

Scenario Planning for MassDOT and the MBTA

October 19, 2020 Board Meeting

Scenario Development:

Overview

- MassDOT and the MBTA have developed three short-range scenarios (FY21 to FY23) for planning purposes
- The scenarios are shaped by three primary drivers— the evolution of COVID-19 impacts, the pace of economic recovery, and changes to travel behavior
- The scenarios will allow MassDOT to plan for potential changes in travel behavior and Vehicle Miles Travelled (VMT), which drives both congestion and greenhouse gas emissions, and for the MBTA to plan for potential changes in ridership
- The scenarios will be updated iteratively as indicators change

Scenario Development:

Drivers

COVID

- Infection Abatement

THE ECONOMY

- Employment by Industry
- Number of Households

TRAVEL BEHAVIORS

- Vehicle Miles Traveled
- Teleworkers by Industry
- Telework Days per Week

Scenario Development:

Data Sources

The Office of Transportation Planning (OTP) purchased from Moody's Analytics economic forecasts and selected economic indicators for the Boston metropolitan area to inform **THE ECONOMY** indicators

Moody's indicators are themselves driven by assumptions about **COVID** abatement, which were used to inform scenario development

Moody's industry-specific economic forecasts (and their included epidemiological assumptions), along with results from the MBTA Employer Survey and data from the Bureau of Labor Statistics (BLS), were used to generate projections about telework and VMT that inform **TRAVEL BEHAVIORS**



Summary Narrative:

Scenario 1 (2021-2023)

- **Under this scenario, economic, demographic, and mobility patterns gradually return to mostly pre-COVID conditions with few changes in travel behavior and only slight increases in the number of teleworkers.**
- Travel and business restrictions are lifted and consumer spending slowly increases. Some people return to pre-COVID activities like dining out, shopping, and travel, but these activities are seasonal and geographically concentrated outside of the inner core communities and in places that can accommodate social distancing.
- In those industries that have historically supported teleworking (pre-COVID), half of employees choose to work exclusively from home but only for one day per week; flexible work arrangements become more common.
- Mid-day and evening traffic volumes effectively return to 'normal' by Q2 2022, while morning peak period traffic returns to pre-COVID levels by Q3 2022. After returning to pre-COVID levels, overall traffic across all time periods continues to grow at pre-COVID rates.

Summary Narrative:

Scenario 2 (2021-2023)

- **Under this scenario, travel patterns diverge from economic recovery as consumers and employees adapt to a new normal - especially in light of new and emerging remote meeting and e-commerce technologies.**
- Travel and business restrictions are lifted and consumer spending slowly increases but consumers have increasingly shifted previously in-person activities like shopping to digital and e-commerce. Telehealth appointments are common and higher education is increasingly online.
- In those industries that have historically supported teleworking (pre-COVID), half of employees choose to work exclusively from home an average of three days per week as employers are more comfortable with enterprise-wide tools for remote meeting space and cloud-based file access; flexible work arrangements become more common.
- Trends with respect to traffic volumes and peak period travel break from historic patterns. Morning and evening rush hours remain consistently lower throughout the forecast period and beyond. Mid-day volumes grow significantly compared to pre-covid periods, reflecting more flexible work arrangements and an extended departure from previous daily routines.

Summary Narrative:

