

# CENTRE STREET SAFETY IMPROVEMENTS

*May 2023*



# AGENDA

**6:00 PM: Introductions**

**6:15 PM: Presentation on Plan**

**6:30 PM: Breakout Groups**

**7:15 PM: Reconvene for comments/Q&A**

**7:45 PM: Conclusion**

# CITYWIDE SAFETY SURGE



- Citywide “Safety Surge” initiative that will bring **traffic calming infrastructure to every neighborhood** in Boston.
- Three approaches to increase safety, lower unsafe speeds, and reduce conflicts between drivers, pedestrians and bike riders:
  - install **zones of simple speed humps** on eligible neighborhood streets,
  - use **redesign intersections and major roadways**
  - and new **guidelines for the City’s traffic signals**.
- The Mayor’s FY24 budget proposal includes more than **\$12M to fund new safety investments in Boston neighborhoods** as part of the Safety Surge.

# WHAT WE HEARD: CENTRE STREET

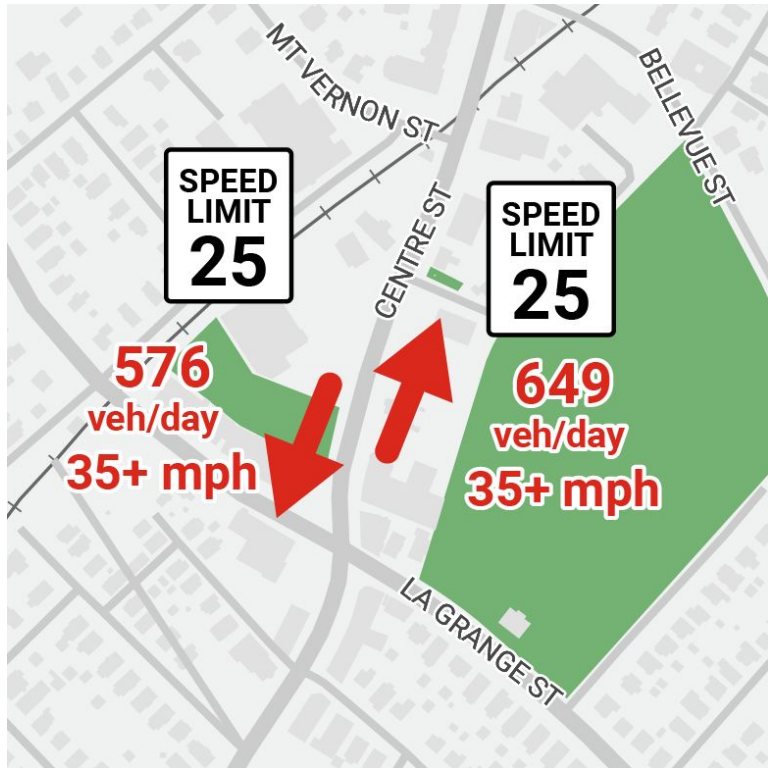
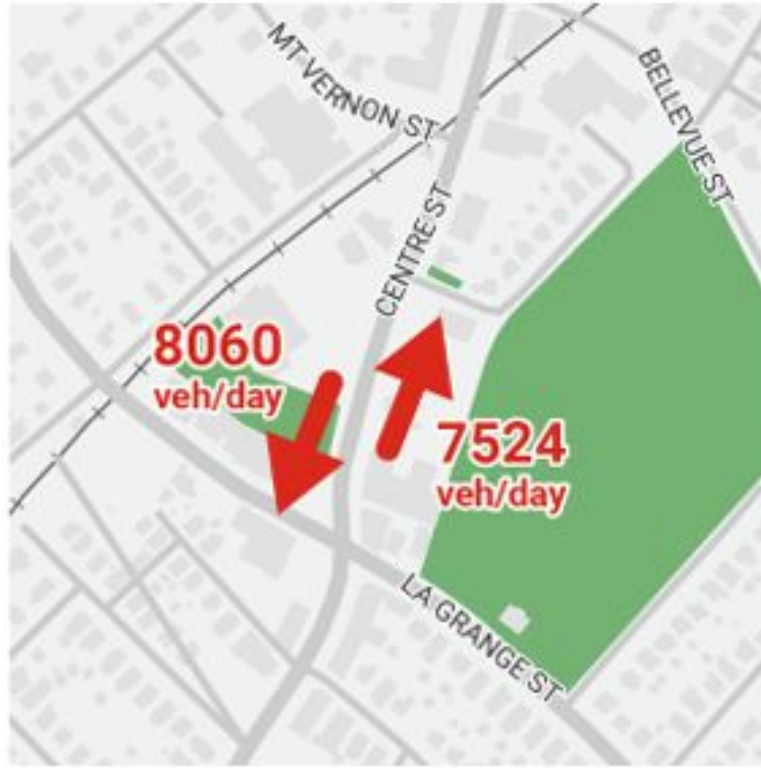
- It's **stressful** to cross Centre St, especially for older adults or families with children
- **Slower speeds would make pedestrians feel safer**
- Driving can be **challenging, especially left turns**
- Customers want to **access the many small businesses** on the street, and want **minimal impacts** to parking along the busy corridor
- Any changes need to ensure **sufficient road capacity** on Centre St. to **avoid pushing traffic onto side streets**
- We need to accommodate the **Lyndon School and Parkway YMCA drop-off and pick up**



BOSTON GLOBE 12/2/2019

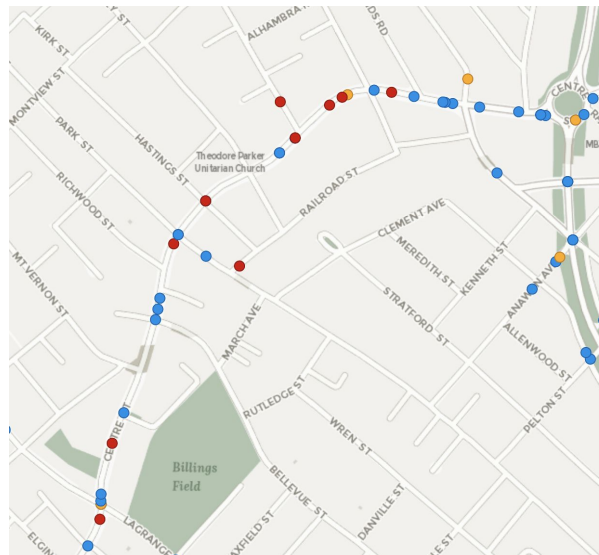
# WHAT WE FOUND: COUNTS & SPEEDS

Collected January 2023



# WHAT WE FOUND: SPEEDING AND CRASHES

- ~15,600 vehicles per day
- **The majority of motorists are driving faster than the speed limit of 25 mph**
- The 85th percentile speed near Lagrange is 34-35 mph, which is a lethal speed for 70+ year old pedestrians
- **Hundreds of drivers per day travel at 40+ mph.** A pedestrian of any age struck at this speed is highly likely to suffer a severe injury or fatality
- **64 crashes in 3 years (2019-21)**; crash rate of 4.68 crashes per million vehicle miles traveled is 34% higher than the statewide average for an urban minor arterials



Data from January 2018 through April 2023:

- Pedestrian crash
- Bicyclist crash
- Motor vehicle crash

Some dots represent multiple crashes.

