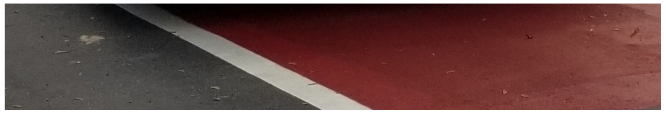
City of Cambridge

Net Zero Transportation Plan: Advisory Group Meeting #5

Wednesday, June 28th, 2023



Welcome!

Meeting purpose:

✓Review important issues about transportation and emissions

✓Discuss strategies and tools to reduce emissions

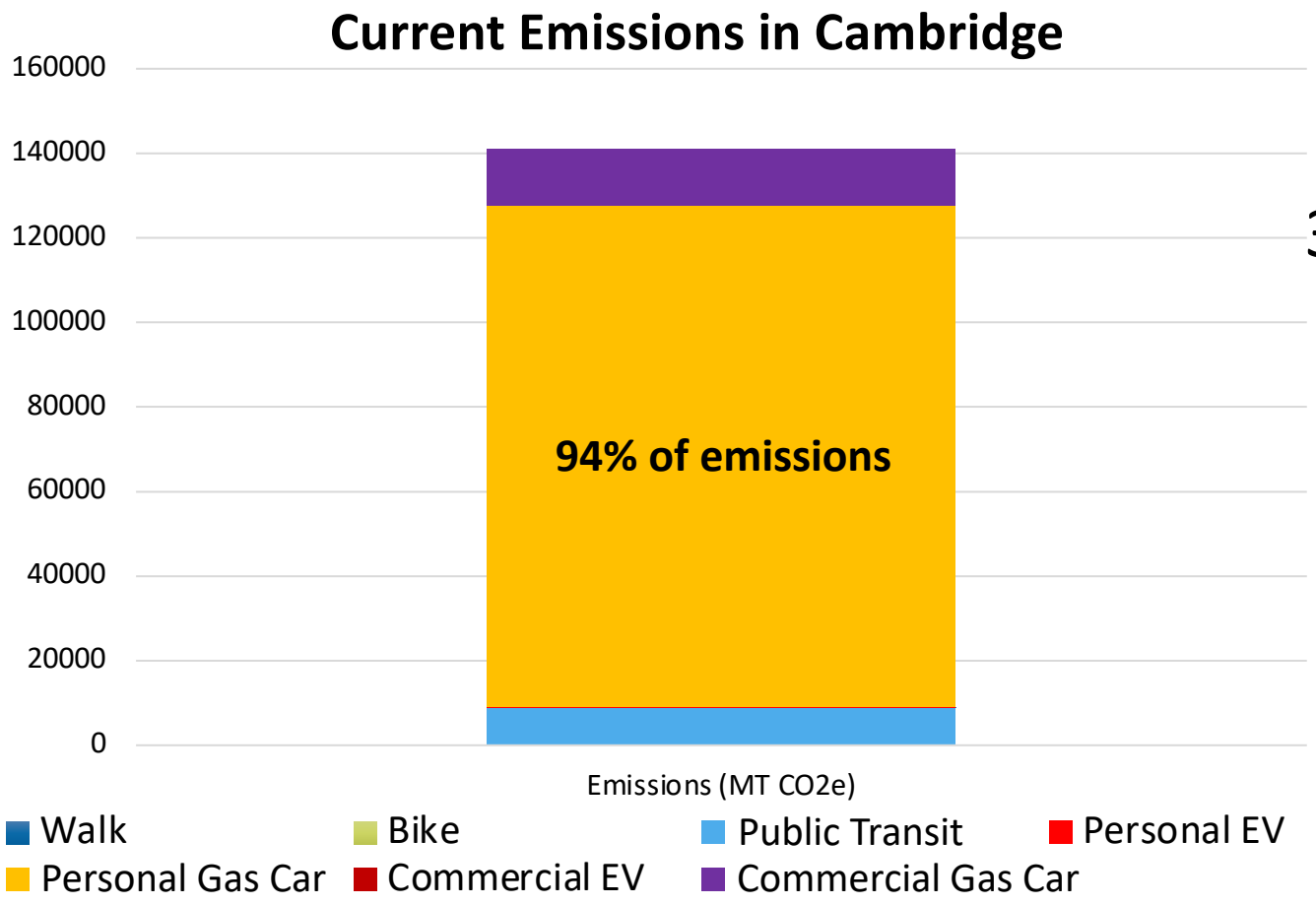
- What has Cambridge already done?
- What more can we do?

✓Look at how transportation strategies intersect with other city planning issues

Check-in question: What is one positive experience and one negative experience you've had with transportation since our last meeting?

Review: How do transportation planning and emissions work?

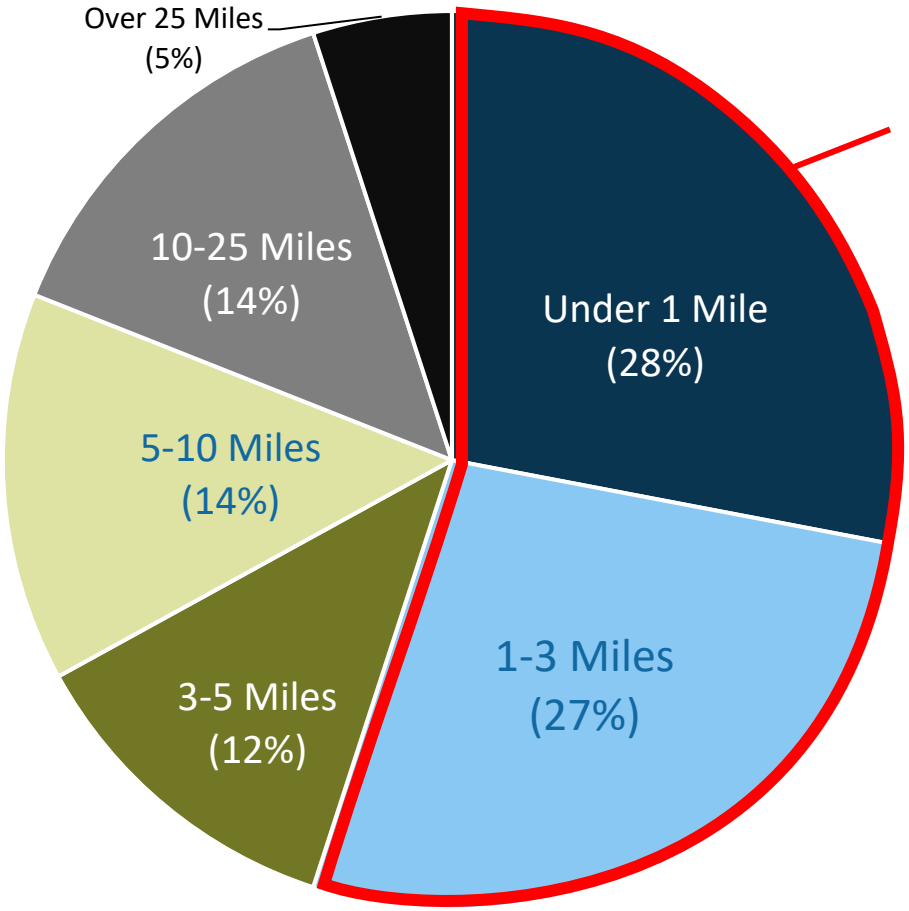
Almost all transportation emissions are from gas-powered cars



35% of trips in Cambridge are made in personal gas cars. But they produce **94% of our emissions.**