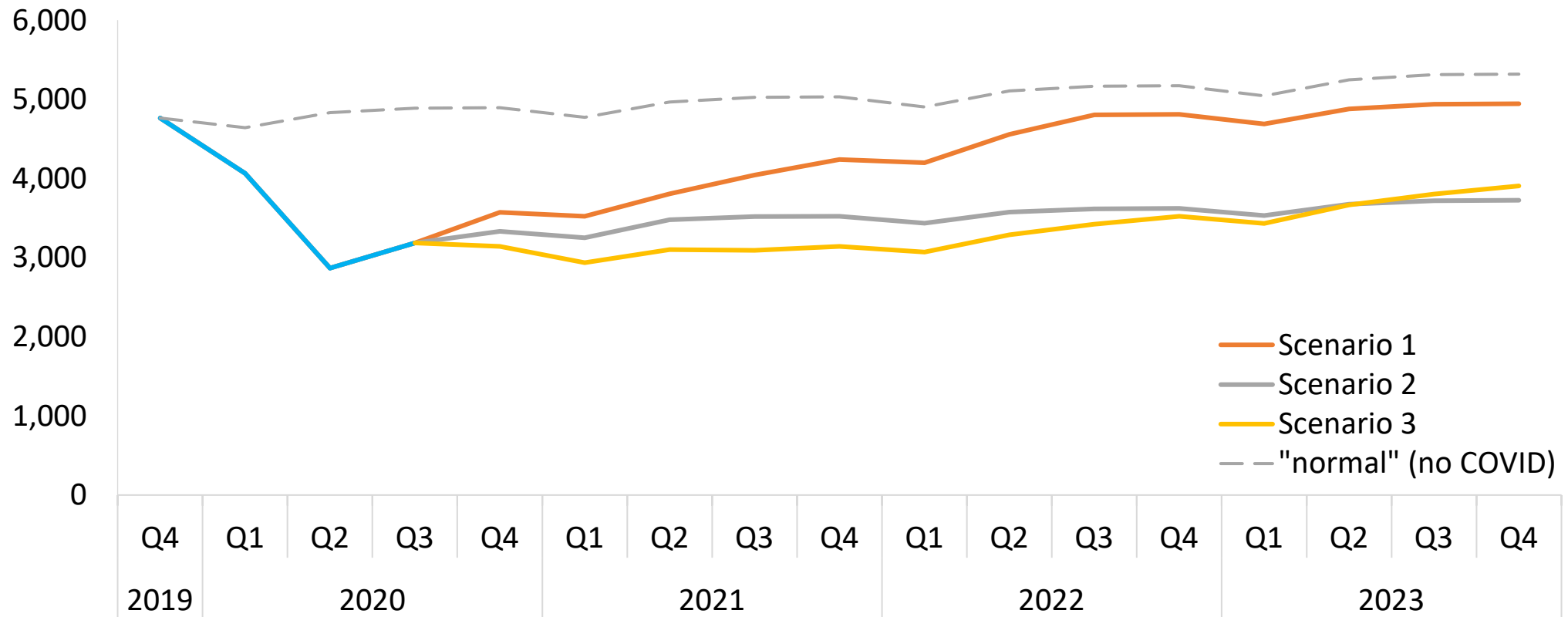
Scenario 3 (2021-2023)

- Under this scenario, the economic impacts of COVID continue to depress travel and mobility for a longer period of time, especially on the MBTA. Telecommuting becomes the standard practice for the foreseeable future.
- The period in which at least some travel and business restrictions remain in place is longer in this scenario. In addition, discretionary spending including spending on travel remains lower.
- Half the workforce in tele-workable industries continues to work remotely but does so much more often than they did pre-COVID (on average, three days per week) because teleworking habits have had more time to form and employers see productivity benefits and savings in downtown real estate costs.
- Traffic continues to be depressed compared to pre-COVID levels, but trends are consistent with pre-COVID patterns in terms of seasonality and peak period versus midday travel volumes. With the continued higher rates of telecommuting, VMT across all time periods does not return to pre-COVID levels within the forecast period.

Scenario Implications:

