Better Bus Project

Making transit
better together

Welcome!

This is the second Public Meeting on the Bus Network Redesign.

Please settle in!

The meeting will start shortly.

Better Bus Project

Making transit better together

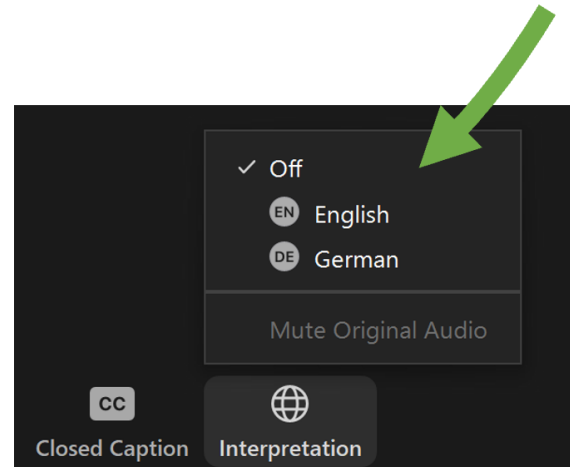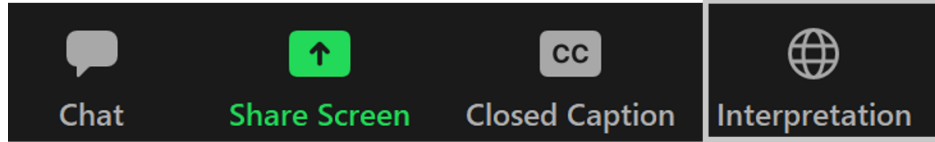# Bus Network Redesign

October 27, 2021

Caroline Vanasse

Melissa Dullea

Christof Spieler

How To Use Zoom
Interpretation

- Select the language you would like to hear by clicking the Interpretation feature and selecting a language from the list provided.

- To hear the interpreted language only, click Mute Original Audio.

How To Use Zoom
Captioning

- You can view closed captions by clicking the Closed Captions feature and selecting from the options shown.

- Show Subtitle will display a caption at the bottom of the screen.

- View Full Transcript will display the meeting's audio transcription in a window to the right.
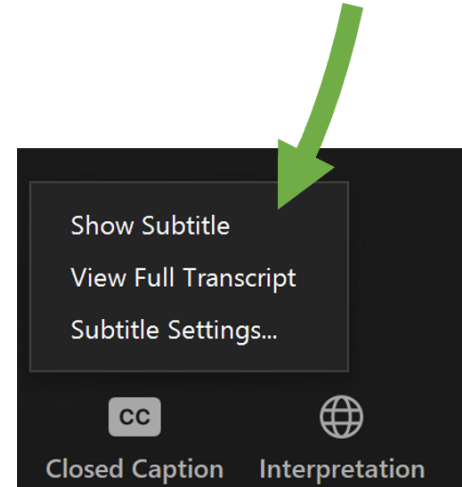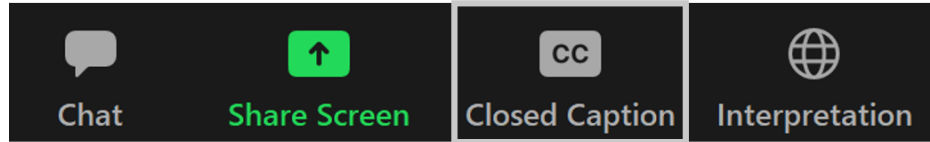
How To Use Zoom Chat

- You may use the Chat button to submit a typed question or comment at any point during the meeting.

- If you have a technical problem, please share your issue in the Chat feature at any point during the meeting, and we will respond as quickly as possible.
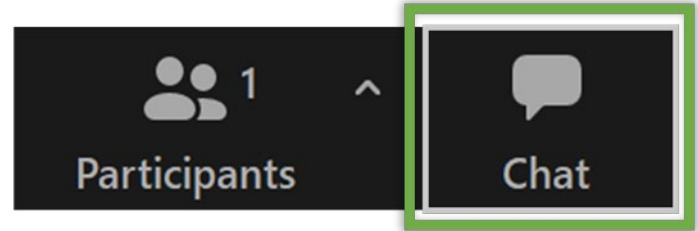
Today's Meeting

Project overview

Elements of great bus service

Change for a better bus system

What's coming next

Q & A

Bus
Network
Redesign

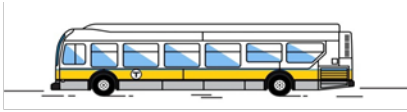An initiative of the Better Bus Project
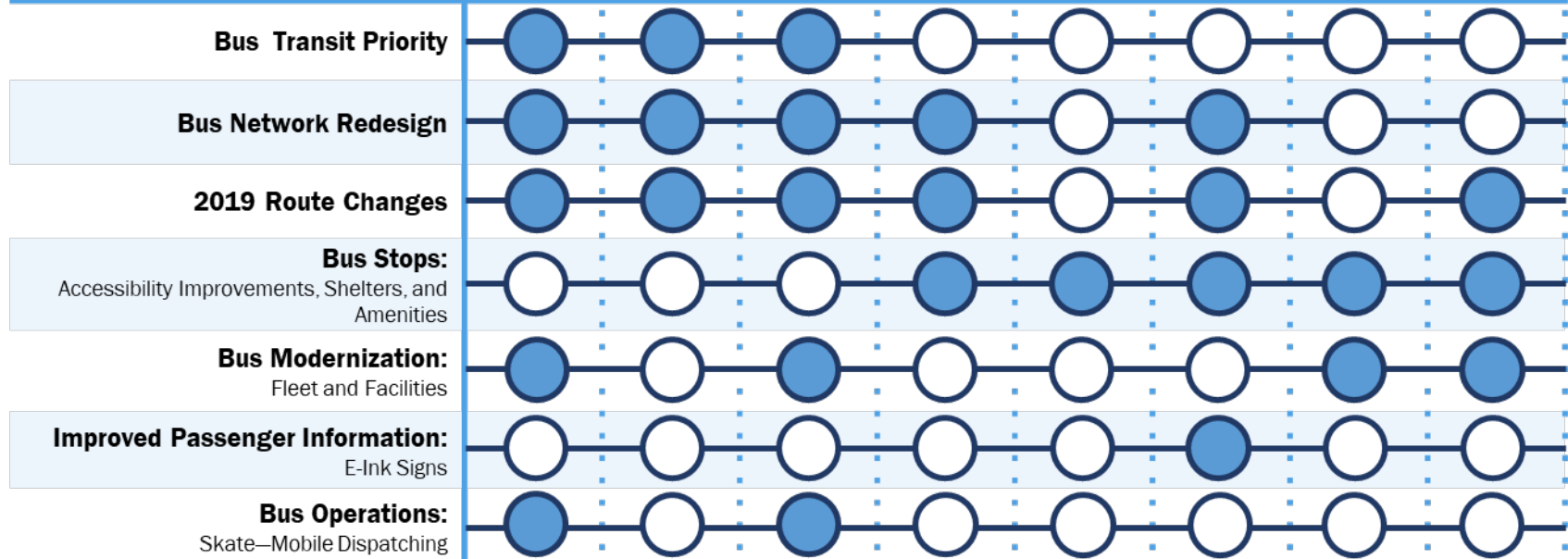
Overview of Bus Network Redesign

The Better Bus Project

How Does the Initiative Improve My Experience?

What Is the Initiative?	Frequent	Fast	Reliable	Connects Key Destinations	Walkable	Easy to Use	Comfortable	Accessible
Bus Transit Priority	●	●	●	○	○	○	○	○
Bus Network Redesign	●	●	●	●	○	●	○	○
2019 Route Changes	●	●	●	●	○	●	○	●
Bus Stops: Accessibility Improvements, Shelters, and Amenities	○	○	○	●	●	●	●	●
Bus Modernization: Fleet and Facilities	●	○	●	○	○	○	●	●
Improved Passenger Information: E-Ink Signs	○	○	●	○	○	●	○	○
Bus Operations: Skate—Mobile Dispatching	●	○	●	○	○	○	○	○

The Bus Network Redesign

How Does the Initiative Improve My Experience?

What Is the Initiative?

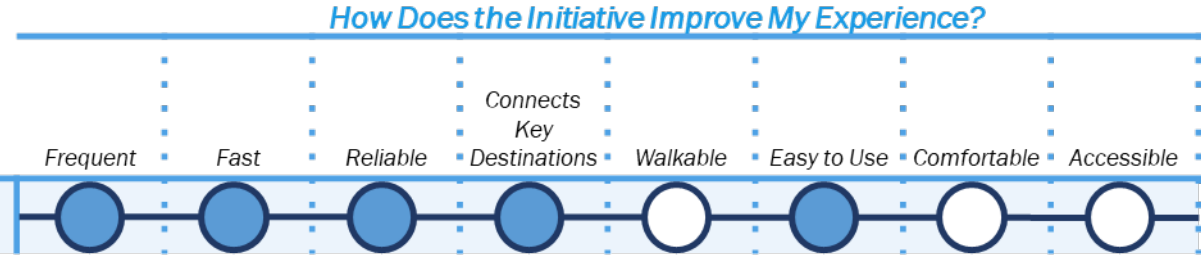|	Frequent	Fast	Reliable	Connects Key Destinations	Walkable	Easy to Use	Comfortable	Accessible
Bus Network Redesign	●	●	●	●	○	●	○	○

A complete re-imagining of the MBTA's bus network to better reflect the travel needs of the region and create a better experience for current and future bus riders.

