

CONCORD

TRANSPORTATION
STRATEGY



Transportation Advisory Committee
Status of Study
10/28/2025





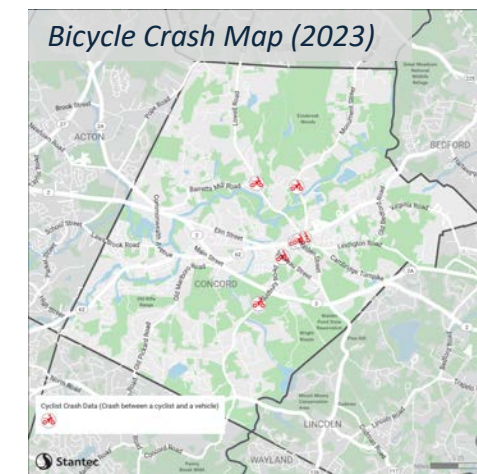
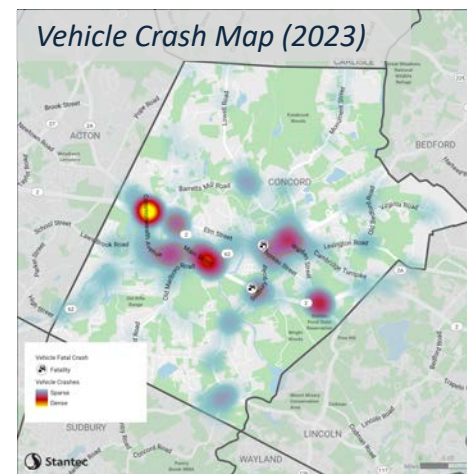
- **Previously Completed Work (2023)**

- Existing Conditions Analysis
- Evaluation of Goals
- Public Online Survey and Response Analysis
- Public Meeting

2023-2025 Project on Hold

- **Current Work (2025-2026)**

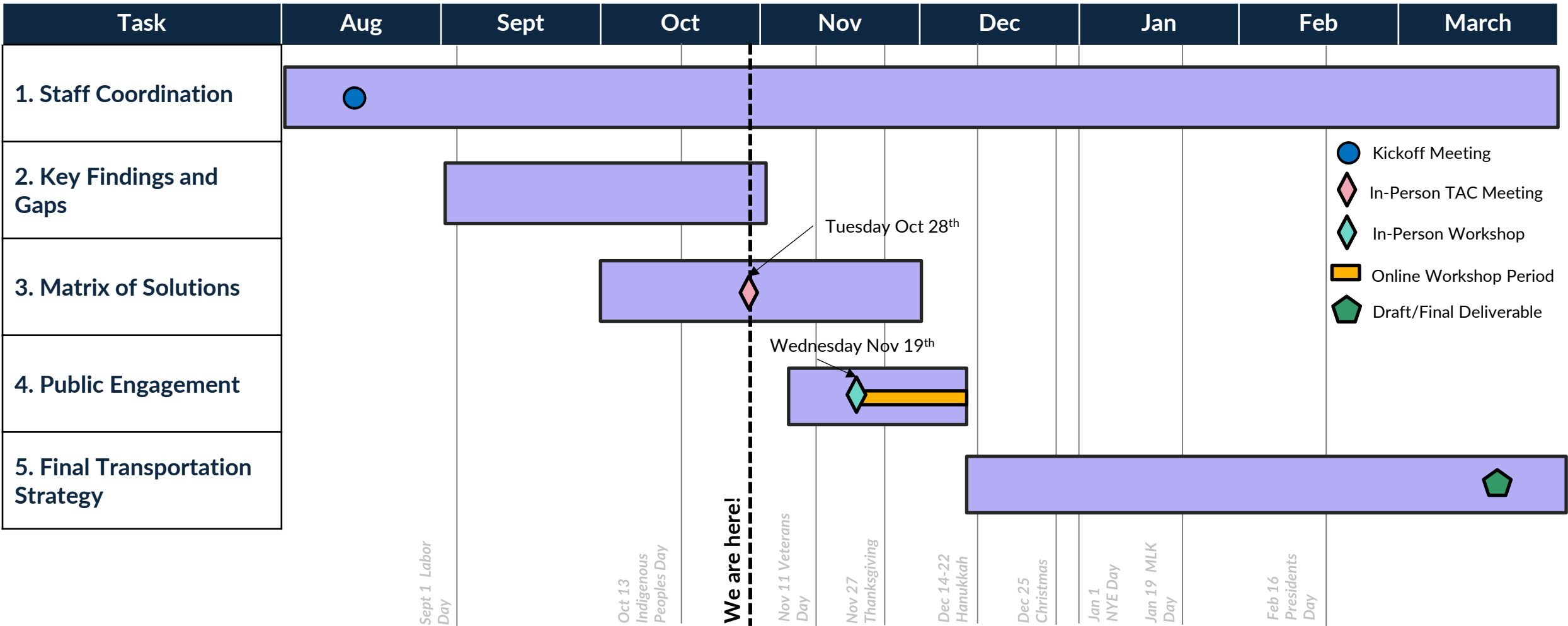
- Update Existing Conditions
 - Crashes, Commuter Rail Ridership, Bicycle Level of Traffic Stress, Sidewalk Conditions
- Key Findings & Gaps
- Matrix of Solutions
- Public Workshop
- Final Transportation Strategy



Public Meeting (2023)



2025 Project Schedule



- **Concord Mobility Goals**
 - Create safe, cost effective walking and bicycling connections between key pedestrian and bicycle paths/trails to improve mobility around Concord
 - Reduce motor vehicle dependence and traffic volume within Concord
 - Improve coordination with regional partners in order to reduce traffic volume and congestion from commuter through-traffic
 - Provide effective mobility options for trips within Concord, and to Boston and other regional medical centers and key destinations
 - Develop an approach to public and private parking that balances the principles of sustainability with the Town's economic goals
 - Invest in targeted and effective safety improvements for all road users

Goals established by Envision Concord and confirmed/modified through public engagement and conversations with Town staff.



Issue: Current travel patterns do not align with goals to reduce motor vehicle dependence

- Half of Concord commuters use a car to get to work, which is a relatively low percentage
 - Concord's work from home percentage is high (~35%)
 - The percentage of people who drive for *all* (as opposed to commute) trips is much higher
- Nearly half of all trips that originate in Concord stay in Concord
 - Nearly 75% of these trips are driving trips despite an average trip distance of 2.3 miles
- A 2018 survey suggests that 70% of residents would prefer to walk to their destination
 - This means the existing infrastructure for active transportation is not incentivizing a mode shift for these shorter trips

Community Input

- "I would walk more, it's just 2 miles to Concord Center, if there was a sidewalk on my side of the street, and the intersections at Bedford St, Virginia Road, and Lexington Road were safer."
- "There needs to be sidewalks all over the town so people can walk more."
- "I could walk to school as it is only a 10-minute walk, but the sidewalk ends" after a few minutes and then there is a narrow bridge on Monument Street (right after the north bridge park) that is very dangerous for pedestrians and cyclists"

* Source: U.S. Census Bureau, 2019-2023 American Community Survey 5-Year Estimates

** Source: Replica Daily Trip Volumes, Weekday, Fall 2023

Replica is a modeled data source, relying on Census, location-based service, GPS, point-of-interest, and built environment data to estimate trip volumes.

