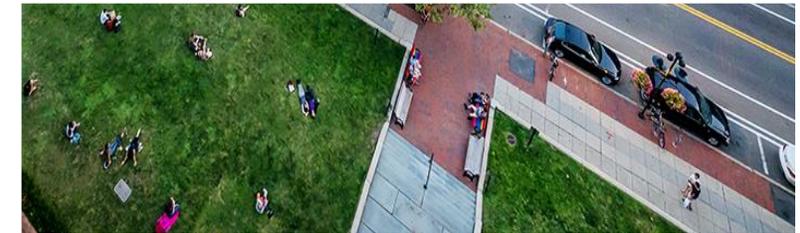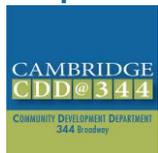**City of Cambridge
Community Development Department**

Transit Advisory Committee

September 2022

Welcome

Purpose

Get feedback from appointed members of the TAC, the City's "community experts"

Outcomes

TAC to know the most recent information on City and MBTA projects

Process

TAC to 'raise hand' during presentations and discussions

Public to type in questions in zoom Q&A or speak verbal comments during public comment period

Presentation: Bus reliability and improvement opportunity study

Andy Reker, Transit Planner, City of Cambridge

Where have we been

Previously

- Collected data on locations of bus delay and unreliability
- Partnered with other departments, MBTA, or climate action funders to plan, design and implement bus priority when opportunities arise

Currently

- The Envision Cambridge mobility plan specifically calls for a transit strategic implementation plan to improve transit
- MBTA's Bus Network Redesign will result in a new network including frequent routes where bus priority will be valuable

What we will do

Draft study purpose

- Identify opportunities to improve all aspects of bus trips
- Identify specific opportunities to improve bus reliability and speed
  - Ranking of priority streets to design bus lanes and signal priority

Draft outcomes

- Public knows the way that the city gives priority to travel by bus and changes in the Bus Network Redesign
- City staff know community members' priorities for improvements for the bus
  - Table of ranked street segments with priorities based on factors
  - Input in deciding factors and any weights

What we will do

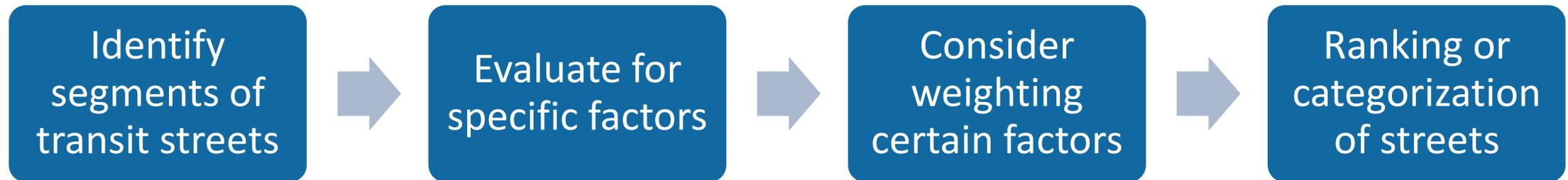**Draft community engagement process**

Engage the Cambridge community using various engagement and outreach strategies

- Attend events or activities at city facilities or community events
- Canvass community-based organizations to identify events or activities for tabling/discussion
- Develop online materials – fact sheet, sketch renderings
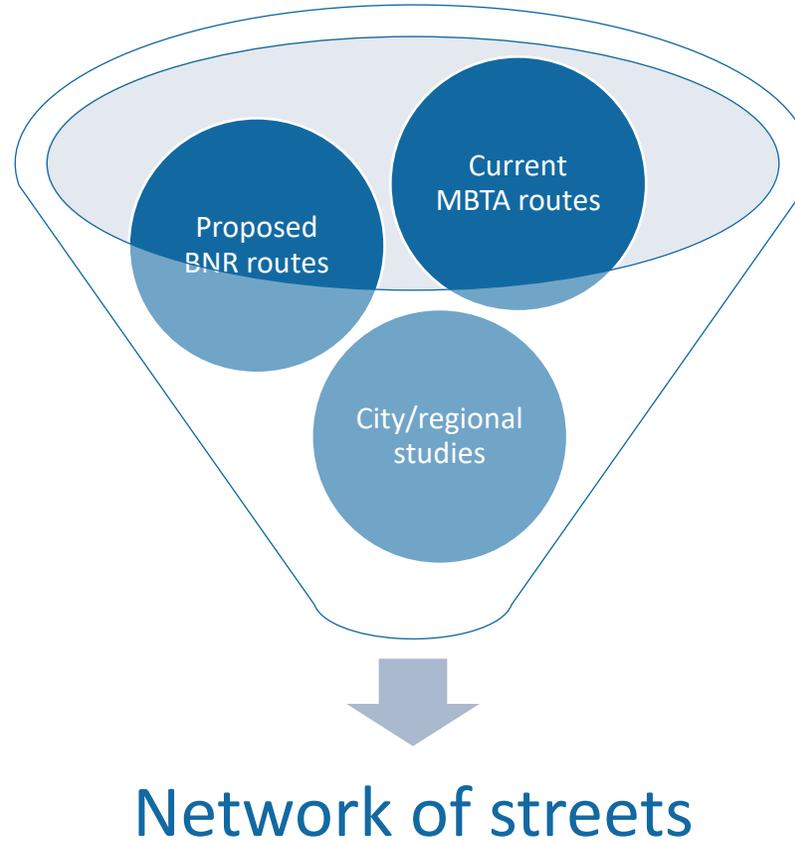- Host focus groups with representatives from underserved communities