We're redesigning to create a better network for our riders.
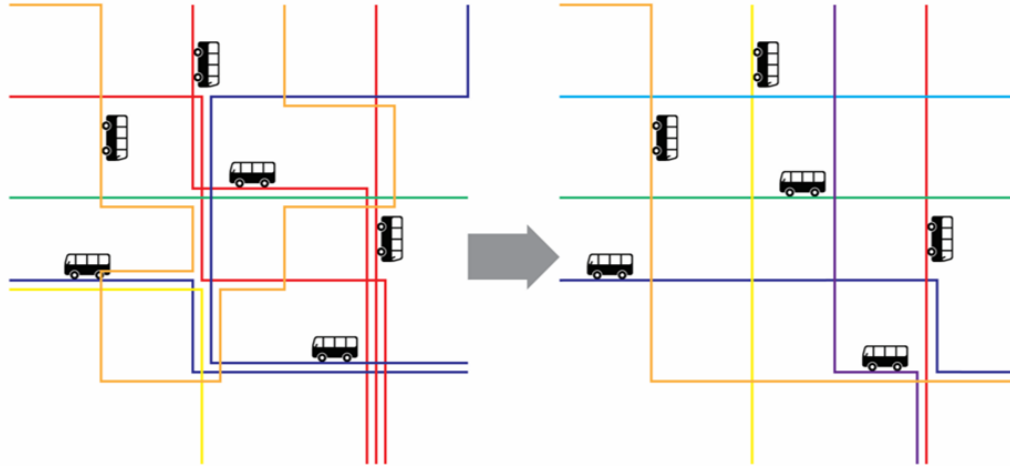
A network redesign generally serves the **same neighborhoods and streets**, but it connects them in **different ways to make a network that is better for riders.**

Our commitments

1. Equity*, first and foremost

2. Truly transformational change—no nitpicking at small margins

3. A better network for the people who ride today

4. Extensive stakeholder engagement

5. Implementation in the near-term (in phases, starting 2022)

6. Integrate service changes with bus priority and other infrastructure improvements to maximize benefits

*Equity is defined as improving access and quality of service for transit-critical populations
(low-income populations, people of color, seniors, people with disabilities, or people who live in households with few or no vehicles)

We're not just restoring – we're transforming

- Going back to the pre-COVID network is not good enough

- We want to build a better and more equitable network than what we had pre-COVID

- Better transit is essential to economic recovery

- The redesign is based on pre-COVID service hours

- The redesign will also show where we can add more service when we have the resources

The network should change to reflect the changing travel needs of the region.

We're redesigning the entire network

A **blank slate redesign** – data-driven and people-driven

Based on everything we've heard from riders since the Better Bus Project started

Close coordination with our municipal and agency partners to create a shared vision for the region

Understanding all the trips people are taking (not just 9-5 commute trips and not just current transit trips) to create a better bus network

Elements of Great Bus Service

We've listened to our riders
WE HAVE HEARD FROM YOU THAT GREAT BUS SERVICE:

Goes where people want to travel, when they need it

Is simple to use and understand

Is fast, frequent, and reliable

Serves the people who need it the most

Great Bus Service
GOES WHERE PEOPLE WANT TO TRAVEL

Top regional destinations identified in survey & LBS dataset:

Financial District

Logan Airport

Longwood Medical Area

Chinatown (Boston)

Fenway/Kenmore

Government Center

Beacon Hill/MGH

Prudential/Copley

Seaport District

West End/North Station

South End/BMC

Kendall Square

Lower Roxbury

Back Bay

Central Square (Cambridge)

Harvard Square

Jackson Square/Mission Hill South

Upham's Corner (Dorchester)

Allston/Brighton

Lechmere (Cambridge)

Image of LMA. Photo by MASCO

Great Bus Service
GOES WHERE PEOPLE WANT TO TRAVEL

Using Location-Based Services data about where people actually travel – even if not currently served by the MBTA

- *Describes trips on **all modes***

- *Represent **all types of trips** (i.e. work, social, medical, etc.)*

- *Anonymized and unlinked from cell phone numbers to **preserve privacy***

Public survey about travel destinations
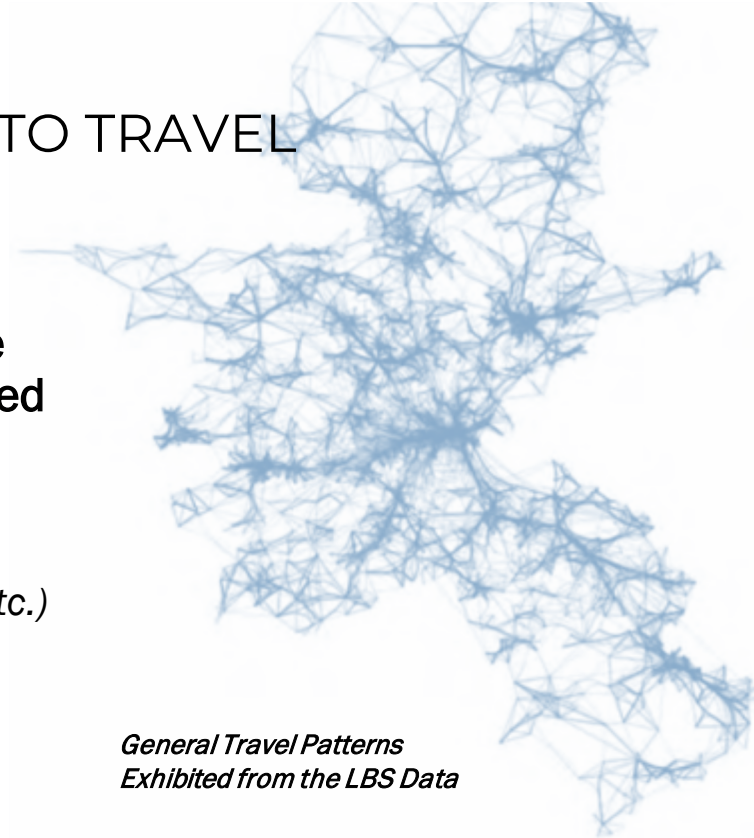
*General Travel Patterns
Exhibited from the LBS Data*

Great Bus Service
IS FAST, FREQUENT, AND RELIABLE

"If you expand bus service and make it more frequent, more people will use it."

Better Bus Project 2019 Outreach

In the Bus Network Redesign Travel Survey, in response to the question "What do you most want to see improved about the MBTA services near you?"

- **57%** of respondents said **Frequency**

- **42%** of respondents said **Travel Time**

- **39%** of respondents said **Reliability**

Great Bus Service
IS SIMPLE TO USE AND UNDERSTAND

BUS STOP

Great Bus Service
SERVES THE PEOPLE WHO NEED IT THE MOST

During the COVID-19 pandemic, bus ridership was more durable than any other mode, retaining up to 4x more of its riders than Commuter Rail or Ferry.

Ridership during the pandemic has been less focused on the traditional peak times around 8 AM and 5 PM on weekdays and more focused on off-peak travel. These new travel patterns merit a new network that better serves all trip types throughout the day.

Great Bus Service
SERVES THE PEOPLE WHO NEED IT THE MOST

Transit Critical Populations are more likely to:

Ride and rely on transit

Make multiple trips while riding transit

Use transit throughout the day

Travel to non-Downtown destinations

Great Bus Service
SERVES THE PEOPLE WHO NEED IT THE MOST

Low-Income Communities and Communities of Color in the MBTA Bus Service Area

Residents of Low-Income Communities and Communities of Color

Residents of Low-Income Communities

Residents of Communities of Color
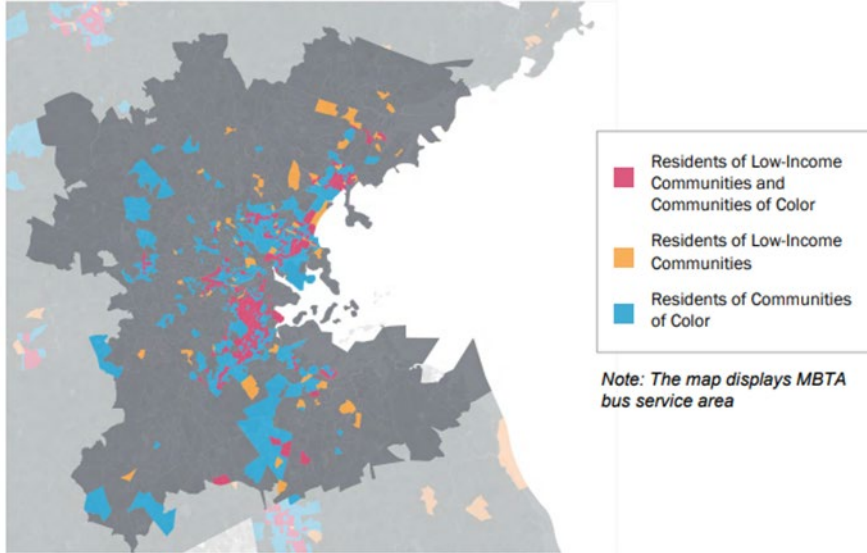
Note: The map displays MBTA bus service area

Not Residents of Low-Income Communities or Communities of Color

Residents of Low-Income Communities and Communities of Color, Low-Income Communities, and Communities of Color

LBS data identifies trips made by low-income residents and people of color – even if they aren't traveling to/from home

Allows us to prioritize trips made by these groups when allocating resources and designing new service

How are we evaluating service?