<b>Centre at Lagrange:</b>	9 crashes (6 mv, 2 bike, 1 ped)
<b>Center at Hastings:</b>	4 crashes (3 ped, 1 mv)
<b>Maple-&gt;Willow:</b>	7 crashes (4 ped, 2 mv, 1 bike)
<b>Greaton-&gt;rotary:</b>	15 crashes (13 mv, 2 bike)

# THE PEOPLE

These are more than just numbers - they are lives lost or derailed. Marilyn Wentworth should be here today - but she was killed by a speeding vehicle on Centre St. in 2019.

In 2015, a man suffered a traumatic brain injury, and in 2022 a kindergartner was struck in a crosswalk. Many others have been injured, suffered the trauma of a crash, or experienced a near-miss.

**We need to act now before any other neighbors lose their lives or suffer serious injury.**



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**Out of a family's anguish, a call to narrow Centre Street in West Roxbury**

# THE PEOPLE



*My mother grew up in West Roxbury and lived here for over 65 years. In her later years she suffered from mobility issues but frequently enjoyed shopping and spending time on Centre St. In 2019 while crossing the street with a cane on her way to her favorite local coffee shop she was fatally struck by a car in an inner travel lane. It goes without saying what a tremendous loss this was for my family, how painful it is to relive this tragic event.*

*But I am focused on **preventing another family from having to experience this kind of unnecessary and tragic loss.** I believe that the current 4 lane configuration of Centre St is **unsafe and a hazard to pedestrians, particularly the most vulnerable members of our community.***

- Matt Wentworth, son of Marilyn Wentworth

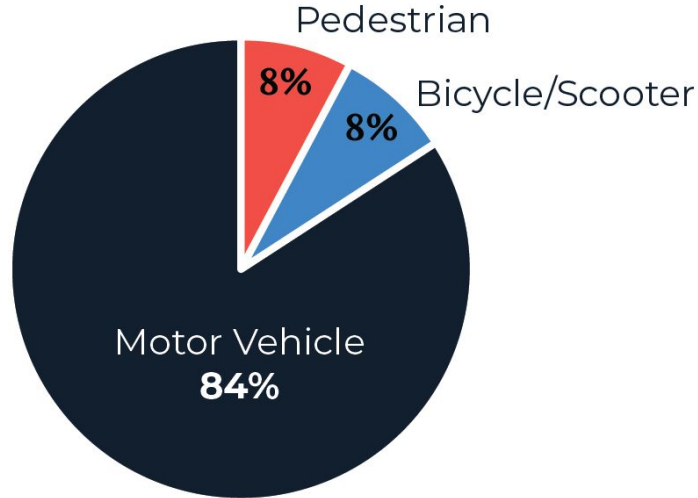


# CRASHES ARE MORE LIKELY TO RESULT IN INJURY IF THEY INVOLVE PEOPLE WALKING OR BIKING

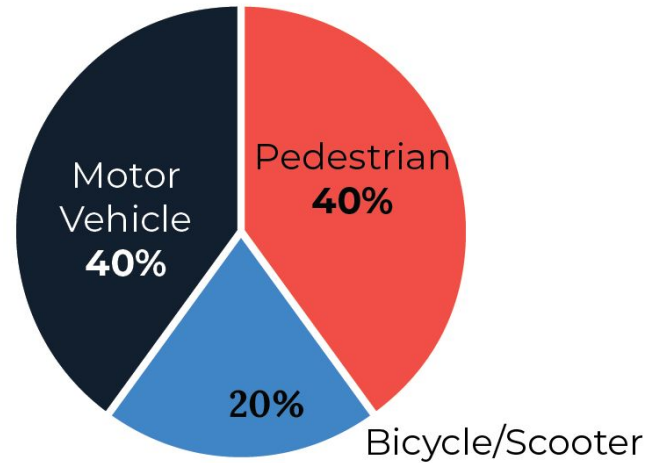


Centre St 2019-2021

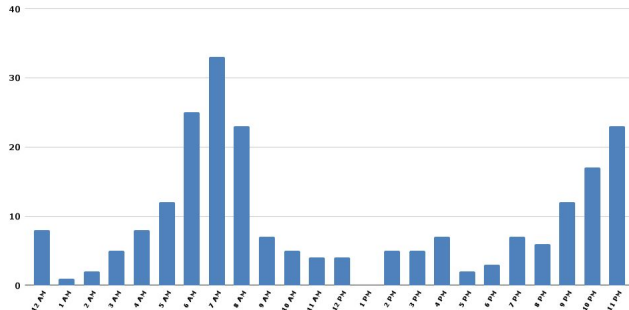
## Crashes by Mode



## Injuries by Mode

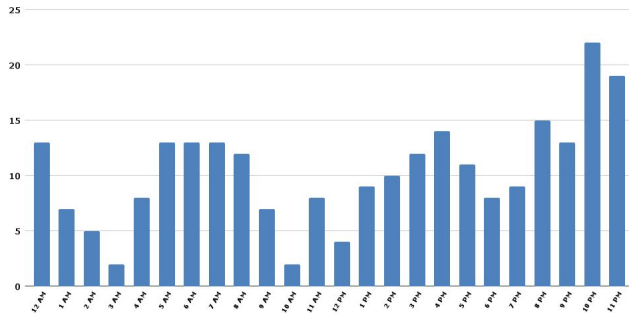


# DRIVERS TRAVELING 30+ MPH CENTRE ST BTWN COREY & WILLOW



## Friday, Jan 13:

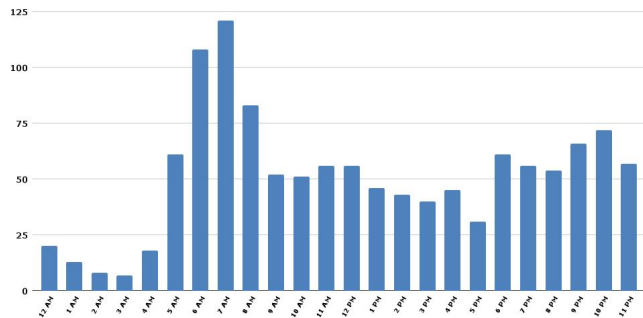
- 1,488 going 30+ mph
- 224 going 35+ mph (shown)
- 34 going 40+ mph