Create and disseminate a survey to collect feedback on priorities and weights

Study process

Identify segments of transit streets	→	Evaluate for specific factors	→	Consider weighting certain factors	→	Ranking or categorization of streets

Step 1: Identify network of transit streets

Proposed BNR routes

Current MBTA routes

City/regional studies

Network of streets

Step 2: Evaluation factors

Service frequency

Access to destinations

Priority for new or enhanced service

Unreliability

Passenger Delay

Rider and neighborhood demographics

Street width availability

Step 2: Evaluation factors

- Each factor will be assigned a scale with a certain number of points

- Each street segment will be assigned points based on staff and consultant evaluations for each factor

- In later steps, we have options to:
  - Weight the factors equally
  - Weight one or some factors more
  - Choose one factor as a "screen" and then weight factors equally
  - Choose one factor as a "screen" and then weight some factors more

Step 2: Evaluation factors

- Service frequency
- Street width availability
- Unreliability
- Passenger Delay
- Access to destinations
- Rider and neighborhood demographics
- Priority for new or enhanced service

Step 2: Evaluation factors

- Service frequency
  - Average number of buses per hour on each street
  - Assuming minimum service described in MBTA Bus Network redesign

Step 2: Evaluation factors

- Street width availability
  - If a street is identified as a street for "greater separation" in the Cambridge Bike Network Vision – we evaluate the feasibility of at minimum 2 travel lanes, 2 separated bike lanes, and 1 dedicated bus lane
  - Other streets – assume 2 travel lanes and 1 dedicated bus lane
  - Do not consider the presence of parking or curb access, at this stage

Step 2: Evaluation factors

- Unreliability
  - Evaluate results of 2014, 2018, and 2022 Cambridge Delay and Unreliability Study
  - Evaluate how many seconds of "unreliability" is introduced during rush hours
  - Worst evaluation determines rating

Step 2: Evaluation factors

- Passenger Delay
  - Evaluate results of 2014, 2018, and 2022 Cambridge Delay and Unreliability Study
  - Evaluate how many hours of excess passenger travel time occurs during an average rush hour
  - Worst evaluation determines rating

Step 2: Evaluation factors

- Access to destinations
  - Evaluate number of commercial districts, civic facilities, schools are within 1/8th mile of a route
  - Number of facilities along a route

Step 2: Evaluation factors

- Rider and neighborhood demographics
  - Evaluate percentage of bus riders who identify as people of color or belonging to low-income household
  - Evaluate number of categories in a neighborhood

Step 2: Evaluation factors

- Priority for new or enhanced service
  - Identify if a street segment has new service on the proposed Bus Network Redesign or was a priority on the Cambridge Better Bus Outreach Initiative

