



# **Addressing Transportation Equity (TE) Through Project Scoring**

**December 19, 2019**

**Betsy Harvey**

**Boston Region Metropolitan Planning Organization**

# Phases of TIP Project Selection

## Policy Factors

- Eligibility for federal funding
- Alignment with LRTP program types
- Approval by MassDOT Project Review Committee
- Support from a public agency (such as a municipality, a transit agency, or MassDOT)

## Project Scoring

- Criteria are based on MPO goal areas
- Criteria are tailored to MPO investment programs (future)

## Final Factors

- Readiness
- Regional distribution
- Public feedback
- Relationship to regional needs and performance

Framework adapted from the Atlanta Regional Commission. LRTP = Long-Range Transportation Plan. MassDOT = Massachusetts Department of Transportation. PRC = Project Review Committee. TIP = Transportation Improvement Program.

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## Project Scoring

- Criteria are based on MPO goal areas

**Topic for 12/19:  
Transportation Equity**

- Criteria are tailored to MPO investment programs (future)

## Final Factors

- Readiness
- Regional distribution
- Public feedback
- Relationship to regional needs and performance

# Outline

- Framing the conversation
- Current TE TIP project evaluation criteria
- Considerations for possible equity criteria revisions
- Discussion questions
  - Should the MPO integrate equity into other goal areas, rather than have a standalone set of equity criteria?
  - To what extent should the MPO devote a larger percentage of possible points to transportation equity?



# Framing the Conversation

# Federal Guidance

- **Definitions of TE populations must be consistent with federal regulations**
- **Identification of protected populations should be consistent with federal recommendations**



# TE Populations Through 2021 TIP

- **Minority population**
- **Low-income households**
- **People with limited English proficiency (LEP)**
- **Elderly population (ages 75 and older)**
- **People with disabilities**
- **Carless households**

# TE Populations for 2022 TIP and Beyond

- Minority population
- People with limited English proficiency
- Elderly population
- People with disabilities
- ~~• Carless households~~
- Youth population (ages 17 and younger)
- Low-income population  
( $\leq 200\%$  of the poverty level)

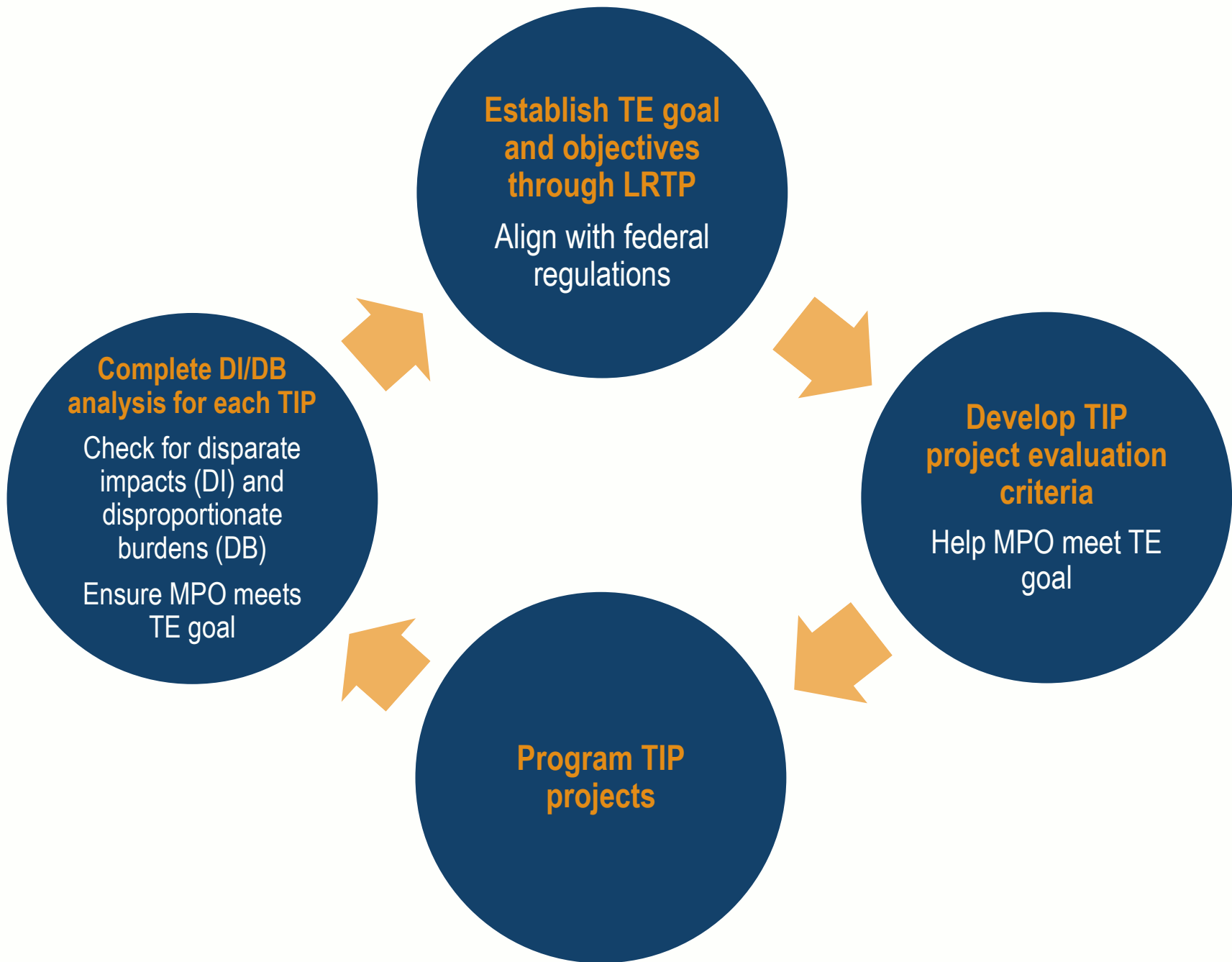
# Destination 2040 TE Goal



**Ensure that all people receive comparable benefits from, and are not disproportionately burdened by, MPO investments, regardless of race, color, national origin, age, income, ability, or sex**

# ***Destination 2040* TE Objectives**

- **Prioritize MPO investments that benefit equity populations**
- **Minimize potential harmful environmental, health, and safety effects of MPO-funded projects for all equity populations**
- **Promote investments that support transportation for all ages**
- **Promote investments that are accessible to all people regardless of ability**

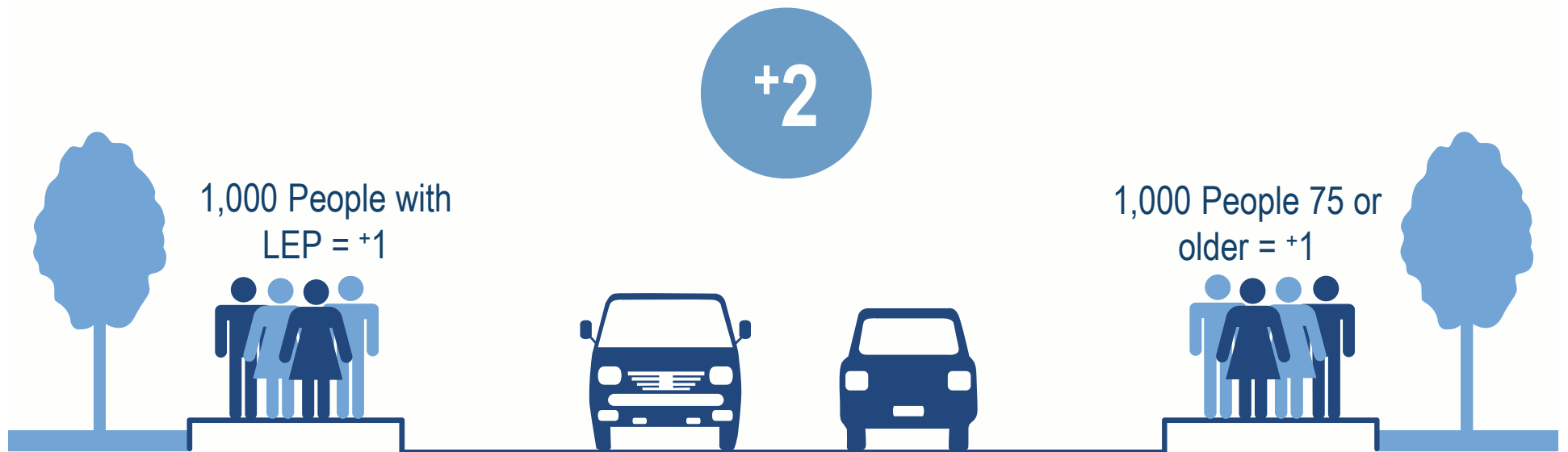


# Current TE Project Scoring Criteria



# Current Equity Scoring Approach

Based on proximity to project



# Current Criteria

Does the percent of the population served (within one-half mile) exceed the regional average?

**NO**                      **0 points**

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**YES**

- +1 point** → **Minority/elderly populations/low-income households ≤ 2,000 people or households**
- +2 points** → **Minority/elderly populations/low-income households > 2,000 people or households**
- 10 points** → **Project creates a burden for Title VI/nondiscrimination populations**

Maximum of  
12 equity  
points (9%  
of possible  
score)

# Current Criteria

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**YES**

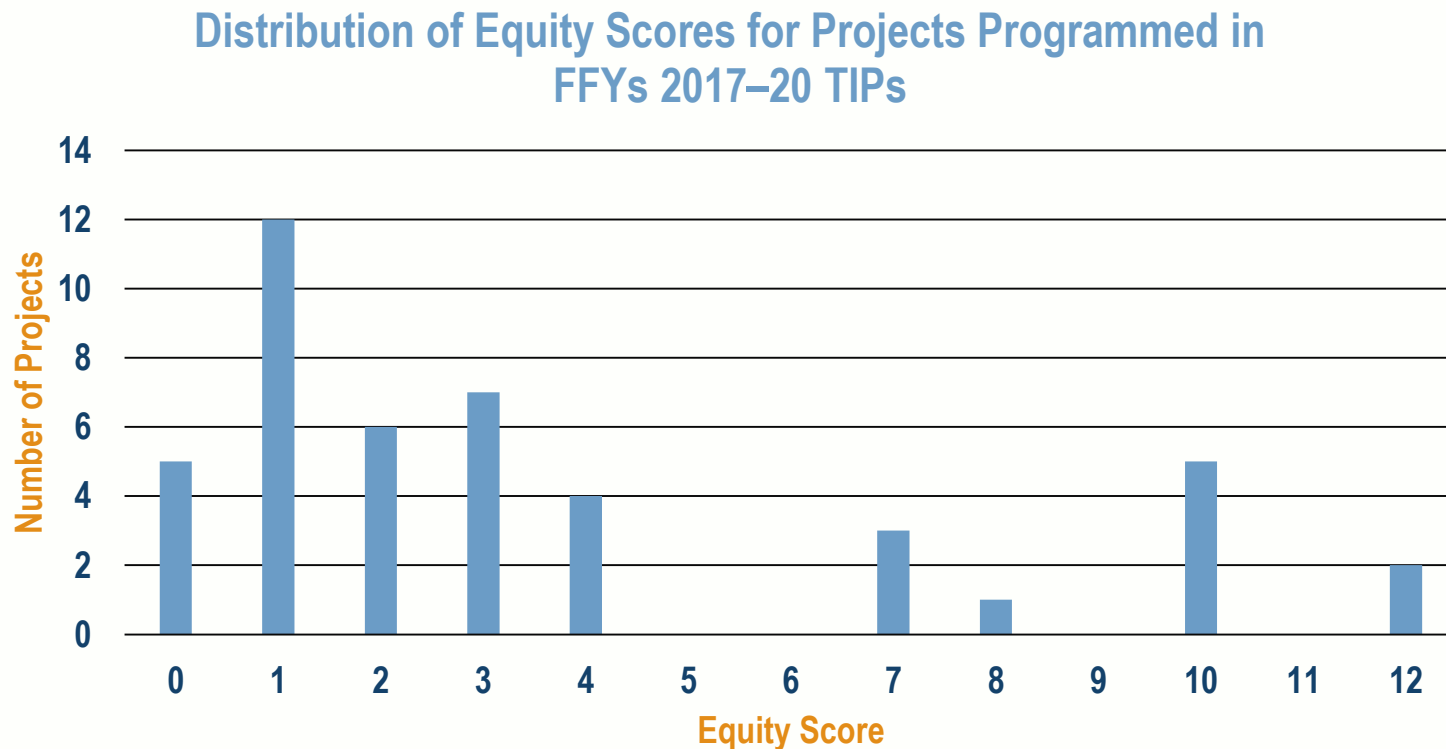
- +1 point** → LEP population/people with disabilities/zero-vehicle households  $\leq$  1,000 people or households
- +2 points** → LEP population/people with disabilities/zero-vehicle households 1,000 people or households
- 10 points** → Project creates a burden for Title VI/nondiscrimination populations

Maximum of 12 equity points (9% of possible score)



# Drawbacks of Current Criteria

Projects with percent of equity population just below regional average can't get points



# Examples

## Intersection Improvements at Route 3A/Summer Street Rotary (Hingham)

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	Minority Population	Low-income Households	People with LEP	People with Disabilities	Elderly Population
Project Area	4.1%	23.5%	9.0%	7.8%	6.6%

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# Examples

## Intersection Improvements at Route 3A/Summer Street Rotary (Hingham)

	Minority Population	Low-income Households	People with LEP	People with Disabilities	Elderly Population
Project Area	4.1%	23.5%	9.0%	7.8%	6.6%
Region-wide	28.2%	32.2%	10.6%	10.0%	6.7%
Points	0	0	0	0	0

# Examples

## Rehabilitation of Essex Street (Lynn)

	Minority Population	Low-income Households	People with LEP	People with Disabilities	Elderly Population
Project Area	58.6%	56.7%	23.8%	15.8%	5.2%

# Examples

## Rehabilitation of Essex Street (Lynn)

	Minority Population	Low-income Households	People with LEP	People with Disabilities	Elderly Population
Project Area	58.6%	56.7%	23.8%	15.8%	5.2%
Region-wide	28.2%	32.2%	10.6%	10.0%	6.7%
Points	2	2	2	2	0



# Drawbacks of Current Criteria

- **Projects with percent of equity population just below regional average can't get points**
- **Proximity to a project does not mean people will benefit from it or be able to use it**

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- Proximity to a project does not mean people will benefit from it or be able to use it
- **Criteria do not directly support the MPO's TE goal and objectives**

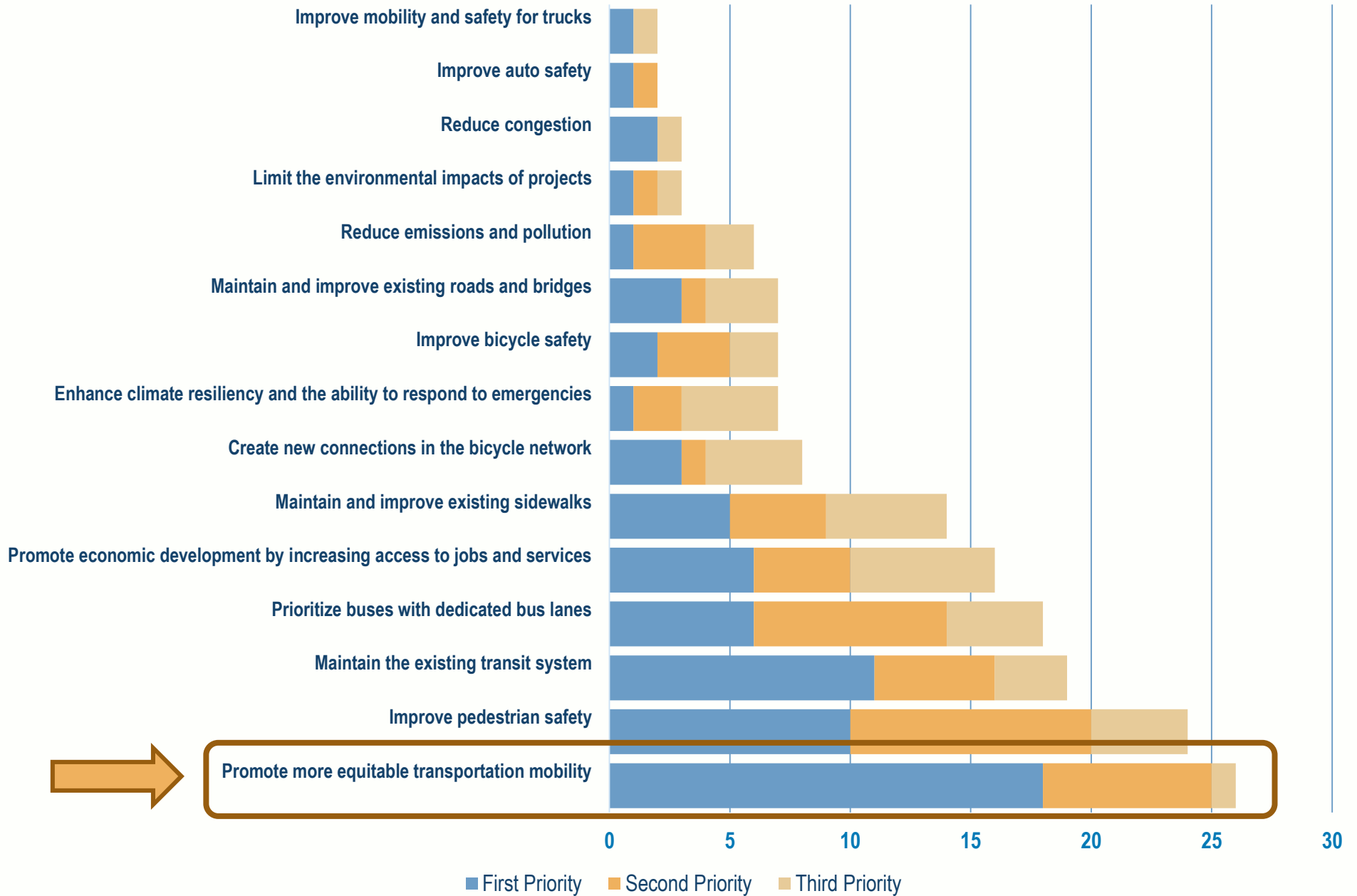
# Drawbacks of Current Criteria

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- Proximity to a project does not mean people will benefit from it or be able to use it
- Criteria do not directly support the MPO's TE goal and objectives
- **Vague criteria for identifying burdens**

# Considerations for Possible Criteria Revisions

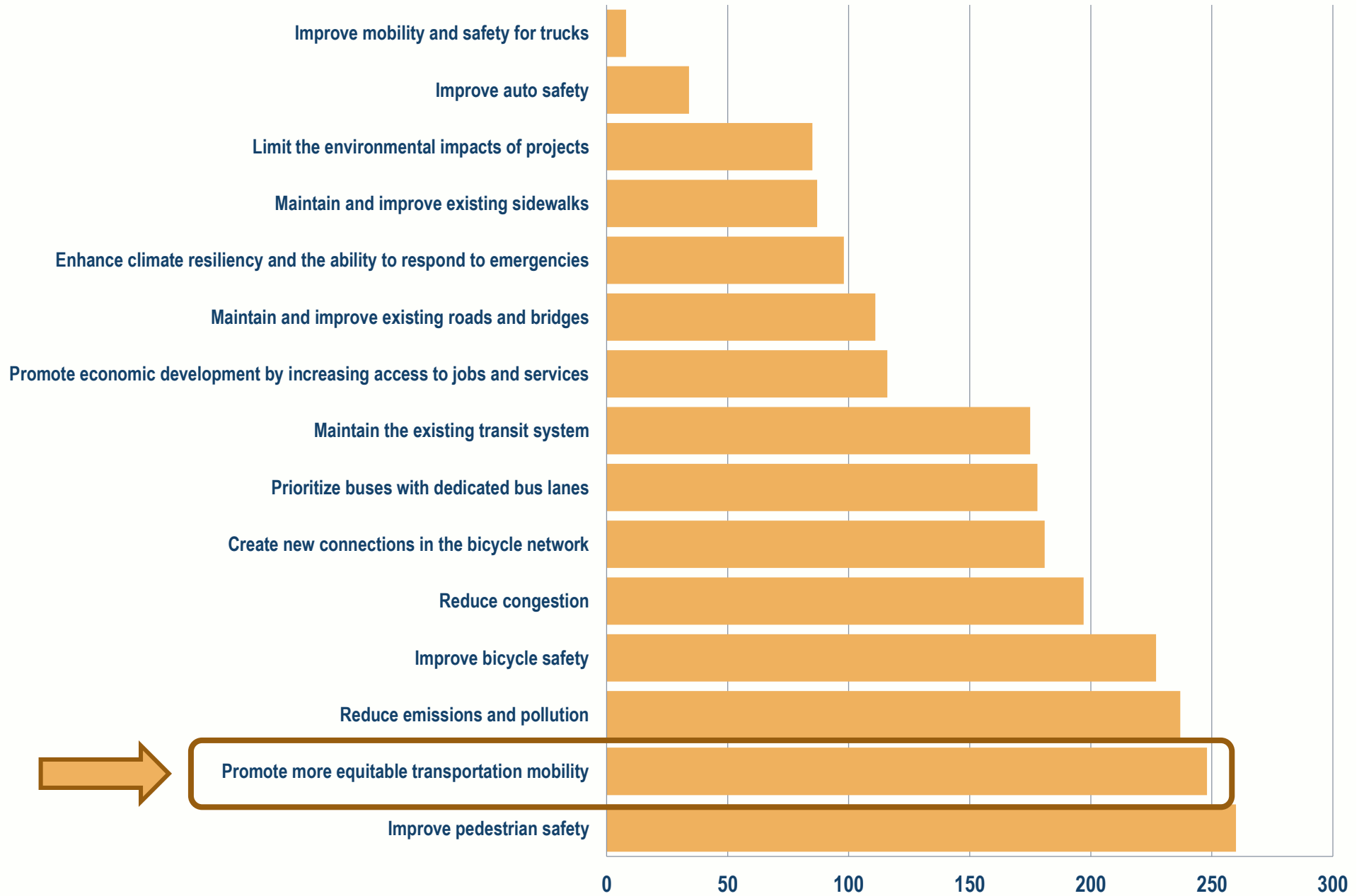
# Focus Groups

How can the MPO best improve transportation in the region?



# Survey

How can the MPO best improve transportation in the region?



