BIG IDEAS: SUMMARY OF FORCES AND STRATEGIES

The Boston Region Metropolitan Planning Organization (MPO) plans to use exploratory scenario planning when developing *Destination 2050,* its next long-range transportation plan. Exploratory scenario planning processes envision multiple possible futures (or scenarios) to assess how to best prepare for uncertainties while pursuing an overarching vision.[1] MPO staff conducted the *Informing the Big ideas Behind the MPO's Scenario Planning Process* project in 2021 to gather stakeholder input for scenario planning. During a series of virtual focus groups, participants discussed driving forces they expect to shape the future and strategies that could respond to these forces. More details about the Big Ideas discussions are available in the MPO's ArcGIS StoryMap titled [Big Ideas: Uncertainties, Possibilities, and Strategies for Greater Boston's Transportation Future](). MPO staff's next step is to work with MPO members to process, refine, and add to the information focus group participants provided about driving forces and strategies. The tables in this document can serve as references as MPO staff and members undertake this next step. This work will help MPO staff create potential future scenarios that MPO members can prioritize for analysis.

Table 1 describes MPO staff's synthesis of driving forces mentioned during the focus groups. Driving forces are outside of our direct control, such as changes in society, the environment, or the economy. These forces can lead to likely outcomes (certainties), or unpredictable outcomes (uncertainties).[2] These forces are organized by major themes in the table. During the focus groups, participants also shared feedback about the relative importance of various forces in their view and how certain they were that these forces would have an impact. This information is also reflected in the table.

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[1] Jeremy Stapleton, *How to Use Exploratory Scenario Planning: Navigating an Uncertain Future* (August 2020), page 8, accessed October 14, 2021. https://www.lincolninst.edu/publications/policy-focus-reports/how-use-exploratory-scenario-planning-xsp.

[2] Diana Scearce and Katherine Fulton, *What If? The Art of Scenario Thinking for Nonprofits*, (Global Business Network 2004), page 27, accessed October 14, 2021. https://community-wealth.org/content/what-if-art-scenario-thinking-nonprofits.

Table 1
Big Ideas Focus Group Feedback: Driving Forces

Force	Level of Importance and Certainty
Environment	
Climate change (including sea level rise, precipitation, higher temperatures, and extreme weather)*	Very important, very certain (expected increase in climate change and related effects)
Environmental policy action	Very important, mixed perspectives on certainty
Technology	
Electric vehicle use	Very important, very uncertain
Autonomous vehicle technology	Important, uncertain
Autonomous vehicle use	Important, very uncertain
Autonomous vehicle policies	Very important, uncertain
Smartphone use for transportation access	Very important, very certain (expected use to continue)
Internet support for remote work and services	n/a
Data availability for transportation management	Important, uncertain
Micromobility use	Certain (expected increase in use)
Transportation technology for freight delivery	Uncertain
New and emerging transportation technologies	Uncertain
Equitable access to technology	Important
Demographics	
Aging population*	Very important, very certain (expected aging of population)
Migration to Greater Boston	Important, certain (expected increase in migration)
Demographic diversity	Certain (expected increase in diversity)
Systemic racism	Very important, certain (expected systemic racism to continue)
Economy	
Remote work activity*	Important, uncertain
E-commerce activity	Important, very certain

Force	Level of Importance and Certainty
Automation	n/a
Energy use by type (renewables or fossil fuels)	Important, mixed perspectives on certainty
Energy policy	Very important, certain (expected support for renewable energy)
Core regional economic sector activity	Important, uncertain
Income inequality*	Important, certain (expected increase in income inequality)
Consumer Preferences	
Preferences for urban or suburban living*	Very important, uncertain
Preference for owning personal vehicles	Uncertain
Preference for local trips	n/a
Preference for active transportation	Certain (increase in preference for using active transportation)
Preference for using transit	Important, uncertain
Concerns about public health or exposure risk	Very important, very uncertain
Housing and Land Use	
Housing demand	Uncertain
Housing production	Very important, very uncertain
Housing affordability*	Important, certain (expected lack of affordable housing)
Development density	Uncertain
Displacement	Certain (expected displacement from development and investment)
Policymaking	
Political/partisan conflict	Uncertain
Bureaucratic fragmentation across government agencies	n/a
Funding for transportation infrastructure Improvements*	Very important, very uncertain
Focus on equity in policymaking	Certain (expected increase in policy action to address inequities)

* Thoughts related to this force were frequently mentioned across the focus groups.
n/a = not applicable.
Source: Boston Region Metropolitan Planning Organization.

Table 2 describes MPO staff's summary of the range of strategies suggested by focus group participants to address future conditions. These strategies—which include investments, policies, and planning approaches—are generally organized by theme, although for some strategies multiple themes may apply. The table provides additional details for these strategies, where applicable.