UNDERSTANDING WHAT MAKES SERVICE COMPETITIVE RELATIVE TO DRIVING

WALK DISTANCE

TRAVEL TIME
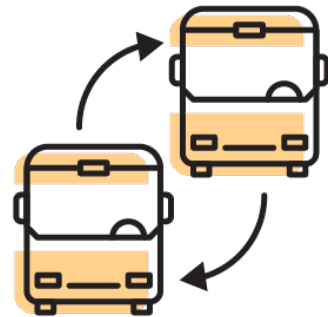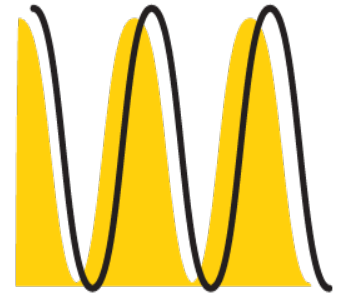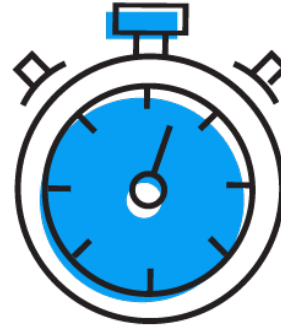
TRANSFERS

FREQUENCY

We're measuring success

Is the MBTA providing transit critical populations w/ equitable transit service?

EQUITY

Is the MBTA connecting people to the places that are most important to them?

ACCESS

Is the MBTA a good option for making these trips?

COMPETITIVENESS

Transit-critical populations: low-income populations, people of color, seniors, people with disabilities, or people who live in households with few or no vehicles.

Great Bus Service Does So Many Things

Goes where people want to travel, when they need it

Is simple to use and understand

Is fast, frequent, and reliable

Serves the people who need it the most

But there are only limited resources available to operate buses

Change for a Better Bus System

Making the network better requires change.

- **Service will be focused** where there is a lot of demand for travel, and where transit critical populations travel

- There may be **fewer stops** along some routes

- Bus routes will be **straighter/more direct**

- **Routes will be simplified** so that they can run the same way all day

- **Schedules will be better aligned** with all-day demand

- Some areas may see **new types of service**

- There will be **fewer routes on some streets**

- **Passengers may need to transfer** to another bus or to the rail system

High Frequency Corridors

The Bus Network Redesign will identify High Frequency Corridors that warrant frequent service and improved infrastructure – the first step in creating a vision for a better passenger experience.

Service	Infrastructure	Passenger Information
· Corridors will offer all day 7 day a week frequent and reliable service · Corridors with bus infrastructure can be shared by multiple routes in order to optimize investments and improve connections · Minimum frequency · Minimum span of service (early morning to past midnight)	· Corridors will have extensive bus priority, building on existing/planned projects and identifying additional corridors for investment · More bus stop amenities	· Corridors will be presented to the public (through route nomenclature, on maps, at stops, etc.) as distinct from the regular local bus network

High Frequency Corridors Today

Map of Key Bus Routes

Draft for Discussion & Policy Purposes Only
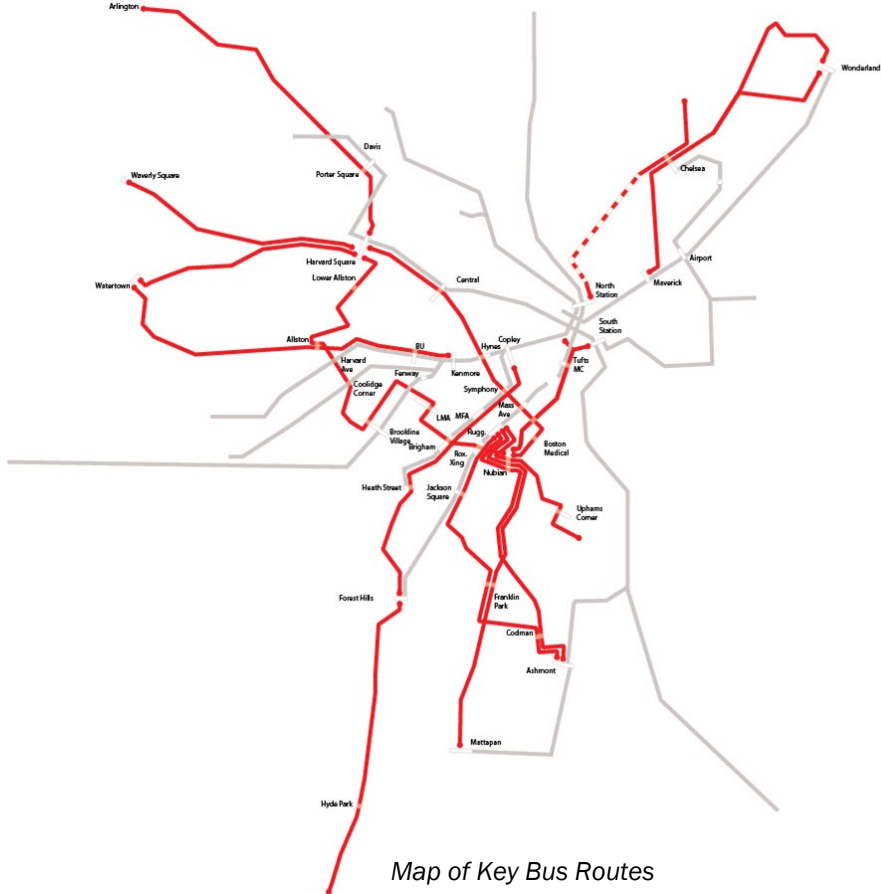
There is a limit to how much service the MBTA can provide
BECAUSE RESOURCES ARE LIMITED, TRADEOFFS WILL BE NECESSARY

There is only so much money available to pay for operations – this limits the total amount of service that can be provided

The MBTA only has so many buses – this limits the amount of service that can run during the peak periods when the most buses are in use

The MBTA only has so much space in their garages to hold more buses – this limits how many buses the MBTA can have

The MBTA only has so many bus drivers who can each only work a portion of the day – this limits the total amount of service that can be provided and how much service can be provided in the peak

The Redesign is looking at what can be done within the existing resources – but will also identify where additional resources could be used to improve service most effectively.

Our street network limits where we can run service

Boston

Seattle

New York
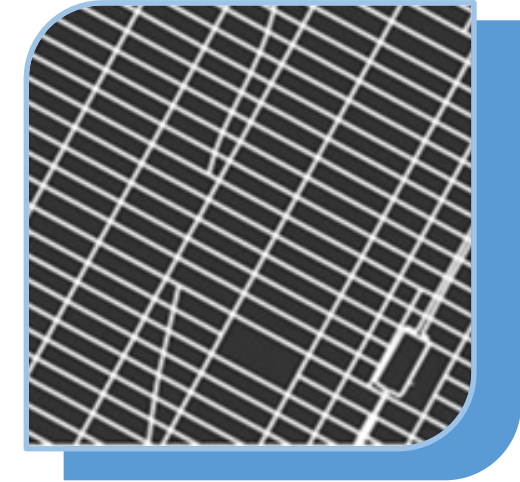
Graphics by Dr. Geoff Boeing, Urban Planning Professor at Northeastern University

Curb space also limits our ability to provide service.

Lots of people want to go to the same places at the same time everyday – but there are limits to the number of bus routes that can end at the same place. **WHY...?**

BECAUSE... At the end of every route, there has to be a spot to park the bus for a short time before the bus leaves again

The MBTA calls this 'layover' time, and it's the only chance a bus driver has to use the restroom!

There is only limited safe space for buses to lay over in most areas – especially in crowded areas like Downtown, LMA, or Harvard Square

Expanding layover spaces in key areas will allow the MBTA to provide more service to those important destinations

More space for bus layovers will let the MBTA provide more service where people want to go!

And roadway congestion limits our ability to provide service.

When buses have to sit in traffic, they take longer to run their routes.

Dedicated bus lanes and other bus priority treatments can help buses run faster so the MBTA can provide more service and get people where they want to go faster
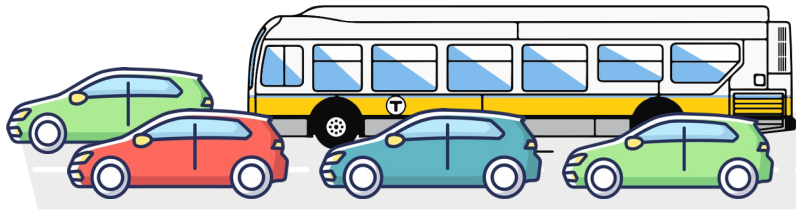
Slower bus routes require more drivers, more buses, and more money to operate

If all the buses run faster, we can operate service in more places

Dedicated bus lanes will let the MBTA provide more service – faster and more reliably!