In-Town Trip Length**

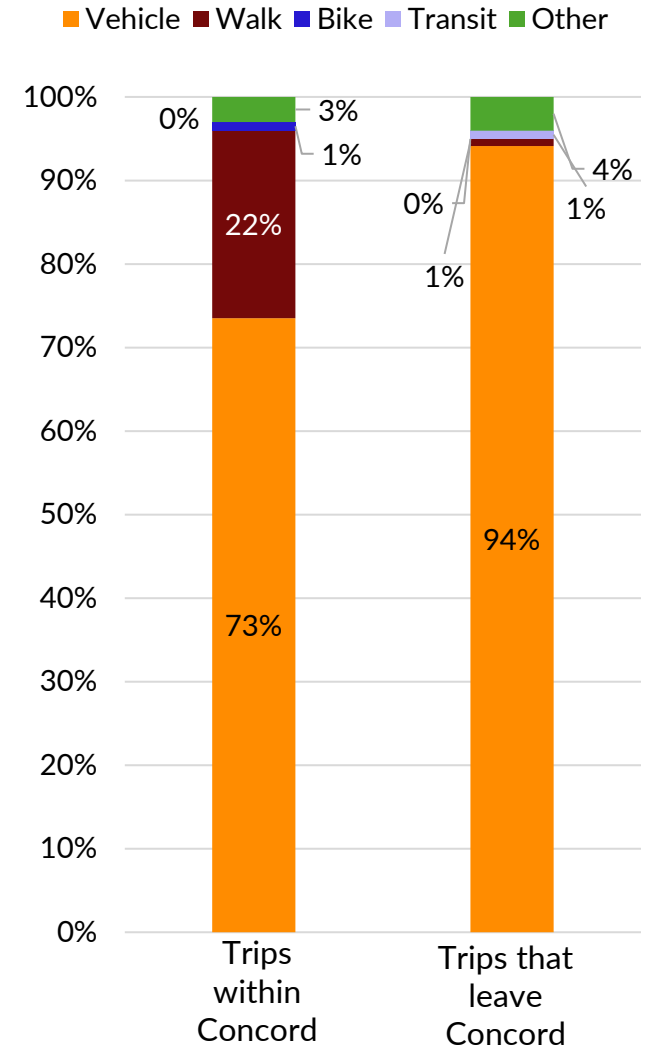
Mode	Average Length
Driving	2.3 miles
Biking	1.7 miles
Walking	0.6 miles

Means of Transportation to Work*

Workers 16 Years and Over

Mode	Count	%
Total	7,089	100%
Car, truck, or van:	3,980	56.1%
Bus	30	0.4%
Subway or elevated rail	15	0.2%
Long-distance train or commuter rail	247	3.5%
Bicycle	117	1.7%
Walked	153	2.2%
Worked from home	2,474	34.9%
Other means	73	1.0%

Concord Trips (All Purposes)**

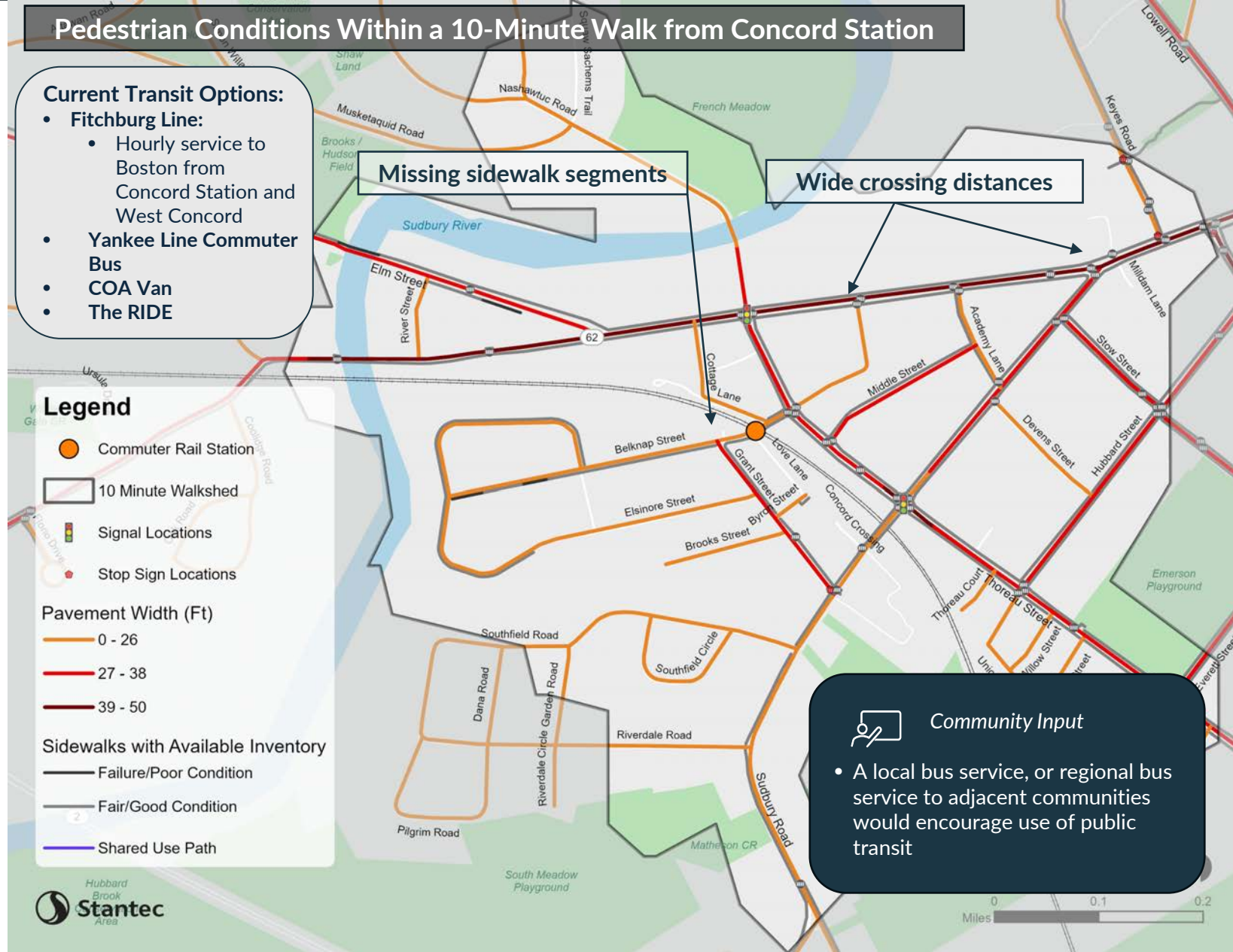




- Consider working with local large employers, including schools, Town staff, etc., to implement transportation demand management programs for commute trips
- Encourage development that supports work from home folks, including local "daily needs" retail, walkability improvements, and improvements to internet access
- Reduce the 73% of in-town Concord trips which use automobiles by improving infrastructure so more people can choose to walk or bike

Issue: Transit options in Concord are limited, and can be difficult to access

- 3.5% of workers commute using the commuter rail (CR)
 - The top two commute destinations outside of Concord are on the CR route
 - There may be multiple reasons the CR is underutilized
- Over half of all Concord workers use cars to travel to work, despite many working within Concord boundaries
 - These trips could be partially substituted with more sustainable transportation modes
- Transit options in Concord are limited and mainly connect to downtown Boston
- Local transit options (COA van) are limited to certain groups
- Most CR users seem to be using the service for commuting only
- The Community Health Needs Assessment highlights that over 50% of respondents have accessibility concerns with CR station