## Saturday, Jan 14:

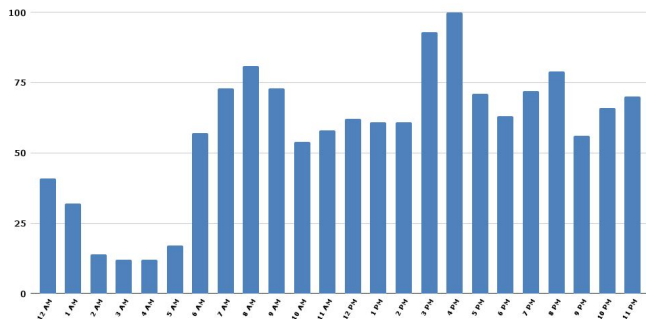
- 1,487 going 30+ mph
- 249 going 35+ mph (shown)
- 35 going 40+ mph

# DRIVERS TRAVELING 30+ MPH CENTRE ST NORTH OF LAGRANGE ST



## Friday, Jan 13:

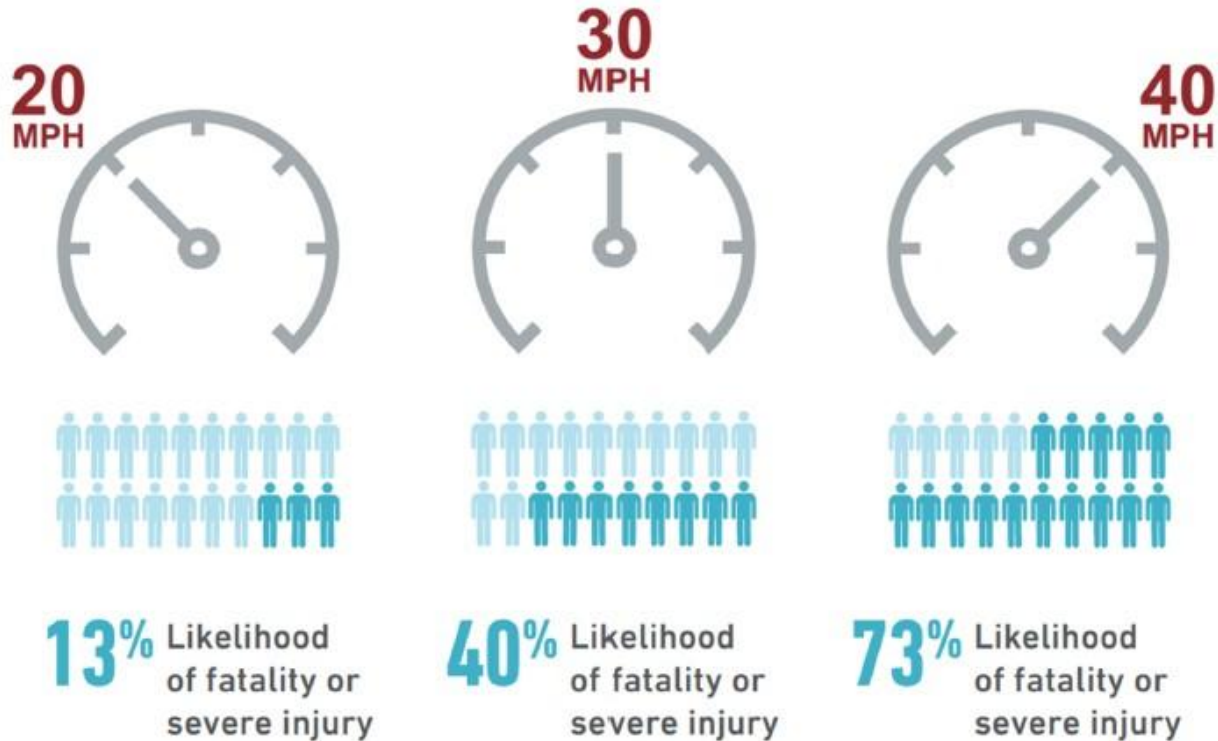
- 4,798 going 30+ mph
- 1,225 going 35+ mph (shown)
- 198 going 40+ mph



## Saturday, Jan 14:

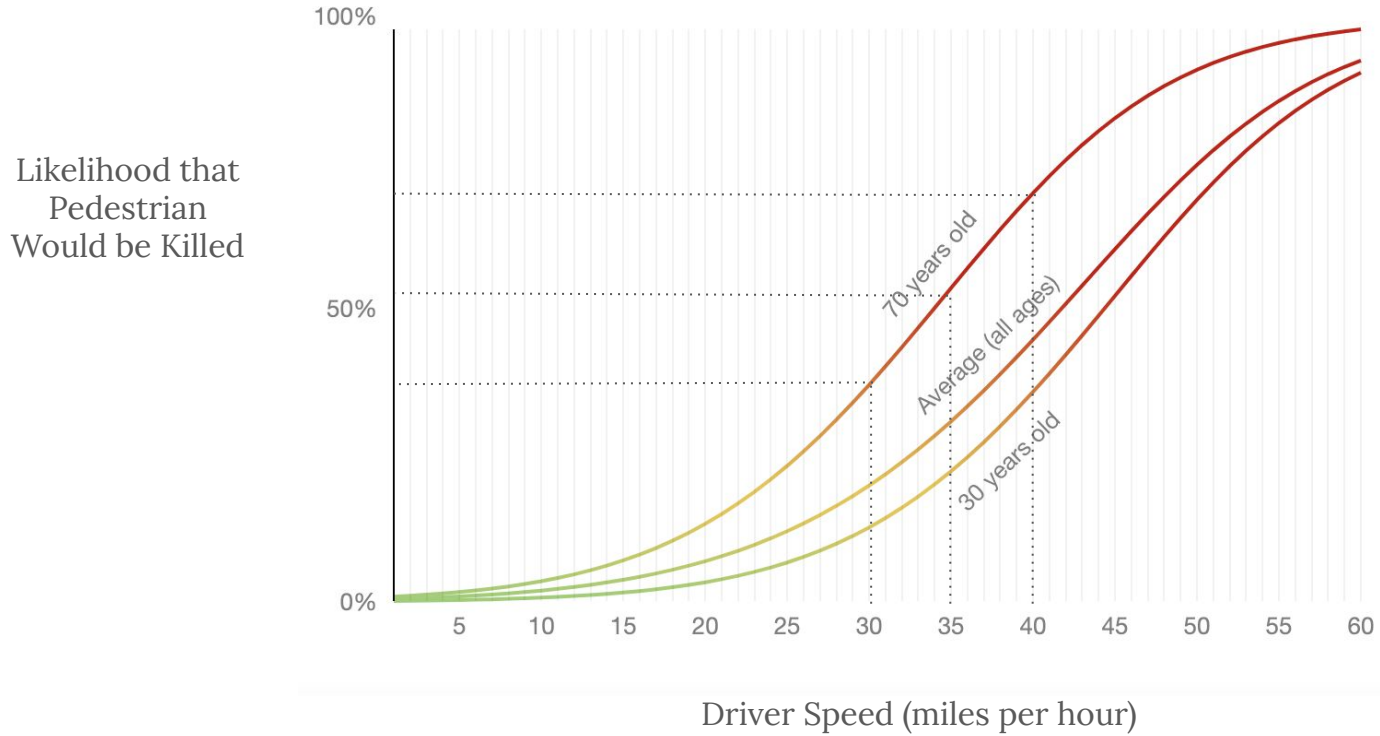
- 4,994 going 30+ mph
- 1,378 going 35+ mph (shown)
- 217 going 40+ mph