Congestion Increases Operating Costs

As congestion increases in areas where transit does not have transit priority measures, transit service becomes slower and more expensive to provide

EXAMPLE: COST TO PROVIDE 10-MINUTE BUS FREQUENCY, 6 AM TO 12 AM DAILY

Two-Way Travel Time (minutes)	Buses Required	Annual Cost
30		$6.0 Million
45		$9.0 Million
60		$12.0 Million
75		$15.0 Million

Assumes operating cost of $153/hour per vehicle. Actual costs vary by mode.

We can address those kind of limitations through partnerships

Image of bus lane construction in Chelsea.

Regardless, we always have to confront trade offs, simply because a bus is carrying a range of different people making different trips who have different needs.
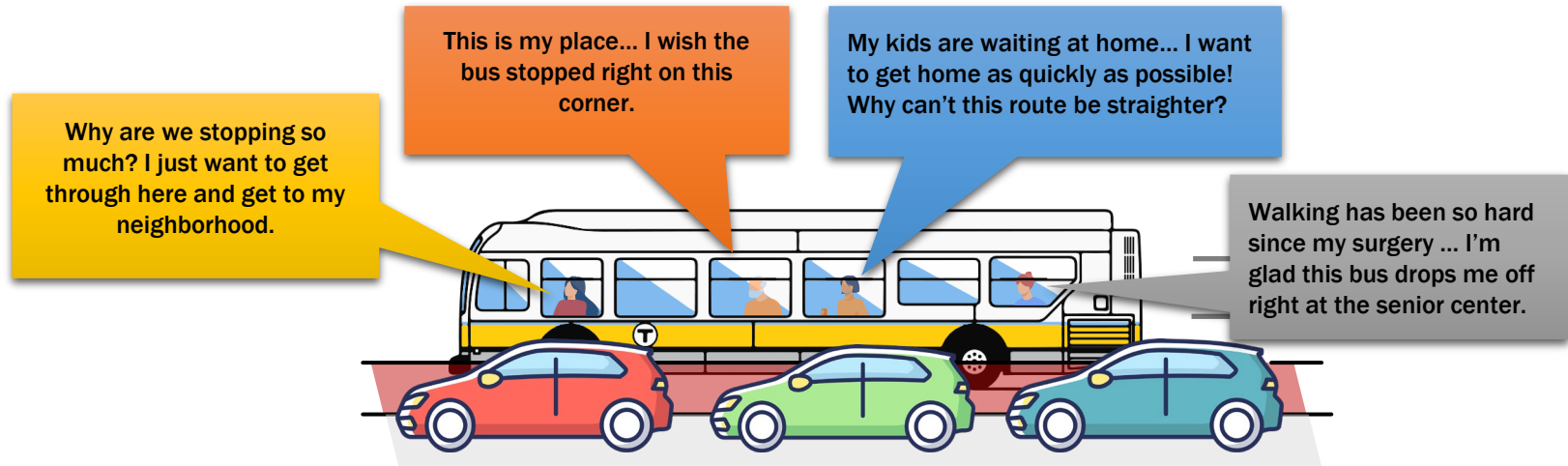
And the current network already embodies tradeoffs – we just take them for granted.
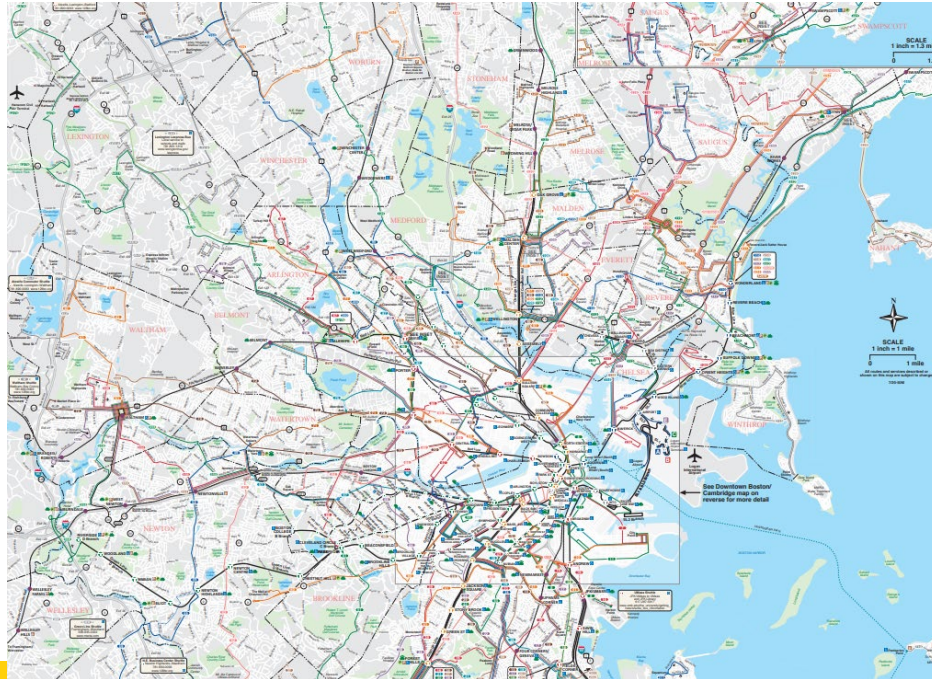
There are tradeoffs we're not making

Lower frequency service covering more area
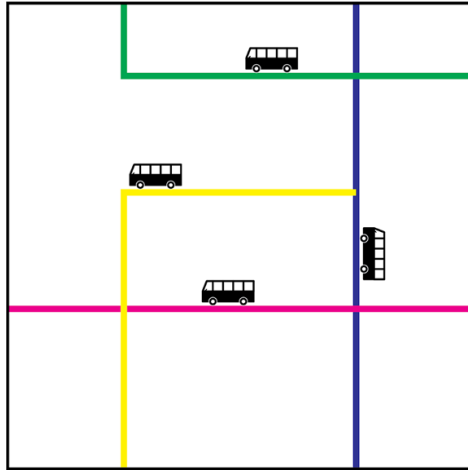
OR

Higher frequency service in the areas of highest demand
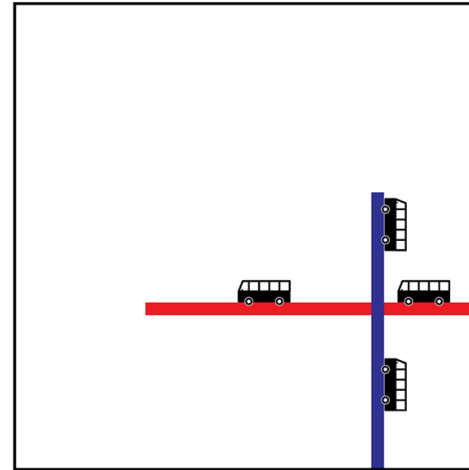
We are planning to maintain overall network coverage – the places we serve today will still have service within walking distance.

But there are a range of tradeoffs to consider

- Route/Stop spacing
- Deviations
- Simplicity
- Transfers

- Bus/Rail relationship
- Express Service
- Downtown focus
- Peak Focus

Things to consider as we discuss

How is this different for different kinds of riders?

- Seniors
- People with disabilities
- Students
- Low-income residents
- 9-to-5 office workers
- "Essential workers"
- New riders

1: Route/stop spacing

Less frequent and slower service within a 5 minute walk

5 min walk

5 min walk
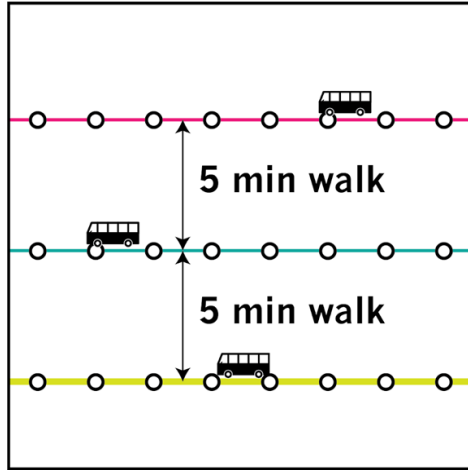
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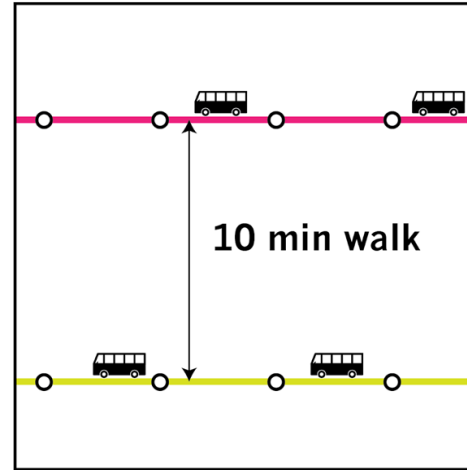
More frequent and faster service within a 10 minute walk

10 min walk

Route/stop spacing example

5 minute walk

Warren/ Humboldt/ Washington/ Centre: routes ¼ mile apart
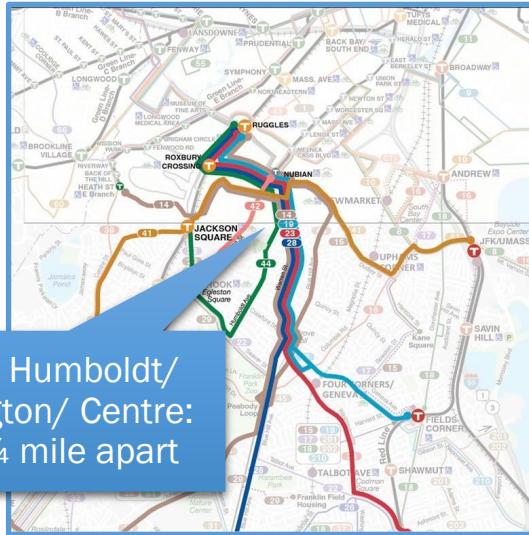
OR

