include coloring pages of Trax Mascot wearing a Vision Zero Hero cape while on a bike, in a car, walking, etc. May also include a Vision Zero Hero laminated business card (kids like cards) and page of "What does it mean to be a Vision Zero Hero?". I only cross at crosswalks. I wear high-visibility clothing at night, I always wear a bike helmet, etc. "	Design and print laminated cards	Design coloring pages with Mascot
Mascot Vision Zero Hero visibility to help kids at crossings on the first day of school	Medium	Annual	The Mascot (and a couple Rallies staff or players) visits an elementary, middle, and high school on its first day of school and walks/dances across intersection with them, wearing a "Vision Zero Hero" cape and passing handouts to cars who are stopped at crosswalks	Identify schools to visit based on nearby crash data, general vulnerability Printed handouts Logo for inclusion on a cape	Fabricate mascot cape





Reach Out and Record

Maintain momentum and urgency

Through a creative and thoughtful approach, the Vision Zero message should be shared through the activities that were defined in the engagement priority list for the year. These may include any of the following awareness approaches but will ideally be a combination of highly-visible, memorable information about 1.

What Vision Zero is 2. Every individual's role in achieving zero serious injuries or fatalities on the roads, and 3. Opportunities to experience Worcester in safe ways using all available transportation modes.

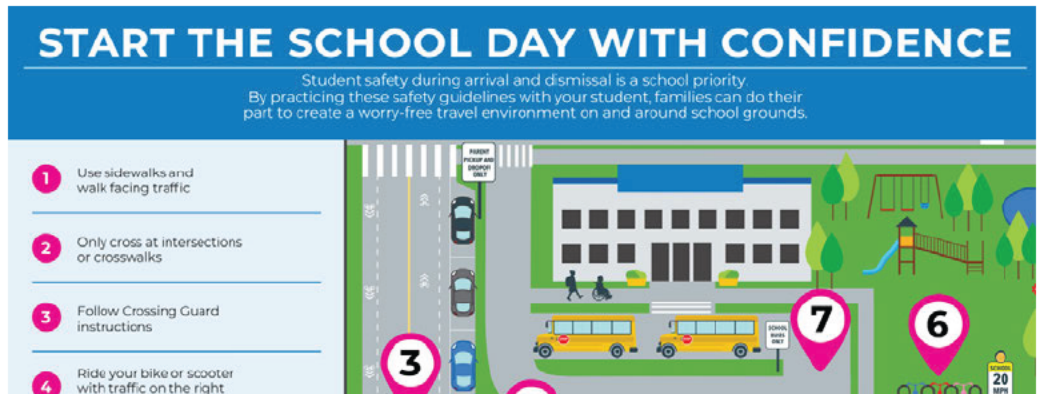
Recording Results

All data and feedback gathered through engagement activities should be documented, from survey results and general online comments to event photos and information about who engaged (e.g., number of unique Vision Zero website visits, social media re-posts, participant's age, race, or other details, when possible). This information can help identify engagement priorities for the following year.

Passive Engagement Opportunities

In addition to specific, scheduled outreach activities, TAG, DTM, and other partners should reach out to the community through passive Vision Zero education and awareness, as well. This may include efforts such as :

- Integrating posters and ads through high-visibility platforms, citywide (in-bus advertisements, billboards)
- Maintaining a resource page on the Vision Zero website that can keep people involved at any time, including printable resources for 'Conducting a Walk Audit in Your Neighborhood,' or a defined process and contact details for 'How to Request a Tactical Demonstration in Your Neighborhood'
- Having social media posts or physical handouts available at-the-ready at periodic times throughout the year to synchronize when conditions may increase chance of crashes (see example below):
 - As school terms end (i.e., more children walking/biking throughout the daytime)
 - As school terms begin (i.e., defining PU/DO schedules and commuting can create stress and congestion leading to unsafe conditions)
 - As winter weather nears (i.e., reminder about visibility challenges with rain, snow, slick roads, and less hours of daylight that may increase unsafe conditions)
- Equipping schools with information packages- information they can send with parents and students as part of welcome weeks (e.g., safety guidance about parent pick-up from Safe Routes To School)
- Highlighting in the City Budget where funds are allocated to improvements, operations, etc., which are associated with Vision Zero-recommendations
- Sending out a broad email to agencies, partners, schools, and others prior to the release of the next annual Vision Zero summary report, with an invitation to participate directly in one or two opportunities throughout the year. The message can be general, such as *"Stay tuned this spring for..."*