# CHANCE OF BEING KILLED OR SEVERELY INJURED WHEN STRUCK BY A DRIVER AT VARIOUS SPEEDS



Tefft, B. C. (2013). "Impact Speed and a Pedestrian's Risk of Severe Injury or Death," *Accident Analysis and Prevention*, Volume 50, January 2013, pp. 871-878

# CHANCE OF BEING KILLED WHEN STRUCK BY A DRIVER AT VARIOUS SPEEDS BY AGE

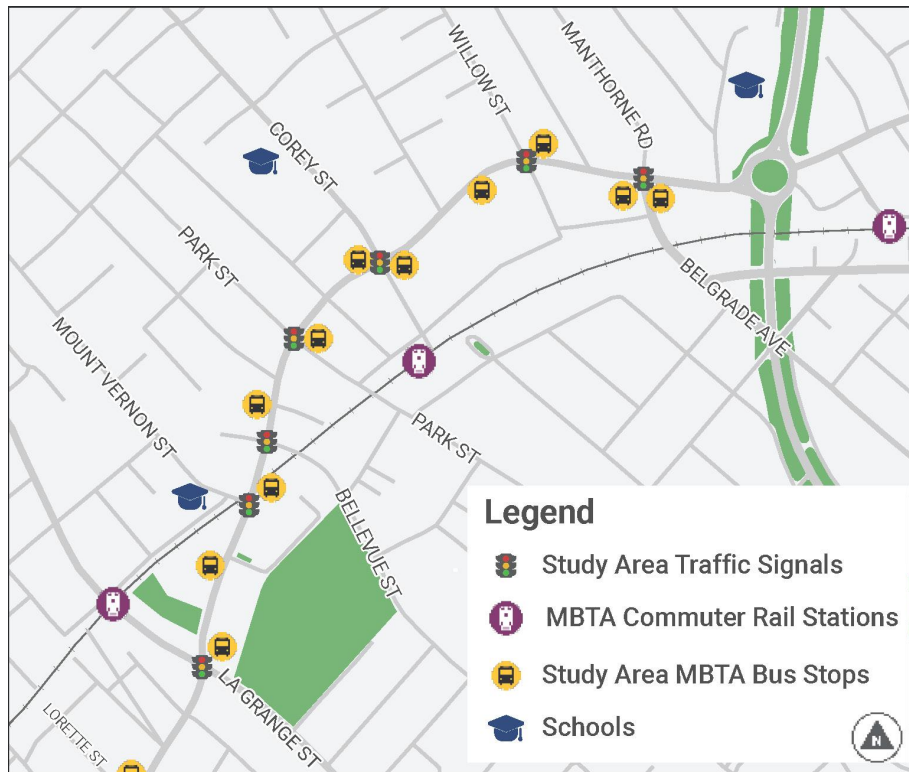


Source:  
<https://www.propublica.org/article/unsafe-at-many-speeds> based on data from Tefft (2013)

# WHAT WE'RE DOING: DESIGN APPROACH

West Roxbury Pkwy to LaGrange St: 0.8 miles

- One travel lane each direction plus left turn lanes provides **more predictable turns, fewer traffic lanes to cross while turning, & less weaving** to pass drivers who are waiting to make a left turn
- **Simplified traffic pattern prevents speeding & “double threat,”** where drivers pass stopped vehicles without seeing a pedestrian in the crosswalk
- Retimed signals for better coordination & **more time for pedestrians to cross.**
- **Bus stop adjustments** in keeping with MBTA guidelines to provide more even spacing & better bus maneuvering
- **Parking-protected bike lanes** along most of the corridor
- Better management of curb space for **loading, deliveries, pick-up/drop off activities, & short term parking**



# SAFETY BENEFITS OF THREE LANES

## REDUCES CONFLICTS

- Fewer potential conflicts when turning left
- Less weaving around drivers waiting to turn
- Center lane provides flexibility for emergency vehicles and obstructions (construction, etc.)
- Bikes separated from cars and pedestrians

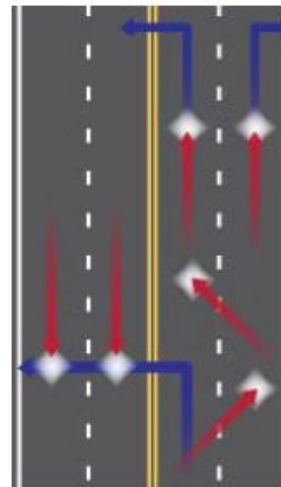
## IMPROVES CROSSWALK SAFETY AND VISIBILITY

- No double threat
- Fewer travel lanes for pedestrians to cross
- Pedestrian islands at key intersections

## CURBS SPEEDING AND DANGEROUS DRIVING

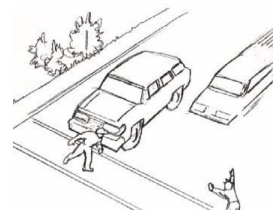
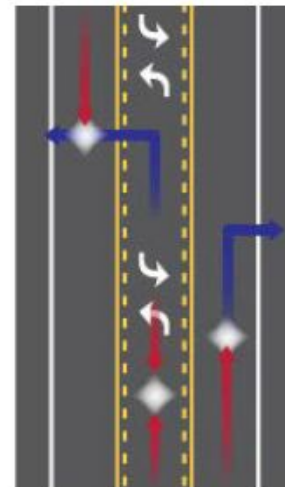
- Drivers can only go as fast as the vehicle in front of them
- No weaving to go faster

Four-Lane Undivided



(Adapted from Welch, 1999)