# Goals for the New Criteria

- Meet federal guidance
- Help the MPO meet the TE goal and objectives
- Award progressively more points to projects based on the share of the equity population that would benefit
- Assess impacts to TE populations rather than proximity

# Planned Changes

- **Change MPO low-income definition to be based on poverty status**
- **Add youth population**
- **Remove carless households**
- **Clarify criteria that identify burdens on equity populations**



# Discussion

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## Staff Proposals

**Integrate equity into other goal areas, rather than a standalone set of criteria**

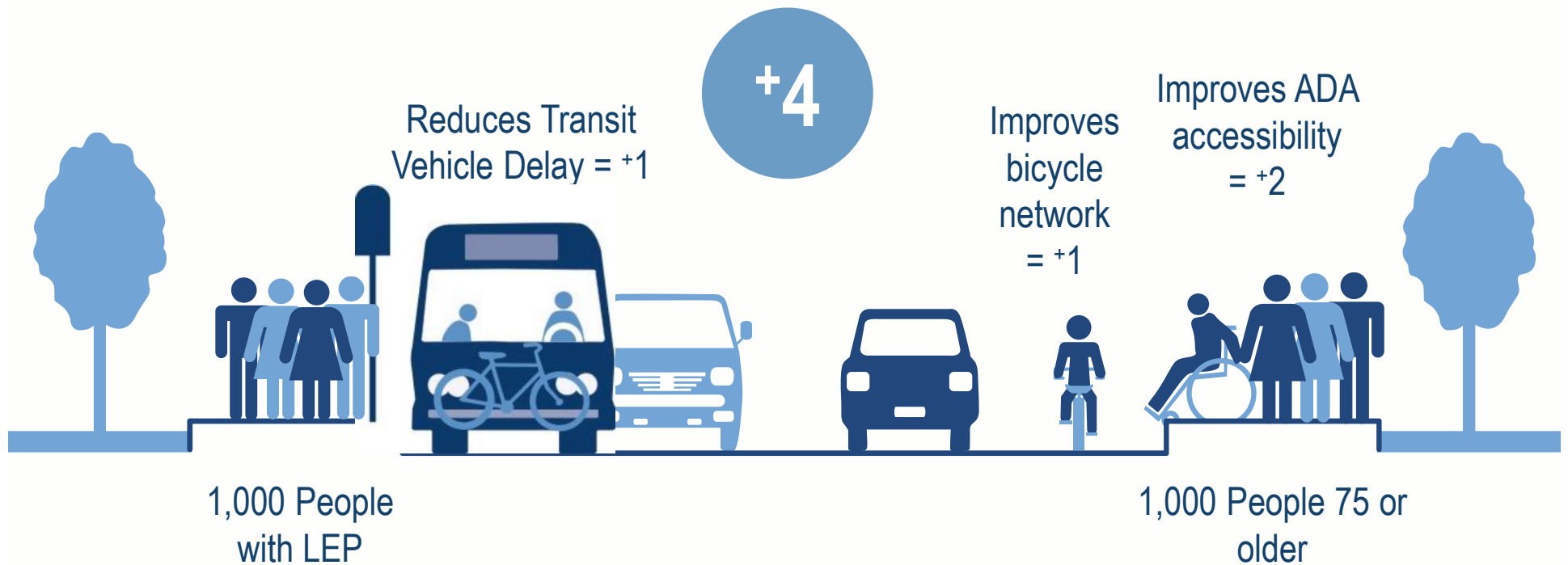
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## Questions for MPO

**Are you comfortable with this approach?**

# Proposed Equity Scoring Approach

Based on project impacts



Criteria identified through • TIP public outreach • MPO members • LRTP Needs Assessment

# Discussion

## Staff Proposals

**Integrate equity into other goal areas, rather than a standalone set of criteria**

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## Questions for MPO

**Are you comfortable with this approach?**

# Discussion

## Staff Proposals

Integrate equity into other goal areas, rather than a standalone set of criteria

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Devote larger percentage of possible points to transportation equity

**Questions for MPO**

Are you comfortable with this approach?

To what extent should the MPO do this?

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# Next Steps

- **Incorporate MPO feedback into developing preliminary project scoring proposals (late spring)**
- **Rescore past projects with new scoring proposals (summer)**



# **TIP Criteria Revisions: Clean Air and Sustainable Communities**

**February 6, 2020**

**Matt Genova**

**Transportation Improvement Program Manager**

**Boston Region Metropolitan Planning Organization**

# Today's Presentation

- **Goals for today**
- **Framing the conversation**
- **Summary of feedback**
- **Proposed changes to current criteria**
- **Next steps**
- **Discussion**



# Goals for Today

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- 1. Provide feedback on general direction of Clean Air and Sustainable Communities criteria**
- 2. Suggest additional changes or other topics for further exploration within this goal area**
- 3. Set the stage for today's discussion of Equity criteria**

# Framing the Conversation

# Framing the Conversation: Principles

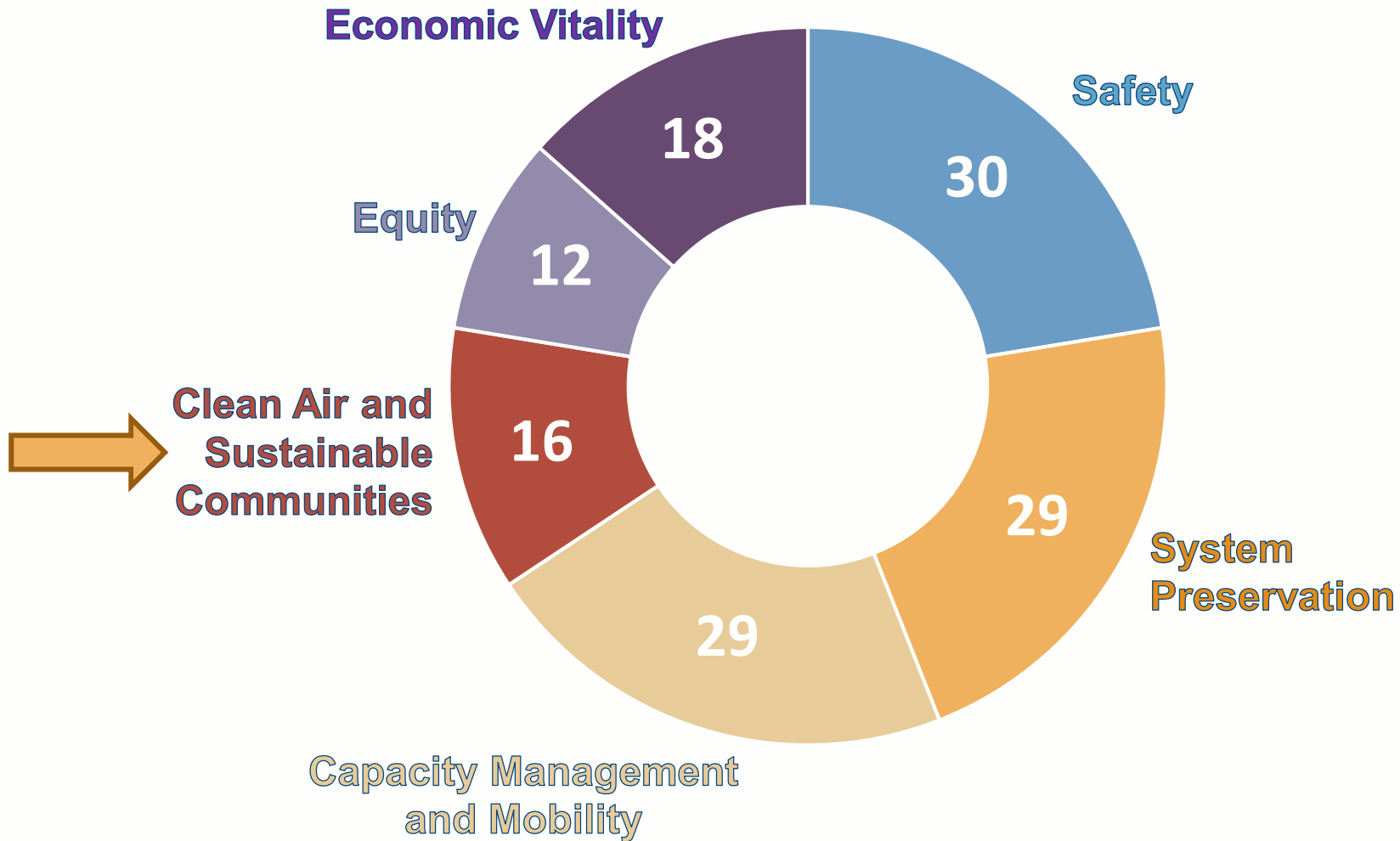
- Manageable to implement
- Make use of best available data and methods
- Create balance across investment programs
- Both realistic and aspirational
- Clear to project proponents and other stakeholders

# Framing the Conversation: Notes

- Point values will be refined at a later date
- Changes are subject to continued feedback
- Resilience criteria will be more formally expanded in System Preservation goal area

# Current Criteria: Overview

Current TIP Criteria: Point Allocations (134 Possible Points)



# Current Criteria: Objectives

## Four objectives established in *Destination 2040*:

1. Reduce greenhouse gases generated in the Boston region by all transportation modes
2. Reduce other transportation-related pollutants
3. Minimize negative environmental impacts of the transportation system
4. Support land-use policies consistent with smart, healthy, and resilient growth

# Current Criteria: Objectives

Objective	Criterion
Reduce greenhouse gases generated in the Boston region by all transportation modes	<b>Reduces CO<sub>2</sub></b> (up to 5 points)
Reduce other transportation-related pollutants	<b>Reduces other transportation-related emissions (VOC, NOx, CO)</b> (up to 5 points)
Minimize negative environmental impacts of the transportation system	<b>Addresses environmental impacts</b> (up to 4 points)
Support land-use policies consistent with smart, healthy, and resilient growth	<b>Is in an EOEEA-certified “Green Community”</b> (up to 2 points)



# Summary of Feedback

# Summary of Feedback: MPO

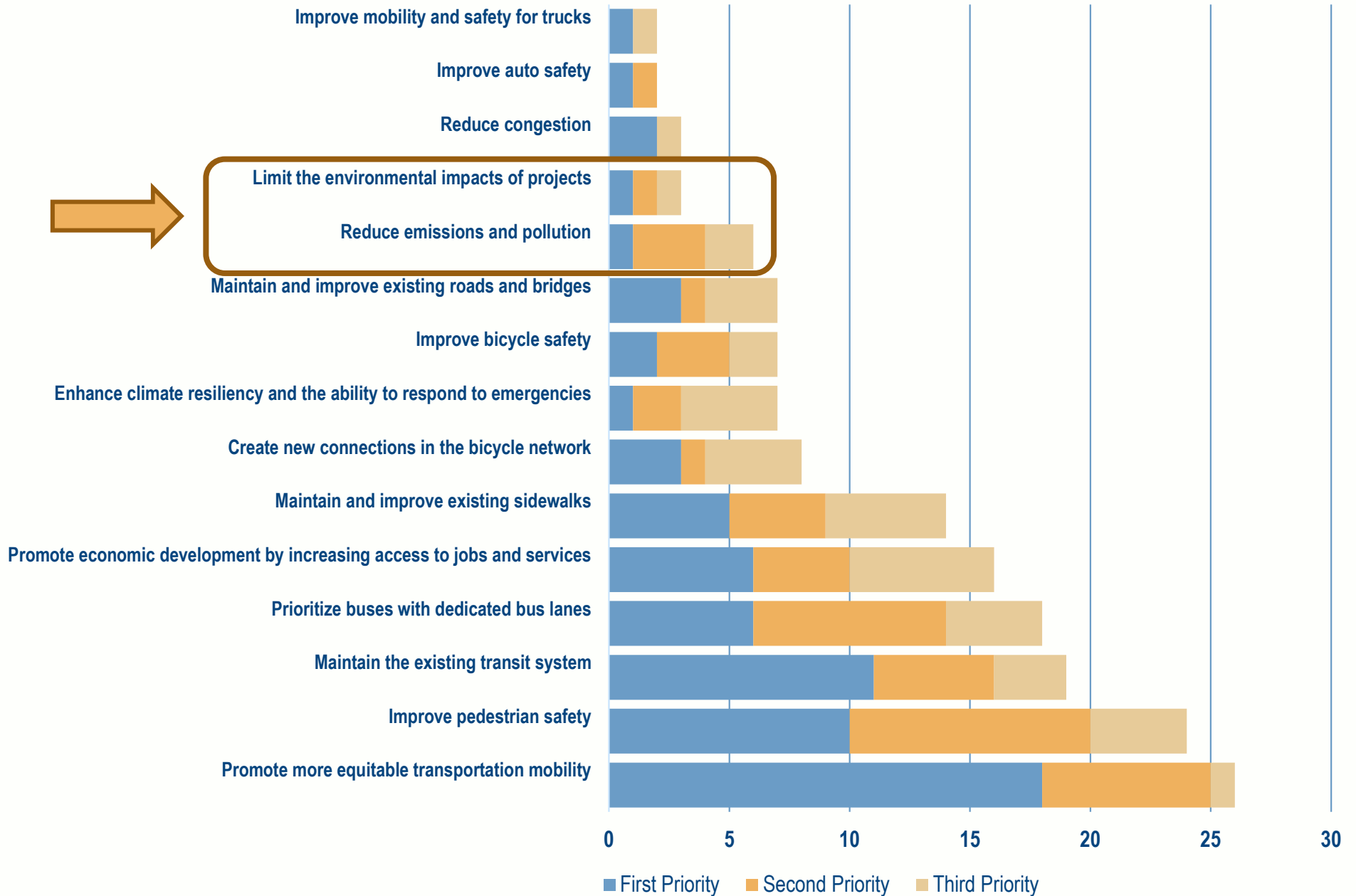
- **Survey**
  - **Connect health and emissions**
  - **Reward projects for reducing emissions in high-emission areas**
  - **Reduce redundancy of water quality criterion**
  - **Retain emphasis on quantitative criteria when possible**
- **Focus Group**
  - **Emissions reductions are a co-benefit of other improvements (mode shift)**

# Summary of Feedback

- **RTAC**
  - Consider weighting increases in emissions more heavily through negative scores
- **LivableStreets**
  - Increase emphasis on health
- **Transportation for America**
  - Reduce redundancy in water quality criterion
  - Remove “Green Community” criterion

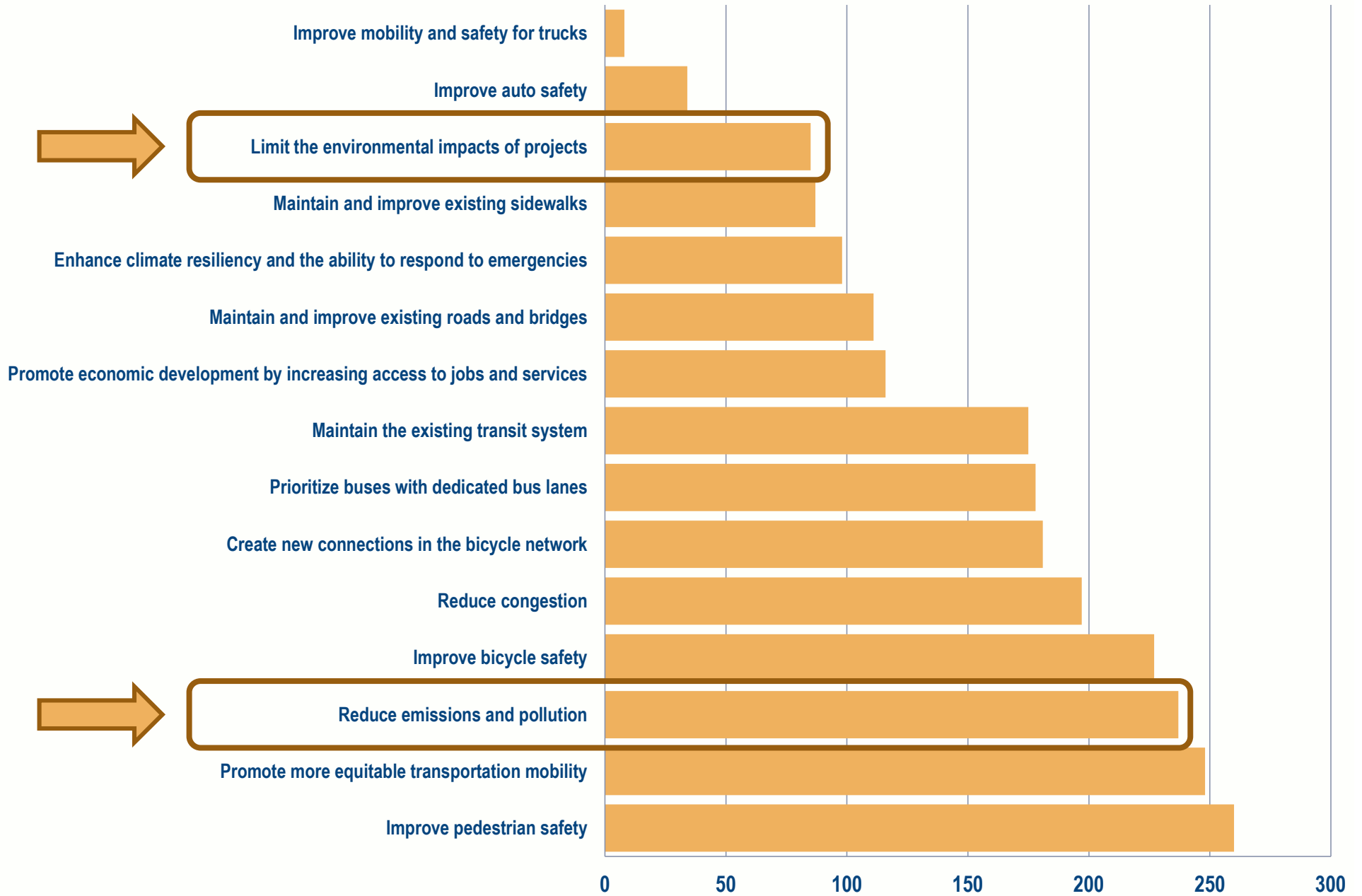
# Public Focus Groups

How can the MPO best improve transportation in the region?



# Public Survey

How can the MPO best improve transportation in the region?



"The main goal of reducing emissions and pollution is the overarching, top priority. This can be accomplished by better bike networks and bus-only lanes, and a lot of the other priorities. It's most important to me because climate change seems to be getting more dire and we need to make drastic changes to how we commute and rely on our cars."

"Reducing emissions, noise pollution, and auto-related negative environmental externalities (urban canopy health, for example) improves overall quality of urban life."

"[Reducing emissions and pollution] is vital for health, equity, and addressing climate change; but also I expect it will naturally lead to achieving other goals, like enhancing bike and pedestrian safety"



# Proposed Changes to Current Criteria

# Existing Criterion: Reduces CO<sub>2</sub>

	Existing	Proposed
<b>Criterion</b>	Reduces CO <sub>2</sub>	
<b>Scale</b>	<ul style="list-style-type: none"><li>+5 1,000+ annual tons reduced</li><li>+4 500-999</li><li>+3 250-499</li><li>+2 100-249</li><li>+1 Less than 100</li><li>0 No impact</li><li>-1 Less than 100</li><li>-2 100-249</li><li>-3 250-499</li><li>-4 500-999</li><li>-5 1,000+ annual tons increased</li></ul>	
<b>Discussion</b>		



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<b>Discussion</b>		Public outreach (RTAC) LRTP goals

# Existing Criterion: Reduces Other Emissions (VOC, NOx, CO)

	Existing	Proposed
<b>Criterion</b>	Reduces other emissions (VOC, NOx, CO)	Reduces other emissions (VOC, NOx, CO, PM <sub>2.5</sub> )
<b>Scale</b>	<ul style="list-style-type: none"> <li>+5 2,000+ annual kilograms reduced</li> <li>+4 1,000-1,999</li> <li>+3 500-999</li> <li>+2 250-499</li> <li>+1 Less than 250</li> <li>0 No impact</li> <li>-1 Less than 250</li> <li>-2 250-499</li> <li>-3 500-999</li> <li>-4 1,000-1,999</li> <li>-5 2,000+ annual kilograms increased</li> </ul>	<ul style="list-style-type: none"> <li>+5 2,000+ annual kilograms reduced</li> <li>+4 1,000-1,999</li> <li>+3 500-999</li> <li>+2 250-499</li> <li>+1 Less than 250</li> <li>0 No impact</li> <li>-1 Less than 250</li> <li>-5 250+ annual kilograms increased</li> </ul> <div style="border: 2px solid brown; border-radius: 10px; padding: 5px; margin-top: 10px;"> <ul style="list-style-type: none"> <li>+2 Project reduces emissions in area above state average for PM<sub>2.5</sub></li> <li>-2 Project increases emissions in area above state average for PM<sub>2.5</sub></li> </ul> </div>
<b>Discussion</b>		Public outreach (RTAC) LRTP goals, MassDOT using Public outreach (health equity)

# Existing Criterion: Addresses Environmental Impacts

	Existing	Proposed
<b>Criterion</b>	Addresses environmental impacts	Addresses environmental impacts
<b>Scale</b>	<ul style="list-style-type: none"> <li>+1 Address water quality</li> <li>+1 Address cultural resources/open space</li> <li>+1 Address wetlands/resource areas</li> <li>+1 Address wildlife preservation/habitat</li> </ul>	<div style="border: 2px solid #8B4513; border-radius: 15px; padding: 10px;"> <ul style="list-style-type: none"> <li>+3 Project reduces impervious surfaces or invests in green infrastructure</li> <li>+1 Project uses stormwater BMPs to improve existing conditions</li> <li>0 No impact</li> <li>-1 Project expands impervious surfaces OR does not fully address existing water quality issues</li> </ul> </div> <ul style="list-style-type: none"> <li>+1 Project avoids negative impacts to cultural resources, open space, wetlands, natural resource areas, wildlife areas, or protected habitats</li> </ul>
<b>Discussion</b>		Reduce redundancy (T4A)

# Existing Criterion: Green Community

	Existing	Proposed
<b>Criterion</b>	Is in an EOEEA-certified “Green Community”	Project enhances natural environment
<b>Scale</b>	+2 Project located in “Green Community”	+1 Project results in net increase in tree canopy coverage +1 Project increases access to parks, open space, or other natural assets
<b>Discussion</b>		LRTP resilience 80% GC coverage Outreach



# **Addressing Transportation Equity in the Clean Air/Sustainable Communities Goal Area**

**March 5, 2020**

**Betsy Harvey**

**Boston Region Metropolitan Planning Organization**

# Outline

- **Recap of proposed revisions to Clean Air/Sustainable Communities (CA/SC) criteria**
- **Overview of transportation equity (TE) scoring proposal**
- **Proposed CA/SC criteria for evaluating impacts on equity populations**
- **Creating an equity index**
- **Application to CA/SC criteria**

# Existing and Proposed Criteria: Reduces CO<sub>2</sub>

	Existing	Proposed
<b>Criterion</b>	Reduces Carbon Dioxide (CO <sub>2</sub> )	Reduces CO <sub>2</sub>
<b>Scale</b>	<ul style="list-style-type: none"> <li>+5 1,000+ annual tons reduced</li> <li>+4 500-999</li> <li>+3 250-499</li> <li>+2 100-249</li> <li>+1 Less than 100</li> <li>0 No impact</li> <li>-1 Less than 100</li> <li>-2 100-249</li> <li>-3 250-499</li> <li>-4 500-999</li> <li>-5 1,000+ annual tons increased</li> </ul>	<ul style="list-style-type: none"> <li>+5 1,000+ annual tons reduced</li> <li>+4 500-999</li> <li>+3 250-499</li> <li>+2 100-249</li> <li>+1 Less than 100</li> <li>0 No impact</li> <li>-1 Less than 100</li> <li>-5 100+ annual tons increased</li> </ul>

# Existing and Proposed Criteria: Reduces Other Emissions

	Existing	Proposed
<b>Criterion</b>	Reduces other emissions [volatile organic compounds (VOC), nitrogen oxides (NOx), and carbon monoxide CO]	Reduces other emissions [VOC, NOx, CO, particulate matter (PM <sub>2.5</sub> )]
<b>Scale</b>	<ul style="list-style-type: none"> <li>+5 2,000+ annual kilograms reduced</li> <li>+4 1,000-1,999</li> <li>+3 500-999</li> <li>+2 250-499</li> <li>+1 Less than 250</li> <li>0 No impact</li> <li>-1 Less than 250</li> <li>-2 250-499</li> <li>-3 500-999</li> <li>-4 1,000-1,999</li> <li>-5 2,000+ annual kilograms increased</li> </ul>	<ul style="list-style-type: none"> <li>+5 2,000+ annual kilograms reduced</li> <li>+4 1,000-1,999</li> <li>+3 500-999</li> <li>+2 250-499</li> <li>+1 Less than 250</li> <li>0 No impact</li> <li>-1 Less than 250</li> <li>-5 250+ annual kilograms increased</li> </ul> <div style="border: 2px solid brown; border-radius: 15px; padding: 10px; margin-top: 10px;"> <ul style="list-style-type: none"> <li>+2 Project reduces emissions in area above state average for PM<sub>2.5</sub></li> <li>-2 Project increases emissions in area above state average for PM<sub>2.5</sub></li> </ul> </div>



# Existing and Proposed Criteria: Addresses Environmental Impacts

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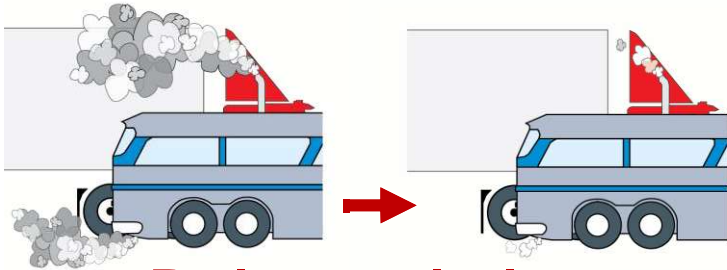
# Proposed Evaluation Framework

Goal: Evaluate project's impacts on equity populations

Evaluate Equity Criteria

CA/SC  
Criteria

Evaluate equity criteria in each goal area



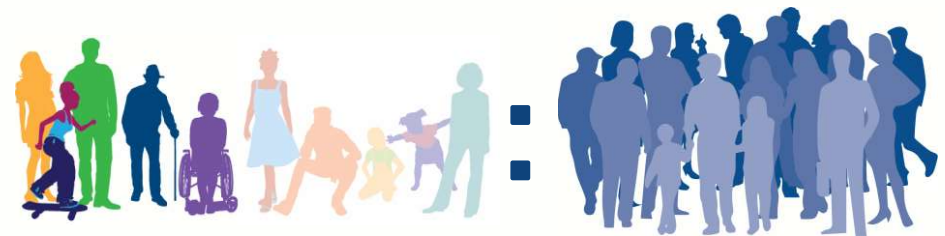
Reduce emissions

Base Score

Identify Equity Populations in Project Area



Determine the share of the equity population  
and compare to the regional average




Equity Multiplier

= Final Score

# Proposed CA/SC Criteria

- Reduces CO<sub>2</sub>
- Reduces other transportation-related emissions (CO, NO<sub>x</sub>, VOCs, and PM<sub>2.5</sub>)
- Addresses environmental impacts
- Enhances the natural environment



“People who live along busy roadways are typically minorities, low income, or other sensitive groups. They are disproportionately impacted by the effects of pollution and emissions.”