Table 2
Big Ideas Focus Group Feedback: Suggested Strategies

Strategy	Details
Environment	
Manage stormwater.	Establish blue spaces; manage storm drains and sewers; and reduce urban hardscaping.
Reclaim green space.	Use green space for agricultural production.
Provide shelter from heat and weather for bicyclists, pedestrians, and transit users.	n/a
Support community relocation from climate affected areas.	n/a
Move people using water transportation.	n/a
Promote use of hybrid and electric cars.	n/a
Electrify transit vehicles and infrastructure.	n/a
Incentivize use of solar panels and renewable energy.	n/a
Monitor air pollution.	n/a
Increase transit options in communities of color.	n/a
Support flexible transportation options, particularly buses.	Flexible options could be rerouted in response to flooding or sea level rise.
Develop contingency plans for extreme weather events.	n/a
Technology	
Form partnerships with tech industry to prepare for new modes (for public agencies).	n/a
Provide subsidies for advanced technologies.	One example would be to subsidize e-bikes.
Regulate or limit autonomous vehicles, particularly personal autonomous vehicles.	n/a
Support autonomous technology applications for transit.	n/a

Strategy	Details
Provide better transit to reduce the proliferation of personal electric vehicles.	n/a
Use electrified micromobility to support last-mile service to transit.	n/a
Regulate transportation network companies (TNCs).	Examples include requiring TNCs to share data or use public apps.
Create regulations to manage personal data.	n/a
Demographics	
Increase transportation options in communities (including accessible options).	This strategy also addresses consumer preference and housing and land use issues.
Apply universal and human-centered design principles when building infrastructure.	n/a
Measure efforts to support aging-in-place.	n/a
Keep sidewalks clear in the winter for seniors and people with disabilities.	n/a
Economy	
Make transit responsive to changing remote work patterns.	This may include reducing focus on commute trips while considering a broader array of trip types.
Involve service, gig economy, and low wage workers and other forgotten workers in transportation decisions.	n/a
Increase transit service to areas that need it for economic participation.	n/a
Regulate truck movement in urban areas.	Regulations should address safety concerns for people who walk and bike.
Invest in areas that foster equitable growth and help maintain the state's competitive edge.	n/a
Consumer Preferences	
Close gaps in bicycle networks.	n/a
Provide bicycle amenities, such as parking, at transit stations.	These amenities support people riding bicycles to make last-mile connections to transit.
Promote the value of public transit.	Transit should be considered a public good.
Make transit safe, comfortable, reliable, frequent, and fast.	n/a

Strategy	Details
Use promotions to attract people to transit services.	n/a
Invest in public health measures to mitigate concerns that may keep people from riding transit.	n/a
Housing and Land Use	
Provide affordable housing with accessible transit.	n/a
Use inclusionary zoning to create more affordable housing.	n/a
Implement transit-oriented development.	n/a
Provide more transportation options in town centers.	n/a
Mitigate gentrification and displacement pressures that may result from transportation-related investments.	n/a
Create 15-minute communities.	In 15-minute communities, residents can access all their daily needs within a 15-minute walk from home.
Ensure neighborhood walkability for people of all ages.	n/a
Support last-mile connections to transit stations and urban centers.	Examples include municipal bus circulators and bicycle infrastructure. Consider the street network an extension of the transit network to support these connections.
Policymaking	
Consider the full life-cycle effects of transportation investments.	Transportation investments can have effects for decades.
Collaborate with other planners across sectors.	Examples of other sectors include housing, energy, and land use.
Rethink where transit needs and demands are.	n/a
Consider how gender may affect trip making.	n/a
Make decisions proactively, without expecting remote work or electric vehicle access to resolve transportation problems.	n/a
Support experimentation, innovation, systematic thinking, flexibility, and transparency when preparing for the future.	n/a

Strategy	Details
Promote public awareness and gather support for better transportation policies.	n/a
Adjust transportation funding formulas to redirect funding from highways to transit.	n/a
Use corporate impact fees to pay for transit improvements.	n/a
Fund transit improvements using regional ballot initiatives or programs like the Transportation and Climate Initiative.	n/a
Support regional governance.	n/a
Develop long-term funding models that promote transit system sustainability.	n/a
Relieve the MBTA of debt from the Big Dig (Central Artery) project.	n/a
Explore public private partnerships to improve transit.	n/a
Make transit more affordable to riders.	Examples include expanding low-cost pass products for commuters, establishing low-income fares, and exploring opportunities for free fares.
Other Transit Strategies	
Increase funding for microtransit and bus routes.	Some of these routes could be operated by private companies.
Focus on updating existing systems or expanding transit coverage rather than building new systems.	n/a
Use high-capacity buses to provide support safe, fast, and reliable service.	n/a
Continue to develop dedicated bus lanes.	n/a
Continue to implement transit-signal-priority infrastructure in priority corridors.	n/a
Establish more through-connectivity in the bus system.	n/a

Strategy	Details
Support easier connections between buses and other modes.	n/a
Break down boundaries between regional transit authorities to improve connections.	n/a
Develop bus systems that are sensitive to changing topographies and amenities in the region.	n/a
Maintain ongoing dialogue with communities that depend on transit.	These relationships may help restore riders' faith in the system after service problems happen.

MBTA = Massachusetts Bay Transportation Authority. n/a = not applicable.
Source: Boston Region Metropolitan Planning Organization.