Green Line B/C: up to ¾ miles apart

10 minute walk
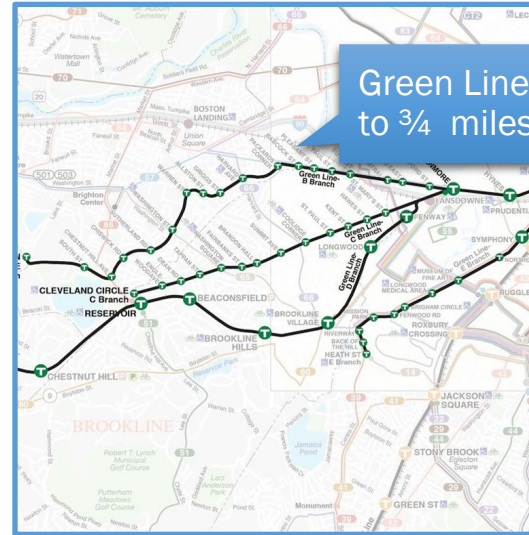
Poll: Route/stop spacing

1A — Less frequent and slower service within a 5 minute walk

5 min walk

5 min walk

OR
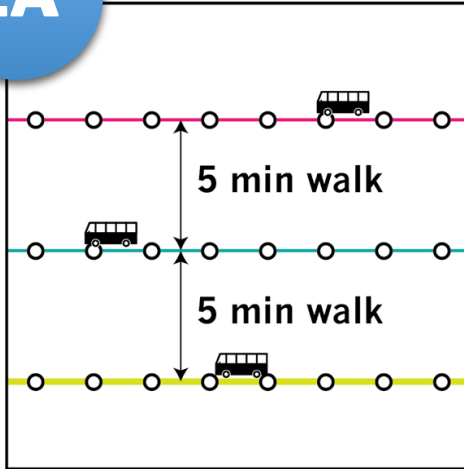
1B — More frequent and faster service within a 10 minute walk

10 min walk
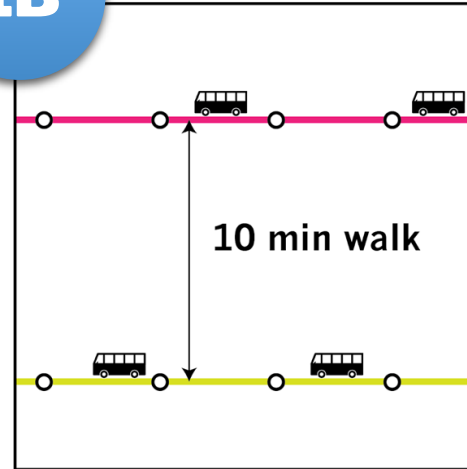
2: Deviations

Routes that go to the front doors of destinations
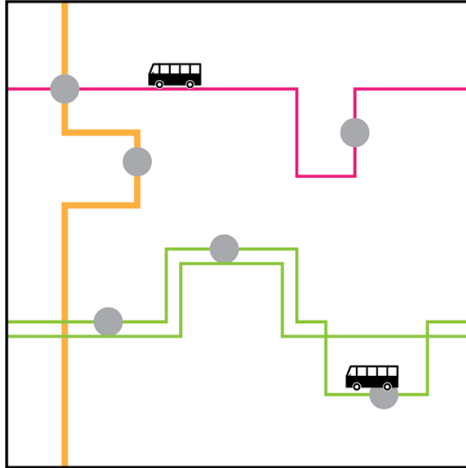
OR
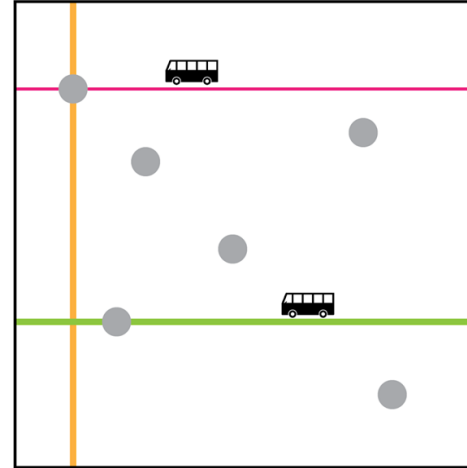
Straight routes that stay on major streets within walking distance of destinations

Deviations example

Routes to front doors

OR
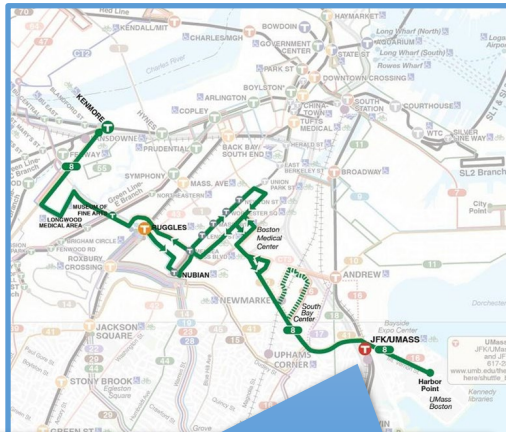
Straight routes

Route 8:
Deviations to LMA, Nubian (one way) Boston Medical Center, South Bay Center (part time) - all within ⅓ mile of straight routing

MIT: 2 routes, but neither goes to Charles River side, ⅓ mile from bus.

Poll: Deviations

2A

Routes that go to the front doors of destinations

OR

2B
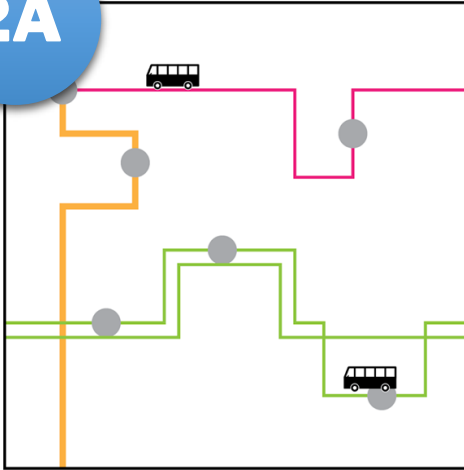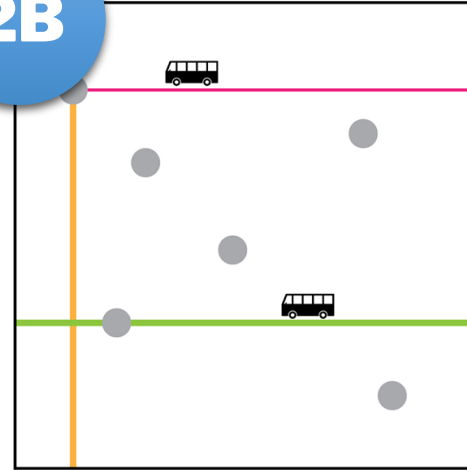
Straight routes that stay on major streets within walking distance of destinations

Is one clearly better? Put that in the comments by typing "2A" or "2B"

3: Simplicity

Routes that are optimized for specific demand
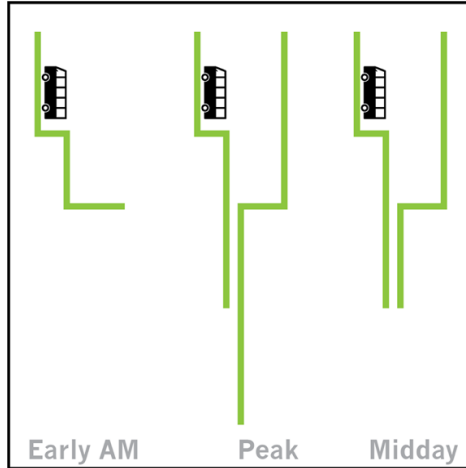
OR
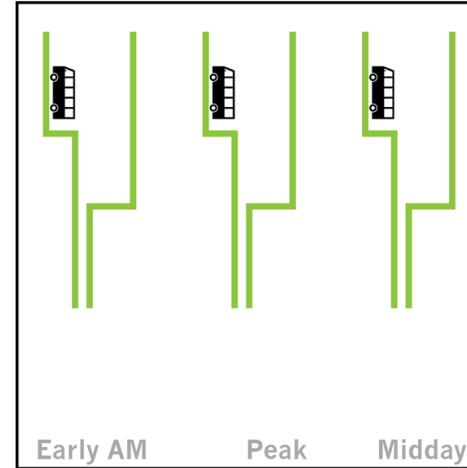
Routes that are easy to understand

Simplicity example

Routes to front doors

Route 62/76:
Different weekend and Saturday service patterns, no Sunday service.