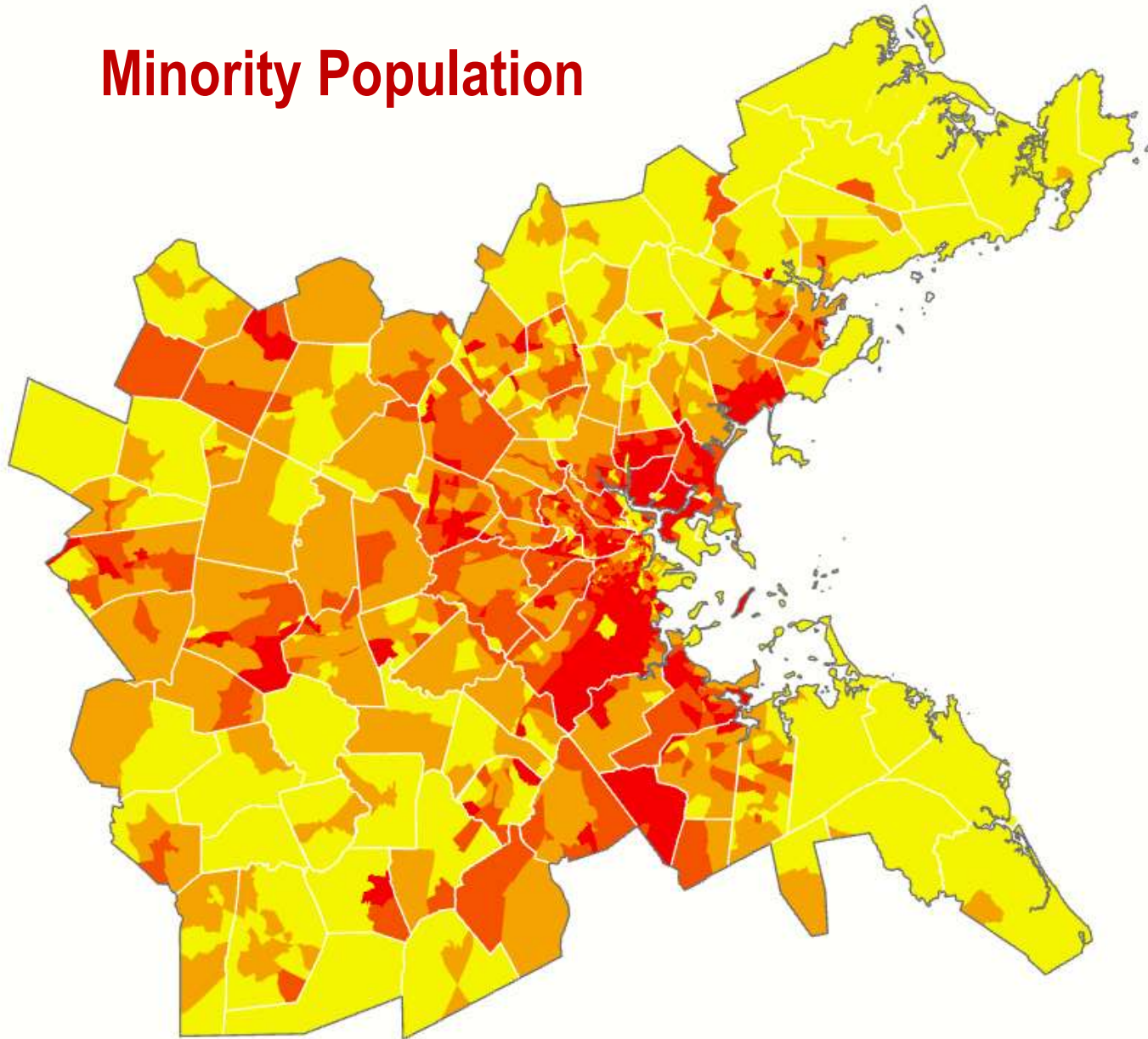


# Step 1

## Create Equity Index

# Step 1: Create Equity Index

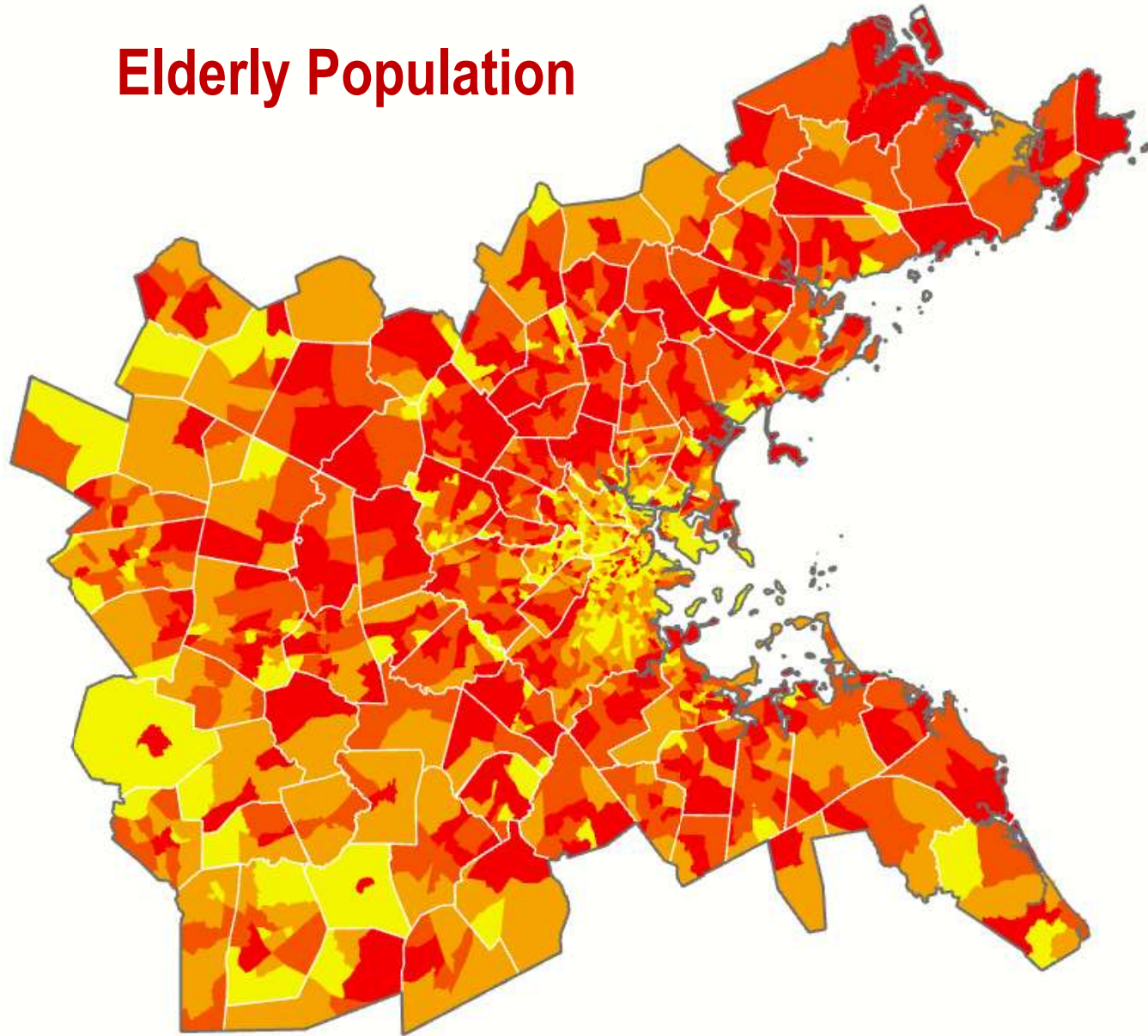
Minority Population





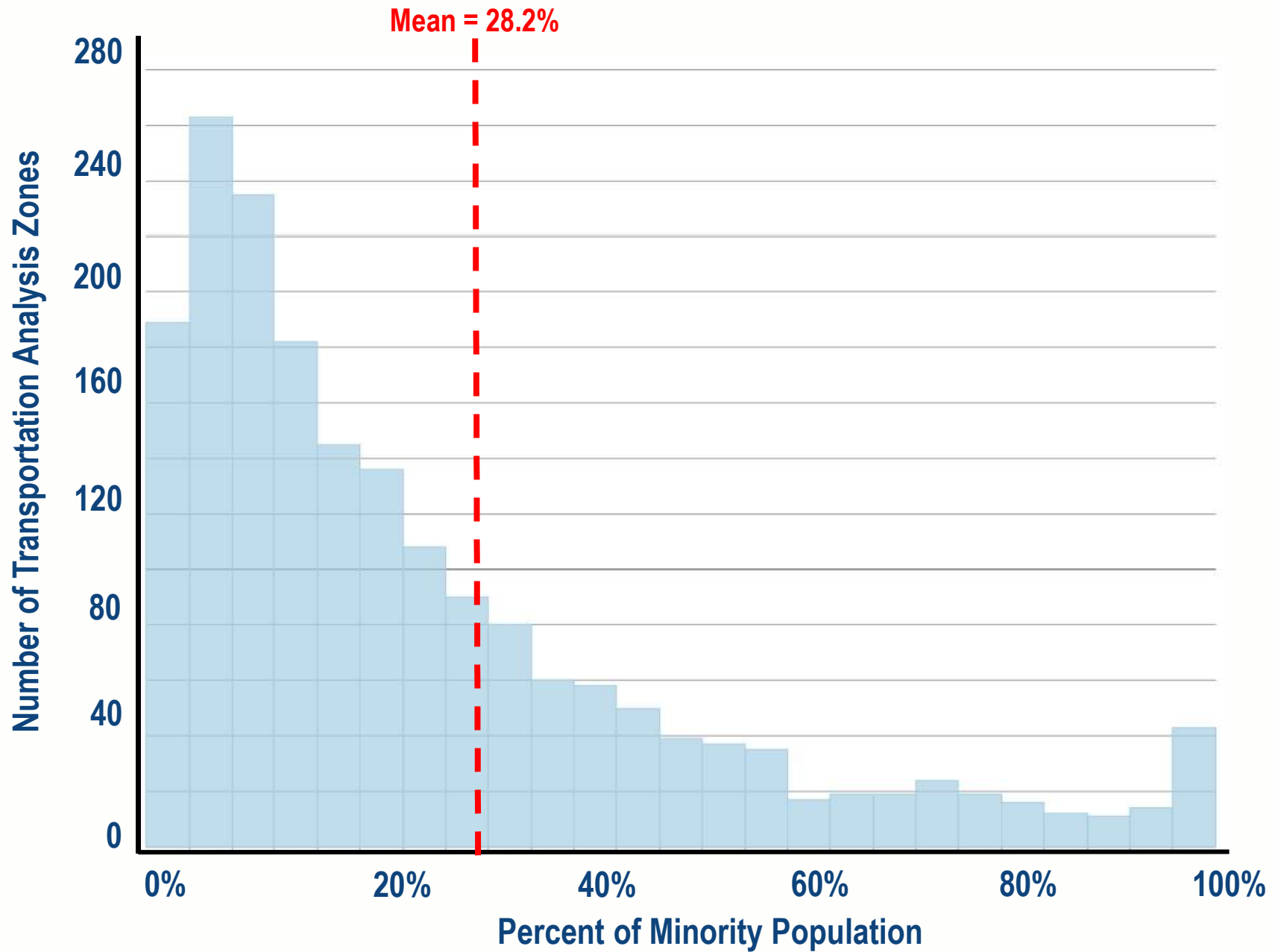
# Step 1: Create Equity Index

**Elderly Population**

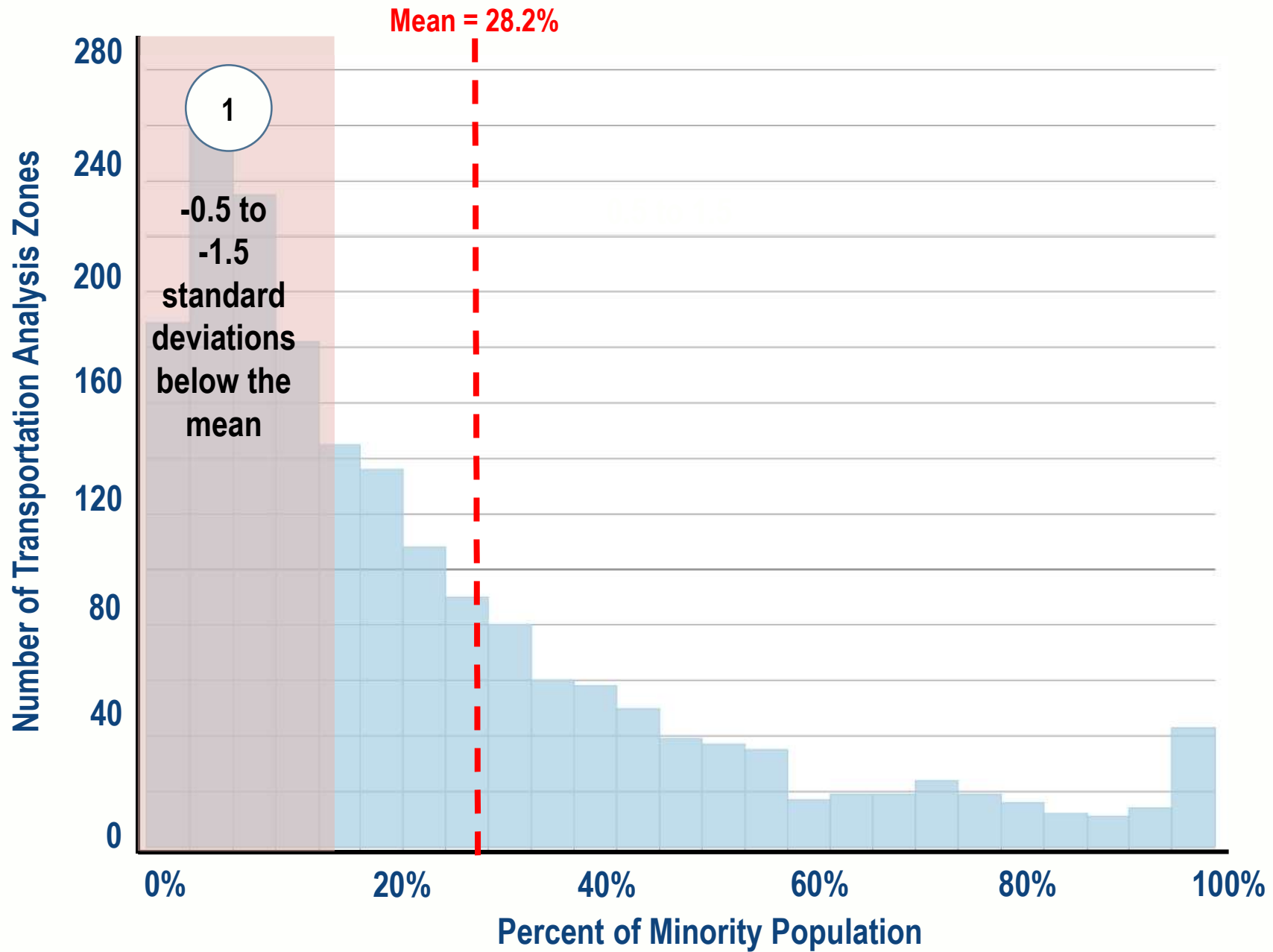




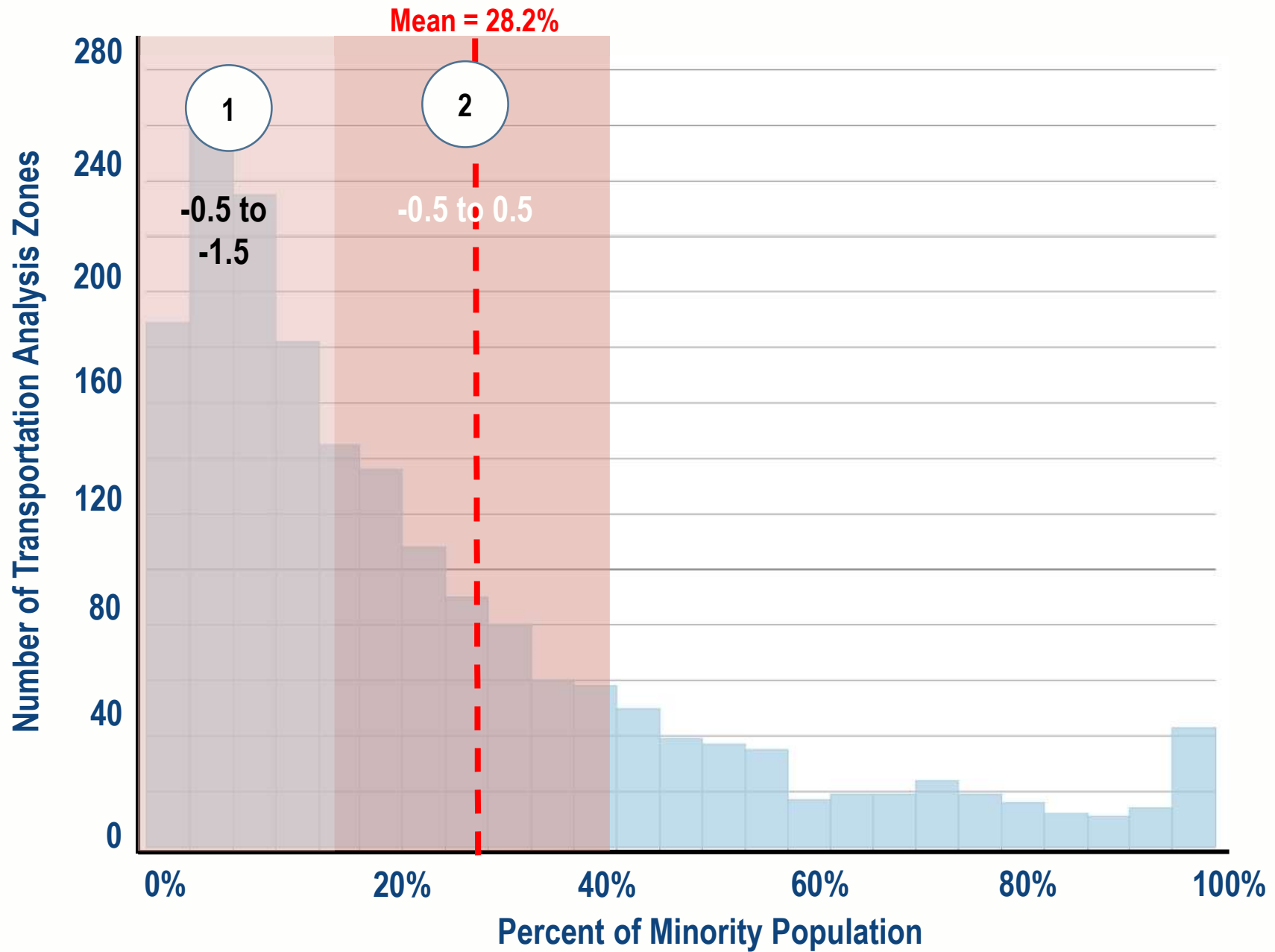
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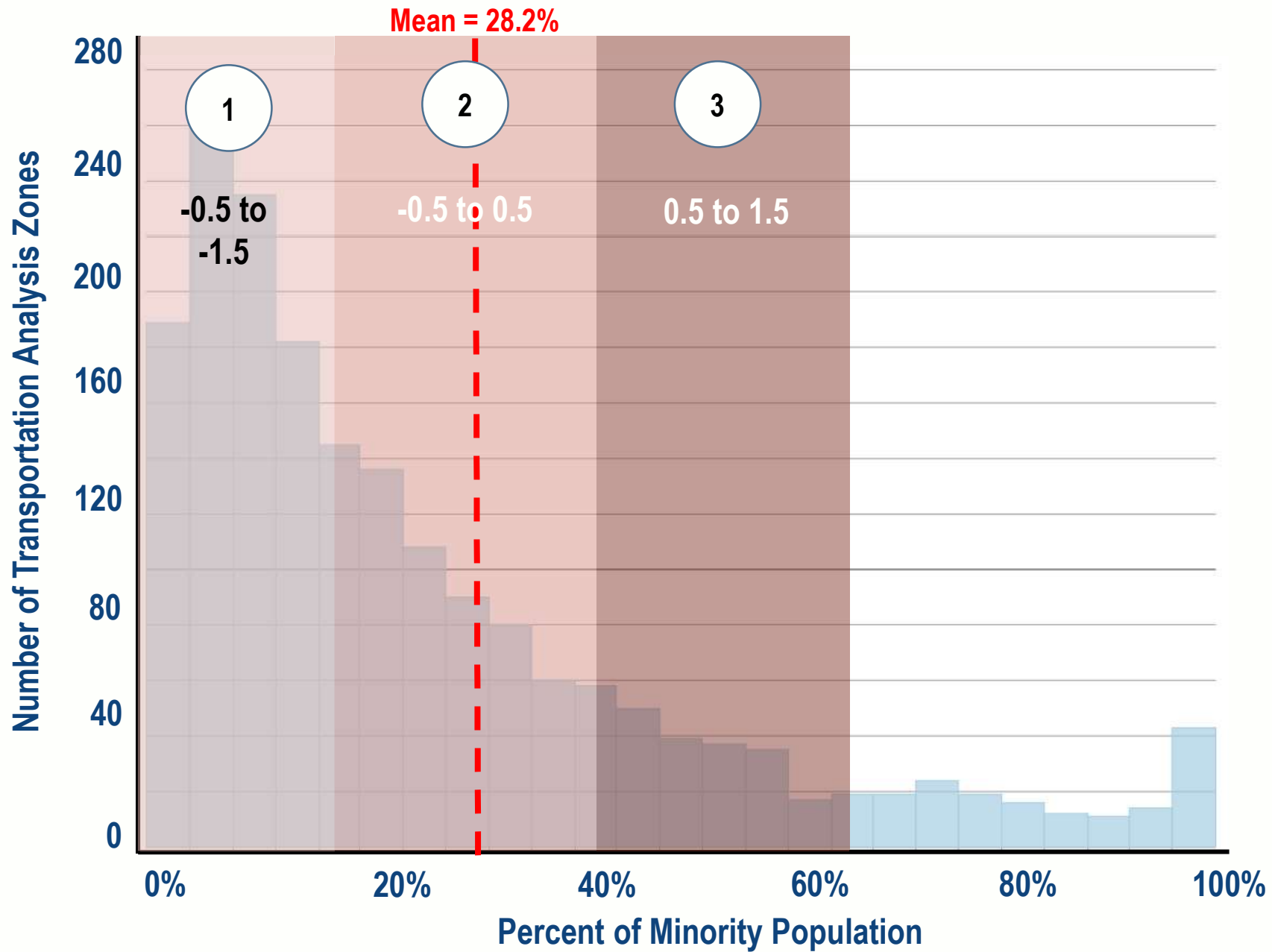
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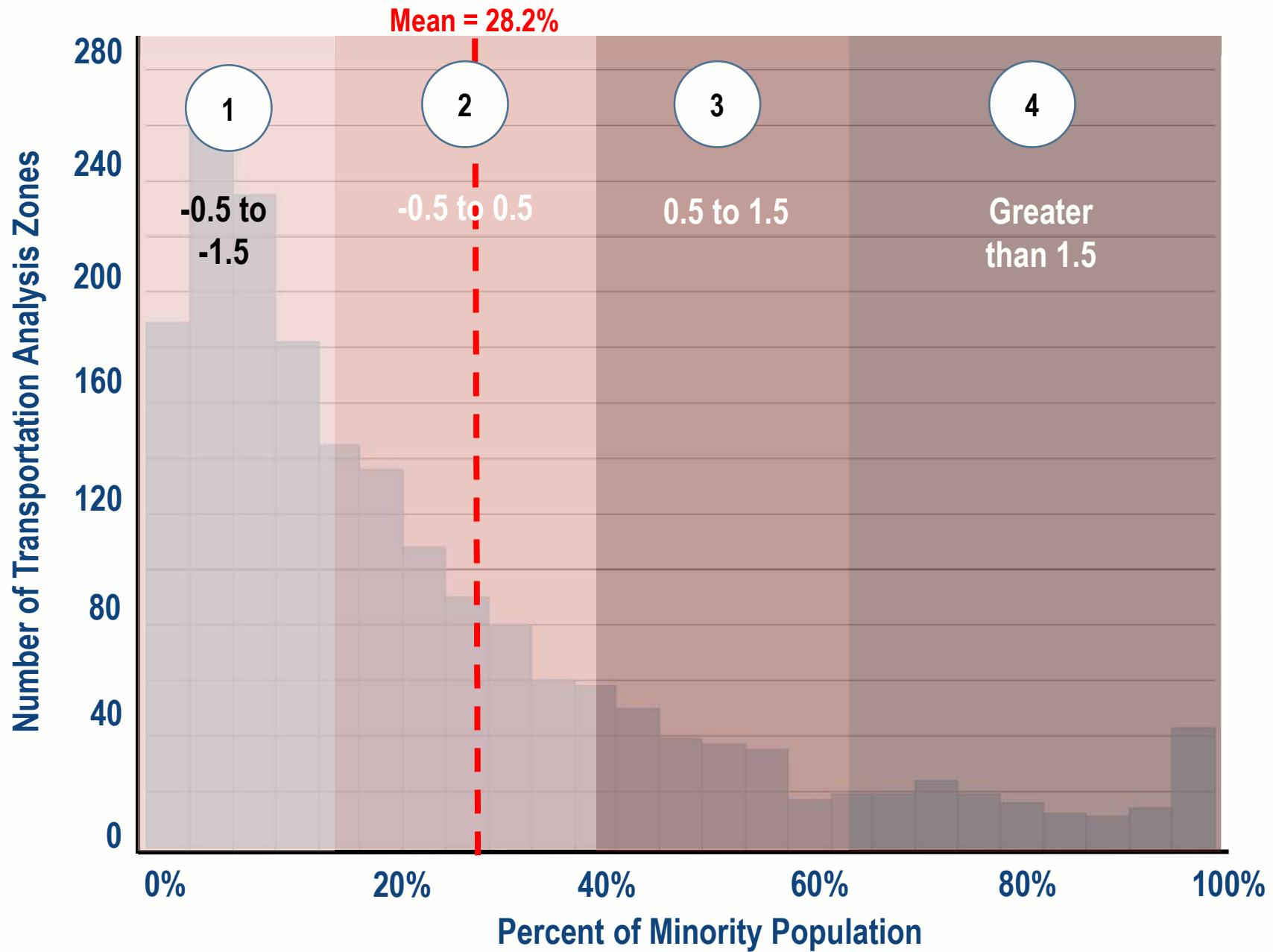
# Step 1: Create Equity Index