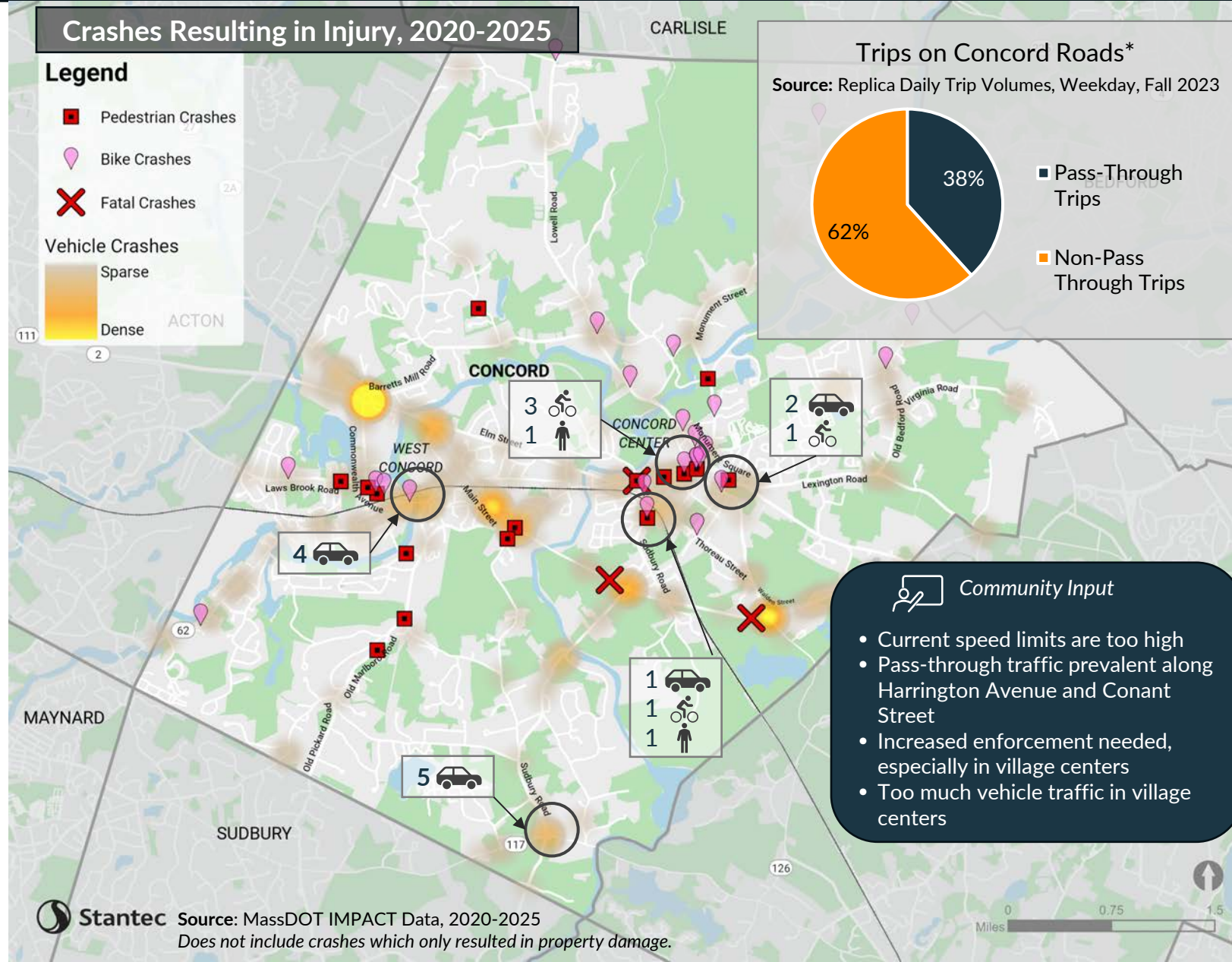
- **Advocate for the implementation of the MBTA's Regional Rail plan, which would improve Commuter Rail service**
- **Increase Commuter Rail access and use for commuters as well as visitors:**
 - Evaluate main barriers to commuter rail use (frequency, cost, time, accessibility, parking)
 - Improve access to Concord's Commuter Rail stations
 - Advocate for ADA accommodations at Commuter Rail stations. Investigate feasibility of permanent installations of ramps, raised platforms
 - Invest in last mile connections (i.e.)
 - Curb extension on Commonwealth Avenue north of Commuter Rail crossing
 - Crossing improvements such as high visibility crossings and LPI at Church Street and Pine Street
 - Improve sidewalks along Church Street
 - Narrow the crossing at Commonwealth Ave and Main Street
 - Investigate reasons why top two employment location employees don't use commuter rail (consider focus group)
 - Investigate how to improve Commuter Rail usage among visitors and tourists
- **Implement a TDM policy via zoning that would help the built environment support options other than driving**
- **Consider expanding locally operated transit options, following local models such as the Salem Skipper or the Cross Connect**
- **Improve marketing of COA van and commuter bus**

Issue: Crash analyses show that 392 crashes resulting in injury have occurred over the last 5 years, including 3 fatal crashes



- Vehicle crashes are concentrated along Route 2 (127 crashes - 36% of all vehicle crashes), and the intersections of Main Street, Sudbury Road, and Route 126 (Walden Street)
- On local roads, there have been 223 vehicle crashes (82% of local crashes), 24 bike crashes (10% of local crashes), and 19 pedestrian crashes (8%).
- Bike/ped crashes clustered around Monument Square and along Main Street, Sudbury Road
- Top local crash intersections: Main Street & Baker Ave, Sudbury Road & Route 117, Heywood Street & Walden Street, Sudbury Road & Grant Street, Main Street & Walden Street
- 3 total fatal crashes between 2020-2025
 - Two involved vehicle rear-end crashes along Route 2
 - One involved a driver hitting a pedestrian crossing the street at the intersection of Main Street and Thoreau Street
- 38% of trips along local Concord roads (excluding Route 2) are pass-through trips