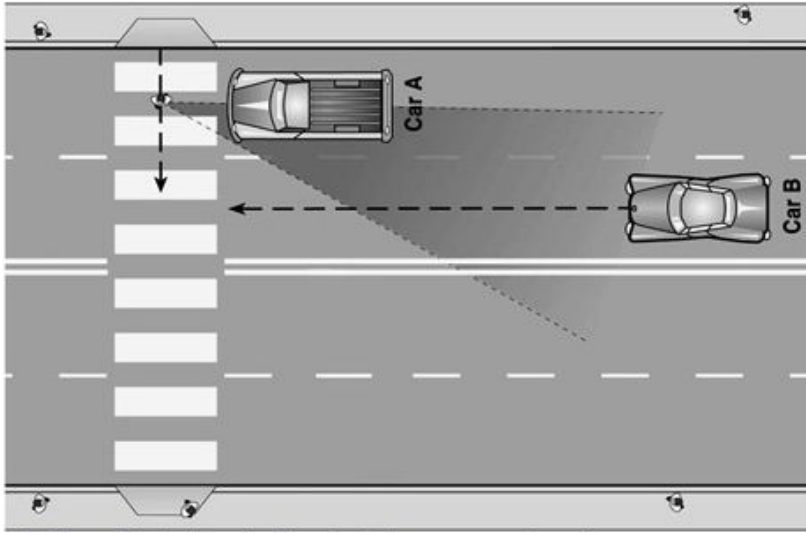
Three-Lane



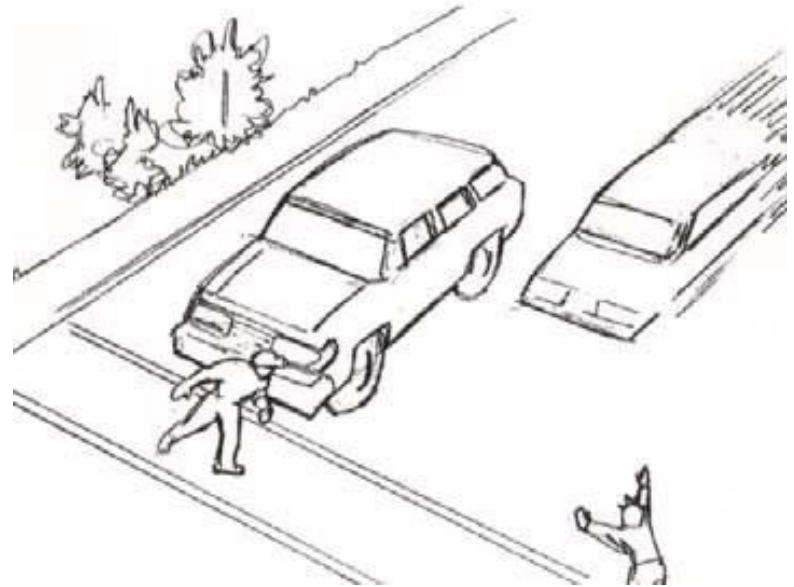
Source: Federal Highway Administration Guide, 2014

# DEADLY DOUBLE THREAT CRASHES

- Two or more travel lanes in same direction
- One driver yields; other driver attempts to pass
- First driver blocks line of site for second driver and pedestrian



Source: SRTS Guide, PBIC



Source: FHWA MUTCD



# CHANGES WE HAVE IMPLEMENTED

- Brick crosswalks replaced with high visibility crosswalks: **complete**
- Solar powered flashing yield signs installed at Hastings St and Greaton Rd: **complete**
- “Do Not Block” intersection markings at Quinn Way: **complete**



**High Visibility Crosswalks added 2019**

# OTHER CHANGES WE HAVE EVALUATED

- **Additional On-Demand Traffic Signals**
  - More signals would increase stop and start traffic and delays
  - More signals alone would not reduce risks from left turns
  - Unsignalized Centre St intersections unlikely to meet federal requirements for signalization (MUTCD)
- **Pedestrian Activated Rapid-Flash Beacons**
  - Can draw attention to crosswalks where someone is waiting
  - Diminishing returns when used in large numbers or near signals
  - Does not reduce speeding, left turn risk, or double threat
- **In-road LED Lighting in Crosswalks**
  - Not a widely used or backed by research
  - Unknown maintenance, likely problems with snow plowing
  - Unfamiliar to drivers
  - Does not reduce speeding, left turn risk, or double threat

*These alternative designs do not address the “**double threat**” issue of multiple cars coming in the same direction while a pedestrian is crossing, which can only be addressed by **lane reduction**, nor do they reduce **risks from left turns**.*



Source: Boston Herald, March 6, 2019



Pedestrian Rapid Flash Beacon

# HOW WE GOT HERE



## WHAT WE DID IN 2019:

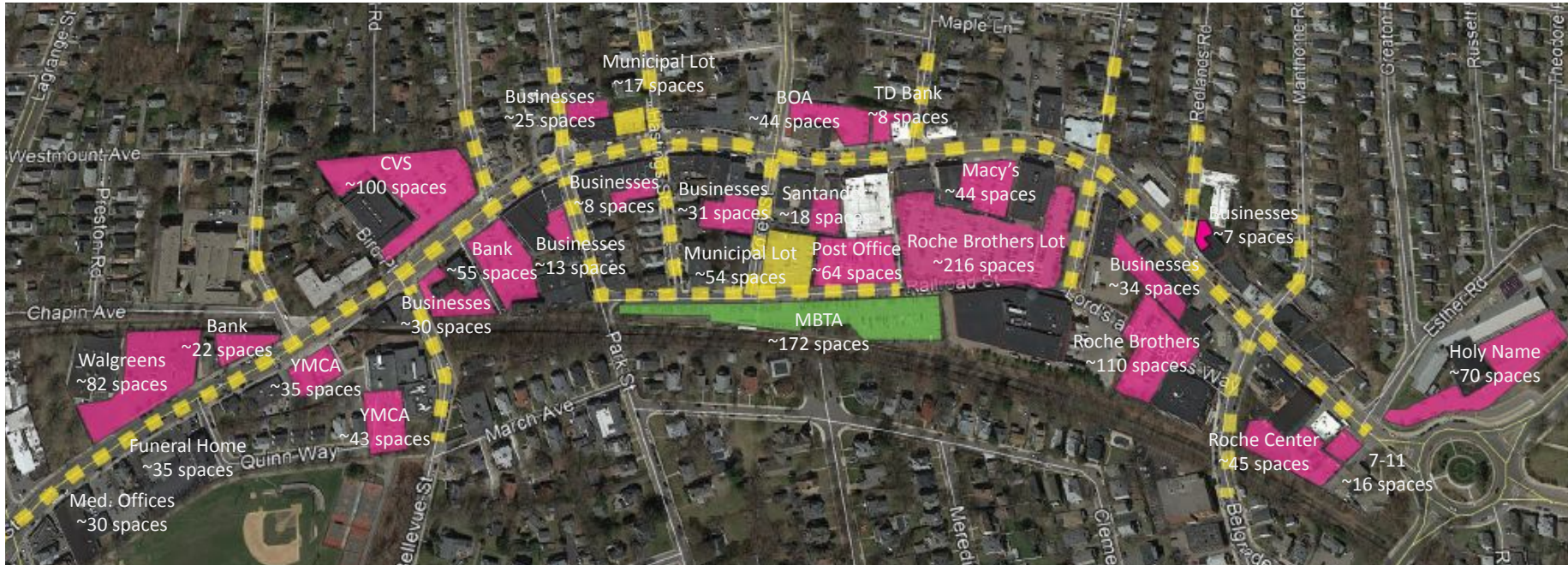
- Traffic counts, analyses, signal timing study
- In-depth parking study by MAPC conducted on a weekday and on a Saturday
- Conversations with individual business owners
- Initial design