Respond in Real-Time

The need for activating one of the most important steps in Vision Zero engagement cannot be predicted- when traffic violence occurs. These instances require fast action through a formalized procedure that provides support and resources to victims and their families in tandem with sending a strong message to the broader public to promote continued urgency towards safe streets. The formation of a Rapid Response Program and Team was identified as a recommendation earlier in this plan, with steps including the development of a crisis response plan, defining Team roles, and pre- and post-incident essential steps. Communication about this program to the public should both educate and demonstrate a sense of action.

The City's October, 2024 public announcement of the development of a Rapid Response Program established the first educational step of associating the program and its tasks directly with the Vision Zero program.



CITY OF WORCESTER, MA

Eric D. Batista
City Manager

WORCESTER ANNOUNCES FIRST PHASE OF VISION ZERO INITIATIVES

FOR IMMEDIATE RELEASE: 10/10/2024 2:11 PM

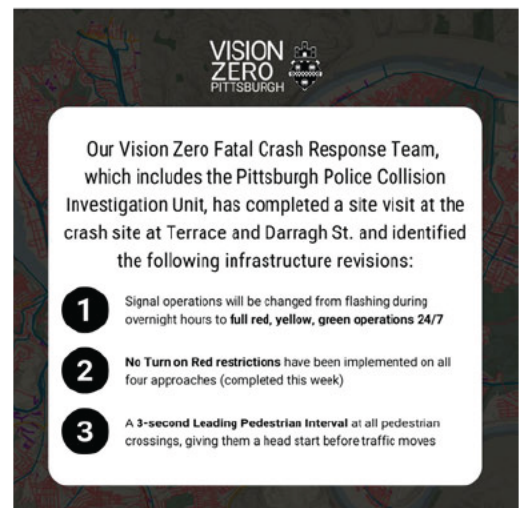
WORCESTER, Mass. – The City of Worcester announced Thursday the first phase of Vision Zero initiatives, which will help improve traffic safety as the municipality continues to work on long-term infrastructure changes to the city's transportation network.

The initiatives include the Department of Transportation and Mobility's (DTM) implementation of the city's new 25 mph statutory speed limit, a Rapid Response program, the release of a Vision Zero StoryMap that details data on crashes and the city's high-injury road network, and the installation of permanent speed humps.

As the Rapid Response process is activated through potential future crash incidents, transparent public communication about countermeasure actions in response to crashes as a result of the Program underlines the urgency and importance of the community coming together to mitigate future occurrences, and provides visible reassurance to the community that there is an active team of support and resources, if needed.



Oakland DOT includes simple visualizations of quick-build improvements proposed as a result to incidents analyzed through their Rapid Response Program



Pittsburgh's Crash Response Team uses social media to provide updates on improvements as a result of the program