10 DRAFT



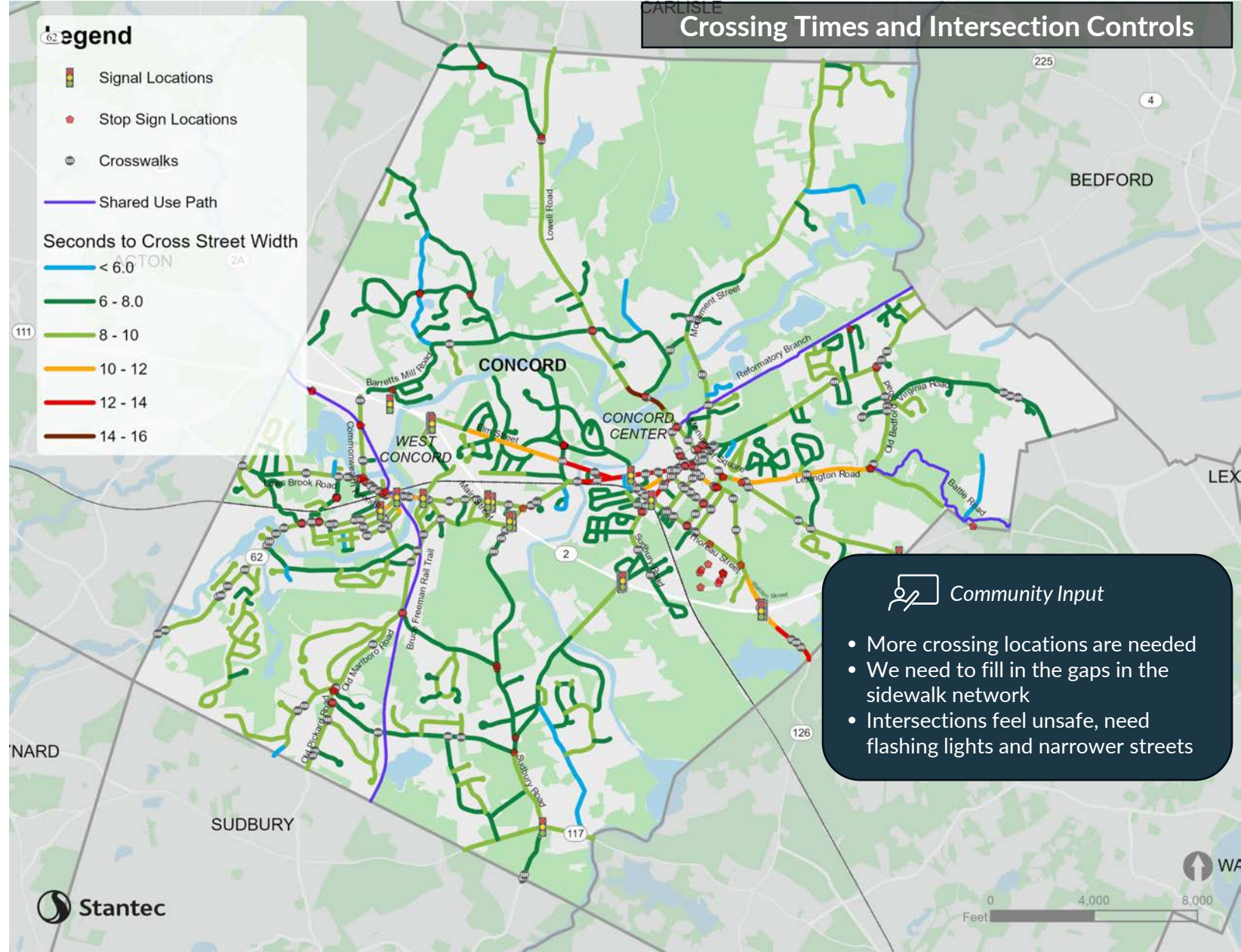


- **Conduct more detailed assessment of crashes to determine high injury network and/or highest priority locations.**
 - Establish a process for evaluating locations with fatal crashes and determining if immediate and/or long-term design interventions are needed.
 - Create/adopt some form of safety plan so that residents are informed on what the town is doing to address safety issues.
- **To make walking feel more comfortable as well as to address safety issues, pursue temporary and long-term redesigns at top crash locations.**
 - Temporary improvements can be made using tools such as paint and flex posts, while longer term investments may involve moving the curb, lane reductions, raised crossings, and more.
- **To make safe walking and biking connections across town, continue work with MassDOT to evaluate how to create safe crossings of Route 2. Identify strong internal vision and/or concept designs for these locations.**
 - Advocate for slower speed intersections that prioritize people walking and biking across Route 2 through ongoing process with MassDOT.
 - Consider whether removing intersections may be safer
 - Integrate findings from MCI plan (i.e. local roads to remain at grade)

Issue: Walking or rolling in Concord is not always comfortable and is underutilized

- Everyone walks, including kids, older adults, people with mobility challenges, people walking their dogs, people walking to their parked car, etc., so facilities should be comfortable for all users
- 25% of in-town driving trips are less than 1 mile**, and could be replaced with walking/rolling
- Half of all roads with speed limits 25mph or greater do not have sidewalks, making them potentially uncomfortable for walking
- Some streets, particularly in Concord Center, require long crossings (greater than 10 seconds) due to wide pavement widths*
 - Main Street, Sudbury Road
- The average distance for a walk trip is over half a mile, which is about a ten-minute walk
- Some existing sidewalks/crosswalks in disrepair

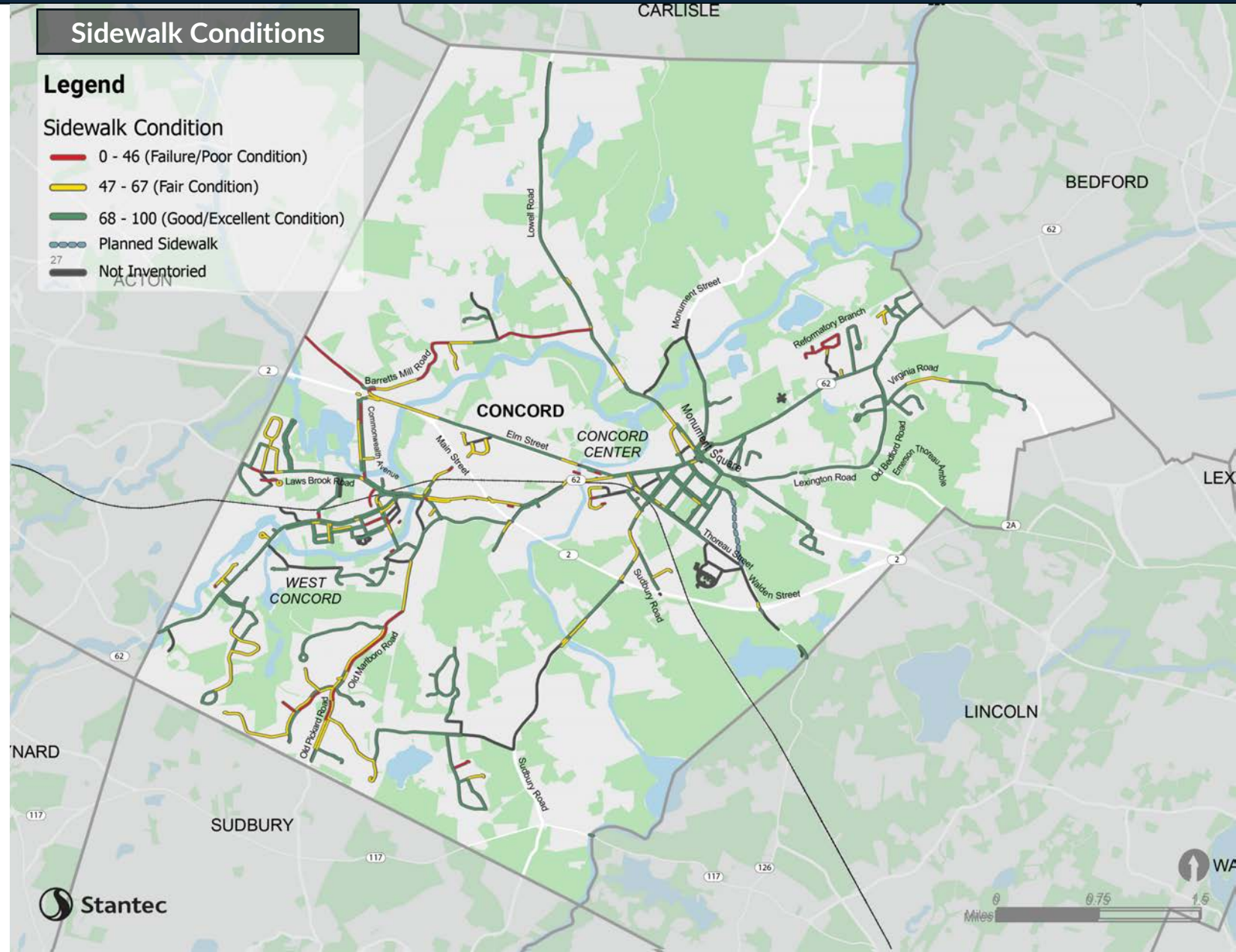
* Source: Asset Management Report, 2025
** Source: Replica Daily Trip Volumes, Weekday, Fall 2023