# Step 1: Create Equity Index



# Step 1: Create Equity Index



# Step 1: Create Equity Index

Demographic Group	Base Index Points	Population Weight	Maximum Index Points
Minority population	1 through 4	x2	8
Low-income population		x1	4
People with LEP		x1	4
People with disabilities		x0.5	2
Elderly population		x0.5	2
Youth population		x0.5	2
<b>HIGHEST POSSIBLE INDEX</b>			<b>22</b>

# Step 2

## Score Project

## Step 2: Score Project

### Identify Project's Equity Multiplier

Project's Equity Index	Project's Equity Multiplier
1 to 5	1.25
6 to 10	1.5
11 to 15	1.75
16 or greater	2



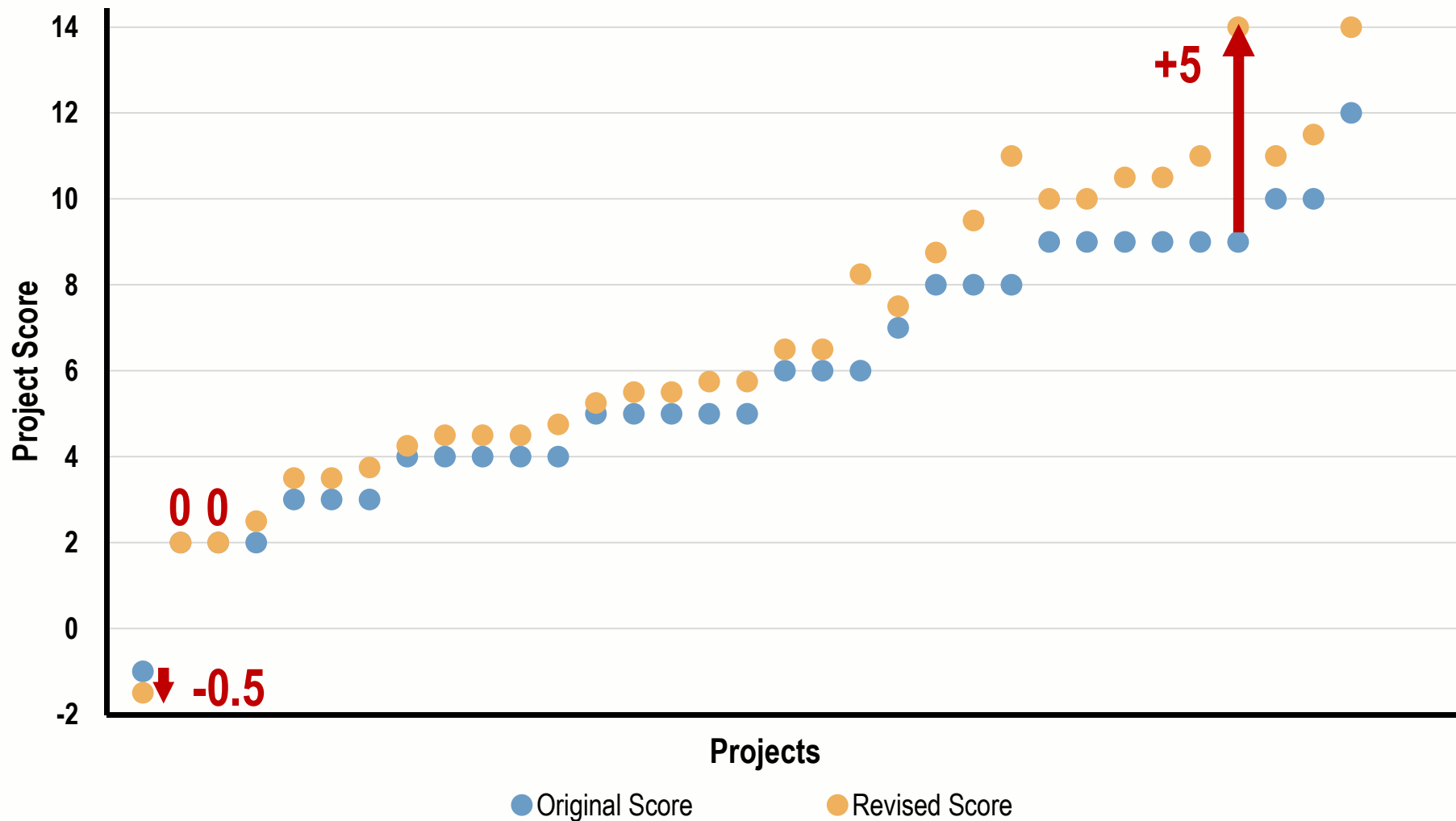
# Step 2

## Score Project

### Hypothetical Project Scores for CA/SC Criteria

Criteria	Base Score	Multiplier	Final Score
Reduces CO <sub>2</sub> emissions	3	None	3
<b>Reduces other transportation-related emissions (CO, NO<sub>x</sub>, VOCs, and PM<sub>2.5</sub>)</b>	<b>5</b>	<b>1.5</b>	<b>7.5</b>
Addresses environmental impacts	1	None	1
Enhances the natural environment	2	None	2
	<b>11</b>		<b>13.5</b>

## Change between Original and Revised CA/SC Scores (FFYs 2017-20)



### Notes:

- Does not include PM<sub>2.5</sub> criteria
- Two project scores did not change
- Average change of +1



# **TIP Criteria Revisions: Safety**

**June 11, 2020**

**Matt Genova**

**Transportation Improvement Program Manager**

**Boston Region Metropolitan Planning Organization**

# Today's Presentation

- **Goals for today**
- **Framing the conversation**
- **Summary of feedback**
- **Proposed changes to current criteria**
- **Next steps**
- **Discussion**

# Goals for Today

# Goals for Today

- 1. Provide feedback on general direction of Safety criteria**
- 2. Suggest additional changes or other topics for further exploration within this goal area**
- 3. Set the stage for today's discussion of Equity criteria**

# Framing the Conversation

# Framing the Conversation: Principles

- Manageable to implement
- Make use of best available data and methods
- Create balance across investment programs
- Both realistic and aspirational
- Clear to project proponents and other stakeholders

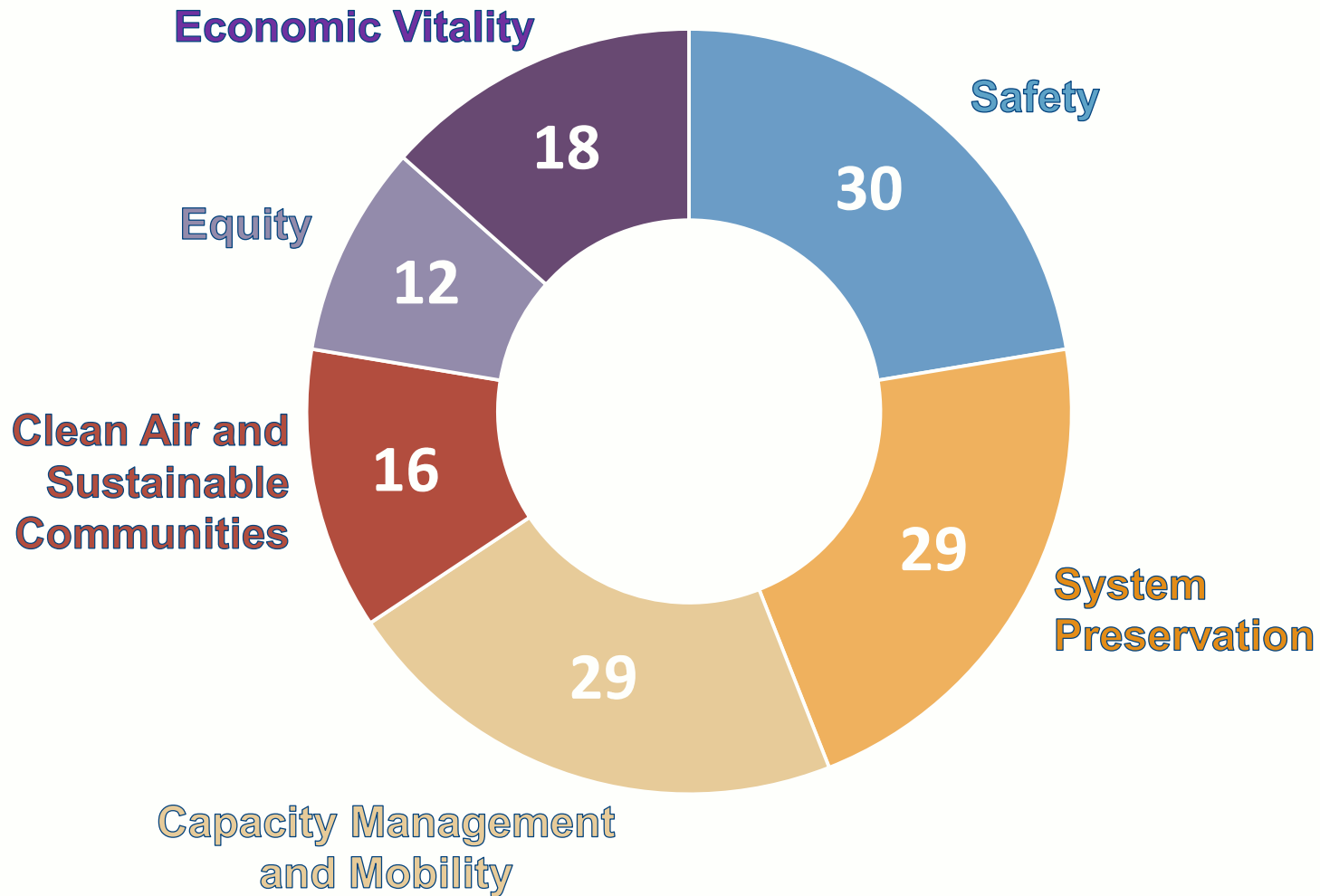


# Framing the Conversation: Notes

- Point values will be refined at a later date
- Changes are subject to continued feedback
- Criteria will vary by investment program

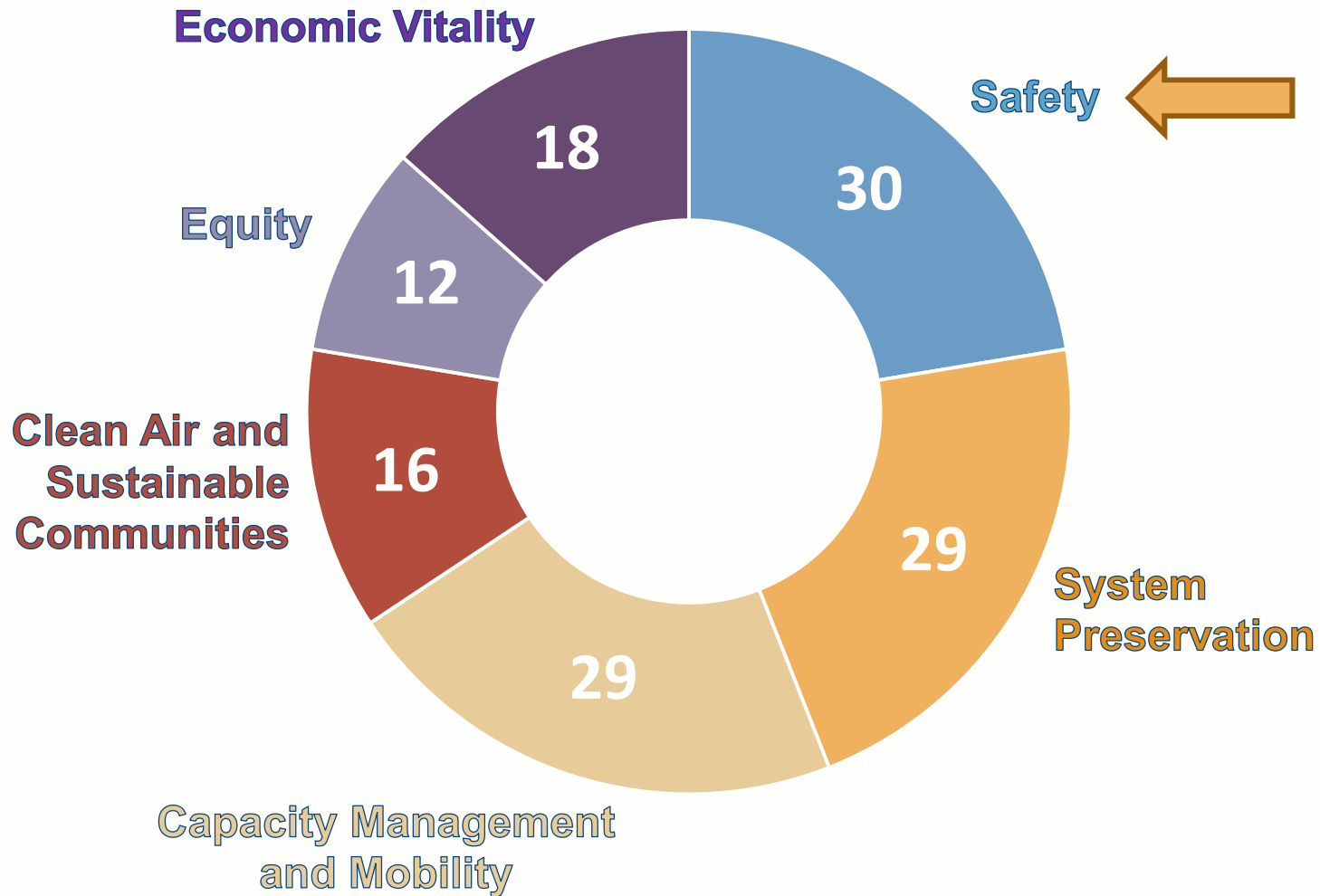
# Current Criteria: Overview

Current TIP Criteria: Point Allocations (134 Possible Points)



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Current TIP Criteria: Point Allocations (134 Possible Points)



# Current Criteria: Objectives

- **Three objectives established in *Destination 2040*:**
  1. **Reduce the number and severity of crashes and safety incidents for all modes**

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# Current Criteria: Objectives

- **Three objectives established in *Destination 2040*:**
  1. **Reduce the number and severity of crashes and safety incidents for all modes**
  2. **Reduce serious injuries and fatalities from transportation**
  3. **Make investments and support initiatives that help protect transportation customers, employees, and the public from safety and security threats**

# Current Criteria: Scoring

Criteria	Scoring
Crash Severity Value: Equivalent Property Damage Only (EPDO) index	Up to 5 points
Crash rate (either intersection or corridor)	Up to 5 points
Improves truck-related safety issue	Up to 5 points
Improves bicycle safety	Up to 5 points
Improves pedestrian safety	Up to 5 points
Improves safety or removes an at-grade railroad crossing	Up to 5 points

# Summary of Feedback



# Summary of Feedback: MPO

- **Survey**
  - **Quantitative safety criteria are clear, but EPDO is nebulous**
  - **More definition needed around levels of safety countermeasure effectiveness**

# Summary of Feedback: MPO

- **Survey**
  - Quantitative safety criteria are clear, but EPDO is nebulous
  - More definition needed around levels of safety countermeasure effectiveness
- **Focus Group**
  - Safety is paramount
  - Promoting safety for one mode can enhance safety for others
  - Without safety, mode shift is difficult

# Summary of Feedback: Other

- **RTAC**
  - Pedestrian safety is critical
  - Focus scoring on the degree of improvement

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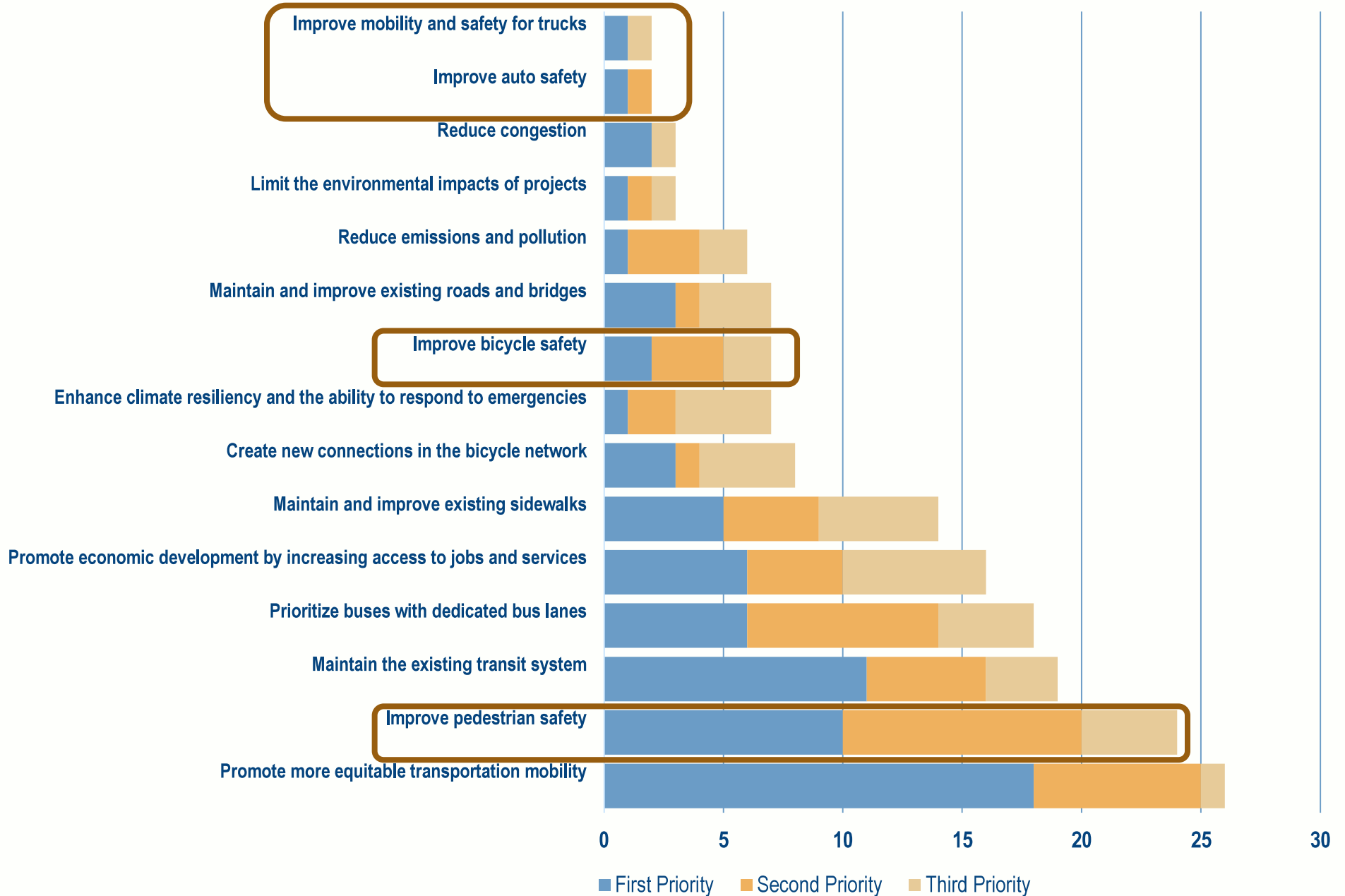
- **RTAC**
  - Pedestrian safety is critical
  - Focus scoring on the degree of improvement
- **LivableStreets Alliance**
  - Reduce focus on property damage only crashes
- **Conservation Law Foundation**
  - Focus on places with most critical needs