OR
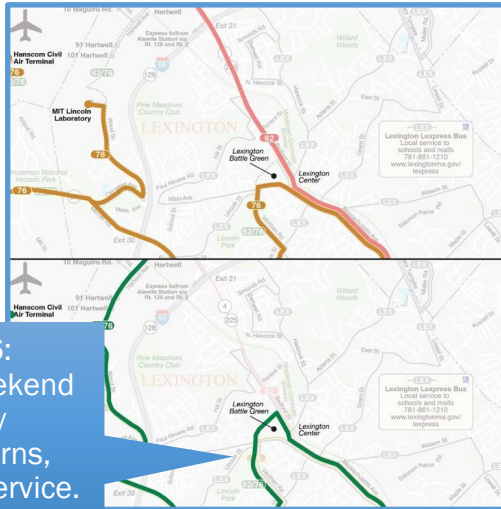
Straight routes

Route 57:
7 day service, no variants. The same route all day, every day.
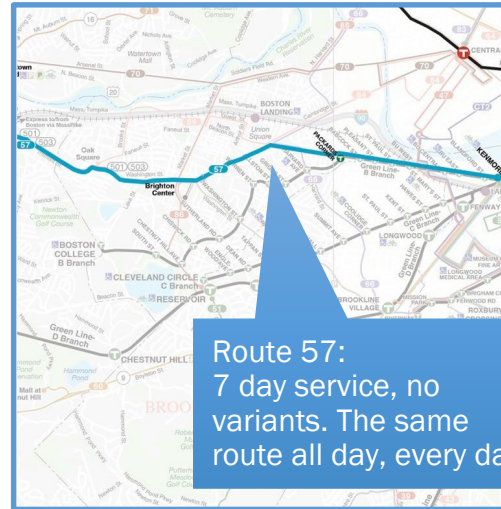
Poll: Simplicity

3A

Routes that are optimized for specific demand

Early AM   Peak   Midday
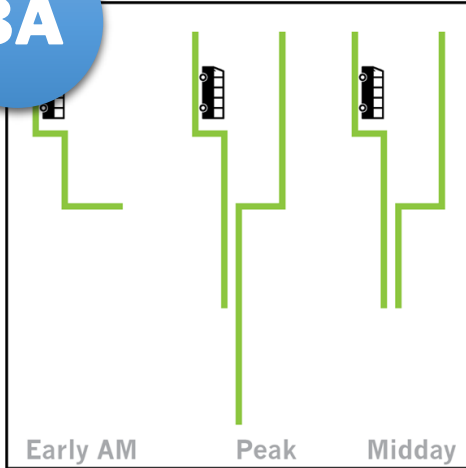
OR

3B

Routes that are easy to understand


Early AM   Peak   Midday
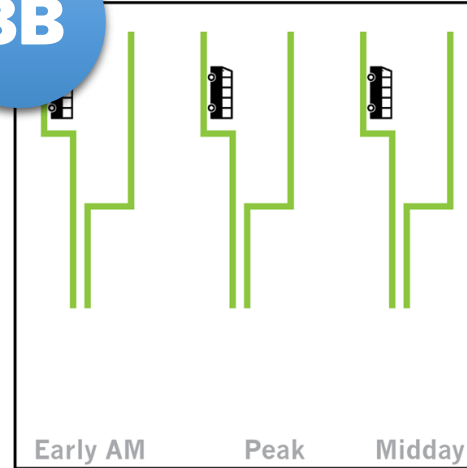
4: Transfers

Many routes to provide one seat rides to many destinations
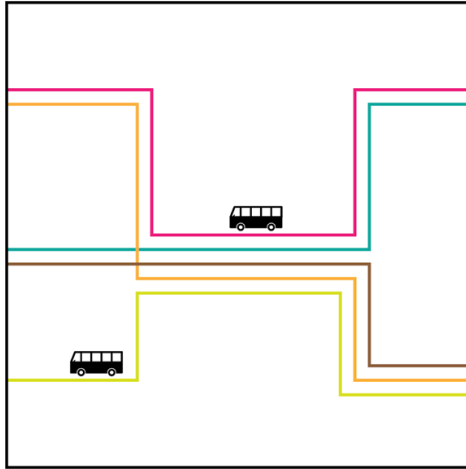
OR
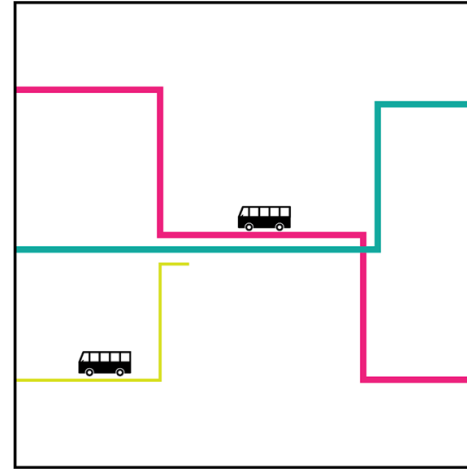
Fewer routes, offering more frequent service but sometimes requiring transfers

Transfers example

One seat rides
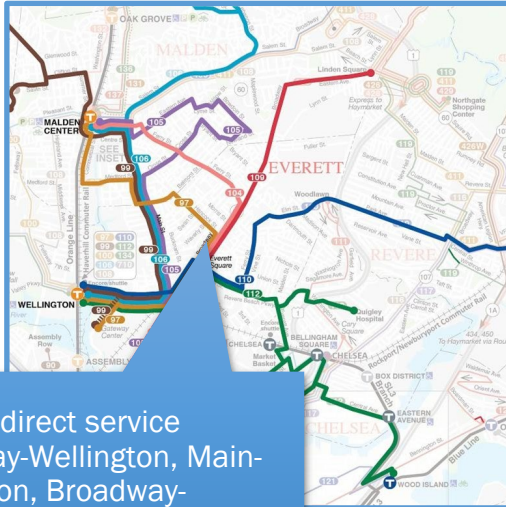
Everett: direct service Broadway-Wellington, Main-Wellington, Broadway-Sullivan, Main-Sullivan

OR
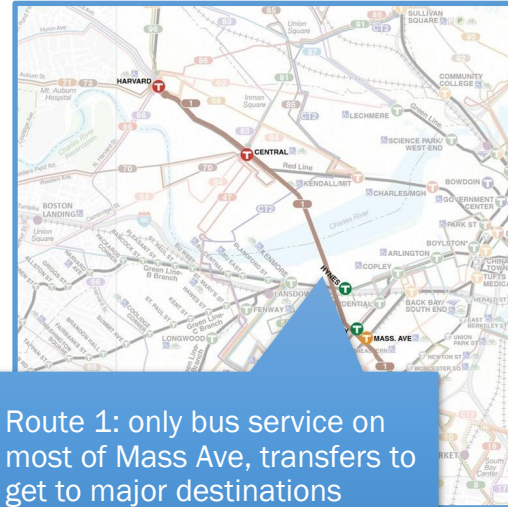
Transfers

Route 1: only bus service on most of Mass Ave, transfers to get to major destinations (Back Bay, LMA, Kendall)

Poll: Transfers

4A

Many routes to provide one seat rides to many destinations

OR

4B
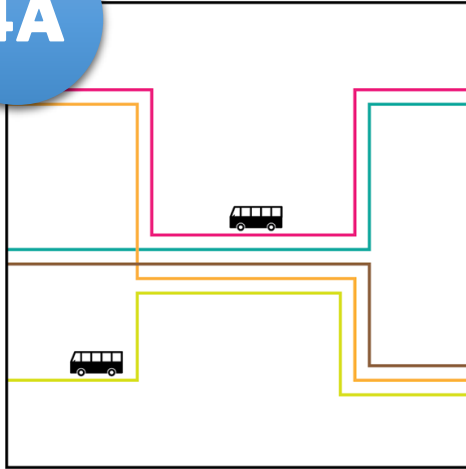
Fewer routes, offering more frequent service but sometimes requiring transfers
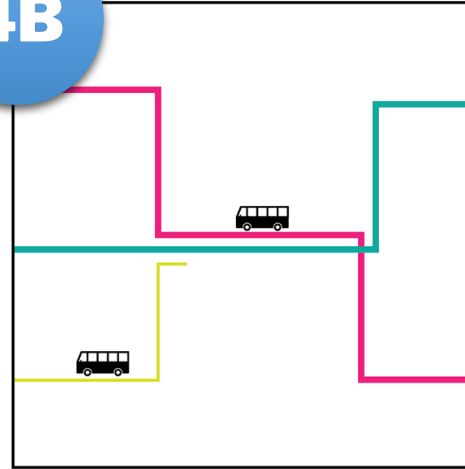
5: Bus/rail relationship

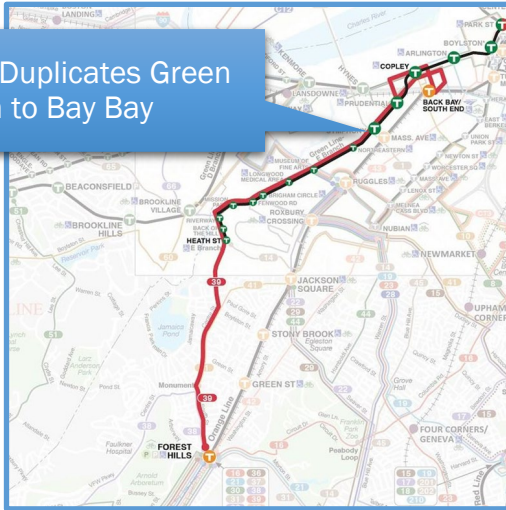

Bus that overlaps rail, creating one seat rides.
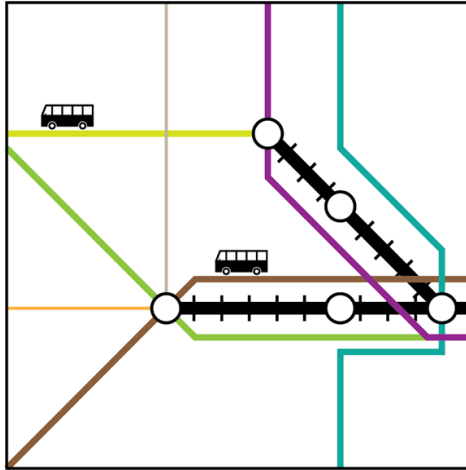
OR