Most trips are very short

Trip Distance, Middlesex County, 2023



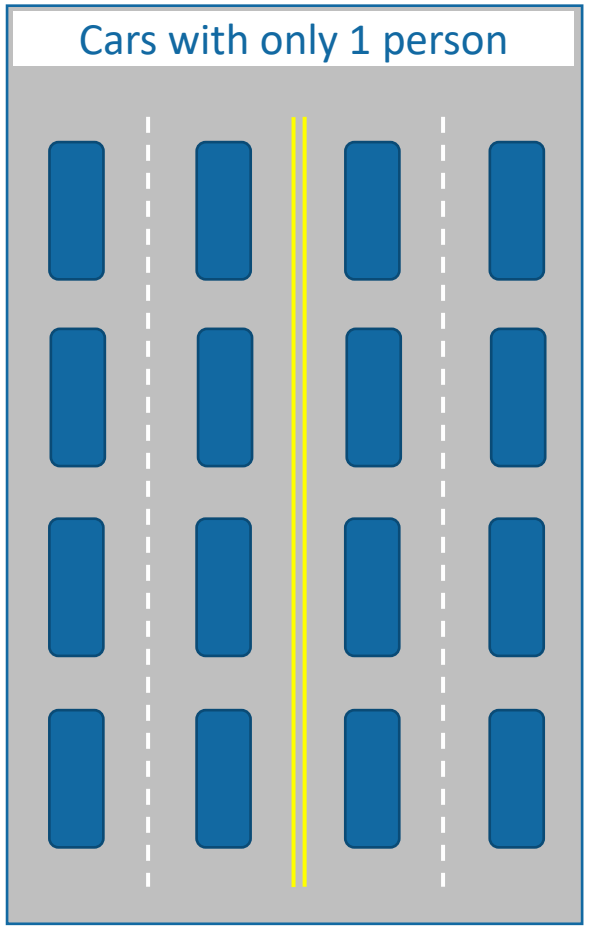
55% of trips are 3 miles or less

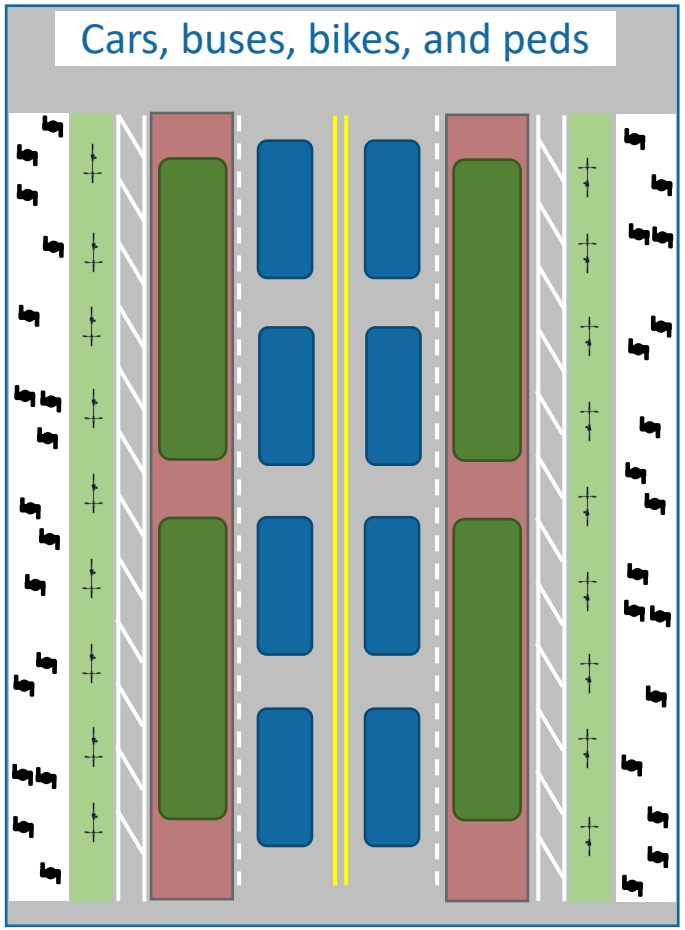
More than half of trips are 3 miles or less.

Even though trip distance isn't the only thing that affects mode, it might be possible to shift some trips to more sustainable modes

Modes affect how many people can use public space

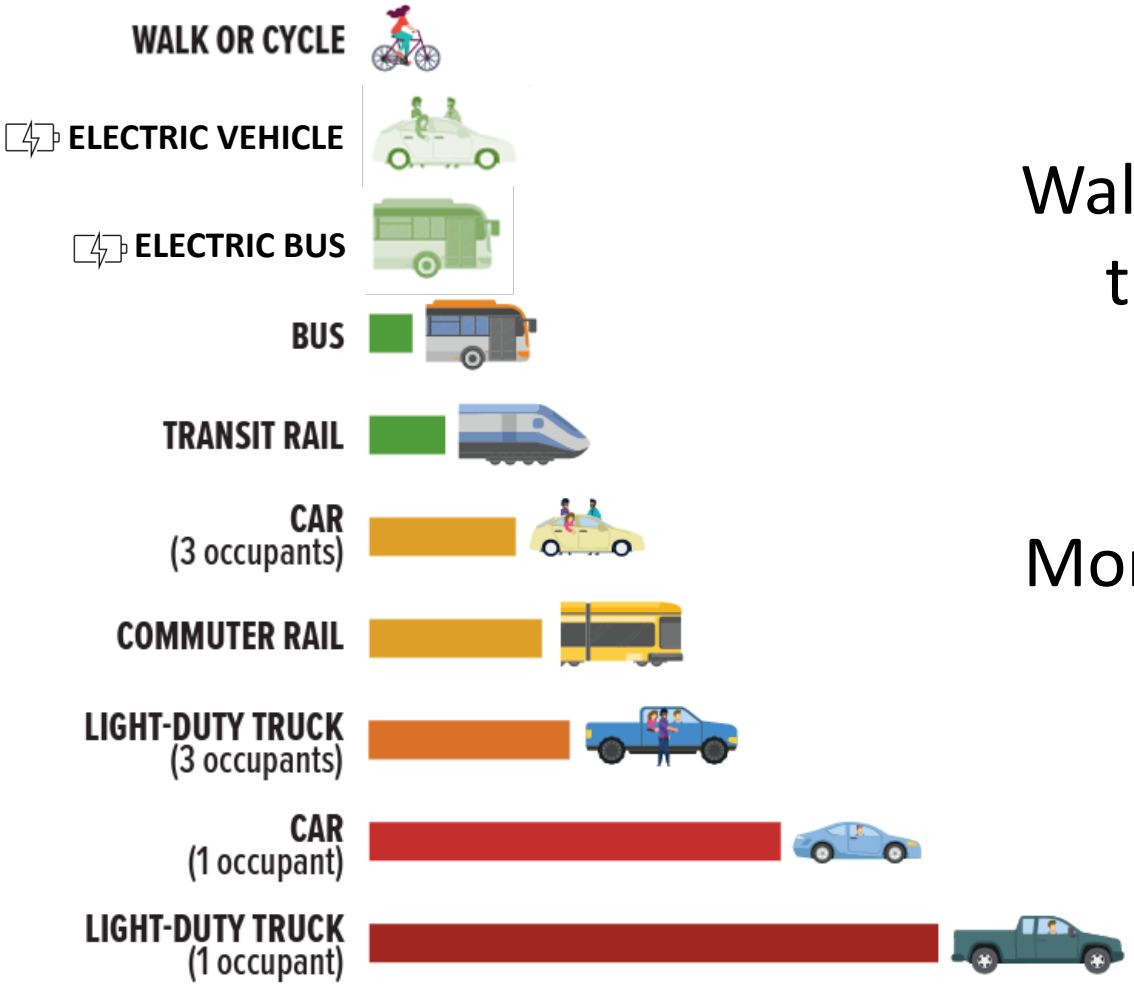
16 people can use this space





300 people can use this space

Some modes create more emissions per person



Walking, biking, electric vehicles, and transit are the most sustainable modes of transportation.

More people in a vehicle = fewer emissions *per person*

How do we calculate emissions?