# Summary of Feedback: Other

- **RTAC**
  - Pedestrian safety is critical
  - Focus scoring on the degree of improvement
- **LivableStreets Alliance**
  - Reduce focus on property damage only crashes
- **Conservation Law Foundation**
  - Focus on places with most critical needs
- **Transportation for America**
  - Reduce number of criteria overall

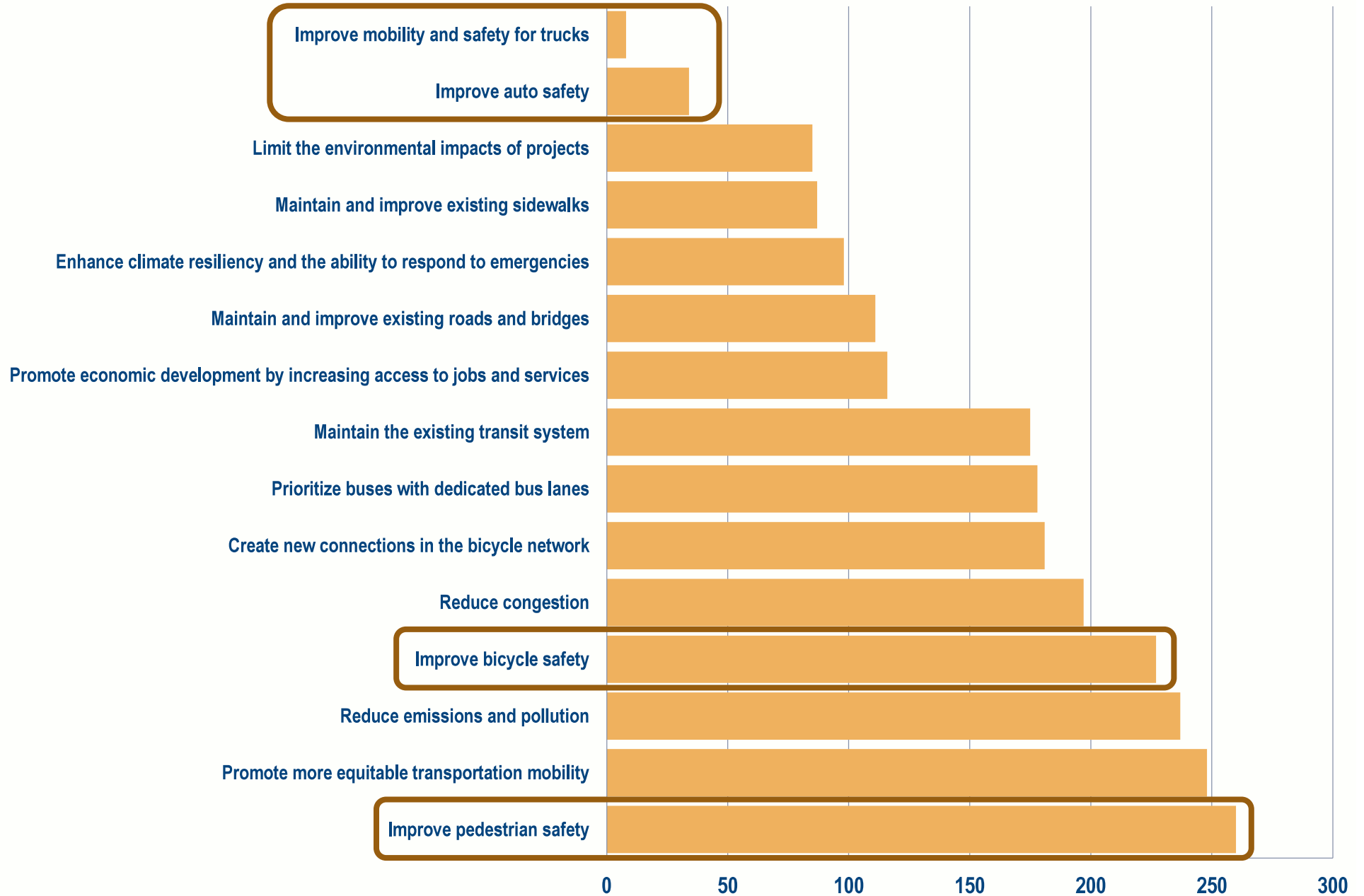
# Public Focus Groups

How can the MPO best improve transportation in the region?



# Public Survey

How can the MPO best improve transportation in the region?

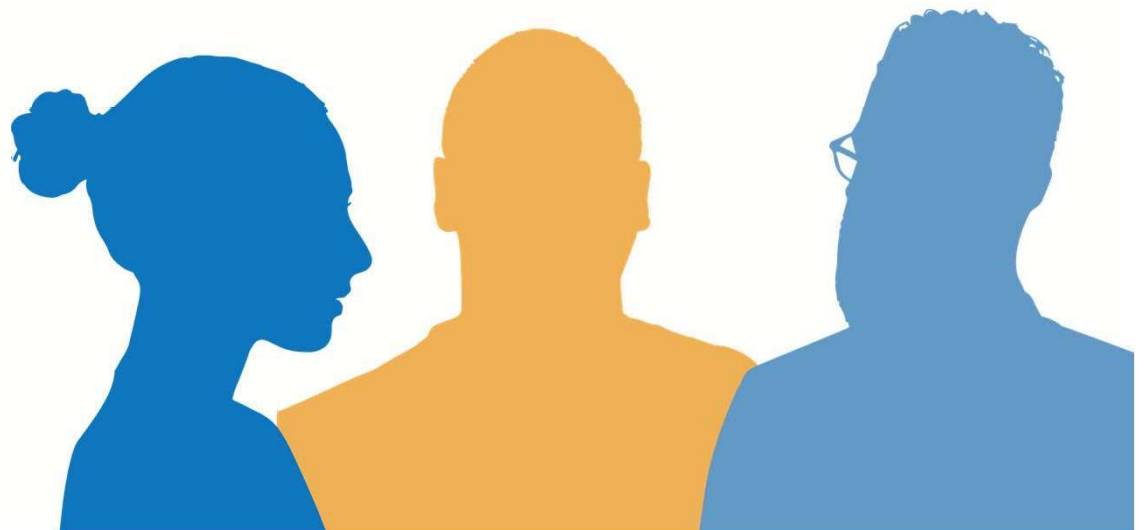




**A system that works for pedestrians is a more equitable system. Further, the Boston region has many places where pedestrian activity is hindered or precluded by the transportation network. Removing these impediments empowers residents.**

**“Bicycle safety is a top priority and many of the things we can do to make streets safe for bikes can make them safer for drivers and pedestrians too.”**

**“Boston’s roads are notoriously difficult to navigate and are setup for accidents of all kinds”**



# Proposed Changes to Current Criteria

# Proposed Changes: Key Takeaways

Criteria	Key Takeaway
Crash Severity Value: Equivalent Property Damage Only (EPDO) index	Update scoring scale to reflect new EPDO values
Crash rate (either intersection or corridor)	Focus scoring on injury and fatality crashes
Improves truck-related safety issue	Reallocate bonus points to focus on multimodal safety improvements
Improves bicycle safety	Distinguish between roadway and bicycle/pedestrian projects
Improves pedestrian safety	Distinguish between roadway and bicycle/pedestrian projects
Improves safety or removes an at-grade railroad crossing	Reimagine scoring to recognize more multimodal safety improvements
Project addresses documented safety issue	Add criterion to evaluate safety improvements of transit projects



# Existing Criterion: Crash Severity Value: Equivalent Property Damage Only

	Existing	Proposed – All Programs
<b>Criterion</b>	Crash Severity Value: Equivalent Property Damage Only (EPDO) index	Crash Severity Value: Equivalent Property Damage Only (EPDO) index
<b>Scale</b>	<p><b>+5</b> EPDO value of 300 or more</p> <p><b>+4</b> EPDO value of 200-299</p> <p><b>+3</b> EPDO value of 100-199</p> <p><b>+2</b> EPDO value of 50-99</p> <p><b>+1</b> EPDO value less than 50</p> <p><b>0</b> No EPDO value</p>	<p><b>0-5 point scale, based on:</b></p> <ul style="list-style-type: none"> <li>• Calculated EPDO value using updated methodology</li> <li>• Different EPDO values for bicycle/pedestrian projects</li> </ul>
<b>Discussion</b>		<ul style="list-style-type: none"> <li>• Update scale: new methodology</li> <li>• Public feedback</li> <li>• Performance measures</li> </ul>

# Existing Criterion: Crash Rate

	Existing	Proposed – CS, INT, MI
<b>Criterion</b>	Crash rate (either intersection or corridor)	Fatality and serious injury rate (either intersection or corridor)
<b>Scale</b>	<p><b>0-5 point scale, based on:</b></p> <ul style="list-style-type: none"> <li>• Intersection or corridor</li> <li>• Intersection: Signalized vs. unsignalized</li> <li>• Corridor: Roadway classification (highway, principal arterial, etc.)</li> </ul>	<p><b>0-5 point scale, based on:</b></p> <ul style="list-style-type: none"> <li>• Intersection or corridor</li> <li>• Intersection: Signalized vs. unsignalized</li> <li>• Corridor: Roadway classification (highway, principal arterial, etc.)</li> </ul>
<b>Discussion</b>		<ul style="list-style-type: none"> <li>• Remove property-damage only crashes from rate</li> <li>• Remove from bike/ped scoring</li> <li>• Public feedback</li> <li>• Performance measures</li> </ul>

# Existing Criterion: Improves Truck-Related Safety Issue

	Existing	Proposed – CS, INT, MI
<b>Criterion</b>	Improves truck-related safety issue	Improves truck-related safety issue
<b>Scale</b>	<p><b>+3</b> High total effectiveness of truck safety countermeasures</p> <p><b>+2</b> Medium total effectiveness of truck safety countermeasures</p> <p><b>+1</b> Low total effectiveness of truck safety countermeasures</p> <p><b>0</b> Does not implement truck safety countermeasures</p> <p><b>+2</b> Improves truck safety at HSIP cluster</p>	<p><b>+3</b> High total effectiveness of truck safety countermeasures</p> <p><b>+2</b> Medium total effectiveness of truck safety countermeasures</p> <p><b>+1</b> Low total effectiveness of truck safety countermeasures</p> <p><b>0</b> Does not implement truck safety countermeasures</p>
<b>Discussion</b>		<ul style="list-style-type: none"> <li>• Clarify methodology</li> <li>• Adjust HSIP bonus structure</li> <li>• Remove from bike/ped scoring</li> </ul>

# Existing Criteria: Improves Bicycle/Pedestrian Safety

	Existing	Proposed – CS, INT, MI
<b>Criterion</b>	Improves bicycle/pedestrian safety	Improves bicycle/pedestrian safety
<b>Scale</b>	<p><b>+3</b> High total effectiveness of bike/ped safety countermeasures</p> <p><b>+2</b> Medium total effectiveness of bike/ped safety countermeasures</p> <p><b>+1</b> Low total effectiveness of bike/ped safety countermeasures</p> <p><b>0</b> Does not implement bike/ped safety countermeasures</p> <p><b>+1</b> Improves bike/ped safety at all-mode HSIP cluster</p> <p><b>+2</b> Improves bike/ped safety at bike/ped HSIP cluster</p>	<p><b>+3</b> High total effectiveness of bike/ped safety countermeasures</p> <p><b>+2</b> Medium total effectiveness of bike/ped safety countermeasures</p> <p><b>+1</b> Low total effectiveness of bike/ped safety countermeasures</p> <p><b>0</b> Does not implement bike/ped safety countermeasures</p> <p><b>+1</b> Improves bike/ped safety at all-mode HSIP cluster</p> <p><b>+2</b> Improves bike/ped safety at bike/ped HSIP cluster OR multiple all-mode HSIP clusters</p>
<b>Discussion</b>		<ul style="list-style-type: none"> <li>Clarify methodology</li> <li>Adjust HSIP bonus structure</li> </ul>
35		



# Existing Criteria: Improves Bicycle/Pedestrian Safety

	Existing	Proposed – Bike/Ped
<b>Criterion</b>	Improves bicycle/pedestrian safety	Improves bicycle/pedestrian safety
<b>Scale</b>	<p><b>+3</b> High total effectiveness of bike/ped safety countermeasures</p> <p><b>+2</b> Medium total effectiveness of bike/ped safety countermeasures</p> <p><b>+1</b> Low total effectiveness of bike/ped safety countermeasures</p> <p><b>0</b> Does not implement bike/ped safety countermeasures</p> <p><b>+1</b> Improves bike/ped safety at all-mode HSIP cluster</p> <p><b>+2</b> Improves bike/ped safety at bike/ped HSIP cluster</p>	<p><b>+8</b> High total effectiveness of bike/ped safety countermeasures</p> <p><b>+5</b> Medium total effectiveness of bike/ped safety countermeasures</p> <p><b>+2</b> Low total effectiveness of bike/ped safety countermeasures</p> <p><b>0</b> Does not implement bike/ped safety countermeasures</p> <p><b>+1</b> Improves bike/ped safety at one all-mode HSIP cluster</p> <p><b>+2</b> Improves bike/ped safety at bike/ped HSIP cluster OR multiple all-mode HSIP clusters</p>
<b>Discussion</b>		<ul style="list-style-type: none"> <li>Adjusted methodology</li> <li>Higher point values</li> </ul>
36		





# Existing Criterion: Improves Safety or Removes an at-Grade Railroad Crossing

	Existing	Proposed – CS, INT, MI
<b>Criterion</b>	Improves safety or removes an at-grade railroad crossing	Improves safety for all users
<b>Scale</b>	<p><b>+5</b> Removes an at-grade railroad crossing</p> <p><b>+3</b> Significantly improves safety at an at-grade railroad crossing</p> <p><b>+1</b> Improves safety at an at-grade railroad crossing</p> <p><b>0</b> Does not include a railroad crossing</p>	<p><b>0-5 point scale, based on:</b></p> <ul style="list-style-type: none"> <li>• Railroad crossing improvements</li> <li>• Signal improvements</li> <li>• Roadway geometry improvements</li> <li>• Traffic-calming features</li> </ul> <p><b>+1</b> Improves safety at all-mode HSIP cluster</p> <p><b>+2</b> Improves safety at multiple all-mode HSIP clusters</p> <p><b>+3</b> Improves safety at Top-200 crash location</p>
<b>Discussion</b>		<ul style="list-style-type: none"> <li>• Public feedback</li> <li>• Revised HSIP bonus structure</li> <li>• N/A to bike/ped projects</li> </ul>

# New Criterion: Transit Modernization

		Existing	Proposed – Transit Mod.
<b>Criterion</b>	None		Project addresses documented safety issue
<b>Scale</b>	None		<p><b>+8</b> Project addresses documented safety issues identified through a Federal or State investigation, audit, or finding; or top priority safety issues or hazards as identified by transit agency evaluations.</p> <p><b>+5</b> Project addresses other safety issues or hazards as identified by transit agency evaluations.</p> <p><b>+2</b> Project does not specifically address identified safety issues but would reduce potential hazards</p> <p><b>0</b> No specific safety benefits identified</p>
<b>Discussion</b>			<ul style="list-style-type: none"> <li>Forthcoming transit agency safety reports</li> </ul>



# Future Opportunities to Explore

- **Expected crash calculations**
  - **What:**
    - Breaks project areas down into segments and intersections and analyzes the potential for safety improvement at each
  - **Why not now:**
    - Labor intensive
- **Crash Modification Factors**
  - **What:**
    - Predicts reductions in crashes due to specific changes in roadway elements
  - **Why not now:**
    - Too detailed for pre-25%



# **Addressing Transportation Equity in the Safety Goal Area**

**June 11, 2020**

**Betsy Harvey**

**Boston Region Metropolitan Planning Organization**

# Outline

- **Overview of transportation equity scoring proposal**
- **Proposed safety criteria for evaluating impacts on equity populations**
- **Application to safety criteria**

# Proposed Equity Evaluation Framework

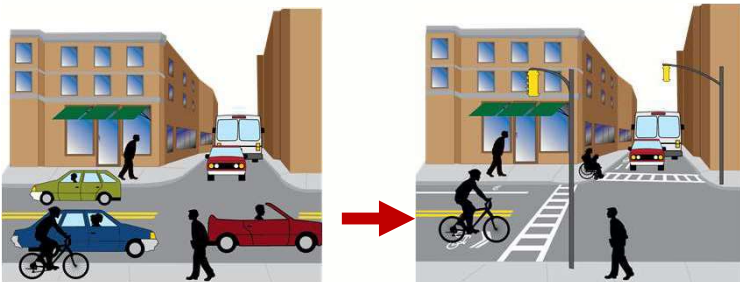
Goal: Evaluate project's impacts on equity populations

## Evaluate Equity Criteria

Safety  
Criteria



Evaluate equity criteria in each goal area



**Improves pedestrian safety**



Base Score

X

= **Final Score**

## Identify Equity Populations in Project Area



Determine the share of the equity population  
and compare to the regional average



Equity Multiplier

# Proposed Safety Criteria

- **Crash severity value (equivalent property damage only [EPDO] value)**
- **Improves bicycle safety**
- **Improves pedestrian safety**
- **Fatality/serious injury crash rate**
- **Improves safety of all users**

“Improving pedestrian safety is the most important to me... A system that works for pedestrians is a more equitable system.”