Step 2: Evaluation factors

Service frequency

Access to destinations

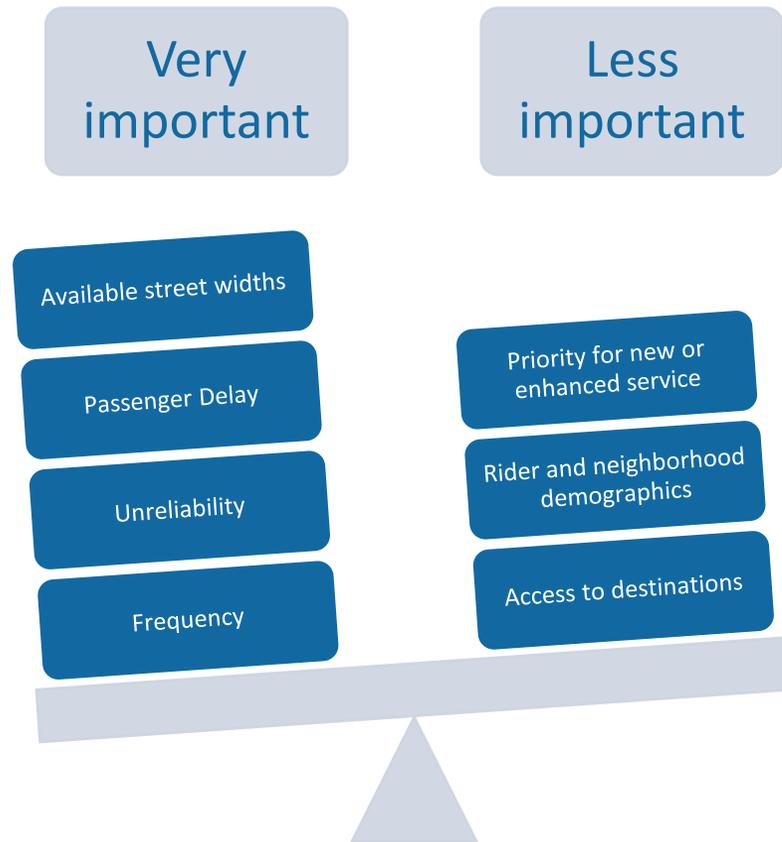Priority for new or enhanced service

Unreliability

Passenger Delay

Rider and neighborhood demographics

Street width availability

Step 3: Choose 'weighting'

One option is to weight some factors more

Very important	Less important

Available street widths

Passenger Delay

Unreliability

Frequency

Priority for new or enhanced service

Rider and neighborhood demographics

Access to destinations

Another option is to weight equally

Equally	Important

Passenger Delay

Unreliability

Frequency

Priority for new or enhanced service

Rider and neighborhood demographics

Access to destinations
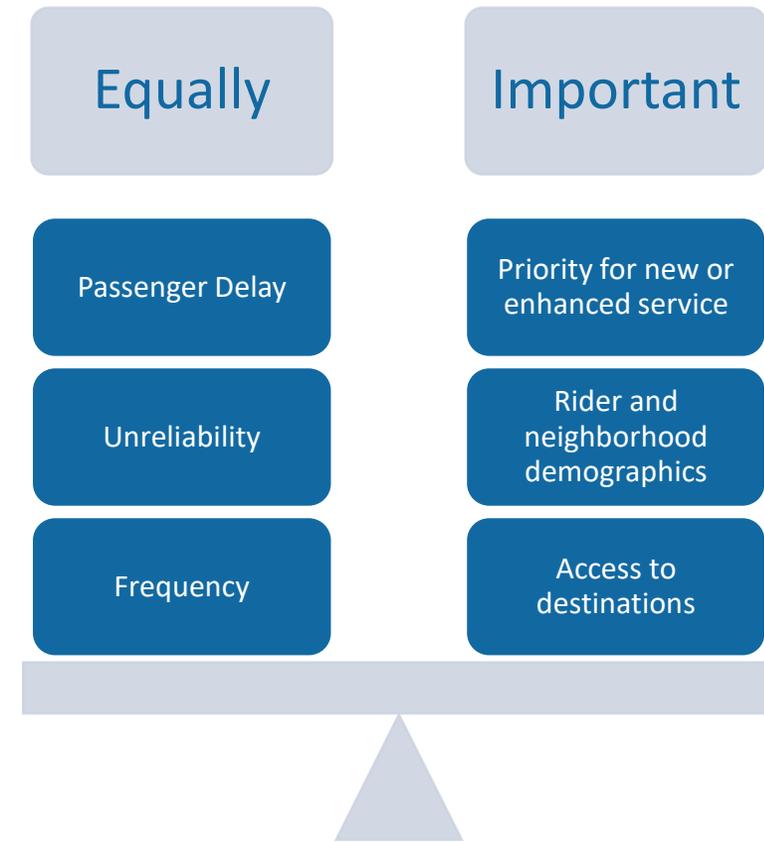
Step 3: Prioritize based on 'weighting'

- Equal weighting - e.g. Assign the same range of points for each factor

- Some prioritization – e.g. assign some factors a broader range of points, while other factors have a narrower range

- Another option is to use one factor to separate into various categories

  - E.g. "street width availability" could be a screen where "low" availability means it may not be further prioritized but examined separately

Step 4: Rank list of street segments by sum of points

After going through all three steps, for each street segment, we would:

- Sum the number of points for each factor

- Order and rank the street segments

- Group them into categories - currently thinking 3 to 5 categories

Questions for discussion

Did we miss any potential evaluation factor?

Do you have thoughts on weights?

More questions for discussion

We want to present bus priority treatments and this ranking with the public.

We think that a survey and some focus groups would likely be the best way to get feedback for city staff.

Thoughts?

Thank you for participating in this Transit Advisory Committee meeting.

Stay healthy and well.

Thank You