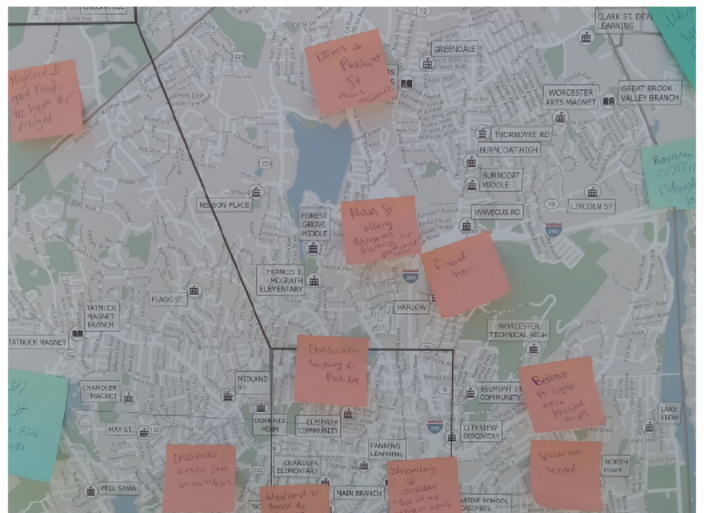


Reconvene and Reflect

Following the last planned engagement event of the year, the TAG, DTM, and others should plan to meet for a debrief about the Vision Zero engagement efforts as a whole, and to go through the exercise of all-team reflection to inform where changes in approach or potential opportunities may be needed when planning for engagement in the next year. This exercise should address topics such as the efficacy of team communications internally and with partners, the realistic capacity and needs of staff vs. volunteer hours, recurring logistic concerns, new ideas for visual communication tools, and more.

Reflection Exercise

- Which efforts were most effective, based on the metrics of success identified in the planning stage, data and feedback gathered, or anecdotal evidence?
 - Can any of the resources be re-used or re-purposed?
 - Should a similar approach be used for other types of engagement?
- What speed bumps were encountered along the way? (for example, not having a translator available when needed, running out of necessary materials for a tactical demonstration project, feedback about a certain group not being accommodated or included for input)
 - Should any of the broader Vision Zero messaging, slogans, etc. be adjusted based on this feedback?
- Are there any clear correlations between the latest crash/incident data and types of ongoing engagement? For example, have crashes noticeably reduced in a location near a large-scale Vision Zero billboard? Is transit ridership increasing following an online campaign about bus safety?





Report and Recalibrate

As identified in this plan's recommendations, the development of an annual Vision Zero report is a necessary milestone target to promote transparency with the community about the progress towards zero fatal and serious injury crashes. The reporting should be an opportunity to celebrate successes, think about individual roles in continued challenges, but take an educational approach with the assumption that the report may be many reader's first exposure to the Vision Zero program.



The City should consider holding a formal annual report launch, recorded video message with report link, press release (such as the City of Seattle example to the left), or other high-visibility approach to echo the importance of the report for the whole community.

Reporting as a Tool to Gauge Community Understanding

The report should include consistent data updates regarding quantitative data about crashes and status of projects, but also summarize how the community was engaged during the year (e.g., "We spoke to # residents at # events in # languages...").

The City may wish to conduct a survey or open-comment period during the first few weeks of the report's release. As the teams think ahead for engagement approaches for the next year, several points of feedback could be particularly helpful through targeted questions, such as:

- *Were you familiar with the term Vision Zero prior to the release of this year's annual report?*
 - *If yes, did you participate in an event this year?*
 - *If yes, which of these components of our campaign did you notice this year? (e.g., bus stop ad, meeting flyer at the library, etc.)*
 - *If no, do you understand where to find resources and how to support Vision Zero in Worcester?*
- *Is any of the data in the report surprising compared to what your experience of the roads is today?*
- *Would you be interested in learning how to lead and conduct a walk audit in your neighborhood?*
- *Where do you usually receive information about the City's transportation-related plans and projects? (e.g., Instagram account, online news articles, etc.)*

Addressing Missing Links

The responses can provide an additional layer of understanding for the TAG and others as they cycle back to the first Vision Zero Ongoing Engagement Roadmap step of 'Rank Priorities' for the next year. Whether this step reveals clear gaps in public engagement or validates that previous efforts were successful, the team should start each new year fresh with the primary goal of reaching everyone in the community with the Vision Zero message.





**HELP BE THE CHANGE.
FOLLOW THE PROGRESS!**

www.worcesterma.gov/mobility/vision-zero