# Step 1

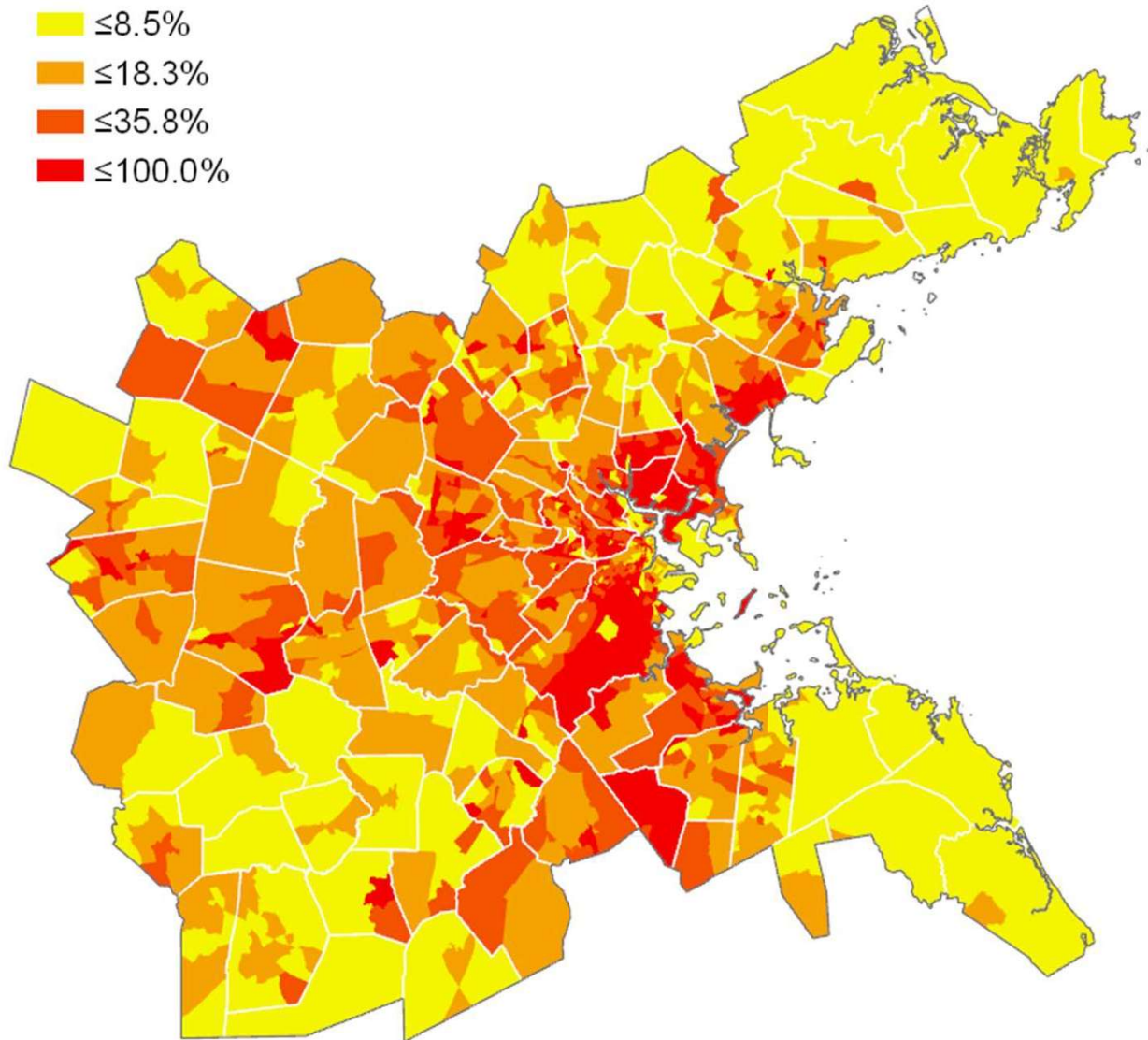
## Create Equity Index



# Minority Population

Share of Minority Population

- ≤8.5%
- ≤18.3%
- ≤35.8%
- ≤100.0%



# Low-income Population

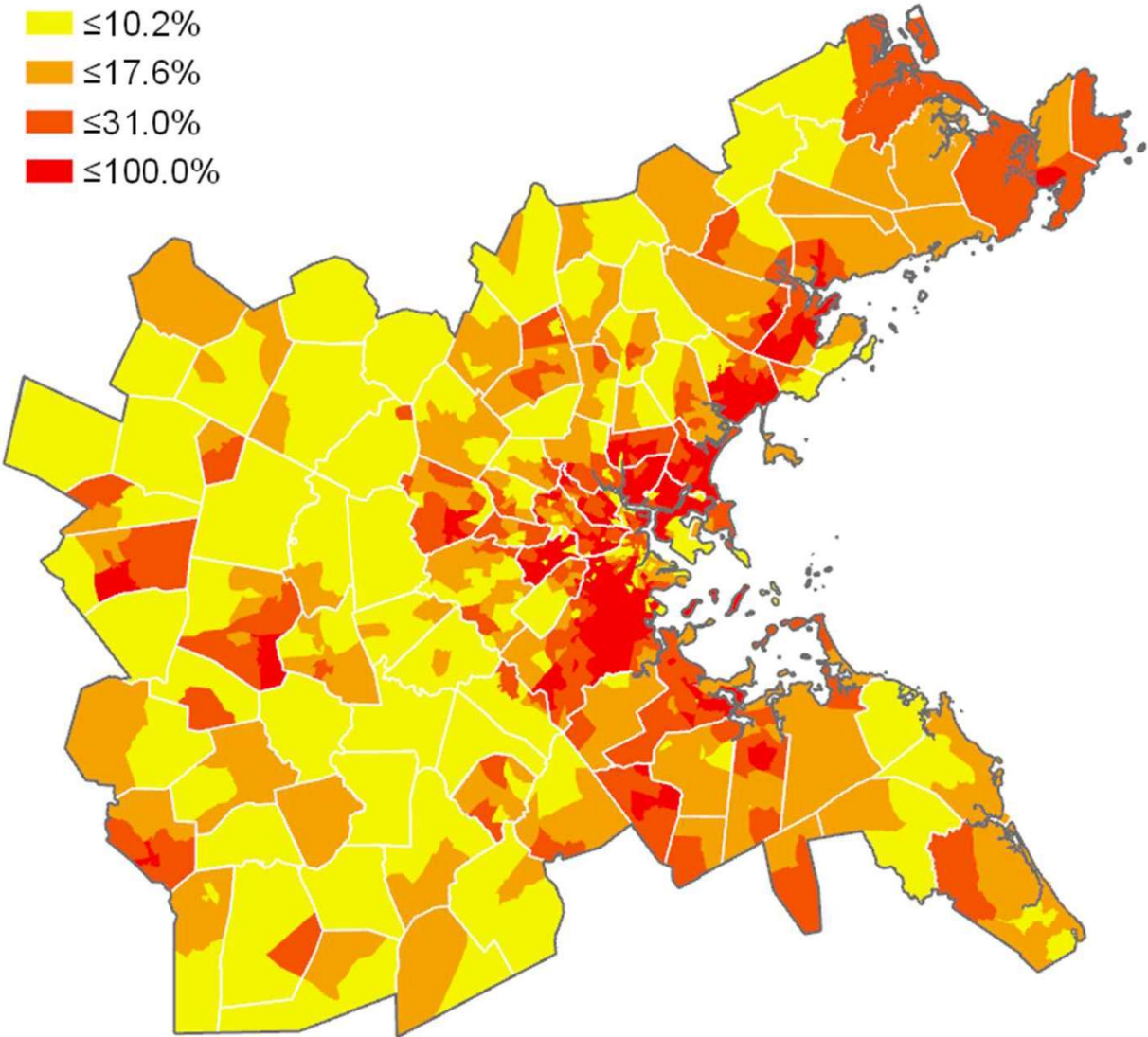
Share of Low-income Population

≤10.2%

≤17.6%

≤31.0%

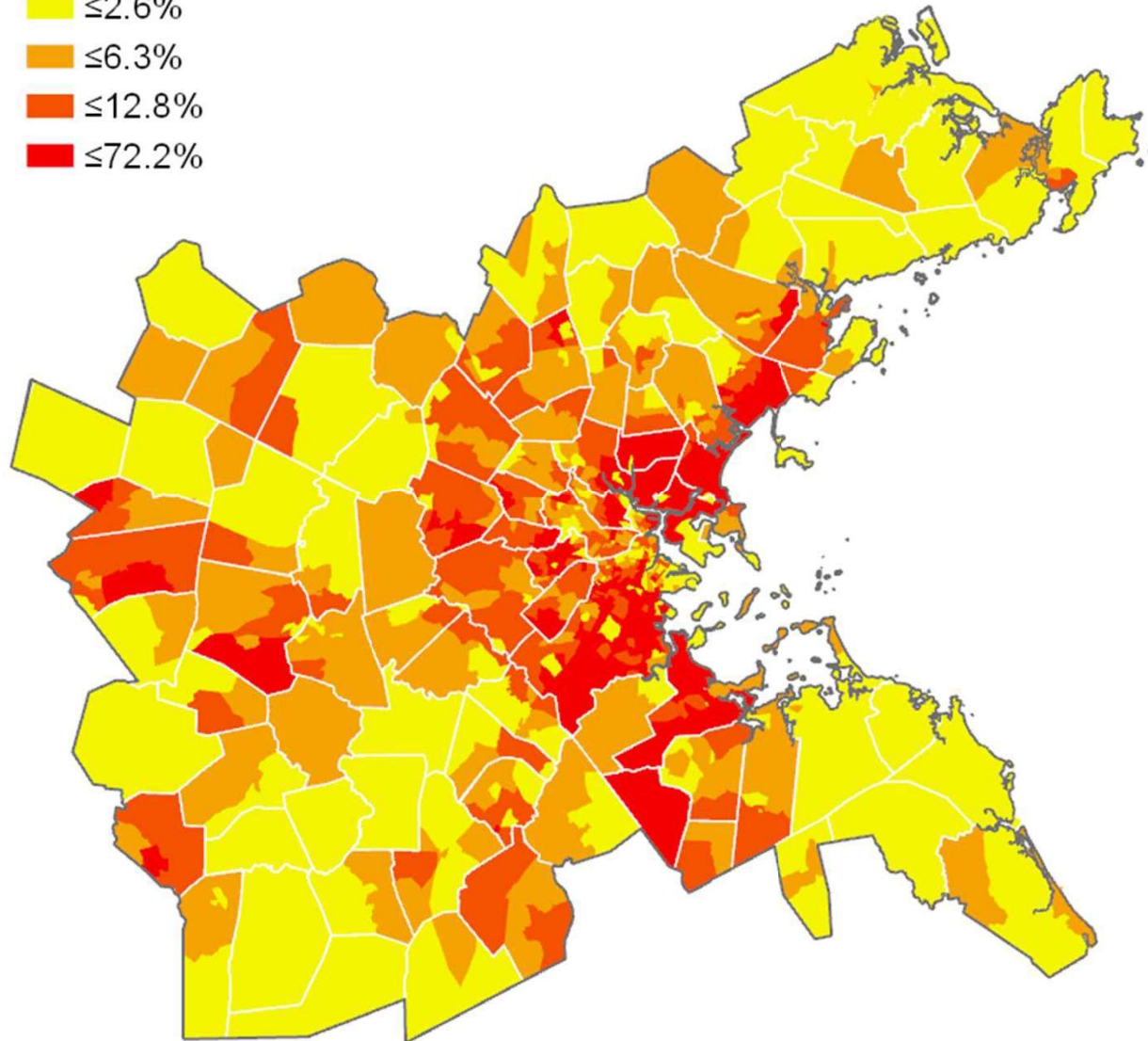
≤100.0%



# People with Limited English Proficiency (LEP)

Share of People with LEP

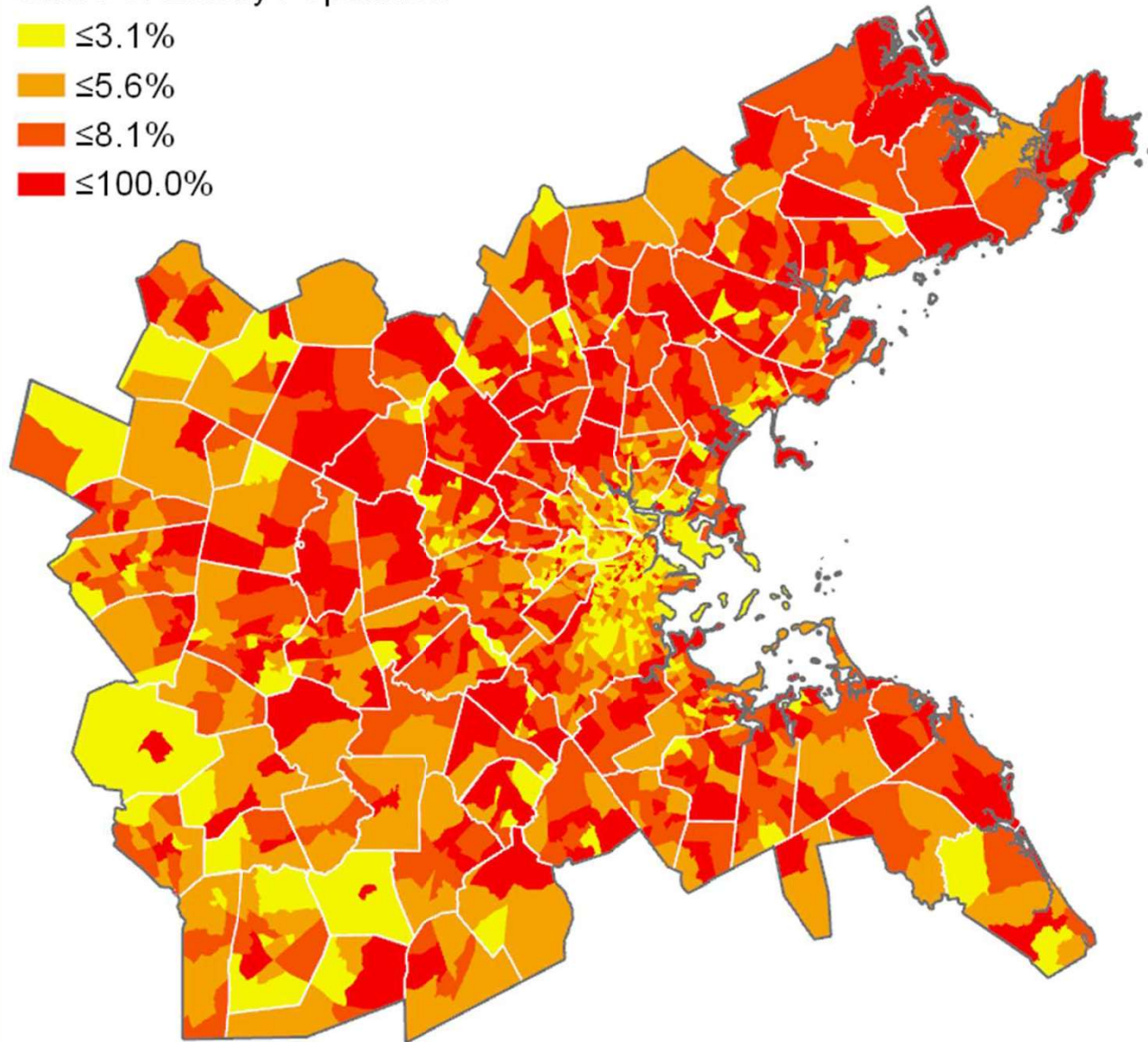
- ≤2.6%
- ≤6.3%
- ≤12.8%
- ≤72.2%





# Elderly Population

Share of Elderly Population



# Youth Population

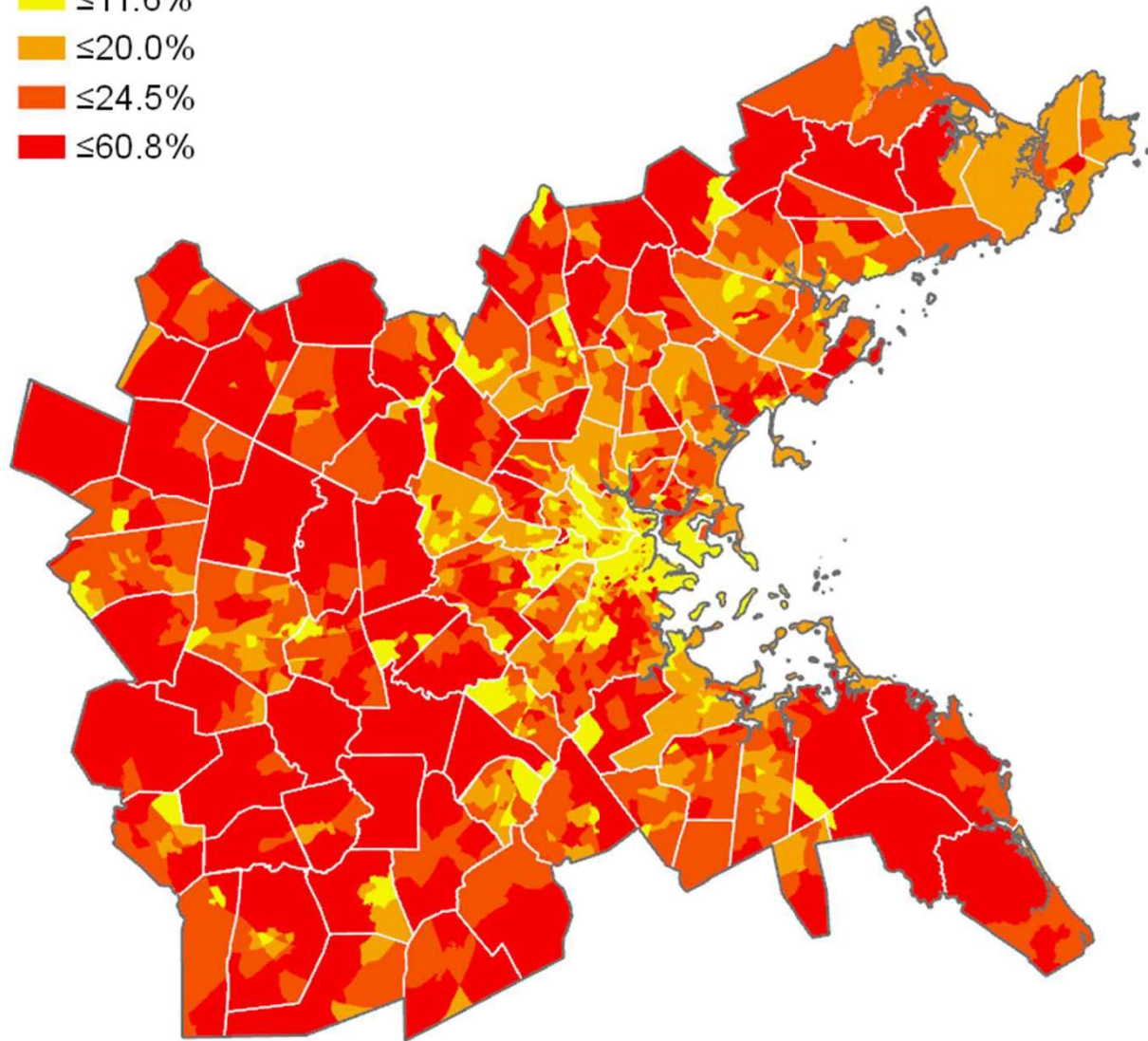
Share of Youth Population

≤11.6%

≤20.0%

≤24.5%

≤60.8%



# People with Disabilities

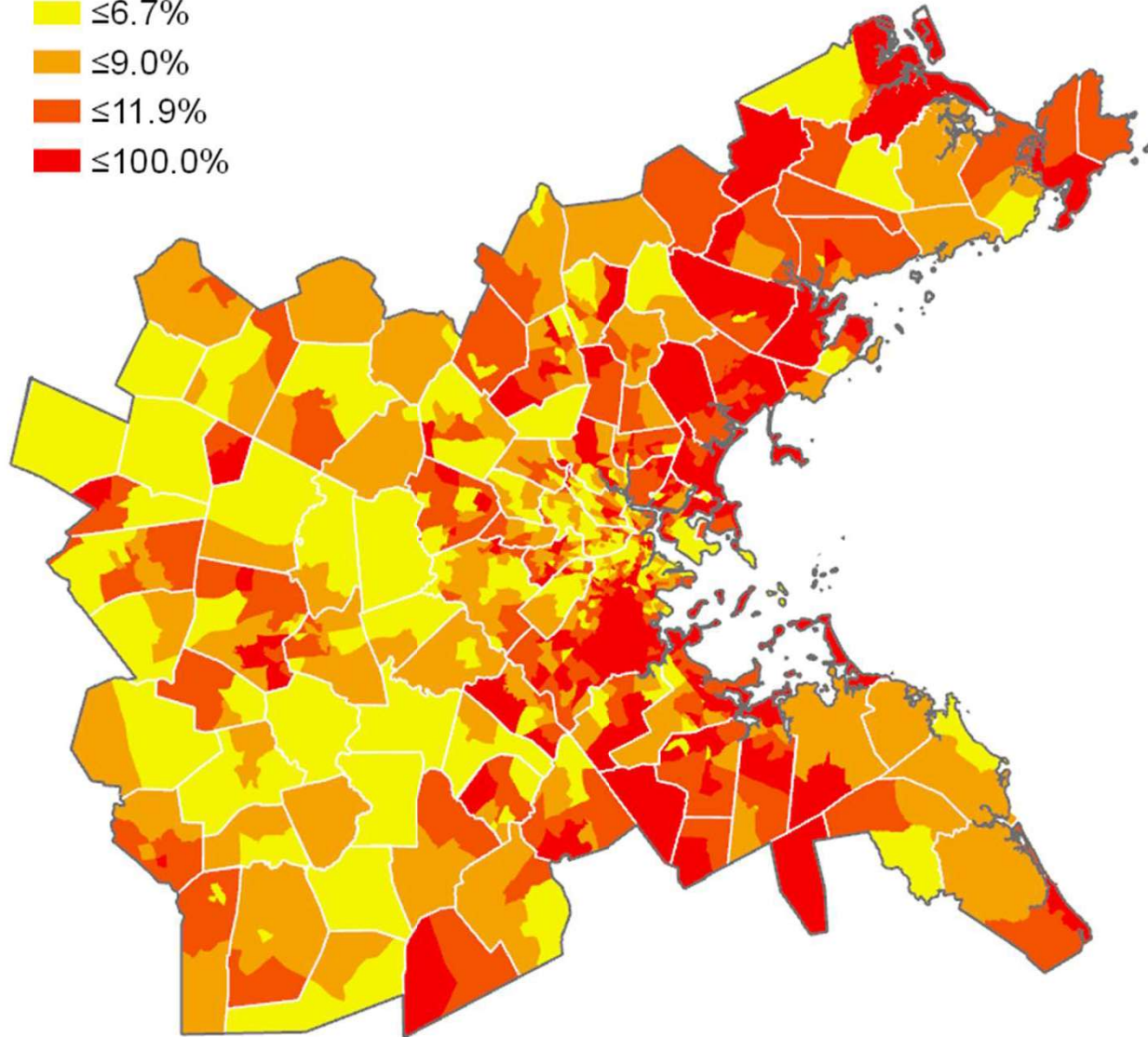
Share of People with Disabilities

≤6.7%

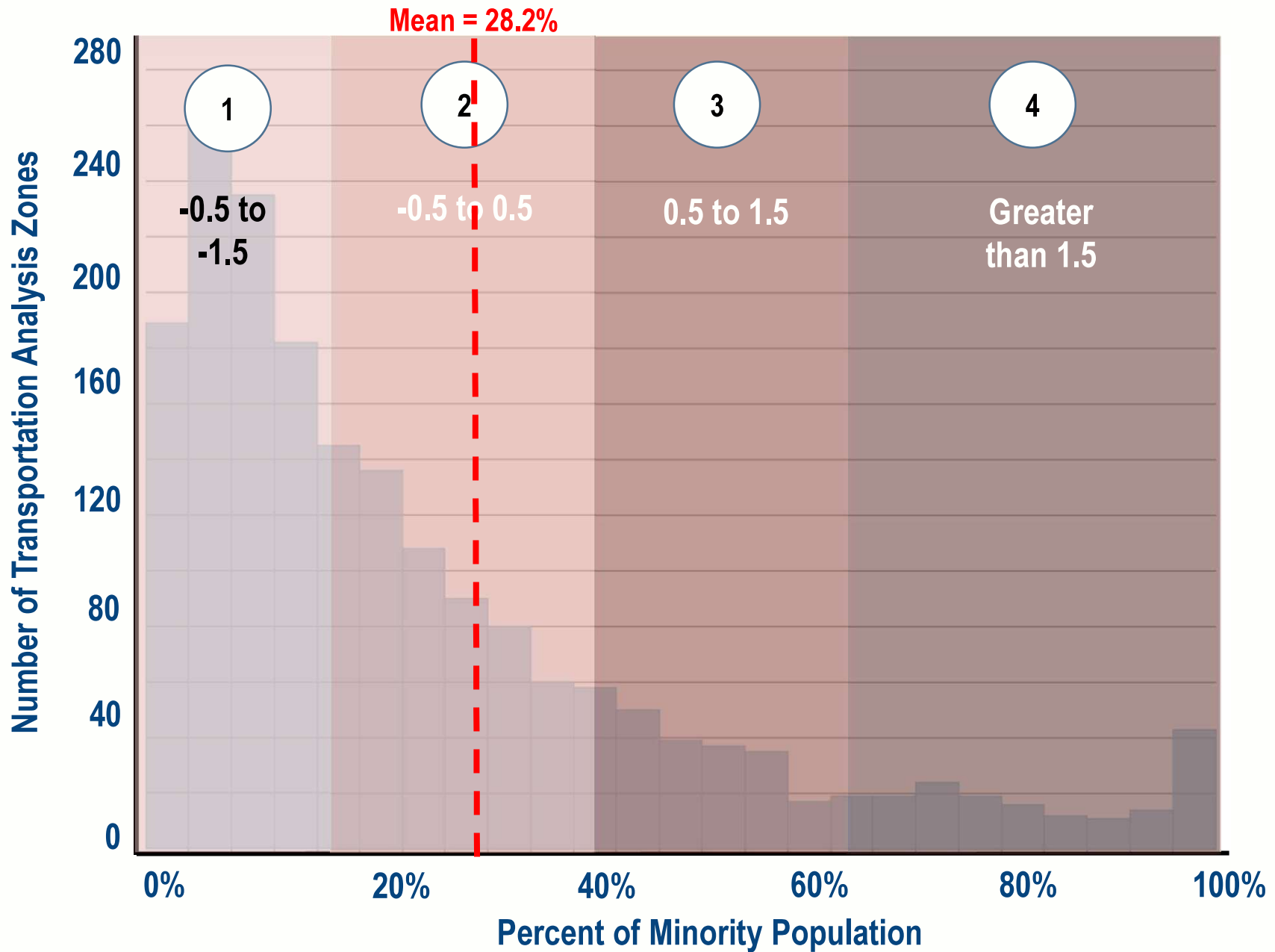
≤9.0%

≤11.9%

≤100.0%



# Step 1: Create Equity Index



# Step 1: Create Equity Index

## For Each Project

Demographic Group	Base Index Points	Population Weight	Maximum Index Points
Minority population	1 through 4	x2	8
Low-income population		x1	4
People with LEP		x1	4
People with disabilities		x0.5	2
Elderly population		x0.5	2
Youth population		x0.5	2
<b>HIGHEST POSSIBLE EQUITY INDEX</b>			<b>22</b>



# Step 2

## Score Project

# Step 2: Score Project

## Identify Project's Equity Multiplier

Project's Equity Index	Project's Equity Multiplier
1 to 5	1.25
6 to 10	1.50
11 to 15	1.75
16 or greater	2.00

## Step 2: Score Project

### Distribution of Equity Multipliers (Projects programmed in federal fiscal years 2017–21)

Equity Multiplier	Number of Projects
1.25	2
1.50	26
1.75	7
2.00	1

# Step 2: Score Project

## Hypothetical Project Scores for Safety Criteria

Criteria	Base Score	Multiplier	Final Score
Crash severity value (EPDO)	2	1.5	3
Fatality/serious injury crash rate	1	None	1
Improves safety for all road users	1	None	1
Improves pedestrian safety	3	1.5	4.5
Improves bicyclist safety	2	1.5	3
	9		12.5

# Questions or Feedback?



# **TIP Criteria Revisions: Economic Vitality**

**June 11, 2020**

**Matt Genova and Betsy Harvey**  
TIP and Equity Program Managers

**Boston Region Metropolitan Planning Organization**

# Today's Presentation

- **Goals for today**
- **Framing the conversation**
- **Summary of feedback**
- **Proposed changes to current criteria**
- **Next steps**
- **Discussion**

# Goals for Today



# Goals for Today

1. Provide feedback on general direction of Economic Vitality criteria
2. Suggest additional changes or other topics for further exploration within this goal area