= **Distance Traveled** (miles) X **Mode** (fuel efficiency) X **Climate Impact** (GHGs)

Shorter create fewer emissions because they require less fuel or energy

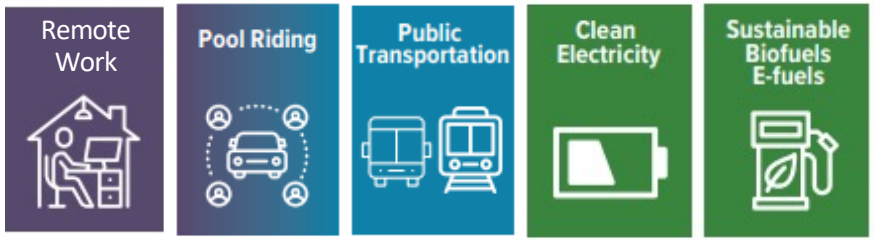
Some fuels produce more emissions than others

Some fuels (gasoline) are dirtier than others (electricity)

To reduce transportation emissions, Cambridge can…

Make a decision on

Guide or sway others on



Do nothing about

Local

- Housing density
- EV chargers
- Local roads

Regional

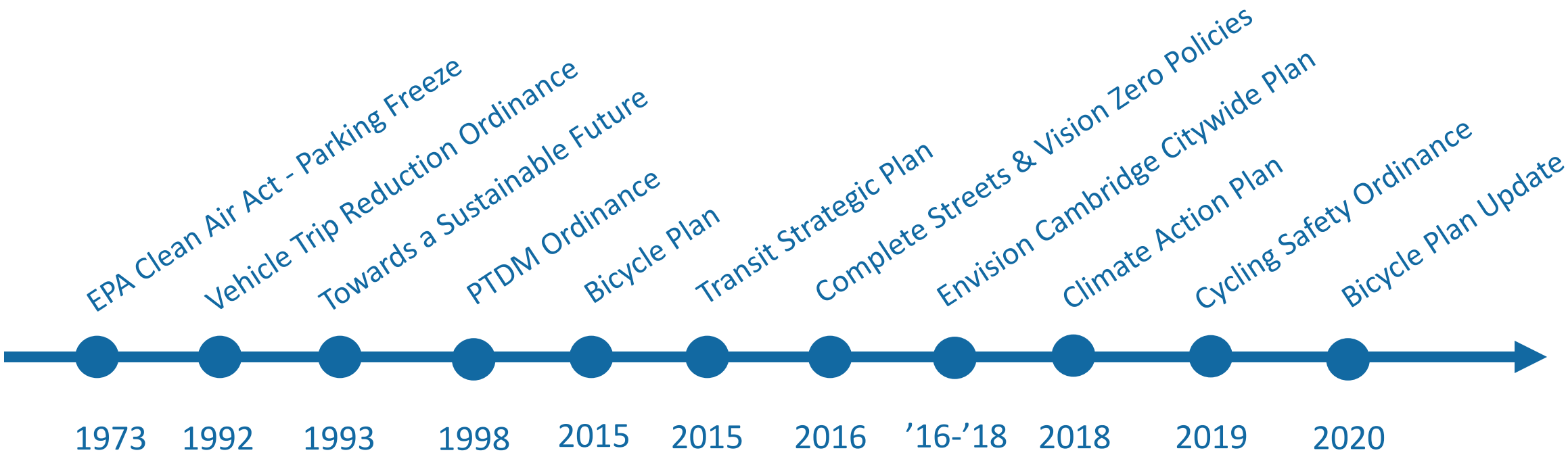
- Blue Bike network
- MBTA

State/National

- Vehicle efficiency
- Grid electrification

What are examples of Cambridge policies that reduce transportation emissions?

Cambridge Transportation Policies and Plans



The goal is to create strong communities, reduce traffic congestion, and fight climate change

Parking and Transportation Demand Management (PTDM) Ordinance

When: 1998

Purpose: To reduce traffic and greenhouse gas emissions by promoting walking, bicycling, public transportation, and other sustainable modes

What it does: Some non-residential properties are required to…

- limit the percent of drive-alone trips coming to their site
- provide programs to make it easier and cheaper to take a sustainable mode (like giving employees free T passes)
- do an annual survey to state how they're doing

Effect: 54% of the people going to these properties in 2004 drove alone, and in 2019, that was down to 35%

Source: https://www.cambridgema.gov/CDD/Transportation/fordevelopers/ptdm

Questions and Discussion

- What questions do you have about what we shared?
- What else should we be considering about how the City has reduced emissions and could do so in the future?
- What other comments do you want to share?

How are land use planning and transportation related?

Where we're going with this conversation

1. We have heard interest from you to talk more about land use in Cambridge.
2. Land use is both part of the analysis and part of our toolbox – it is connected to many aspects of transportation

Today:

✓Look at how transportation strategies intersect with other city planning issues, including equity

Next Advisory Group Meeting:

✓Have an in-depth discussion of an equity framework for this project

Land use planning and transportation have a history of inequity

How we set up our city affects *what options* we have, *how it works*, and *who has access* to it.

For this reason, planning with an **anti-racist** and **equitable** focus will lead to *more options* that work *more often* for *more people*.

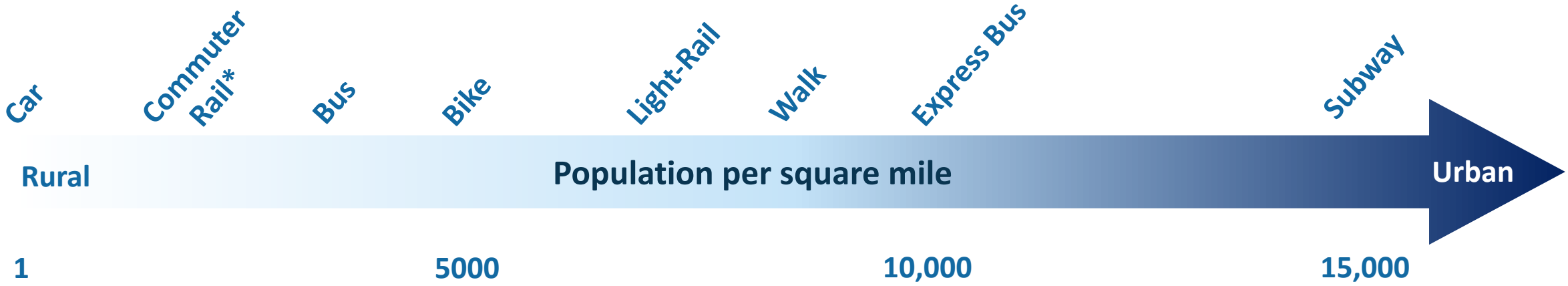
This is the foundational principle of our work, as we work to achieve the project goals of:

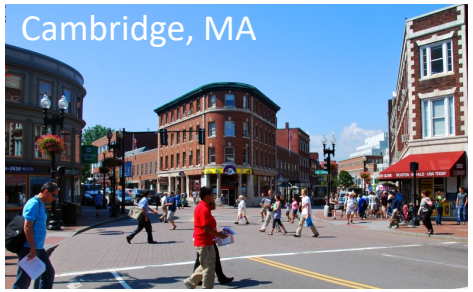
Improving Mobility

Reducing Emissions

How does land use interact with transportation in general?

When more people live closer together, more transportation options become possible.