## WHAT HAS CHANGED SINCE 2019:

- Updated traffic counts and speed analysis
- More short-term parking to support takeout, loading, and deliveries
- New curbside regulations to promote parking turnover for local businesses
- More accessible parking near ramps
- Improved bus stop locations and spacing
- Potential alternative design for bus stops and pedestrian islands
- Updated signal timing with more of a focus on pedestrian safety
- Design changes, including a left turn lane from Belgrade onto Centre St. and some spatial adjustments

# WHAT WE'RE DOING: PRESERVING PARKING

~95% of on-street parking retained; many off-street spaces



Existing spaces: >1,100 private, ~172 MBTA, ~70 municipal, ~ 171 on-street

# WHAT WE'RE DOING: SUPPORTING BUSINESSES

- Research shows positive or neutral effects on businesses districts from fewer lanes in the roadway, creating destinations for people coming to spend time using all modes of transportation.
  - Studied in places like Charlotte, NC; Indianapolis; & Brooklyn
  - Businesses on Vanderbilt Avenue in Brooklyn saw a doubling of retail sales, well outperforming boroughwide trends\*
- Parking is preserved and better regulated to encourage turnover and support specific business needs, such as food delivery



Vanderbilt Avenue, Brooklyn

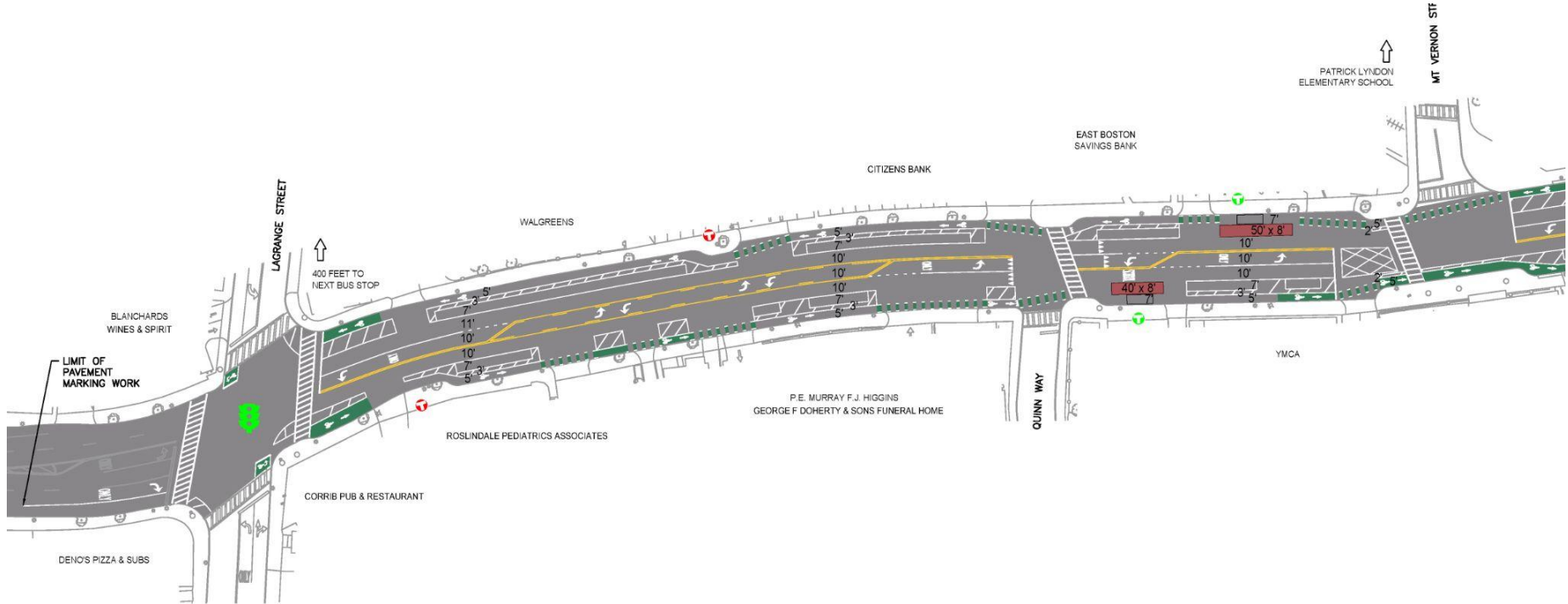
\*Source: [https://safety.fhwa.dot.gov/road\\_diets/resources/pdf/fhwas17019.pdf](https://safety.fhwa.dot.gov/road_diets/resources/pdf/fhwas17019.pdf)