# Framing the Conversation

# Framing the Conversation: Principles

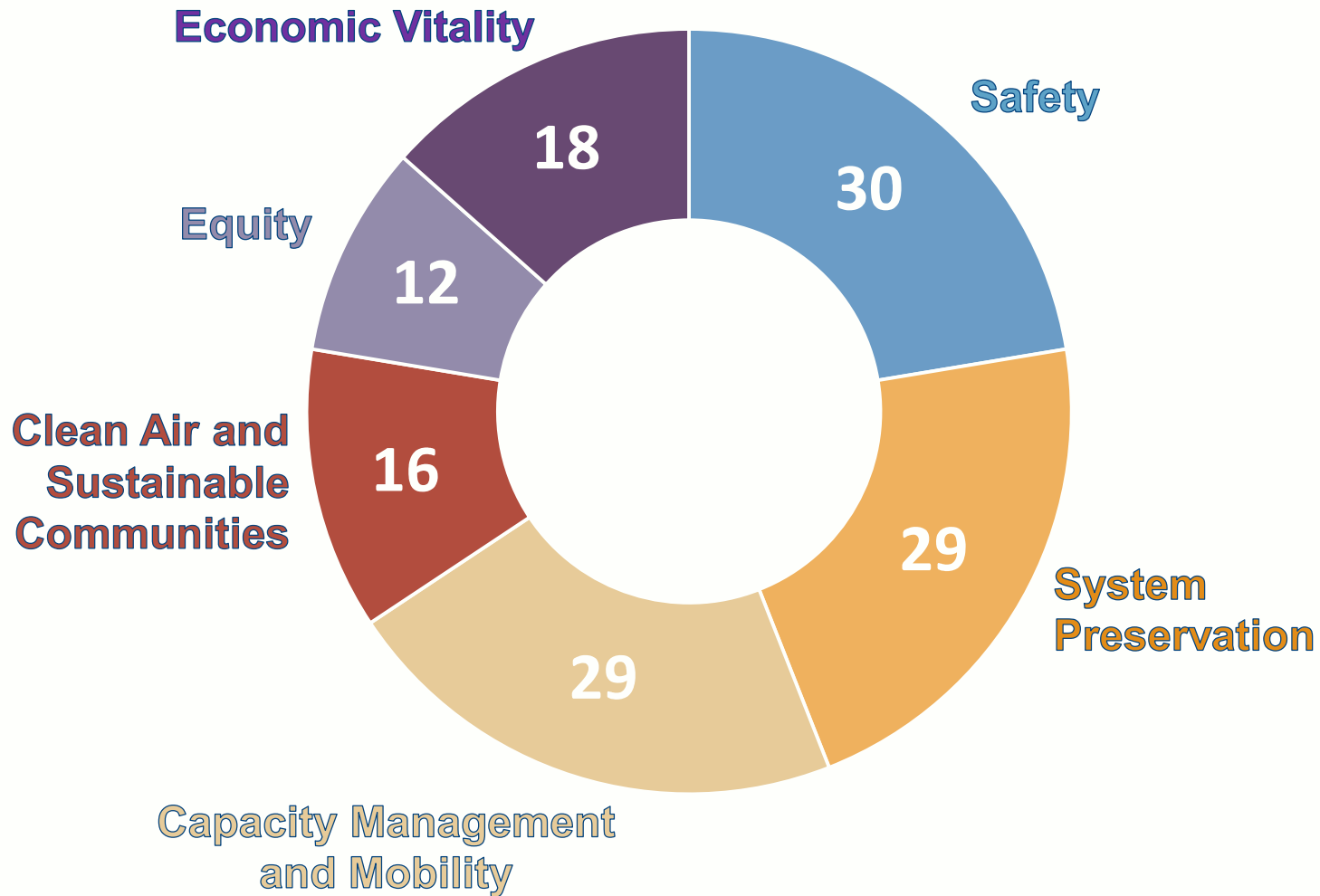
- Manageable to implement
- Make use of best available data and methods
- Create balance across investment programs
- Both realistic and aspirational
- Clear to project proponents and other stakeholders

# Framing the Conversation: Notes

- Point values will be refined at a later date
- Changes are subject to continued feedback
- Equity criterion embedded in goal area
- Criteria are consistent across investment programs

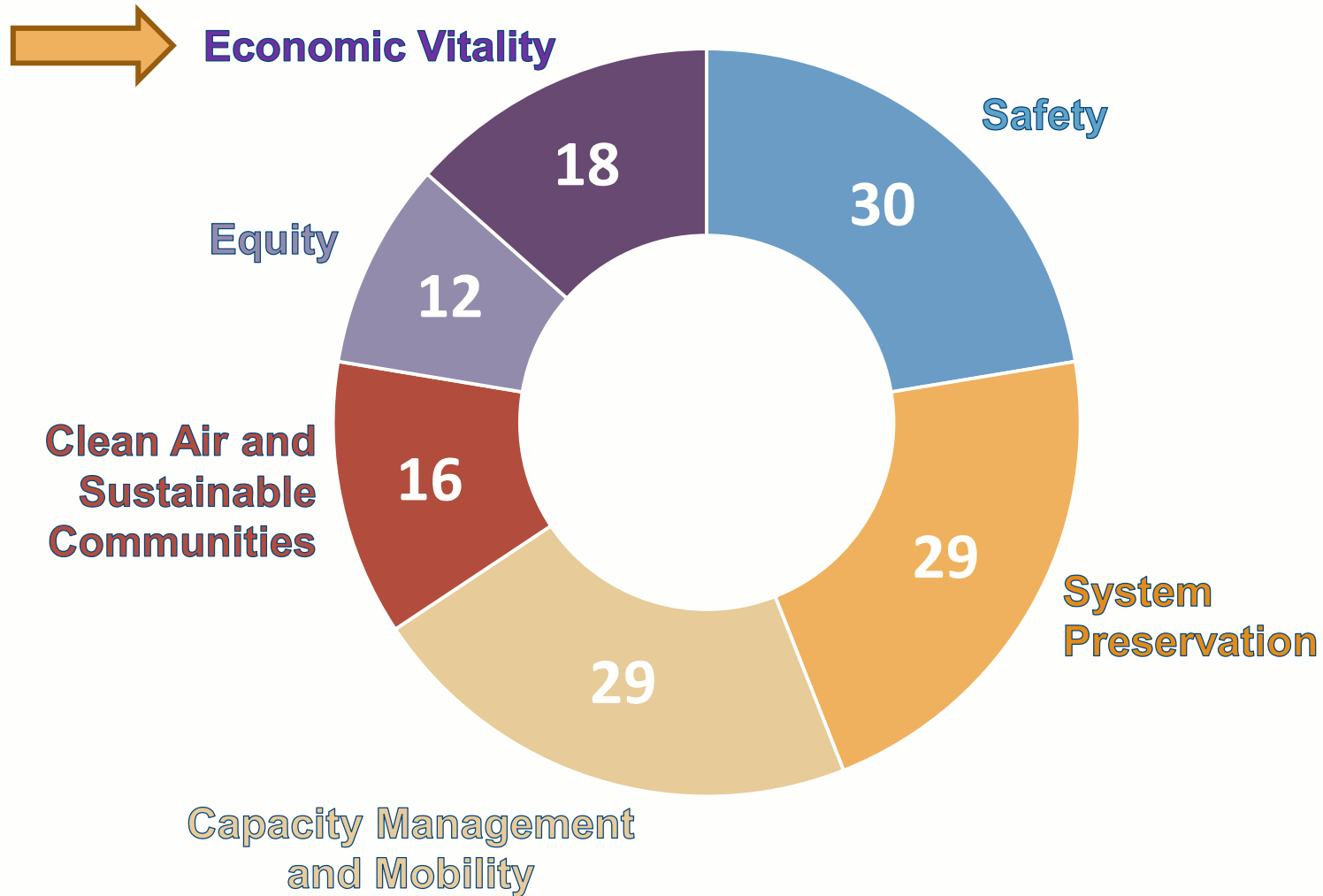
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# Current Criteria: Overview

Current TIP Criteria: Point Allocations (134 Possible Points)



# Current Criteria: Objectives

- **Four objectives established in *Destination 2040*:**
  1. **Respond to the mobility needs of the workforce population**

# Current Criteria: Objectives

- **Four objectives established in *Destination 2040*:**
  1. **Respond to the mobility needs of the workforce population**
  2. **Minimize the burden of housing and transportation costs for residents in the region**



# Current Criteria: Objectives

- **Four objectives established in *Destination 2040*:**
  1. **Respond to the mobility needs of the workforce population**
  2. **Minimize the burden of housing and transportation costs for residents in the region**
  3. **Prioritize transportation investments that serve residential, commercial, and logistics targeted development sites and “Priority Places” identified in MBTA’s *Focus 40* plan**

# Current Criteria: Objectives

- **Four objectives established in *Destination 2040*:**
  1. **Respond to the mobility needs of the workforce population**
  2. **Minimize the burden of housing and transportation costs for residents in the region**
  3. **Prioritize transportation investments that serve residential, commercial, and logistics targeted development sites and “Priority Places” identified in MBTA’s *Focus 40* plan**
  4. **Prioritize transportation investments that support development consistent with the compact growth strategies of the regional transportation plan**

# Current Criteria: Scoring

Criteria	Scoring
Serves targeted development site	Up to 6 points
Provides for development consistent with the compact growth strategies of MetroFuture	Up to 5 points
Provides multimodal access to an activity center	Up to 4 points
Leverages other investments (non-TIP funding)	Up to 3 points

# Summary of Feedback

# Summary of Feedback: MPO

- **Survey**
  - **Economic vitality is end result of functional system for all**
  - **Score projects for increasing access to housing choices**

# Summary of Feedback: MPO

- **Survey**
  - Economic vitality is end result of functional system for all
  - Score projects for increasing access to housing choices
- **Focus Group**
  - Economic development is critical for success of municipalities in region
  - Connecting people with opportunity intertwined with safety, capacity management

# Summary of Feedback: Other

- **RTAC**

- **Link between congestion, economic vitality, and quality of life**
- **Consider gentrification impacts (housing affordability)**

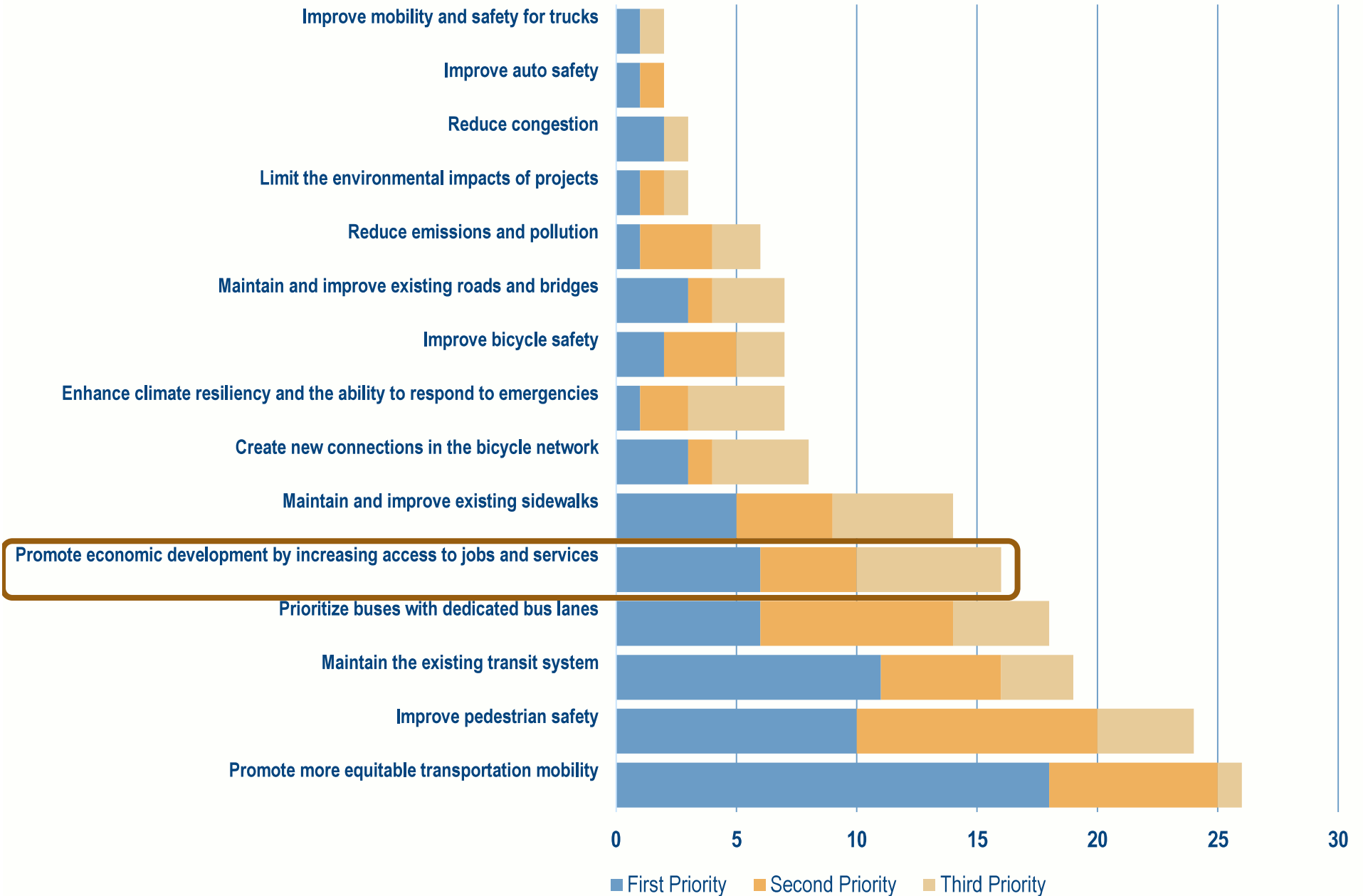
# Summary of Feedback: Other

- **RTAC**
  - Link between congestion, economic vitality, and quality of life
  - Consider gentrification impacts (housing affordability)
- **Transportation for America**
  - Simplify scoring gradations within criteria
  - Evaluate projects based on increases in accessibility of jobs and services



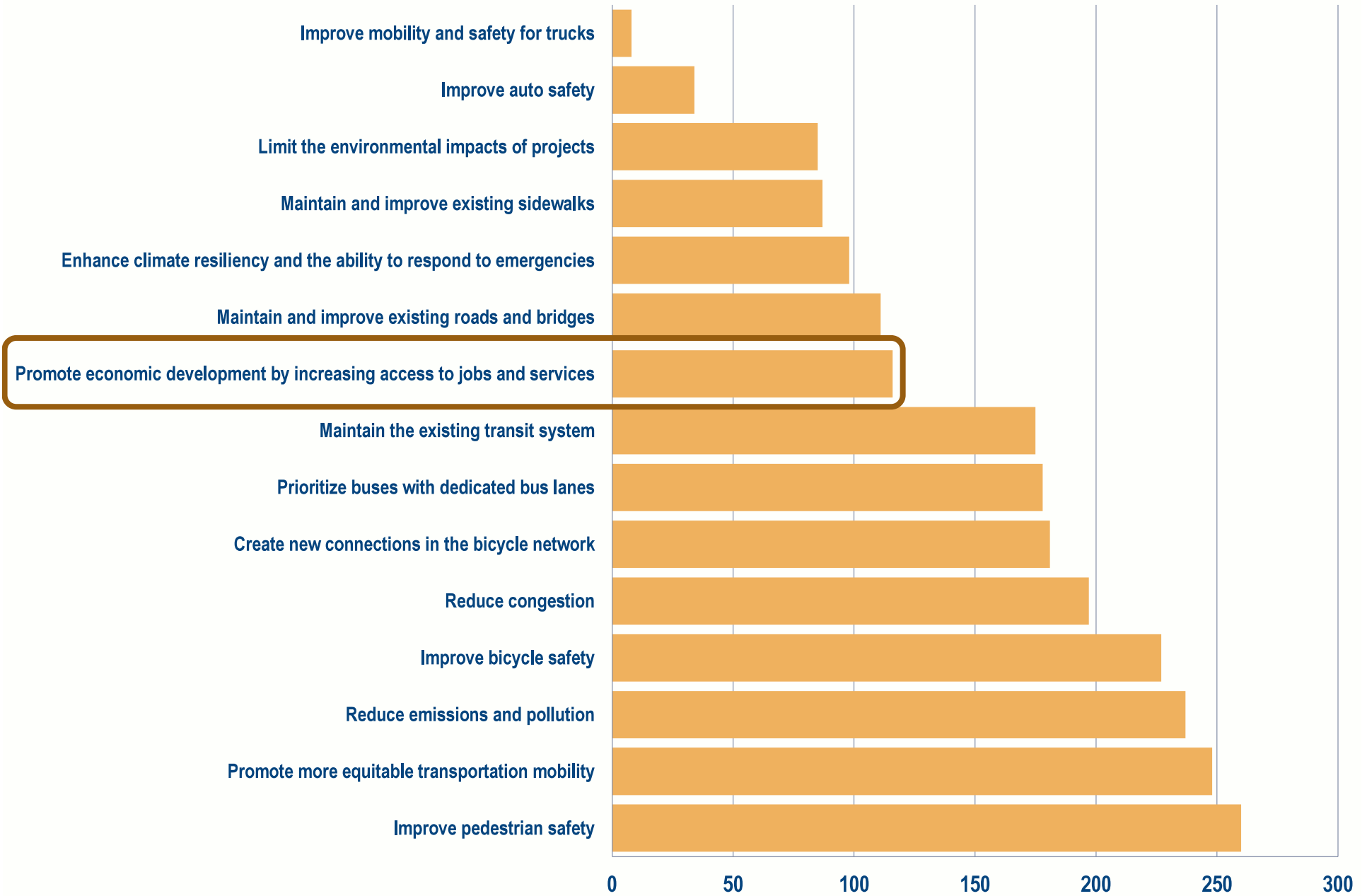
# Public Focus Groups

How can the MPO best improve transportation in the region?



# Public Survey

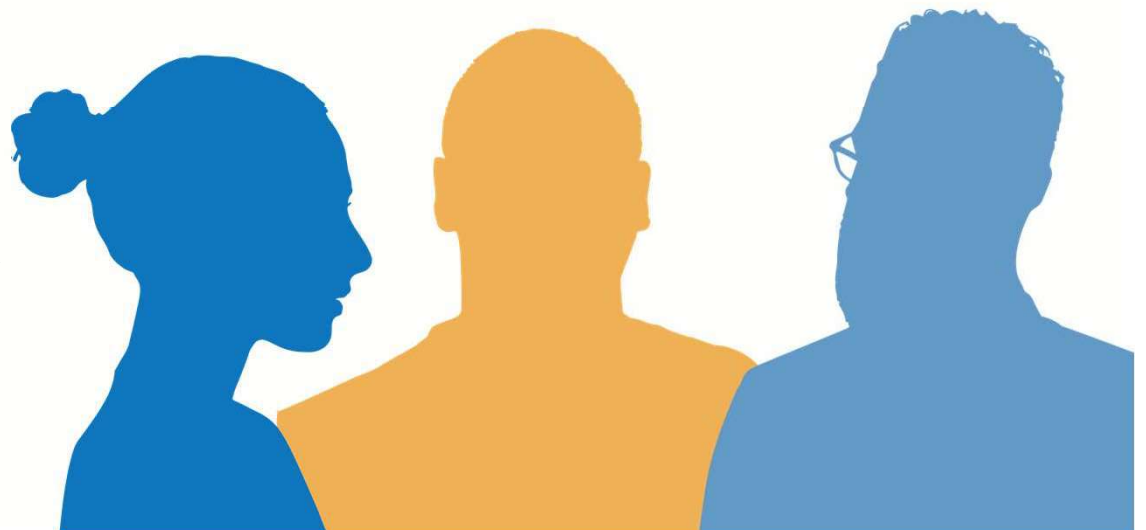
How can the MPO best improve transportation in the region?



**“[Economic Vitality is] a comprehensive look at the transportation system to reduce congestion, improve existing transit, increase transit options with the underlying understanding that if we do that our region will improve housing choices, improve the journey to work, and improve quality of life while also becoming a destination for businesses to locate.”**

**“The number one indicator of getting out of poverty is mobility: access to jobs and opportunity.”**

**“Increasing access also means we increase access equitably. People who need services fall into all age ranges and mobility and income levels. Similarly, working people have different income and mobility levels.”**



# Proposed Changes to Current Criteria

# Proposed Changes: Key Takeaways

Criteria	Key Takeaway
Serves targeted development site	<b>Clarify scoring for improving access to future development sites</b>
Provides for development consistent with the compact growth strategies of MetroFuture	<b>Focus scoring on improving access to existing dense development</b>
Provides multimodal access to an activity center	<b>Remove criterion to reduce redundancy</b>
Leverages other investments (non-TIP funding)	<b>Add bonus for community engagement</b>
Promotes access to affordable housing opportunities	<b>Add criterion to reward improving access to existing affordable housing</b>

# Existing Criterion: Serves Targeted Development Site

	Existing	Proposed – All Programs
<b>Criterion</b>	Serves targeted development site	Serves targeted development site
<b>Scale</b>	<ul style="list-style-type: none"> <li>+2 Provides new transit access to site</li> <li>+1 Improves existing transit access</li> <li>+1 Provides for bicycle access</li> <li>+1 Provides for pedestrian access</li> <li>+1 Provides for improved road access</li> <li>0 Does not provide any of the above</li> </ul>	<ul style="list-style-type: none"> <li>+2 Provides new transit/bicycle/pedestrian access to site</li> <li>+1 Improves existing transit/bicycle/pedestrian access to site</li> <li>+1 Improves road access</li> <li>0 Does not provide any of the above</li> </ul>
<b>Discussion</b>		<ul style="list-style-type: none"> <li>• Clarify methodology</li> </ul>

# Existing Criterion: Provides for Development Consistent with MetroFuture

	Existing	Proposed – All Programs
<b>Criterion</b>	Provides for development consistent with the compact growth strategies of MetroFuture	Provides for development consistent with the compact growth strategies of MAPC’s regional plan
<b>Scale</b>	<ul style="list-style-type: none"> <li><b>+2</b> Mostly serves an existing area of concentrated development</li> <li><b>+1</b> Partly serves an existing area of concentrated development</li> <li><b>+1</b> Supports local zoning or other regulations that are supportive of smart growth development</li> <li><b>+2</b> Complements other local financial or regulatory support that fosters economic revitalization in a manner consistent with smart growth development principles</li> <li><b>0</b> Does not provide any of the above</li> </ul>	<ul style="list-style-type: none"> <li><b>+5</b> Mostly serves an existing area of concentrated development</li> <li><b>+2</b> Partly serves an existing area of concentrated development</li> <li><b>0</b> Does not provide any of the above</li> </ul>
<b>Discussion</b>		<ul style="list-style-type: none"> <li>• Focus criteria (T4A)</li> </ul>



# Existing Criterion: Provides Multimodal Access to an Activity Center

	Existing	Proposed – All Programs
<b>Criterion</b>	Provides multimodal access to an activity center	Remove
<b>Scale</b>	<ul style="list-style-type: none"> <li>+1 Provides transit access</li> <li>+1 Provides truck access</li> <li>+1 Provides bicycle access</li> <li>+1 Provides pedestrian access</li> <li>0 Does not provide access</li> </ul>	Remove
<b>Discussion</b>		<ul style="list-style-type: none"> <li>• Reduce redundancy (T4A)</li> </ul>



# Existing Criterion: Leverages Other Investments (Non-TIP Funding)

	Existing	Proposed – All Programs
Criterion	Leverages other investments (non-TIP funding)	Leverages other investments (non-TIP funding)
Scale	<p><b>+3</b> Meets or addresses criteria to high degree (&gt;30% of project cost)</p> <p><b>+2</b> Meets or addresses criteria to medium degree (10-30% of project cost)</p> <p><b>+1</b> Meets or addresses criteria to low degree (&lt;10% of project cost)</p> <p><b>0</b> Does not meet or address criteria</p>	<p><b>+3</b> Meets or addresses criteria to high degree (&gt;30% of project cost)</p> <p><b>+2</b> Meets or addresses criteria to medium degree (10-30% of project cost)</p> <p><b>+1</b> Meets or addresses criteria to low degree (&lt;10% of project cost)</p> <p><b>0</b> Does not meet or address criteria</p> <p><b>+2</b> Project proponent supports design process through pilot project or dedicated community outreach process</p>
Discussion		<ul style="list-style-type: none"> <li>• MPO feedback (3C process)</li> <li>• Public outreach (RTAC, others)</li> <li>• Proponent feedback</li> </ul>