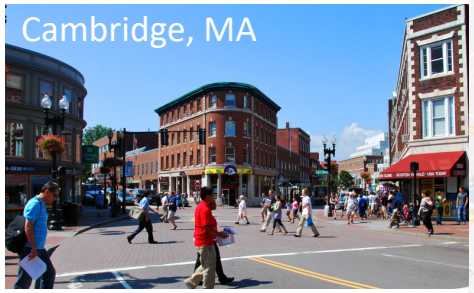


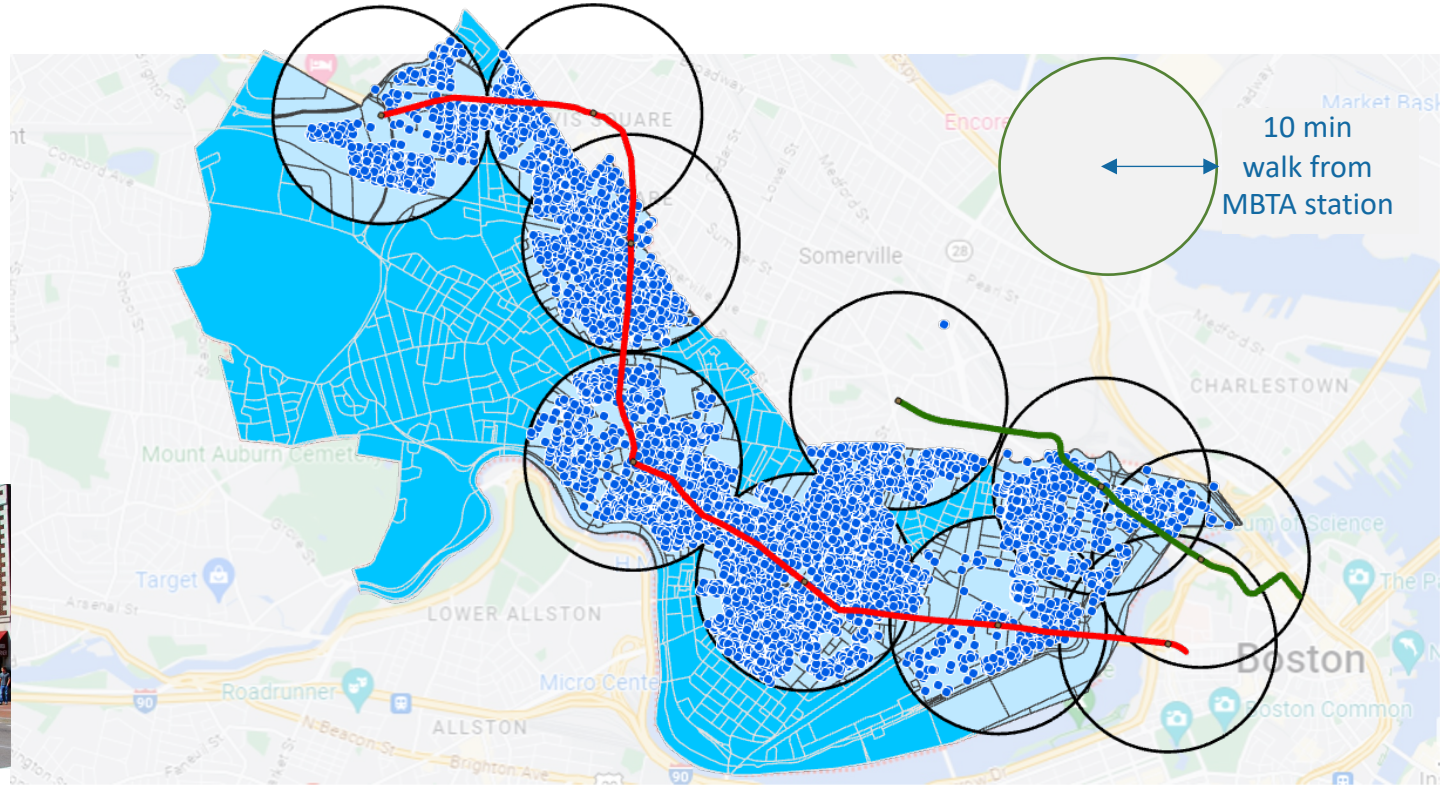


How does land use interact with transportation in Cambridge?

Because Cambridge's land use supports a lot of people per square mile, certain transportation systems can work better (transit, school buses, Uber/Lyft, carpool, etc.)

18,000 residents per square mile



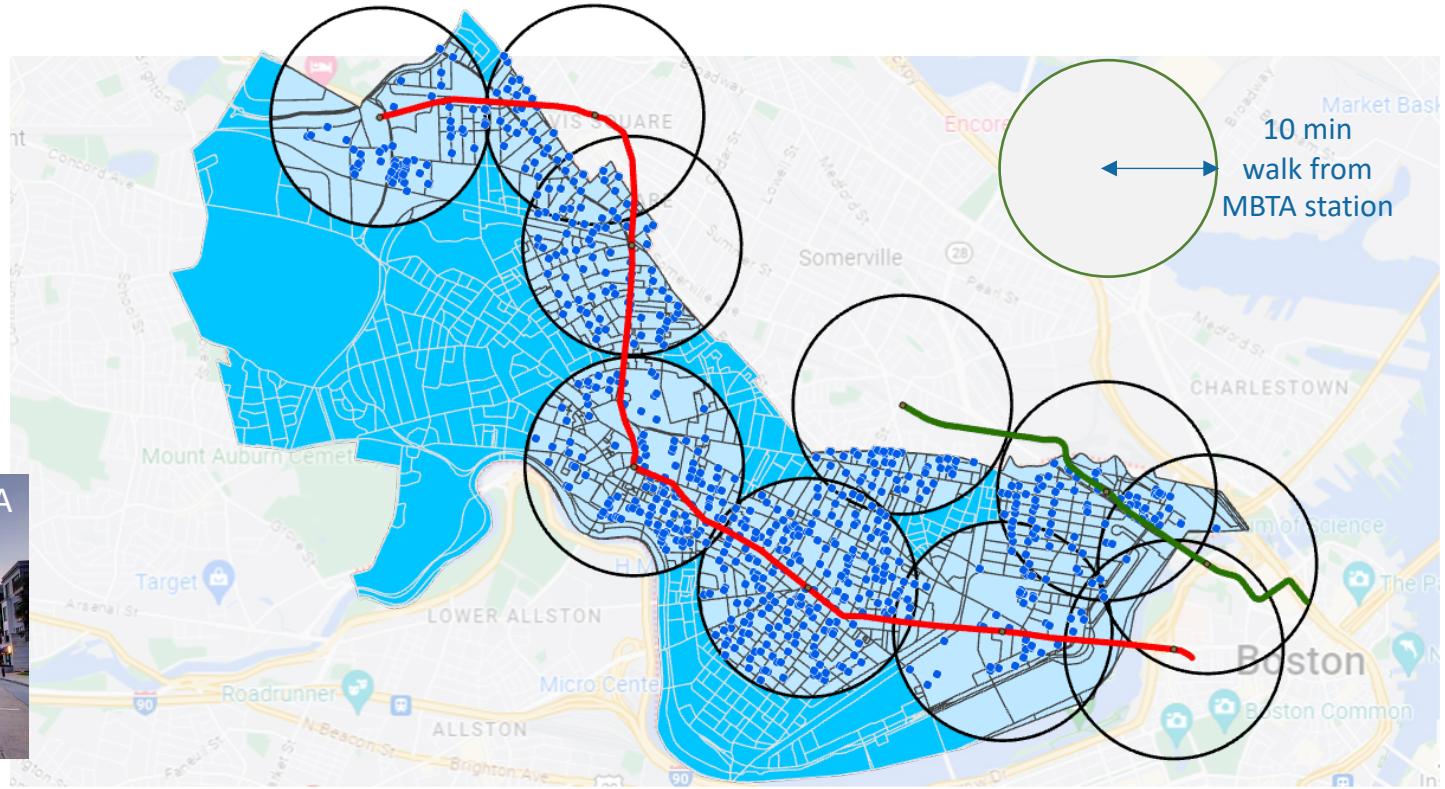


Approximately 25,000 residents within a 10-minute walk of an MBTA station

How does land use interaction with transportation in Cambridge?

Let’s pretend Cambridge had the land use of Wellesley, MA. Transit would no longer work well, people wouldn’t be able to reach as many jobs, and benefits would decrease.