# EVALUATION AND FOLLOW UP

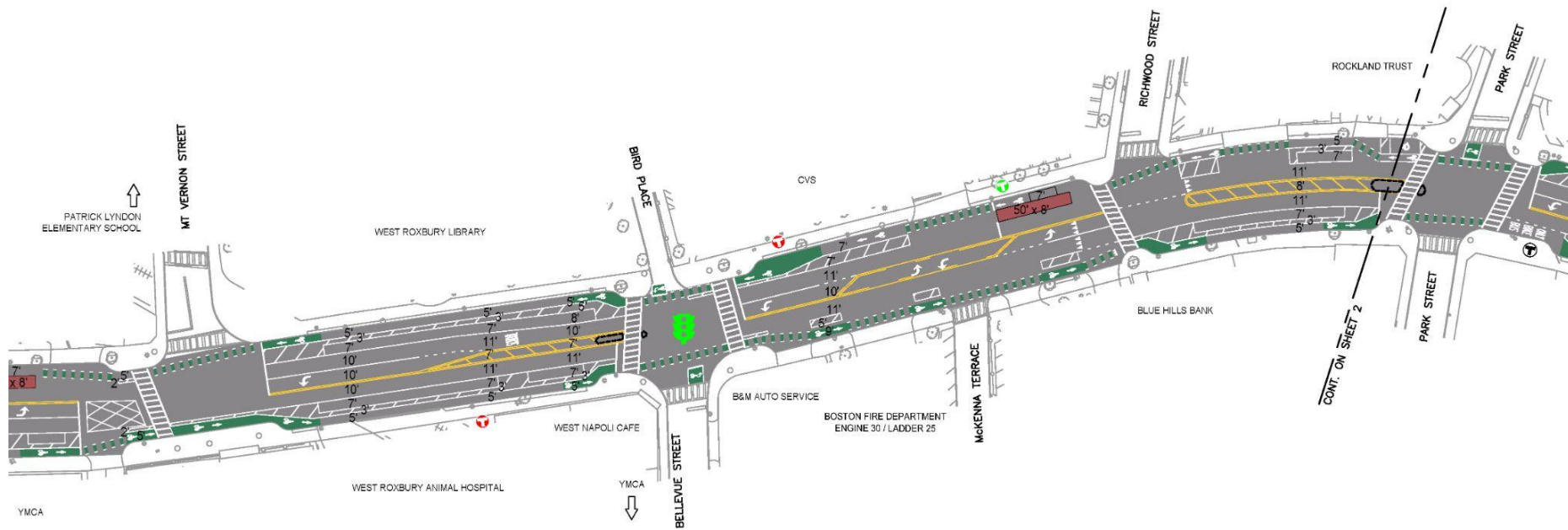
- We will collect before/after measurements of speeds and traffic counts on Centre Street and side streets identified as cut throughs to evaluate changes
- We will use third party data to assess changes in traffic patterns before and after implementation of the project
- We will implement traffic calming measures as needed to mitigate traffic diversion on side streets



# WHAT WE'RE DOING: STREET DESIGN

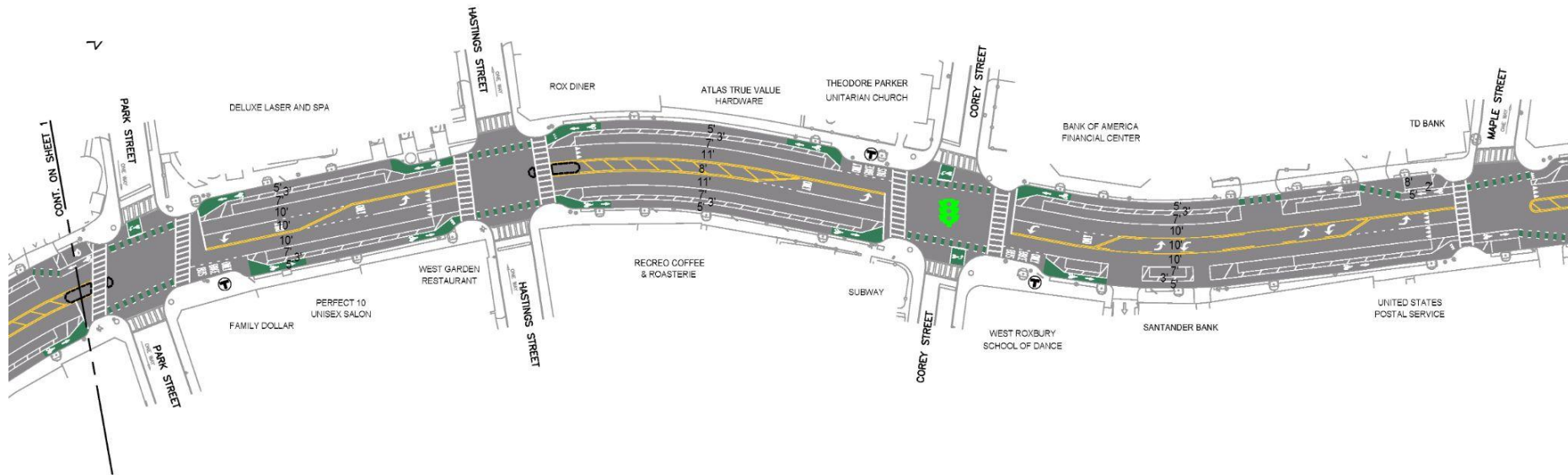


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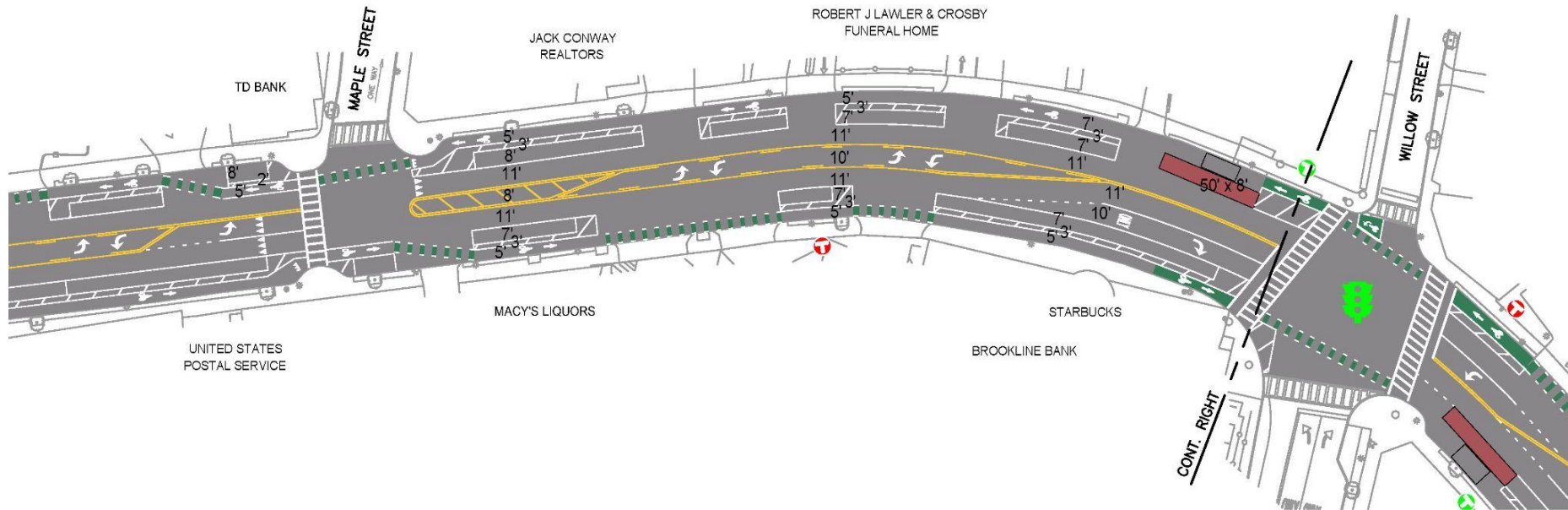