# New Criterion: Promotes Access to Affordable Housing Opportunities

		Existing	Proposed – All Programs
<b>Criterion</b>	None		Promotes access to affordable housing opportunities
<b>Scale</b>	None		<p>Percent of housing units within the project area that count toward the municipality's 40B low-income housing requirements.</p> <p><b>+4</b> Greater than 11.2% of housing units are 40B-eligible  <b>+3</b> 8.4% to 11.1% of housing units are 40B  <b>+2</b> 5.6% to 8.3% of housing units are 40B  <b>+1</b> 1.0% to 5.5% of housing units are 40B</p>
<b>Discussion</b>			<ul style="list-style-type: none"> <li>• Public outreach</li> <li>• LRTP goals</li> </ul>

# Economic Vitality Scoring Summary

Criteria	Current Scoring System	Proposed Scoring System
Serves targeted development site	6 points / 33%	7 points / 33%
Provides for development consistent with MAPC's regional plan	5 points / 28%	5 points / 24%
Provides multimodal access to activity center	4 points / 22%	N/A
Leverages other non-TIP investments	3 points / 17%	5 points / 24%
Promotes access to affordable housing opportunities	N/A	4 points / 19%

# Future Opportunities to Explore

- **Measuring destination access (Transportation for America)**
  - **What:**
    - **Accessibility tool like Sugar Access or Conveyal**
    - **Measure increase in access to jobs and services from specific projects**
  - **Why not now:**
    - **Access to license**
    - **Sustainability**



# **TIP Criteria Revisions: System Preservation and Modernization**

**June 25, 2020**

**Matt Genova**

**Transportation Improvement Program Manager**

**Boston Region Metropolitan Planning Organization**

# Today's Presentation

- **Goals for today**
- **Framing the conversation**
- **Summary of feedback**
- **Proposed changes to current criteria**
- **Next steps**
- **Discussion**

# Goals for Today

# Goals for Today

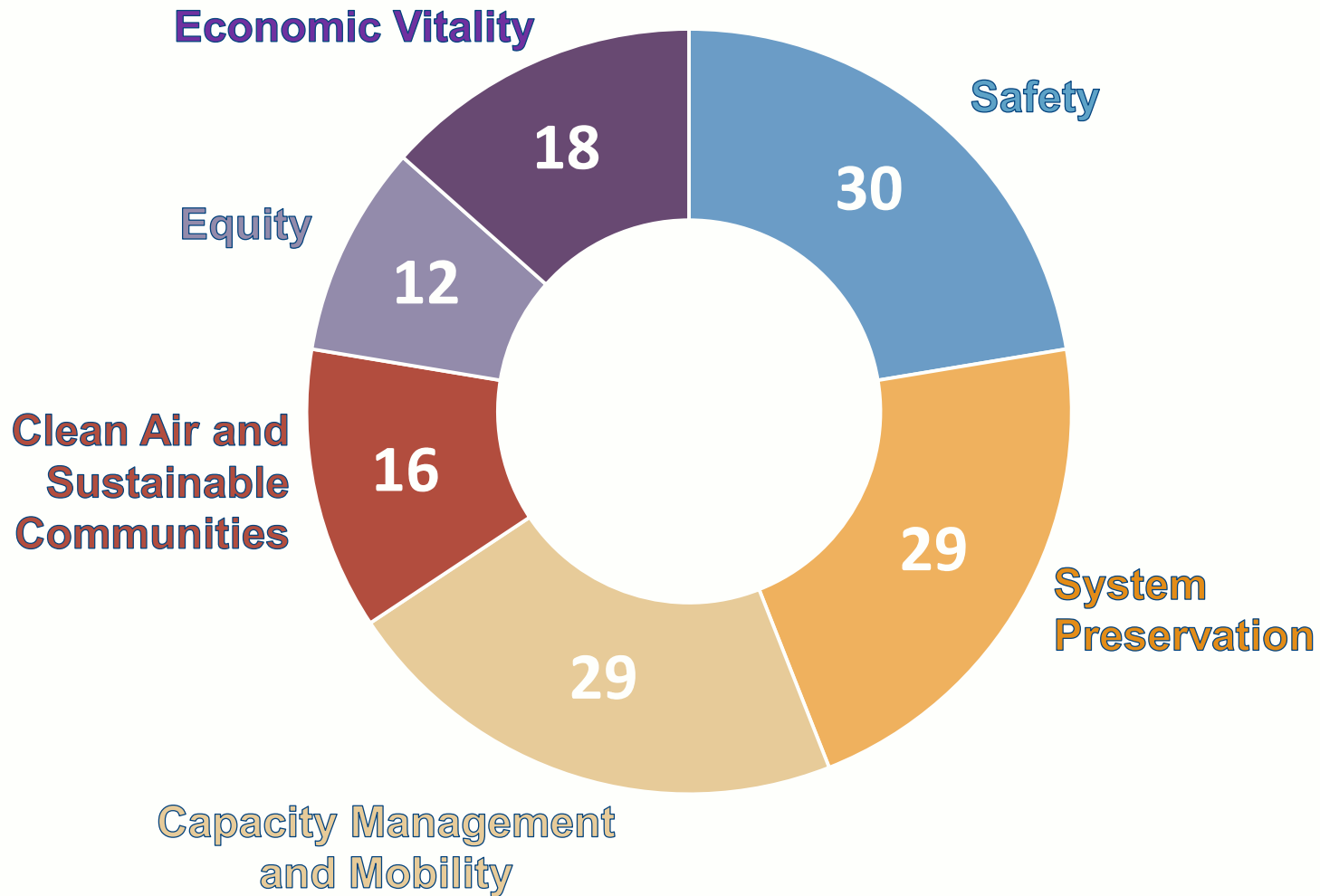
1. Provide feedback on general direction of System Preservation criteria
2. Suggest additional changes or other topics for further exploration within this goal area
3. Set the stage for today's discussion of Equity criteria



# Framing the Conversation

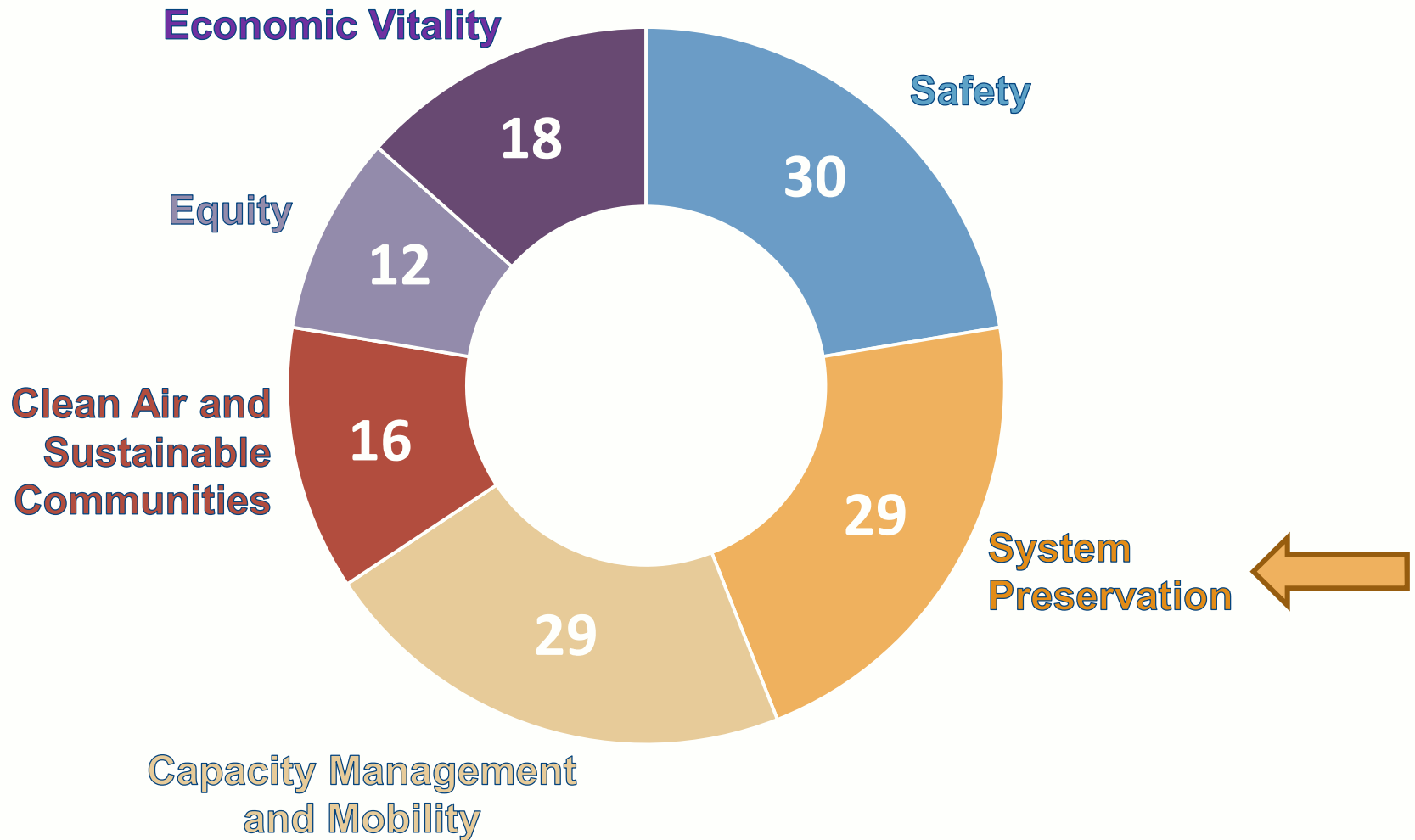
# Current Criteria: Overview

Current TIP Criteria: Point Allocations (134 Possible Points)



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Current TIP Criteria: Point Allocations (134 Possible Points)



# Current Criteria: Objectives

- **Three objectives established in *Destination 2040*:**
  1. **Maintain the transportation system, including roadway, transit, and active transportation infrastructure, in a state of good repair**

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  1. **Maintain the transportation system, including roadway, transit, and active transportation infrastructure, in a state of good repair**
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# Current Criteria: Objectives

- **Three objectives established in *Destination 2040*:**
  1. **Maintain the transportation system, including roadway, transit, and active transportation infrastructure, in a state of good repair**
  2. **Modernize transportation infrastructure across all modes**
  3. **Prioritize projects that support planned response capability to existing or future extreme conditions (sea level rise, flooding, and other natural and security-related man-made impacts)**

# Summary of Feedback

# Summary of Feedback: MPO

- **Survey**

- **Climate resilience criteria need to be clarified**
- **System preservation criteria are helpful in scoring projects**
- **More emphasis on transit system maintenance**



# Summary of Feedback: MPO

- **Survey**
  - Climate resilience criteria need to be clarified
  - System preservation criteria are helpful in scoring projects
  - More emphasis on transit system maintenance
- **Focus Group**
  - Maintenance of existing system before expansion
  - Transit reliability key to mode shift
  - Road condition critical for future AV implementation

# Summary of Feedback: Other

- **RTAC**
  - Increase weighting of resilience criteria
  - Consider more directly degree of improvements

# Summary of Feedback: Other

- **RTAC**
  - Increase weighting of resilience criteria
  - Consider more directly degree of improvements
- **Transportation for America**
  - Issue negative scores for projects that work against resiliency
  - Reexamine weighting of traffic signals, transit assets

# Proposed Changes to Current Criteria

# Approach to Criteria Changes

- Address both state of good repair and modernization
- Expand resilience criteria
- Reference asset management and resilience plans
- Penalize projects in hazard zones that do not address resilience
- Standardize methods for measuring asset condition
- Expand definition of critical facilities
- Tailor criteria to specific investment programs

# System Preservation: Summary

Topic	Updated Criteria
<b>Resiliency</b>	Incorporates resiliency elements into its design
	Demonstrates regional coordination
	Improves emergency response
<b>Asset Repair and Modernization</b>	Improves and/or modernizes existing transit assets
	Improves existing bridges or culverts
	Improves existing pavement condition
	Improves existing sidewalks and paths
	Improves other existing roadway or bicycle/pedestrian facility assets

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# Criterion: Resiliency Elements

Criterion	Project incorporates resiliency elements into its design
<b>Key Features</b>	<p>Awards points for:</p> <ul style="list-style-type: none"><li>• Links to resiliency plans</li><li>• Addressing future conditions (flooding/sea level rise)</li><li>• Using climate-resilient materials or nature-based solutions</li><li>• Improving stormwater infrastructure</li><li>• Protecting the freight network</li></ul> <p>Deducts points if project is located in hazard zone but doesn't address resilience</p>
<b>Updates to Existing Criterion</b>	<ul style="list-style-type: none"><li>• Focuses on sea level rise and flooding</li><li>• Adds emphasis on materials/strategies</li><li>• Introduces penalty</li></ul>
<b>Program Modifications</b>	<ul style="list-style-type: none"><li>• Bicycle/Pedestrian and Transit Modernization Programs don't include freight network score</li></ul>
<b>Discussion Topics</b>	<ul style="list-style-type: none"><li>• Point penalty</li></ul>

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# Criterion: Regional Coordination

Criterion	Project demonstrates regional coordination
<b>Key Features</b>	Awards points for: <ul style="list-style-type: none"><li>• Providing off-site resiliency benefits</li><li>• Proponent coordination with other resiliency projects</li></ul>
<b>Updates to Existing Criterion</b>	<ul style="list-style-type: none"><li>• N/A (new criterion)</li></ul>
<b>Program Modifications</b>	<ul style="list-style-type: none"><li>• N/A (same scoring across investment programs)</li></ul>
<b>Discussion Topics</b>	<ul style="list-style-type: none"><li>• Similar to Community Connections scoring</li></ul>

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# Criterion: Emergency Response

Criterion	Project improves emergency response
<b>Key Features</b>	Awards points for: <ul style="list-style-type: none"><li>• Improving an evacuation route, diversion route, or alternate diversion route</li><li>• Improving connectivity to critical facilities</li></ul>
<b>Updates to Existing Criterion</b>	<ul style="list-style-type: none"><li>• Expands definition of critical facilities to include schools, long-term care facilities, utilities, and other resilience-supporting facilities</li></ul>
<b>Program Modifications</b>	<ul style="list-style-type: none"><li>• Bicycle/Pedestrian and Transit Modernization Programs do not include evacuation route scores</li></ul>
<b>Discussion Topics</b>	<ul style="list-style-type: none"><li>• Critical facilities definition</li></ul>

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# Criterion: Transit Assets

<b>Criterion</b>	<b>Project improves and/or modernizes existing transit assets</b>
<b>Key Features</b>	Awards points for: <ul style="list-style-type: none"><li>• Improving condition of existing transit assets</li><li>• Modernizing existing transit assets</li><li>• (Bonus) Improving operations- or safety-critical or climate-sensitive assets</li></ul>
<b>Updates to Existing Criterion</b>	<ul style="list-style-type: none"><li>• Incorporates roadway-based transit assets</li><li>• Distinguishes between replacing and modernizing assets</li></ul>
<b>Program Modifications</b>	<ul style="list-style-type: none"><li>• Bicycle/Pedestrian Program not scored</li><li>• Transit Modernization Program weighted most heavily</li></ul>
<b>Discussion Topics</b>	<ul style="list-style-type: none"><li>• Bonus points</li></ul>

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# Criterion: Bridges and Culverts

Criterion	Project improves existing bridges and culverts
<b>Key Features</b>	<p>Awards points for:</p> <ul style="list-style-type: none"><li>• Improving structure condition from fair or poor to good</li><li>• (Bonus) Modernizing designs or reducing weight or height restrictions</li><li>• (Bonus) Improving NHS or freight network structures</li></ul> <p>Includes scaled points for improving more than one structure</p>
<b>Updates to Existing Criterion</b>	<ul style="list-style-type: none"><li>• Incorporates new federal good/fair/poor definitions</li><li>• Specifically includes culverts</li><li>• Rewards improvements on specific networks</li></ul>
<b>Program Modifications</b>	<ul style="list-style-type: none"><li>• Bicycle/Pedestrian Program not scored for this criterion</li></ul>
<b>Discussion Topics</b>	<ul style="list-style-type: none"><li>• New bonus points</li><li>• Scaling for multiple structures</li></ul>

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# Criterion: Pavement Condition

Criterion	Project improves existing pavement condition
<b>Key Features</b>	<p>Awards points for:</p> <ul style="list-style-type: none"><li>• Improving pavement condition from fair or poor to good</li><li>• (Bonus) Improving roadway substructure</li><li>• (Bonus) Improving NHS, freight network, or key bus route pavement</li></ul>
<b>Updates to Existing Criterion</b>	<ul style="list-style-type: none"><li>• Incorporates new federal good/fair/poor definitions</li><li>• Recognizes substructure improvements</li><li>• Rewards improvements on specific networks</li></ul>
<b>Program Modifications</b>	<ul style="list-style-type: none"><li>• Bicycle/Pedestrian and Transit Modernization Programs not scored</li><li>• Scaled down point values for Intersection Improvements</li></ul>
<b>Discussion Topics</b>	<ul style="list-style-type: none"><li>• Scaling across investment programs</li><li>• Substructure scoring</li></ul>

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# Criterion: Sidewalks and Paths

Criterion	Project improves existing sidewalks and paths
<b>Key Features</b>	<p>Awards points for:</p> <ul style="list-style-type: none"><li>• Relative quantity of existing sidewalk or shared-use path reconstructed within project area</li></ul>
<b>Updates to Existing Criterion</b>	<ul style="list-style-type: none"><li>• Refocuses scoring on quantity of sidewalk/path improved, rather than existing condition of sidewalk in project area</li><li>• Specifically includes shared-use paths</li></ul>
<b>Program Modifications</b>	<ul style="list-style-type: none"><li>• Higher point values for Bicycle/Pedestrian Program</li></ul>
<b>Discussion Topics</b>	<ul style="list-style-type: none"><li>• Scaling by quantity over existing condition</li></ul>

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# Criterion: Other Facility Assets

<b>Criterion</b>	<b>Project improves other existing roadway or bicycle/pedestrian facility assets</b>
<b>Key Features</b>	<p>Awards points for:</p> <ul style="list-style-type: none"><li>• Improving existing traffic signals</li><li>• Improving other elements, including guard-rails, signage, pavement markings, lighting, or non-bridge structures</li></ul> <p>Includes scaled points for improving more assets</p>
<b>Updates to Existing Criterion</b>	<ul style="list-style-type: none"><li>• Incorporates new elements</li><li>• Reduces focus on current traffic signal condition</li></ul>
<b>Program Modifications</b>	<ul style="list-style-type: none"><li>• Transit Modernization Program not scored</li></ul>
<b>Discussion Topics</b>	<ul style="list-style-type: none"><li>• Inclusion of new assets</li></ul>

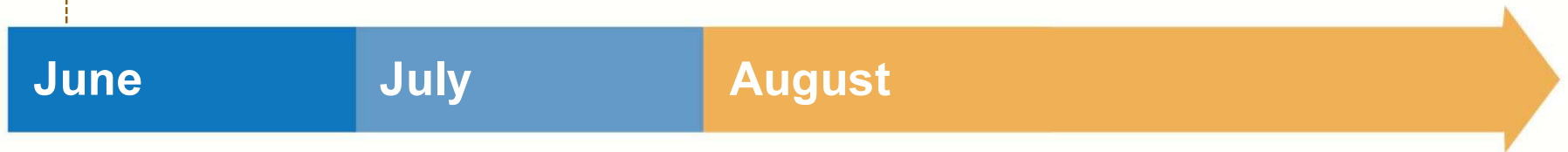
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# Next Steps

# Next Steps

**Today:**

**Discuss System  
Preservation goal area**





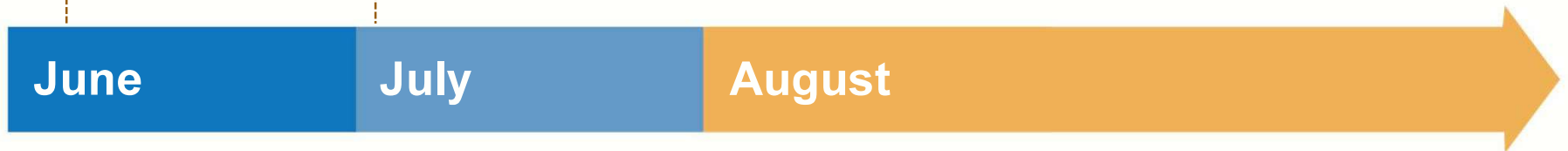
# Next Steps

**Today:**

**Discuss System  
Preservation goal area**

**July 16:**

**Discuss Capacity  
Management goal area**



# Next Steps

**Today:**

**Discuss System  
Preservation goal area**

**July 16:**

**Discuss Capacity  
Management goal area**

**August 6:**

**Discuss Economic  
Vitality goal area & test  
scoring**





# **Addressing Transportation Equity in the System Preservation Goal Area**

**June 25, 2020**

**Betsy Harvey**

**Boston Region Metropolitan Planning Organization**

# Outline

- **Proposed system preservation and modernization criteria to evaluate for impacts on equity populations**
- **Summary of feedback and key MPO decision points**

# Proposed Equity Evaluation Framework

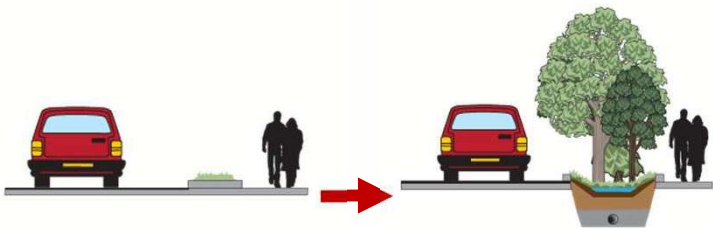
Goal: Evaluate project's impacts on equity populations

## Evaluate Equity Criteria

### System Preservation Criteria



Evaluate equity criteria in each goal area



Improves ability to respond to extreme conditions



Base Score

X

## Identify Equity Populations in Project Area



Determine the share of the equity population and compare to the regional average



Equity Multiplier

= Final Score

# Proposed Criteria

## HOSPITAL ENTRANCE

- Improves transit asset(s)
- Improves ability to respond to extreme conditions
- Improves emergency response
- Improves substandard sidewalk(s)
- Demonstrates regional coordination
- Improves substandard pavement
- Improves substandard roadway bridge(s)
- Improves substandard traffic signal equipment

Maintaining the existing transit system...is critical to economic development, social justice, and climate resiliency.



# Summary of Input

- **Different populations benefit differently from various types of transportation improvements**
  - **What does the intersection of demographic indicators tell us about transportation needs and vulnerability?**
- **Transportation investments have disproportionately affected some residents more than others, in particular people of color and people with low-incomes**

# Populations with Multiple Indicators of Potential Transportation Disadvantage

Income Status	Total Population	Minority Population	Nonminority Population
Low-income	682,162	53%	47%
Non-low-income	2,449,429	25%	75%
Poverty Status Not Determined	118,878	36%	64%



# Populations with Multiple Indicators of Potential Transportation Disadvantage

Access to Personal Vehicle	Total Population	Minority Population	Nonminority Population
Zero Vehicles	351,338	52%	48%
One or More Vehicles	2,769,623	29%	71%
N/A (Residents in Group Quarters)	129,507	36%	64%

# Populations with Multiple Indicators of Potential Transportation Disadvantage

Access to Personal Vehicle	Total Population	Low-income	Non-low-income	Poverty Status Not Determined
Zero Vehicles	351,338	<b>58%</b>	<b>42%</b>	0%
One or More Vehicles	2,769,623	17%	83%	0%
N/A (Residents in Group Quarters)	129,507	10%	1%	89%

# Key MPO Decision Points

- **How should equity populations be weighed relative to each other?**
  - Set using the equity index
- **How should the equity goal area be weighed relative to the other goal areas?**
  - Set using the equity multiplier