5,000 residents per square mile



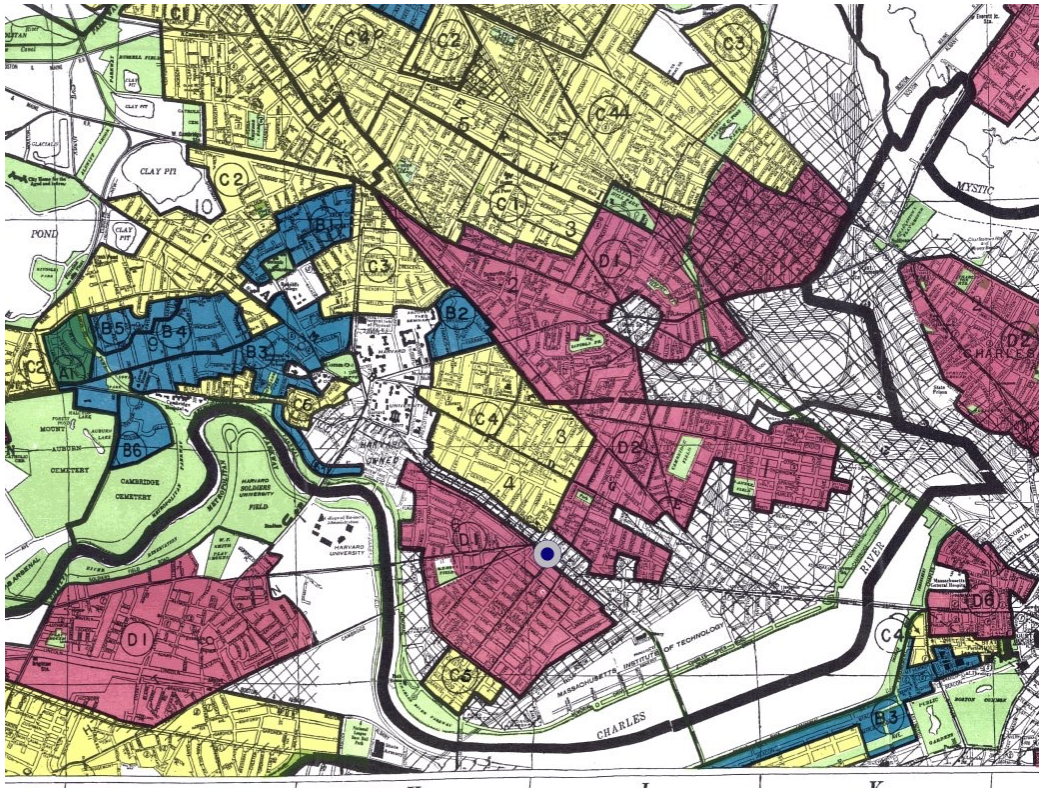
Approximately 6,800 people within a 10-minute walk of an MBTA station.

80% decrease in people near transit.

In your experience, what becomes easier when lots of people live near each other? What becomes more challenging?

Transportation and land use have an inequitable and racist history

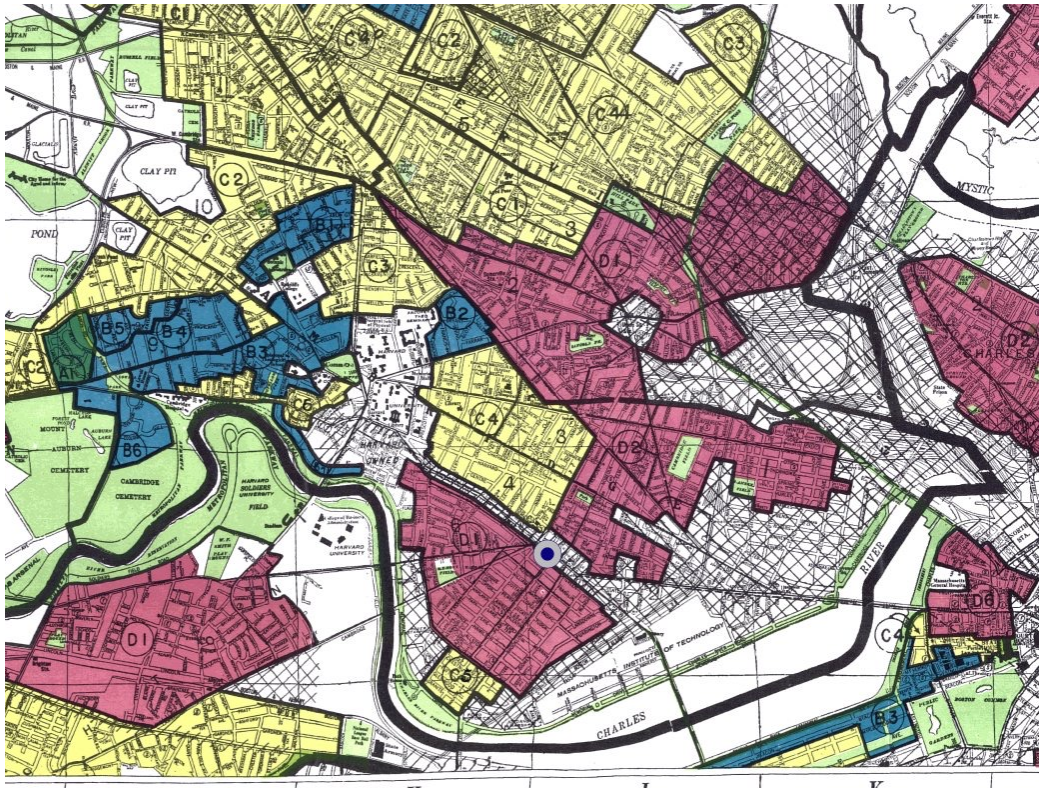
Redlining was a racist practice of denying loans and discouraging investment in majority black and immigrant neighborhoods throughout the United States.

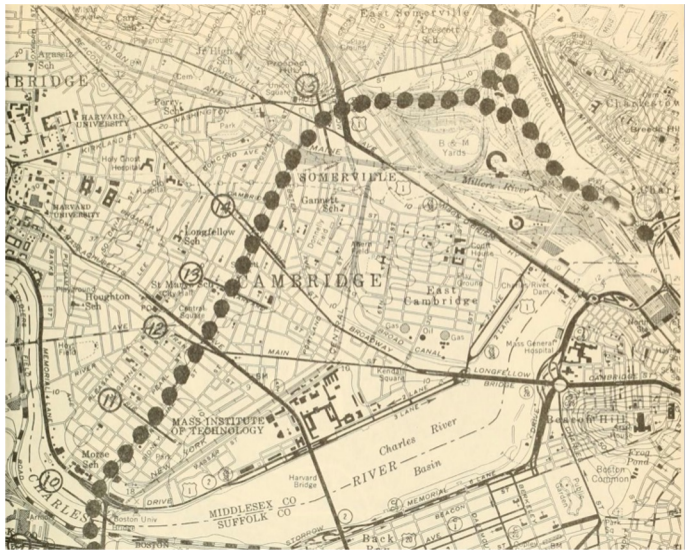


Historical map of “redlining,” Cambridge, MA. Circa 1938

Transportation and land use history, continued…

This image of the proposed inner-belt highway lines up exactly with the map of redlining