Bus that feeds into rail and serves crosstown trips
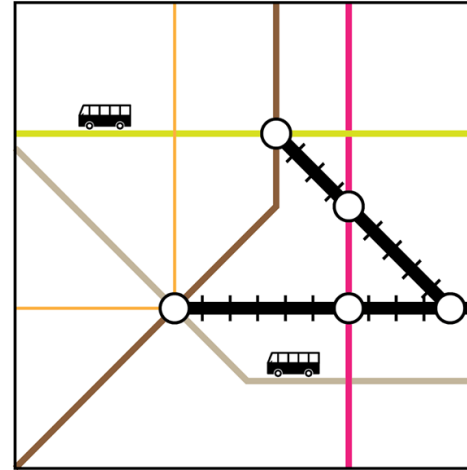
Bus/rail relationship example

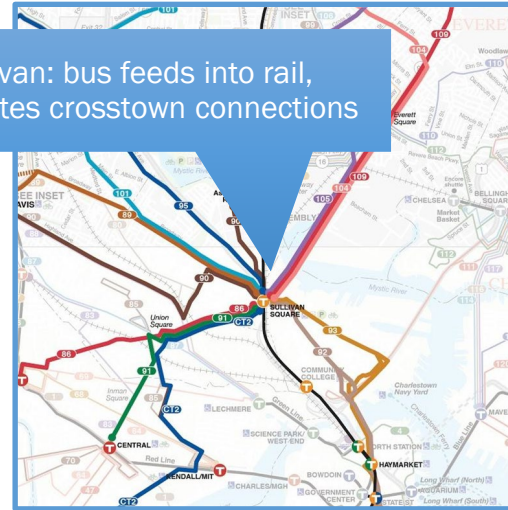Route 39: Duplicates Green Line Heath to Bay Bay

Overlap rail

OR

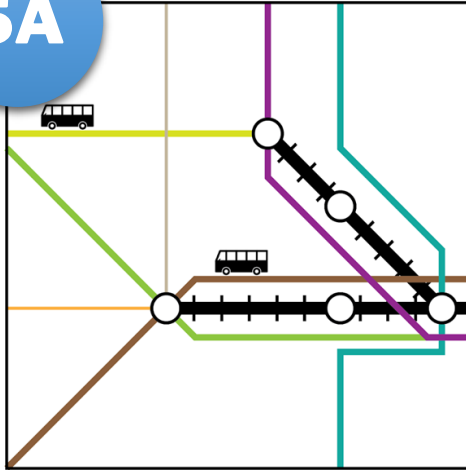Sullivan: bus feeds into rail, creates crosstown connections

Feeder/ crosstown
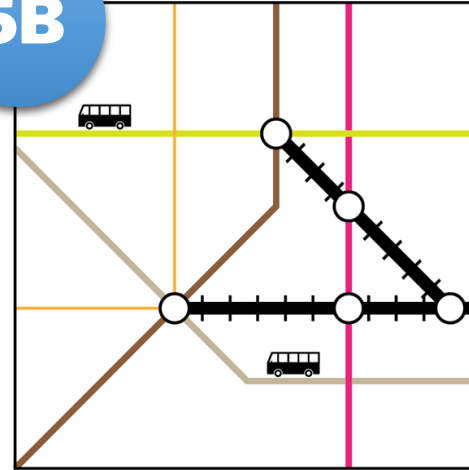
Poll: Bus/rail relationship

5A

Bus that overlaps rail, creating one seat rides.
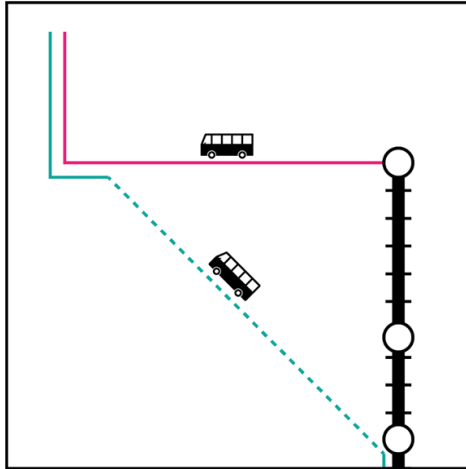
OR

5B

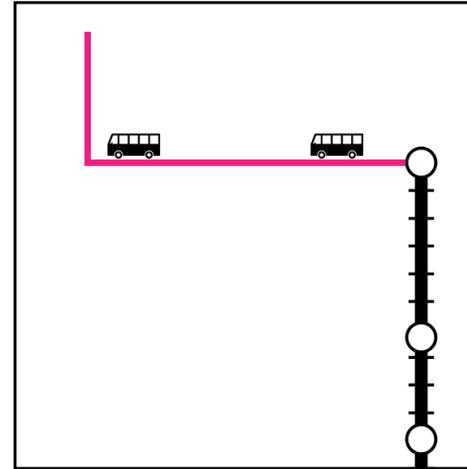Bus that feeds into rail and serves crosstown trips

6: Express service

Peak only express service offering a one seat ride
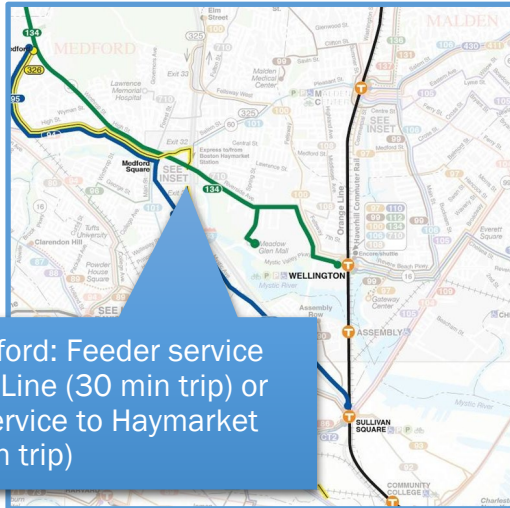
OR

Frequent all day service requiring a transfer

Express service example

Express service

West Medford: Feeder service to Orange Line (30 min trip) or express service to Haymarket (29-48 min trip)
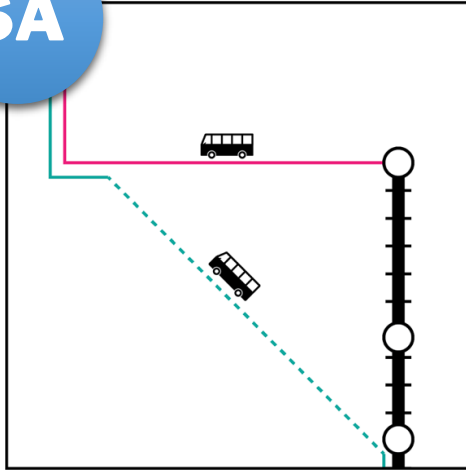
OR

Transfer

East Milton Square: Feeder service only
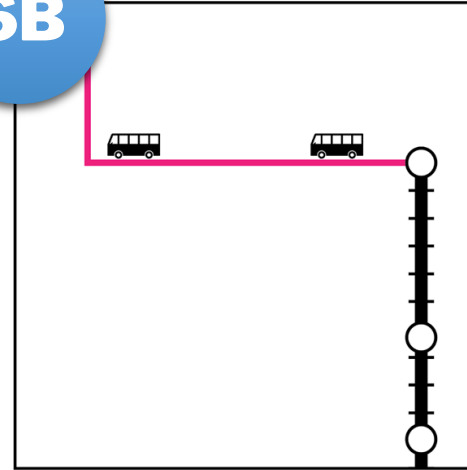
Poll: Express service

6A

Peak only express service offering a one seat ride
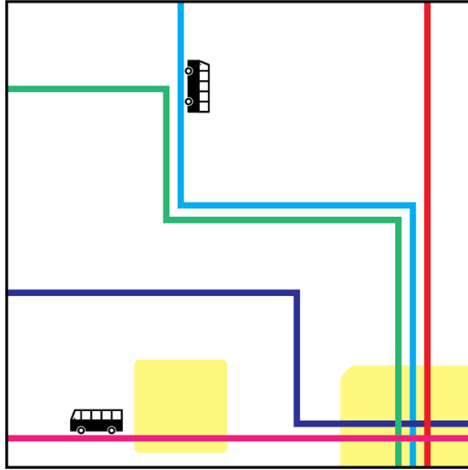
OR