● ● Issue: Current sidewalk and roadway conditions are not at par with community standards



- Sidewalks outside of village centers are in poor conditions
- Some sidewalks in West Concord in poor condition



Source: Asset Management Report, 2025

13 DRAFT





- **Develop town-wide metrics for pedestrian infrastructure, such as “all residents within one block of a sidewalk” or a certain amount of streets with sidewalk coverage within distance of key locations.**
- **Invest in missing sidewalks and sidewalk repairs in key locations, per Asset Management plan (p. 20).**
 - In historic districts, use context-sensitive tools such as curb extensions, high-visibility "zebra" crosswalks, advance yield lines/"shark's teeth", raised crosswalks, and tightened turn radii.
 - Upgrades to existing walk network may include benches, trees, plantings/rain gardens, pedestrian-level lighting, public art.
 - Consider prioritizing the following locations further:
 - East-west connections between the two Centers, crossings to Walden Pond
 - Recommendations as outlined in the Safe Routes to School Assessment for Alcott Elementary and Thoreau Elementary.
- **Where installing sidewalks may not be possible or high priority, investigate the implementation of neighborways (traffic calmed streets in residential locations).**
 - At these locations, invest in proven safety measures, such as high-visibility crossings, median refuges, RRFBs, etc.
- **Continue ongoing work to establish clear and transparent system for responding to community requests for safety improvements.**

Issue: Despite access to regional shared-use paths, Concord does not have a safe, continuous bike network

- **Evaluation approach: *Bicycle Level of Traffic Stress Analysis***
 - A framework to assess the stress people riding bicycles experience on a given street segment
 - Developed in 2012 by the Mineta Transportation Institute at San Jose State University
- **Considers the infrastructure of a given road segment:**
 - Mixed Traffic
 - Painted Bicycle Lanes
 - Separate Bicycle Lanes
- **Traffic stress of road segment evaluated based on:**
 - Number of travel lanes
 - Annual average daily traffic (AADT)
 - Posted speed limit



STRESS LEVEL 1



- Very low stress, requires little attention
- Equivalent to neighborhood roads, cycle tracks, trails

STRESS LEVEL 2



- Low stress, suitable for 60 percent of the population
- Equivalent to low-volume / low-speed roads

STRESS LEVEL 3



- Moderate stress, suitable for 10 percent of the population
- Equivalent to bicycling on four-lane roads with bike lanes

STRESS LEVEL 4

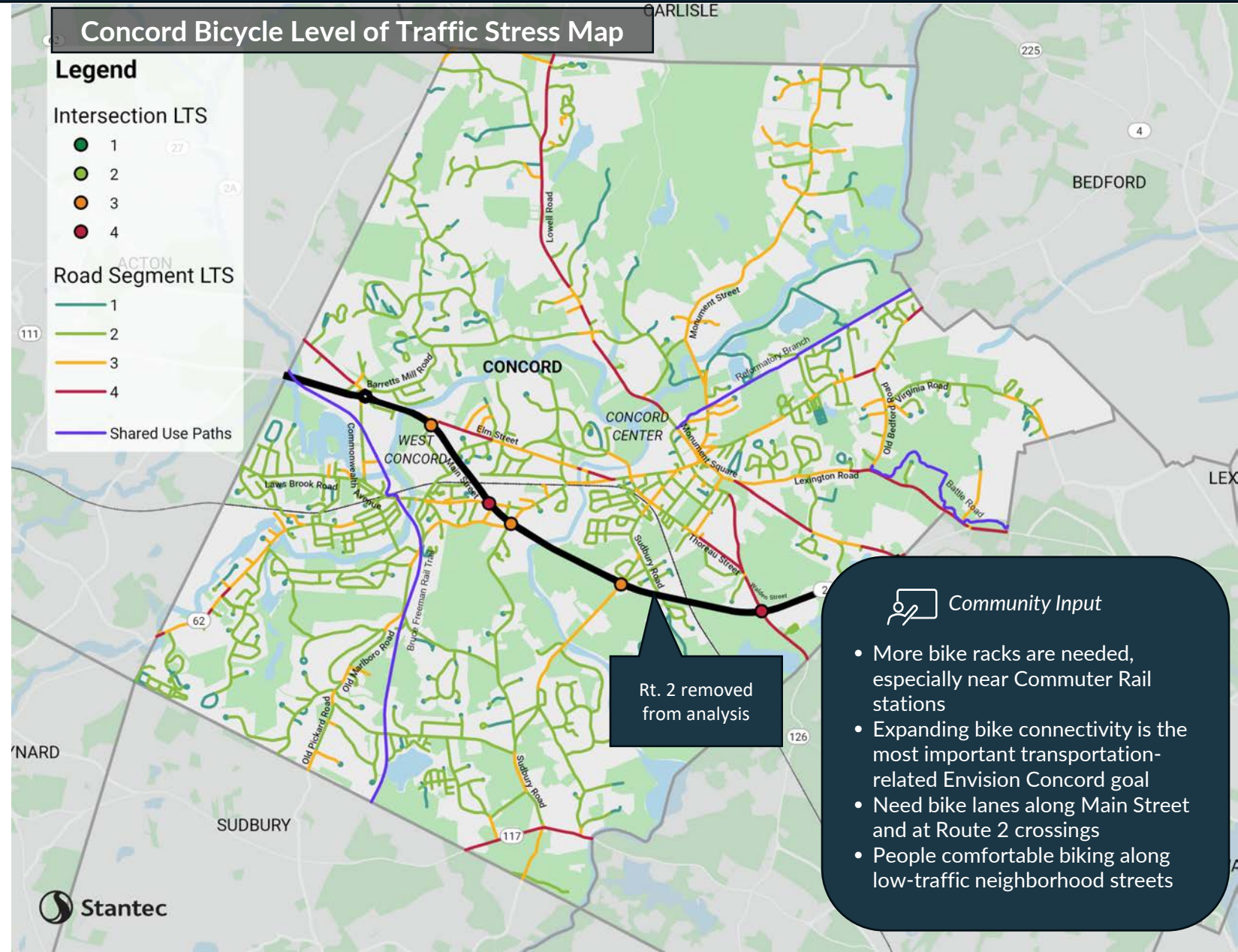


- High stress, suitable for 1 percent of the population
- Equivalent to bicycling in traffic on 40+ mph roads

Issue: Despite access to regional shared-use paths, Concord does not have a safe, continuous bike network



- No on-street bicycle network
- Reformatory Branch and Bruce Freeman Rail Trail do not connect via a safe and comfortable bike route
- High-stress street segments, particularly along Main Street, limit the connectivity between village centers.
- Bike network within a 10-minute bike trip to either Commuter Rail stations is mostly low-stress, but is interrupted by sections of higher-stress streets.
 - Concord Center: Thoreau Street, Sudbury Road
 - West Concord: Main Street
- Route 2 crossings are high-stress and present a significant barrier to connectivity
- Limited bike share system availability and bike racks in village center
 - 5 bike racks, 1 bike share station in West Concord
 - 7 bike racks, 1 bike share station in Concord Center