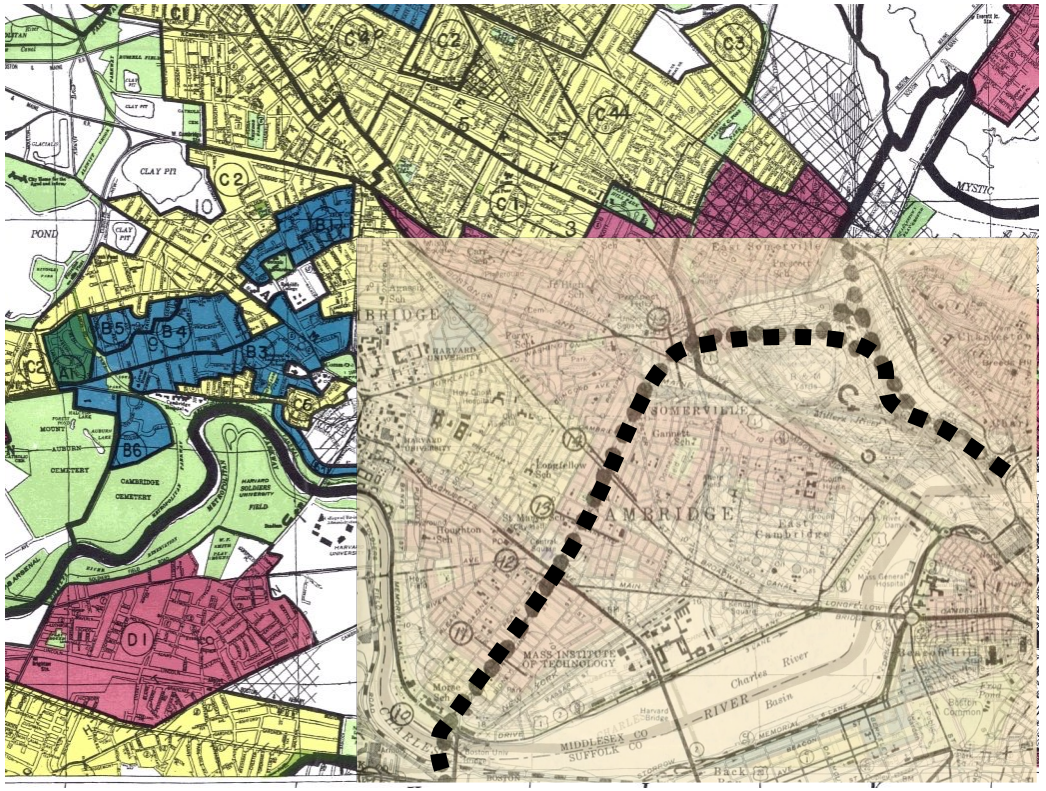




Historical map of “redlining,” Cambridge, MA. Circa 1938

Transportation and land use history, continued…

Highway expansion in the mid-1900's resulted in the destruction and displacement of many dense, thriving, black and immigrant neighborhoods – often the ones that had been redlined.