6B

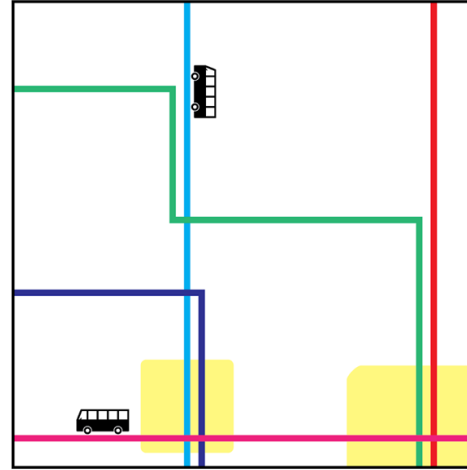Frequent all day service requiring a transfer

7: Downtown focus

Service focused on Downtown
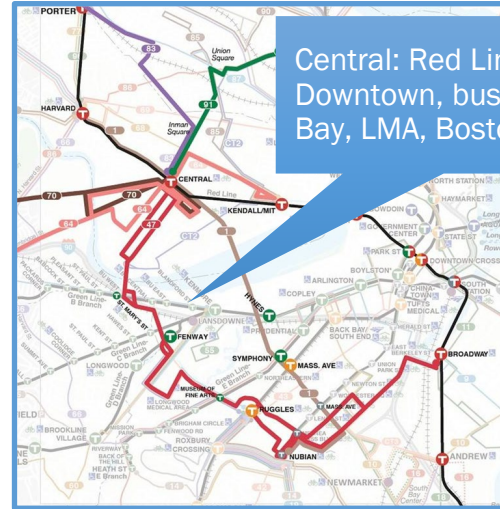

OR

Service to multiple centers

Downtown focus example

Downtown

Lechmere: all routes are radial, focused on Green Line to Downtown

OR

Central: Red Line to Downtown, bus to Bay Bay, LMA, Boston Medical

Multiple centers

Poll: Downtown focus

7A

Service focused on Downtown

OR

7B

Service to multiple centers

8: Peak focus

Very frequent peak service with infrequent off-peak service

9 am

at least every 15 min

every 60 min

4 pm

at least every 15 min

OR

9 am

every 30 min

4 pm
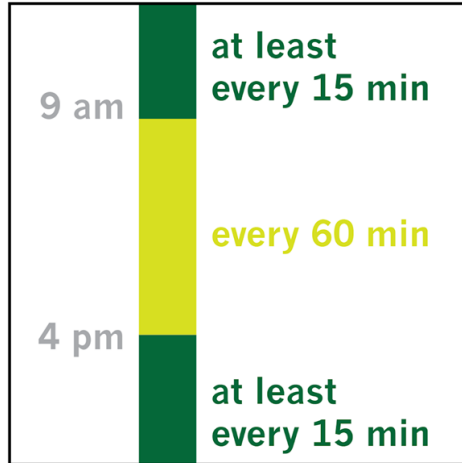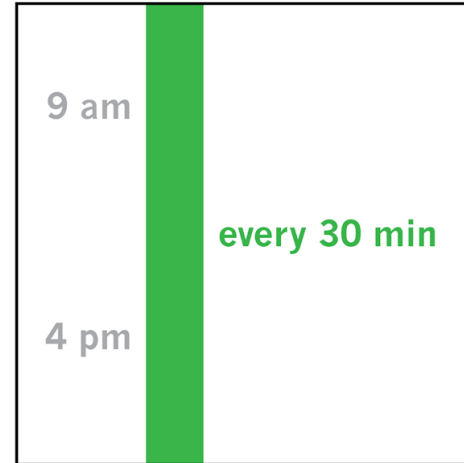
Moderate frequency all day

Peak focus example

"peaky"

OR

All day

Route 86: 6,150 passengers per weekday (more than four Key Bus routes), every 10 min at peak, but some midday trips are 40 minutes apart.

Route 43:
19 hours of service, every 25-45 min all day.

Poll: Peak focus

8A

Very frequent peak service with infrequent off-peak service

9 am — at least every 15 min

every 60 min

4 pm — at least every 15 min

OR

8B

9 am — every 30 min

4 pm
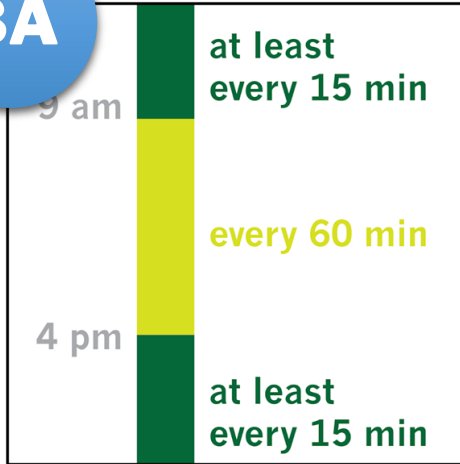
Moderate frequency all day
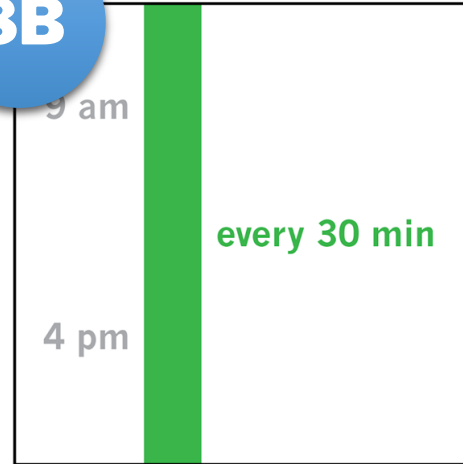
When you see a map next year you will see we applied these tradeoffs in different ways across the network. We will be asking you if we got that right.

Change for a Better Bus System
THE SYSTEM WILL CHANGE – BUT THOSE CHANGES WILL RESULT IN A BETTER BUS SYSTEM

For most current riders, who should have faster, more direct, more reliable service

For some non-riders, who will be better able to understand the system and make it easier for them to become bus riders

For many transit critical populations, who should see more frequent and convenient service

But this means a lot of current riders will need to adjust to change.

Change for a Better Bus System
WE ARE PLANNING FOR THE FUTURE

- This network will be able to grow and expand with additional resources

- Our analysis tools will allow us to adjust as the region continues to change
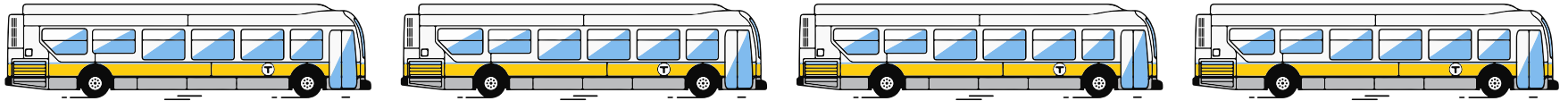
What's Coming Next

Bus Network Redesign Project Timeline

Bus Network Redesign (2020-Ongoing)

			Summer/Fall 2021	Winter/Spring 2022		Summer 2022		2022
Research + Service Design	**Review Feedback**	**Draft Metrics**	**Outreach Phase 1**	**Draft Network**	**Outreach Phase 2**	**Finalize**	**Outreach Phase 3**	**Implementation**
Learn about travel patterns and preferences of current and potential future riders + Develop service design principles and metrics	Examine feedback from riders from 2019 route change and other BBP initiatives	To define what success looks like	Are we getting people to the places they need and want to go + is transit a good option to get them there?	Proposal for new bus network	Public comment on draft bus network map	Final network design based on public comments.	Rider outreach to review draft map with routes and frequencies.	Phase 1 of new bus service.

Other Upcoming MBTA Public Meetings

- Winter 2021 Service Changes (November TBD)

Bus Network Redesign implementation timeline

Project		CY 2021	2022	2023	2024	2025	2026
Bus Network Redesign	Planning	Draft network (Winter-Spring 2022)	Adopt final network Commit to full implementation				
	Infrastructure		Transit Priority, Bus Stop Installation, Busway Modifications, Signage				
	Service		Rolling route changes				

We are planning for 3-5 phases of implementation for the Bus Network Redesign that will potentially be rolled out by geography. Implementation timing will depend on structure of the new network, staff and public outreach capacity, and the ability to implement bus priority.

Questions & Answers

- Please share only one question or comment at a time
- Use the "Chat" button to submit a typed question or comment
- Press the "Raise Hand" button to share your question or comment verbally. Wait for the moderator to recognize and unmute you before speaking.
- If you have joined by phone only, you may "raise your hand" by pressing the star button and then nine (*9)
- *After you speak, we will lower your hand and you will be muted to allow the team to respond and provide opportunities for others to participate*
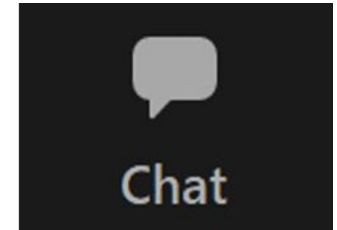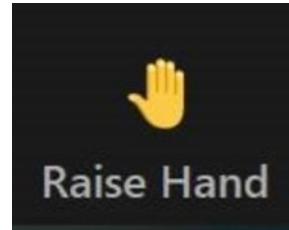
How to Stay Informed

mbta.com/busnetworkredesign

- You can find more details about Bus Network Redesign and other Better Bus Project initiatives on the project website.

- We will continue to provide updates to you on these efforts and inform you of opportunities to provide your feedback via our email list. You can sign up for updates on our website.

- Feel free to reach out to the Better Bus Project team at BetterBusProject@mbta.com with any questions.