Community Input

- More bike racks are needed, especially near Commuter Rail stations
- Expanding bike connectivity is the most important transportation-related Envision Concord goal
- Need bike lanes along Main Street and at Route 2 crossings
- People comfortable biking along low-traffic neighborhood streets

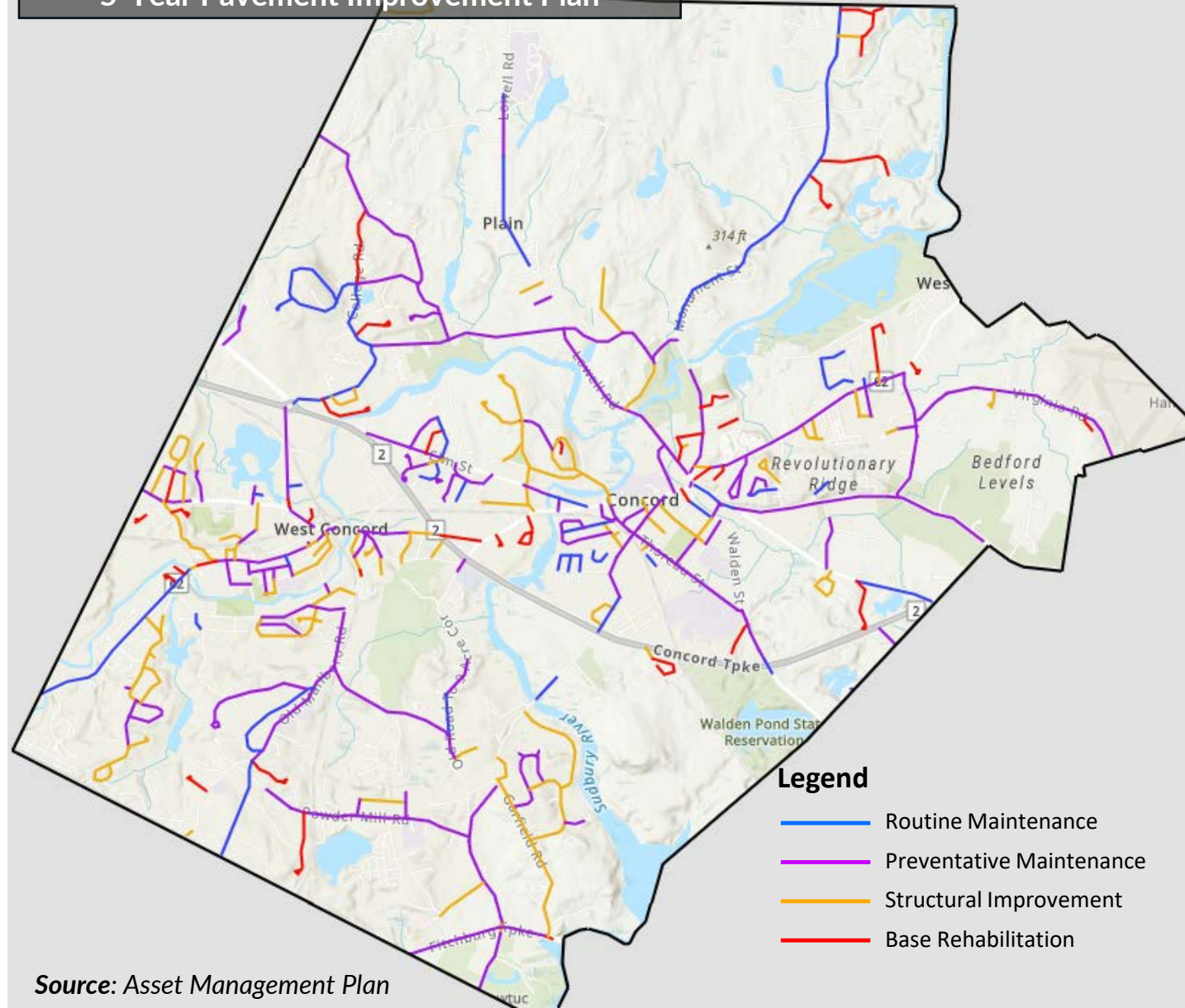


- **Targeted infrastructure improvements along high stress streets to create east-west biking connections**
 - On constrained streets, this might include traffic calming investments so that people biking can safely share the road with people driving.
- **Where space (and historical character) allow consider the following menu of options:**
 - Buffered bike lanes with quick-build elements such as flex-posts, 'armadillos,' and planters
 - More permanent buffered bike lanes such as concrete buffers
 - Quick-build traffic calming elements such as median/splitter islands, chicanes, or neckdowns using paint and vertical elements
 - More permanent traffic calming elements such as widening sidewalks/narrowing lanes, curb extensions, and raised crossings
 - As part of a comprehensive approach to parking management, removing on-street parking
- **Work closely with MassDOT on potential improvements to Route 2 crossings.**
 - Potential opportunity to collaborate with the MBTA on a Rails to Trails based solution for Route 2 crossings, particularly for people walking and bicycling
- **Consider expanding bicycle share, especially alongside improved cycling facilities.**
- **Install new bike racks, especially ring-and-post design (or other designs that align with Association of Pedestrian and Bicycle Professionals standards)**
 - Consider installing racks that support larger bikes such as E-Bikes and recumbent bikes.
 - Install bike parking facilities alongside multi-use paths and upgraded on-street bike infrastructure, and in village centers.

Issue: Current sidewalk and roadway conditions are not at par with community standards

- Public sentiment (from 2023 engagement) indicates that roadway maintenance has room for improvement
- Preventative maintenance, structural improvements, and base rehabilitation projects provide opportunities to implement safety improvements:
 - Intersection redesigns
 - Crossing visibility
 - Road speeds
 - Bike Infrastructure
- Town has identified roadways that need improvement based on the following criteria:
 - Infrastructure → severity of non-compliance infrastructure and need of additional infrastructure
 - People → focused on social equity, areas of the Town with the highest density of disabled individuals and public feedback from the community.
 - Places → proximity to important locations and destinations, such as schools, train stations, and recreational areas
 - For more detail, see *Asset Management Plan*