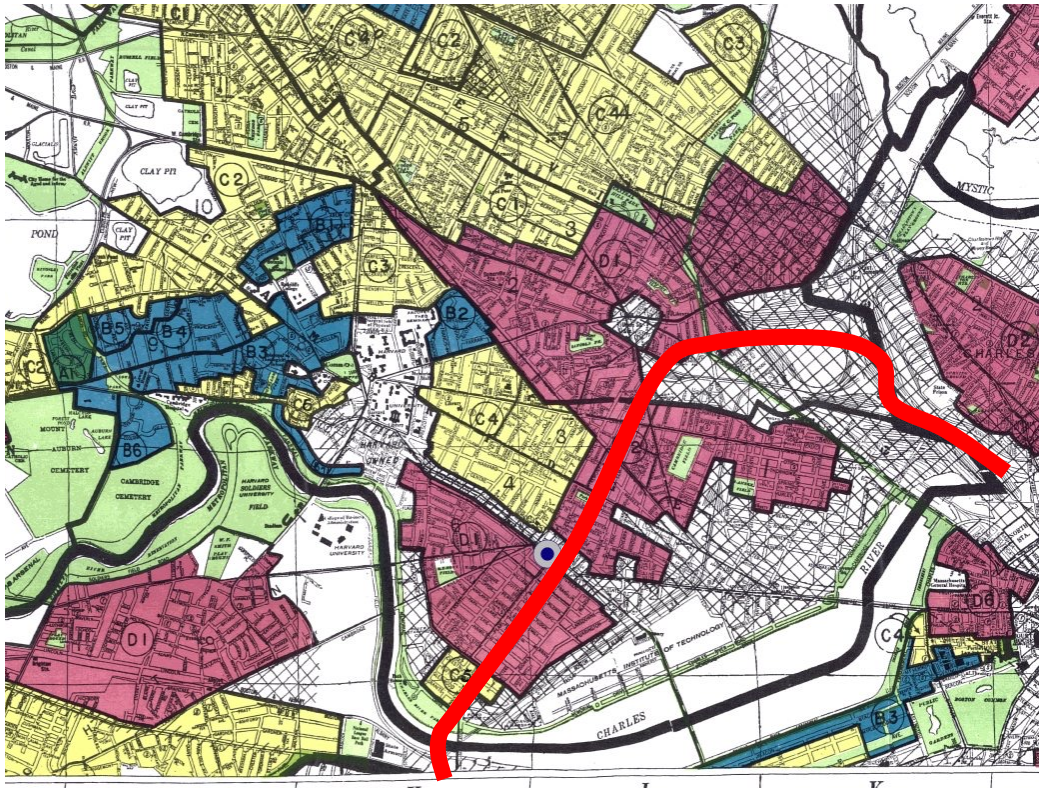


Historical map of "redlining," Cambridge, MA. Innerbelt proposal overlayed

Proposed Inner Belt Highway Expansion

Transportation and land use history, continued…

The inner-belt highway expansion would have done the same thing in Cambridge

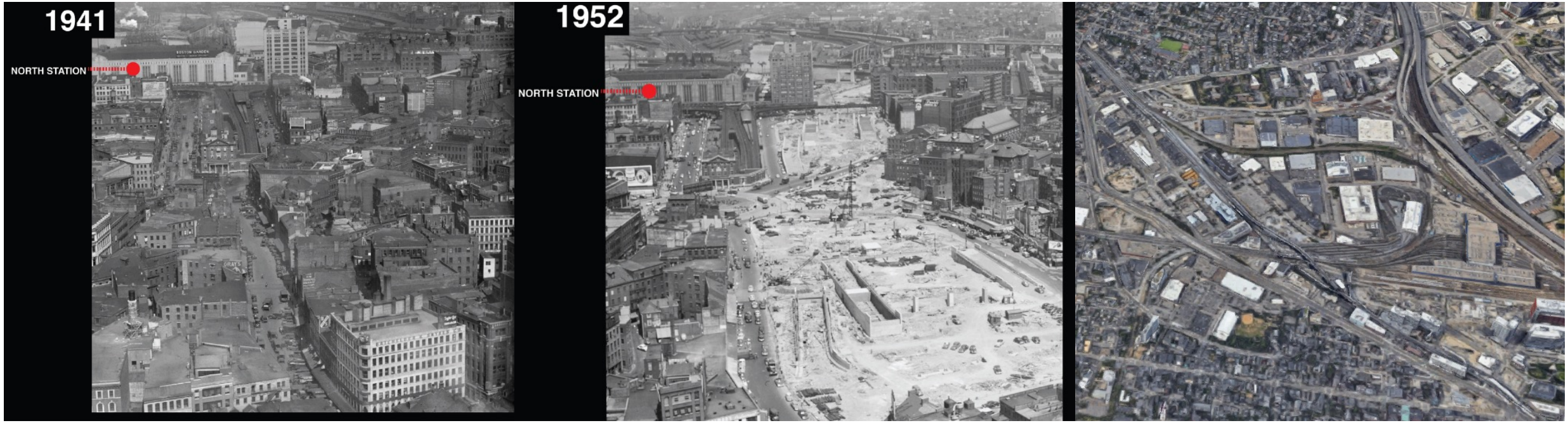


Historical map of “redlining,” Cambridge, MA

Proposed Inner Belt Highway Expansion

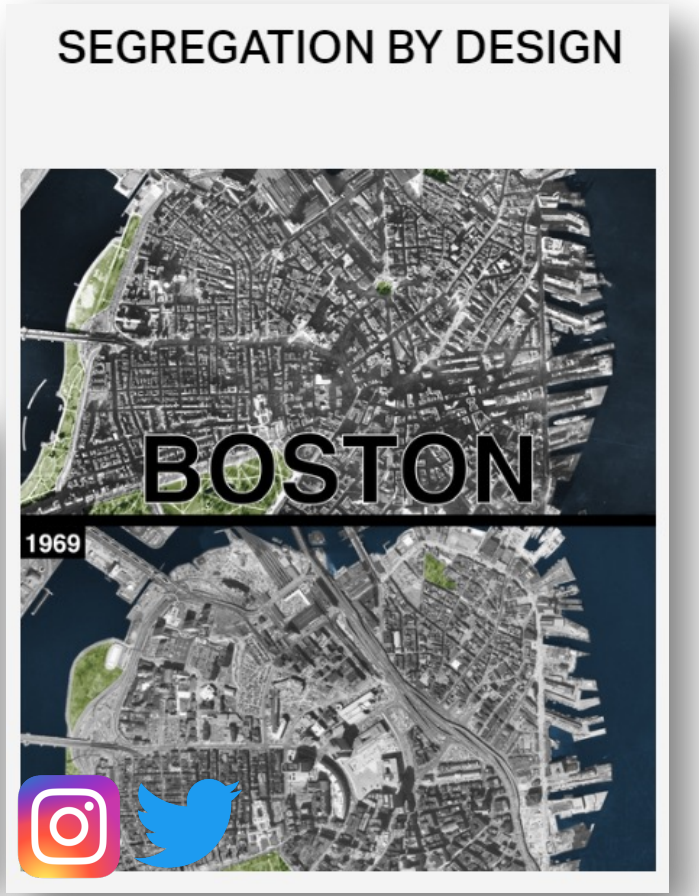
Transportation and land use history, continued…

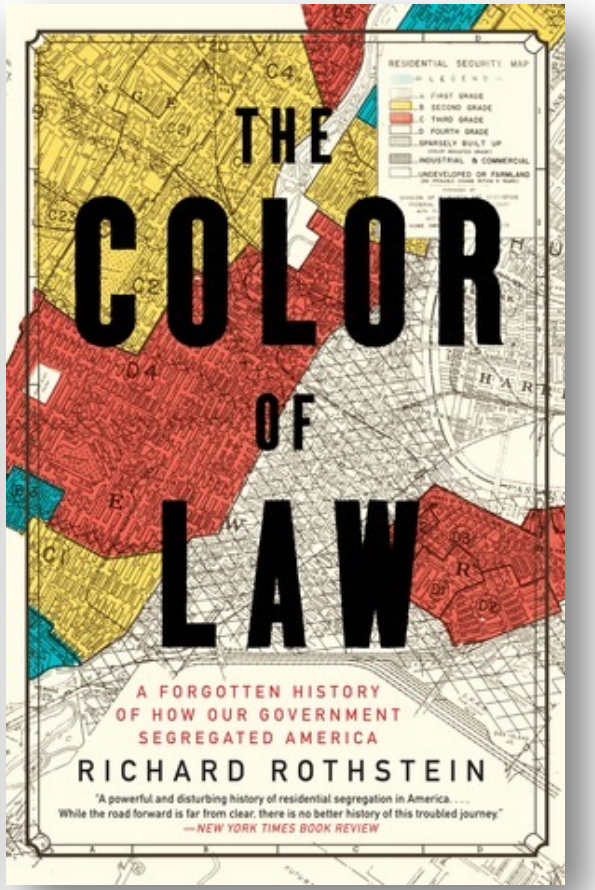
In Cambridge, there was significant community pushback and the plan was abandoned. Boston and Somerville show what inequitable transportation planning can lead to.



Historical pictures of Boston's North and West End neighborhoods, before and after construction begins on I-93 Inner Belt Neighborhood, Somerville, MA. 2023

There is a lot more information on this topic, and we will discuss equity in-depth at the next meeting





How do you see transportation affecting equity in Cambridge and the region?

Two key aspects of land use affect transportation

- The way the land can be used (the *type* of building)
- How many buildings, or people, can use the land (the *density* of the use)

Density

Type

How does land use density affect transportation emissions?

For transportation, low density increases trip distance. Long trip distances increase emissions.




Population per square mile

Longer trips
Fewer mode choices
Higher emissions

Shorter trips
More mode choices
Lower emissions

How does land use type affect transportation emissions?

Land use types also determine how far people must travel, and what services they have access to. For transportation, mixed land uses allows more mode choices.

Mostly one land use type (workplaces)
More private spaces
Less community resilience

Increased land use types

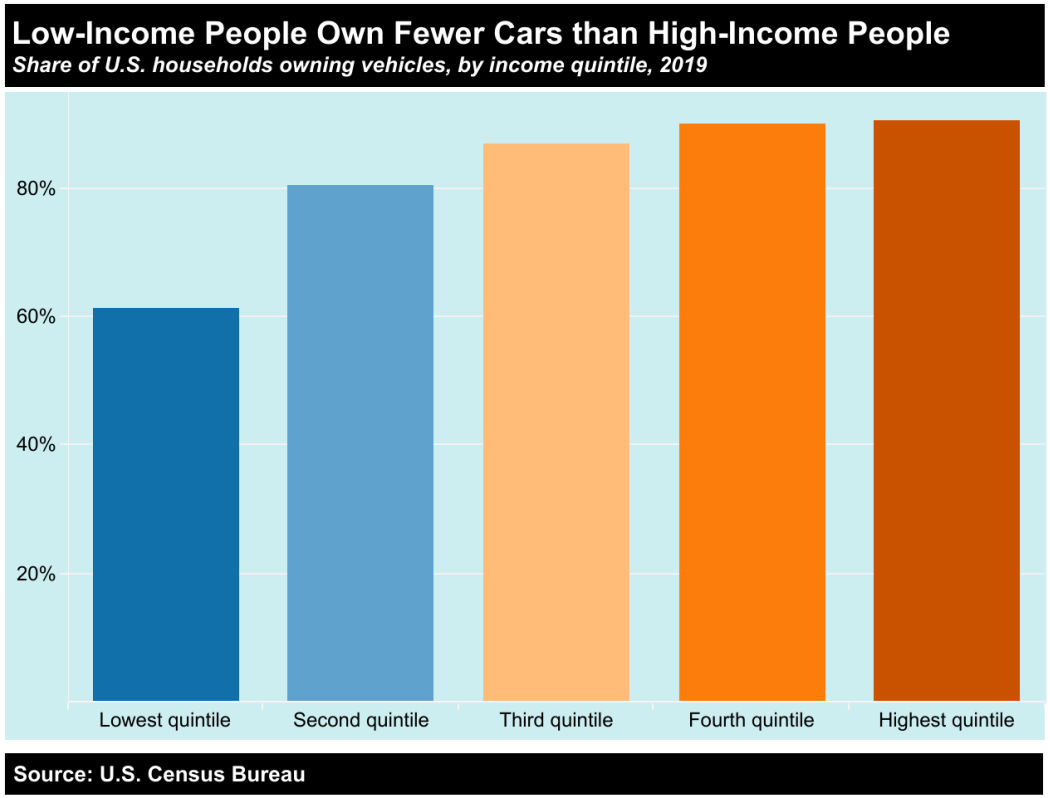
Mixed land use types
More public spaces
More community resilience