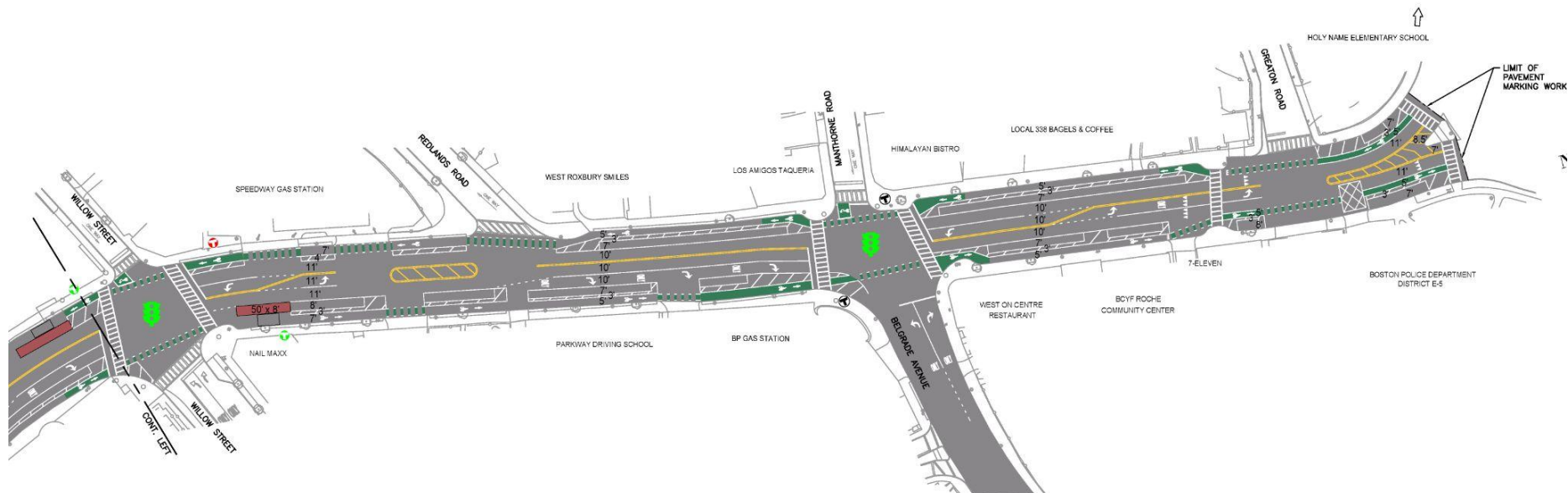
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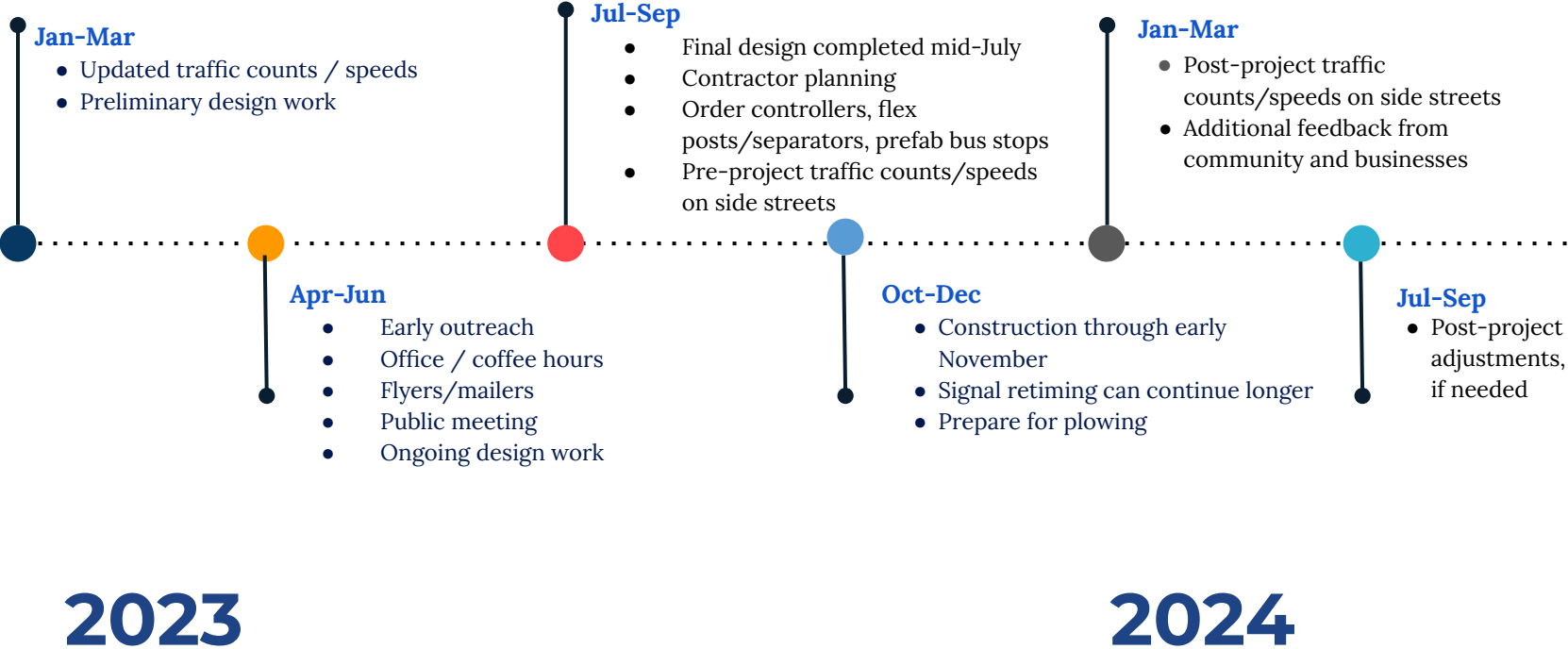
# WHAT WE'RE DOING: STREET DESIGN



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# TIMELINE



# WHAT WE NEED: INPUT ON FINAL DESIGN

- Curbside parking regulations
  - Pickup/dropoff zones, short and long-term parking
- Areas to monitor for diverted traffic
  - Additional traffic calming possible on adjacent streets if needed
- Treatment of back-to-back, two-way left turn lanes
- Length of hatched median vs. left turn lanes
- Potential use of modular bus stops
- Pedestrian island design
- Additional signage, striping, such as “Don’t Block the Box”

# THE GOAL: A CENTRE ST FOR EVERYONE



A Centre St that's safe for people of all ages, a thriving neighborhood business district, a place people want to come spend time, not just drive through.

BOSTON MAGAZINE

CITY OF BOSTON

# THANK YOU!



## Breakout Groups

- Parking
- Safe Routes to School
- Neighborhood side streets
- Transit and bus stops
- Safety concerns