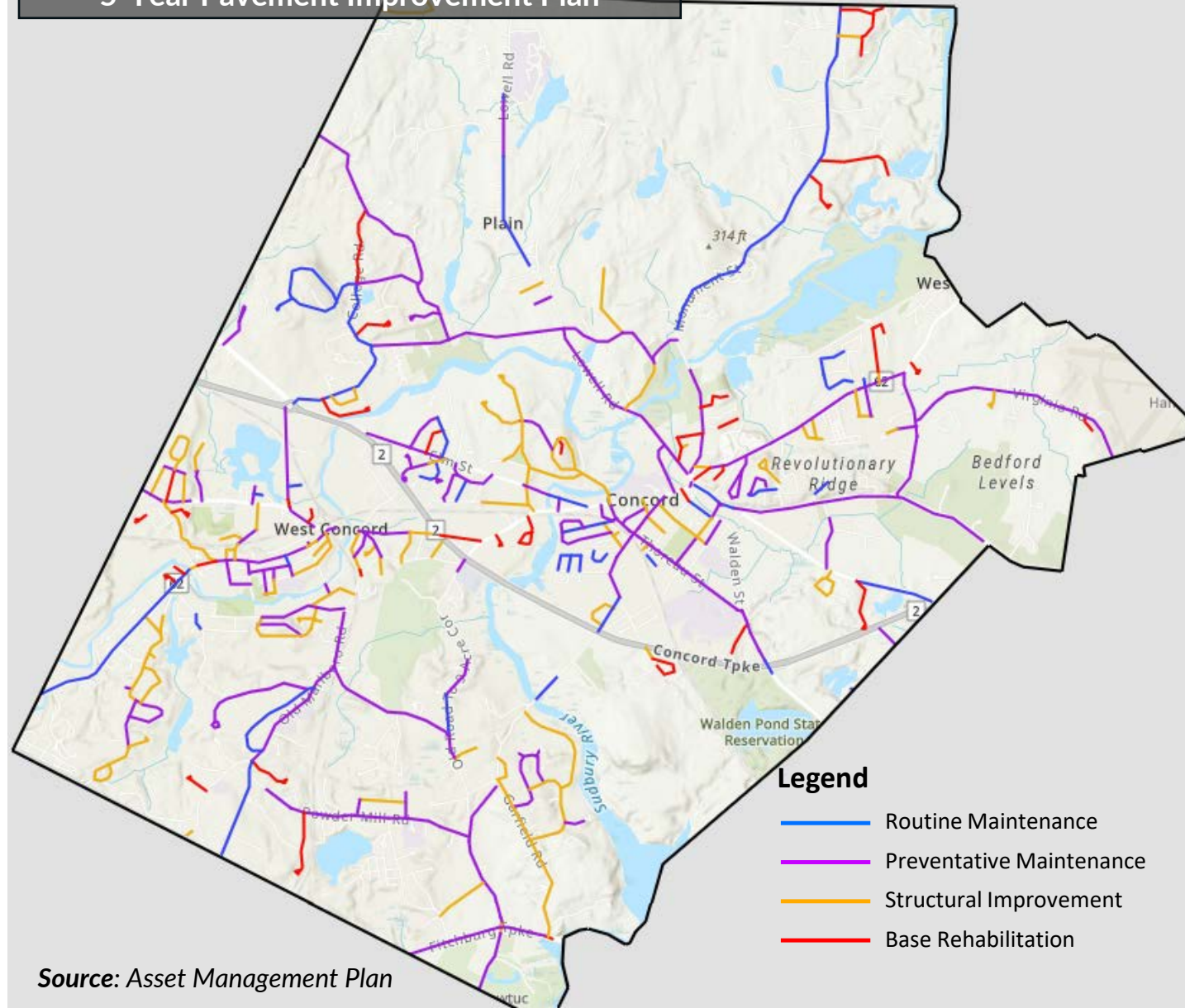
5-Year Pavement Improvement Plan



Source: Asset Management Plan

- Asset Management Plan provides a roadmap for addressing high-priority locations for repair over the next five years
- Pursue roadway projects outlined in Asset Management Plan, integrating street design changes (such as safety improvements or opportunities to create comfortable biking connections)

5-Year Pavement Improvement Plan

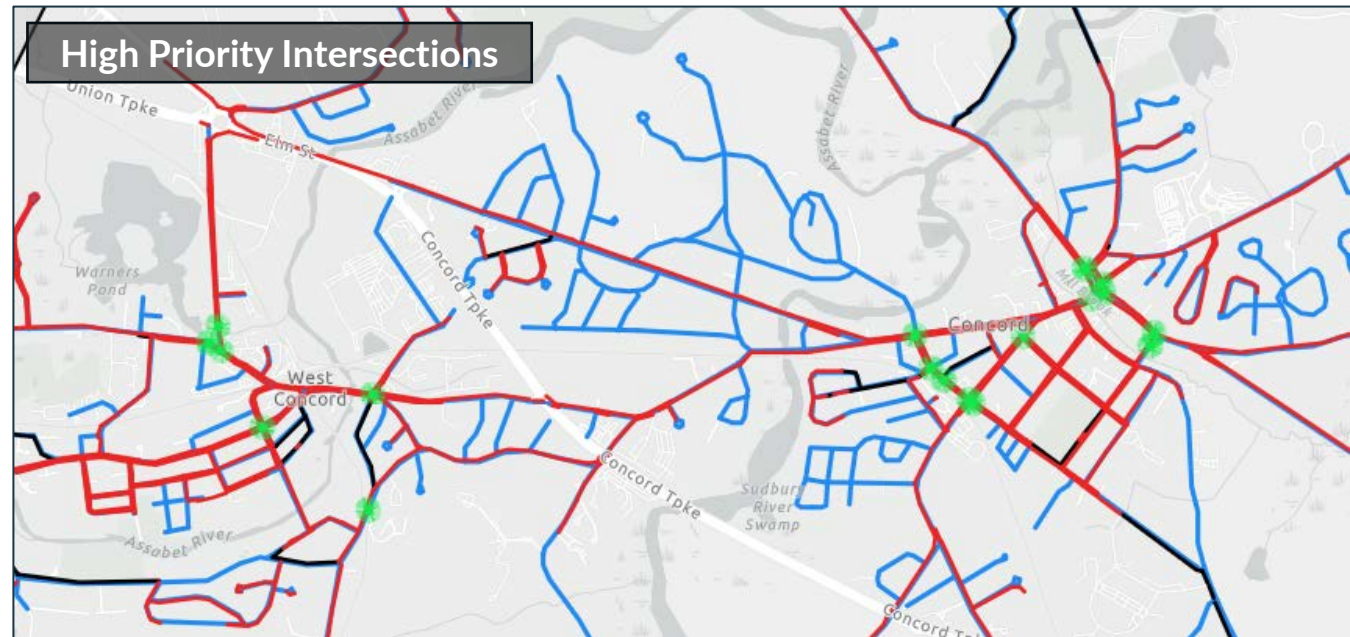
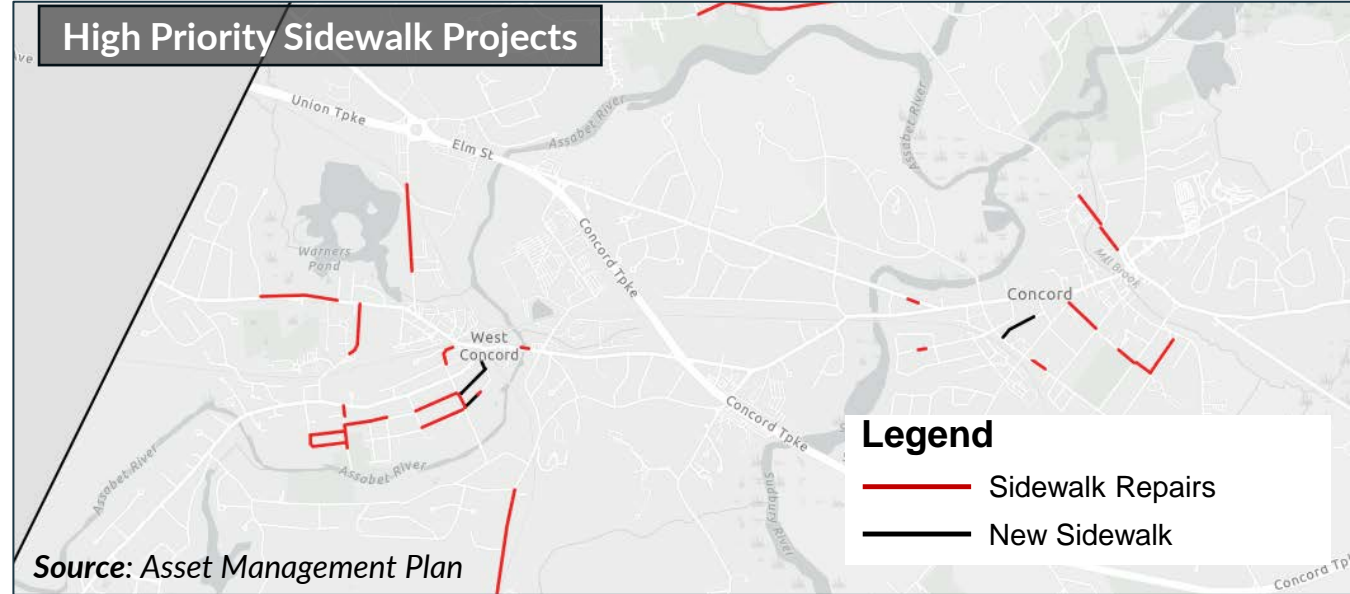