Density without transportation options affects quality of life

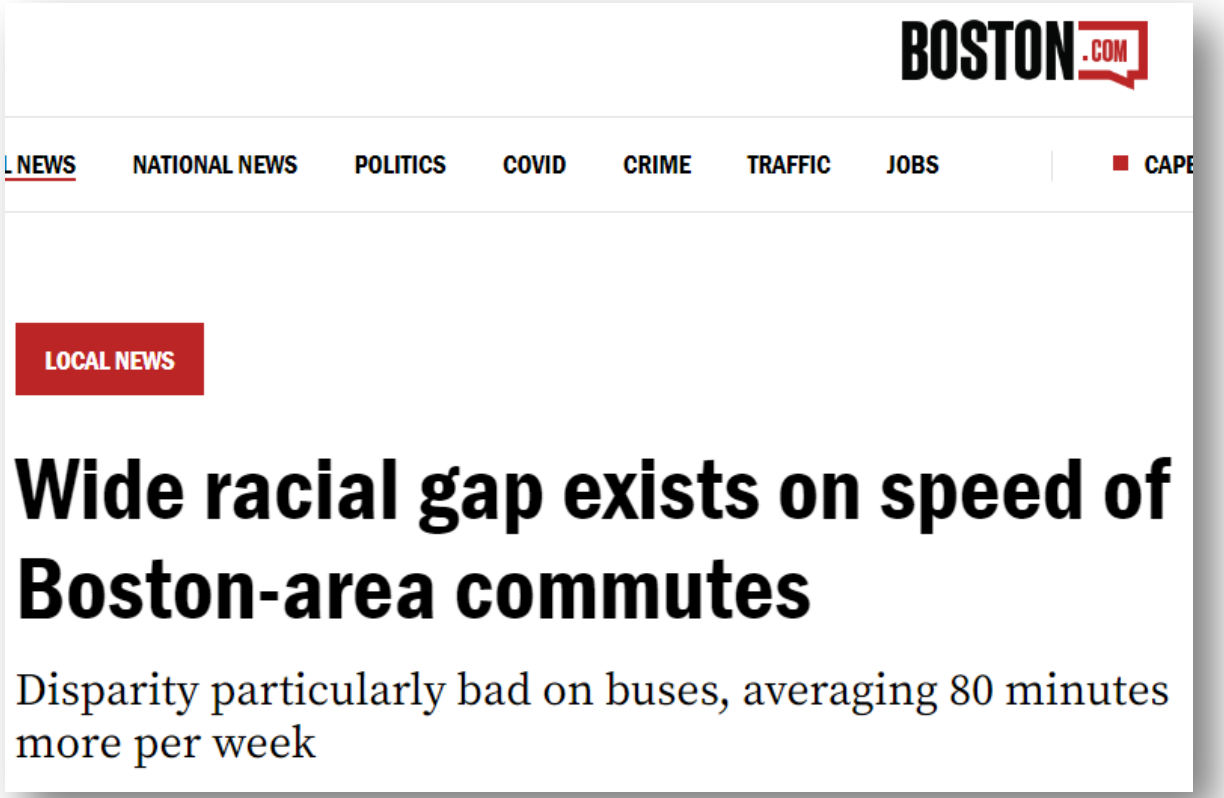
If we *only* electrified vehicles, we get emissions out of transportation, but we would still end up with quality-of-life issues in Cambridge.

Transportation needs density, and density needs transportation.

When you have density without transportation options, the city becomes less equitable



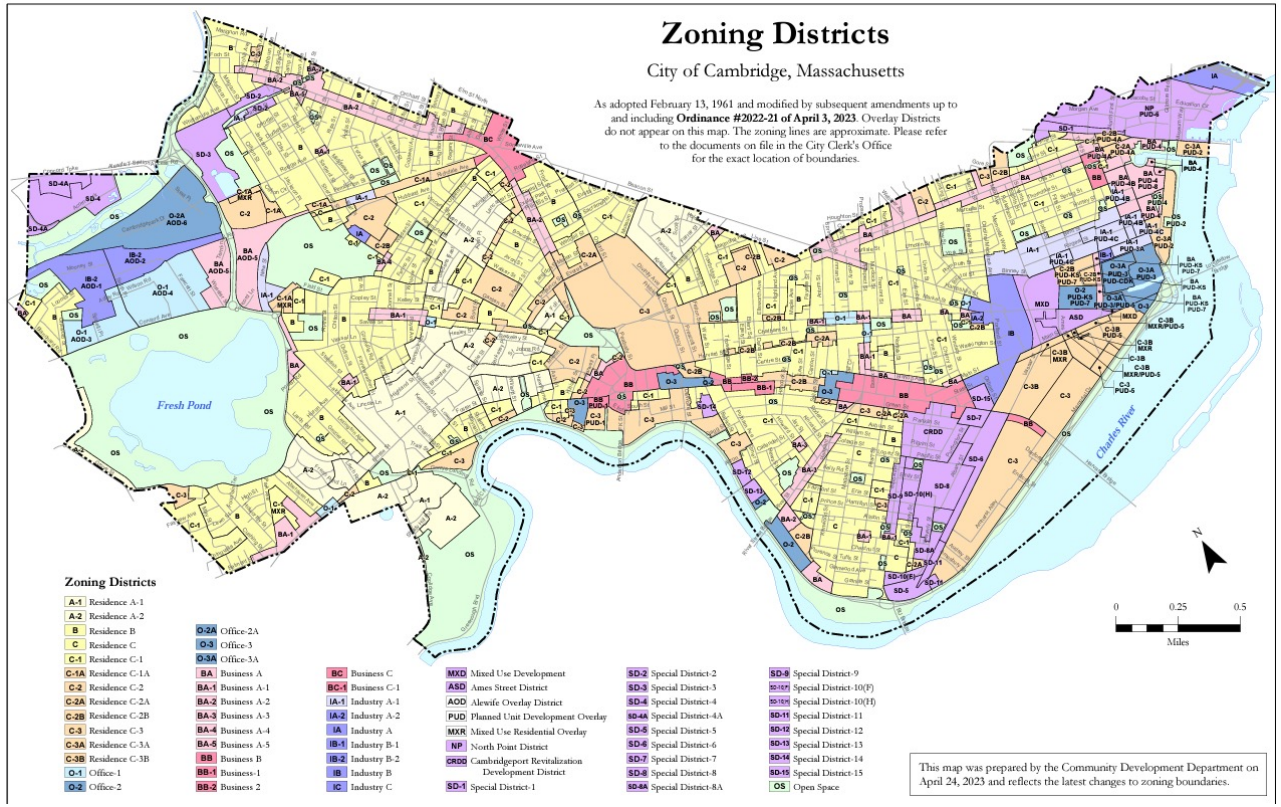
https://inequality.org/research/public-transit-inequality/



What makes Cambridge feel easy to live in?

What makes it feel difficult to live in?

We can use zoning and policy to align transportation, land use, and city goals



Zoning and policy are dials. How the dials are turned affects people differently.

Because of historical inequities and racism, zoning and policy dials that can provide benefits through transportation and land use don't always help everybody equally.

Important Points

- Transportation and land use can work together to reduce emissions, improve mobility, and make Cambridge more equitable.
- When land use and transportation work well together, trip distances decrease and mode choices increase.
- When trip distances decrease and mode choices increase, transportation emissions are reduced.
- Land use and transportation have also been tools of oppression. New strategies that are anti-racist and center equity can start to reverse these harms.

Next Advisory Group Meeting:

✓Have an in-depth discussion of an equity framework for this project

Questions and Discussion

- What questions do you have about what we shared?
- How does transportation impact other parts of your life that people might not expect?
- What other comments do you want to share?

Wrap-Up, Public Comment, & Next Steps

Planning upcoming conversations

- Future topics that will be discussed with the AG:
  - How can we assess whether the NZTP process makes planning more equitable?
  - How should we engage other community members as part of this process? How should we invite their input?
  - How can communities beyond Cambridge learn from the NZTP process?

- ***What other topics would you like to discuss?***

Public comment

- Public comments are welcome
  - Share thoughts in Zoom Q&A or verbally
  - To comment verbally, **raise your virtual "hand"** (or actual hand if in person)
  - Please limit your comments to **2 minutes** (we may reduce this time if the queue fills up)
- Please keep all comments…
  - **Relevant to the topics discussed today**
  - **Respectful**
  - **Focused on issues (not individuals)**

Next steps

- ✓We'll share follow-up materials and a draft meeting summary
- ✓Next meeting: **Possibly Wednesday, August 9th @ 8:45 AM?**
- ✓Others?

Check out question

- ***What is one question or reflection you have on how transportation affects equity?***

Thank You