Source: Asset Management Plan

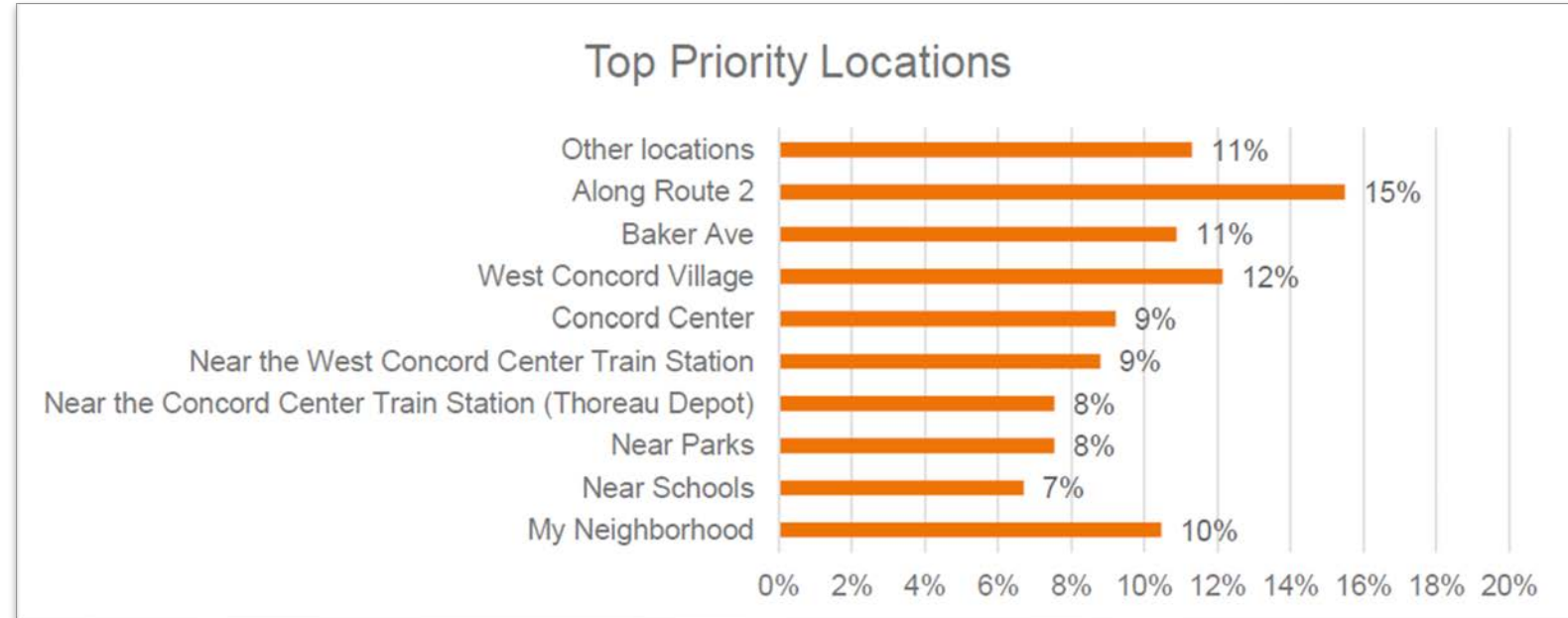


Strategies:

- Pursue sidewalk repair projects outlined Asset Management Plan
- Pursue high priority intersection repair projects, as identified in Asset Management Plan



- Limited coordination with regional partners
- Limited transportation demand management, especially associated with development, which would support community goals
- No public coordinated safety planning document
- Traffic management group coordinates on sidewalk / crosswalk requests, but public perception is unclear in terms of communication channels for reporting safety concerns
 - A list of sidewalk/crosswalk requests exists but has not yet been integrated with broader plans for improvement
- Sustainable Concord (Town's Action and Resilience plan) sets a goal for low-carbon transportation options, such as electric vehicles



Transportation Prioritization feedback at 2023 Public Meeting

Community Input

- Community notes that process to move requests forward is not clear

- Coordinate with regional partners on efforts that may meet goals, such as expanding bikeshare or transit options
- Integrate transportation demand management into zoning/development
- Begin a comprehensive safety action plan
- Continue ongoing work to establish clear and transparent system for responding to community requests for safety improvements
- Continue to invest in planning for additional charging infrastructure and expanding resources for electric vehicle owners
- Coordinate with regional partners on efforts that may meet goals, such as expanding bikeshare or local transit options
- Report on progress toward Sustainable Concord goals



Asset Management Plan

- Developed by Stantec's Asset/Pavement Management Team
 - Office: Burlington, MA
- Scope: Narrow, focused on when and where to spend funds on roadway and sidewalk improvements
- Engineering focused:
 - StreetScan data, an automated process which surveyed 100% of Concord's roadways.
 - "Boots on the ground" assessment of sidewalk conditions for 50% of the town's sidewalks
 - Engineers verified accuracy of data
- Outcome: A catalogue of Concord's roadway and sidewalk conditions, in addition to a prioritization plan (*5-Year Road Maintenance Program*)
 - Plan illustrates which roadways need to be improved and to what extent (basic repairs vs. full reconstruction)
 - Plan outlines where sidewalk reconstruction is needed, and potential new sidewalks
 - Outlines intersections which could be improved
 - Priority based on infrastructure condition, public input, and proximity to important locations
- Town voted to fund plan in special election on August 19th, 2025 → \$27,500,000

Transportation Strategy (*This Project*)

- Developed by Stantec's Urban Mobility Group
 - Office: Boston, MA
- Scope: Big picture, evaluates driving, walking/rolling, bicycle, and transit conditions
- Planning focused:
 - Aligned with Envision Concord mobility goals
 - Technical aspects are present, such as crash data, transit data, and bicycle level of traffic stress analyses
 - Data analysis is exploratory, and findings stem from trends illuminated on maps, charts, tables
 - Recommendations are refined iteratively through communications with town staff, transportation advisory committee, and residents
- Outcome: A document which compiles maps, tables, and charts illustrating issues and opportunities for transportation in Concord, which are addressed with recommendations and strategies
 - Provides both short-term and long-term strategies
 - Establishes linkage between priority roadway and sidewalk projects outlined in Asset Management Plan to town goals
 - Illustrates how priority roadway projects could improve safety and connectivity for pedestrians and bicyclists