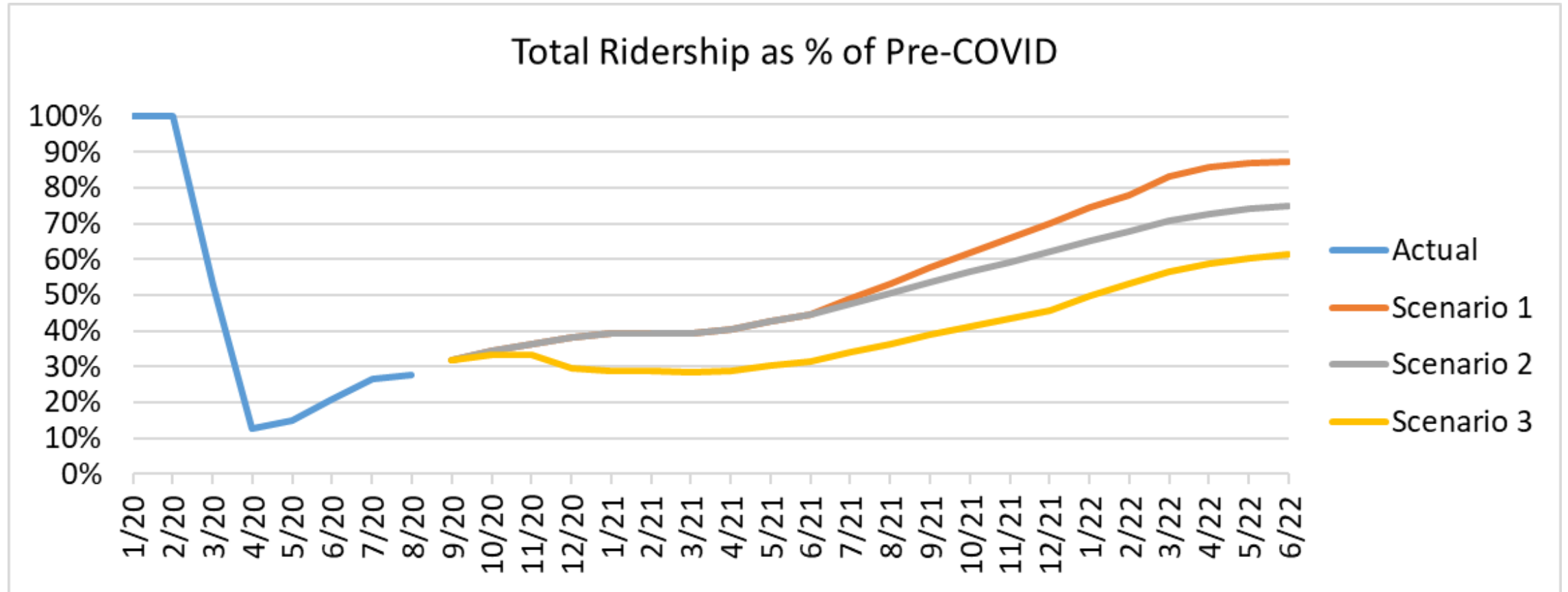
VMT

VMT - AM Peak Period (6-9am), (Ths. #)



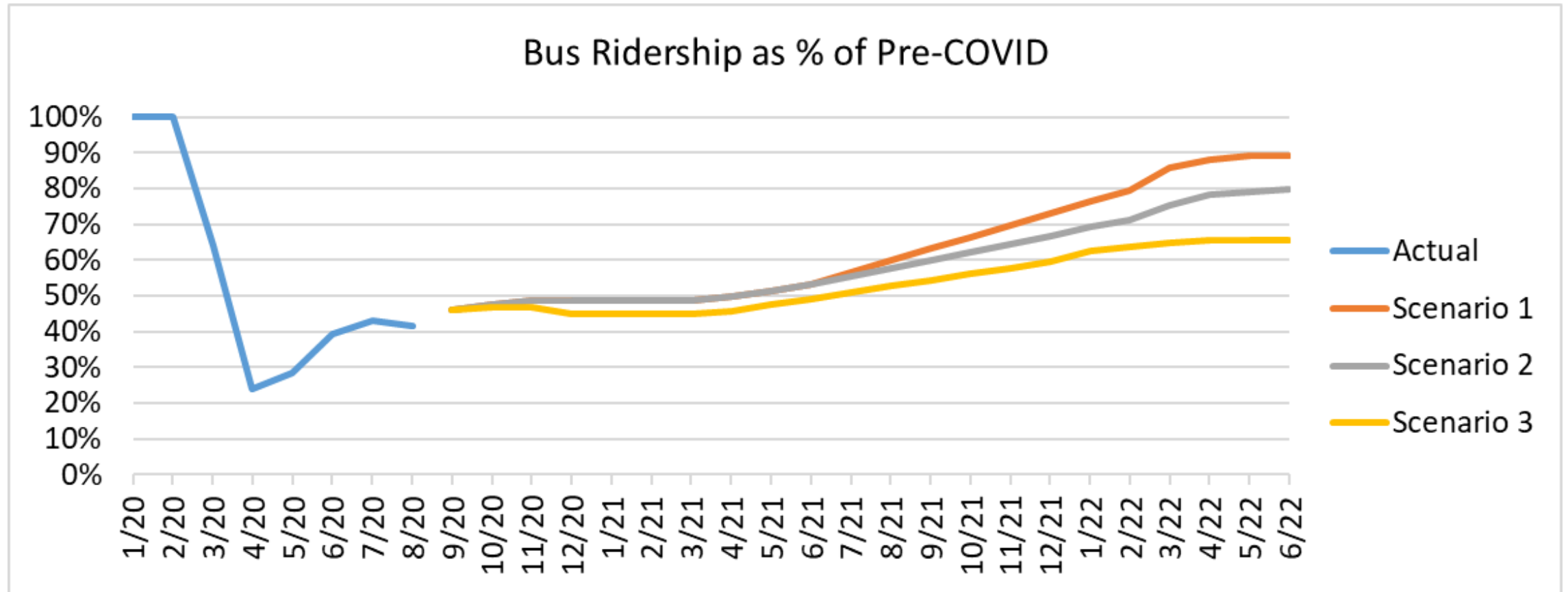
Scenario Implications:

MBTA Ridership: Total



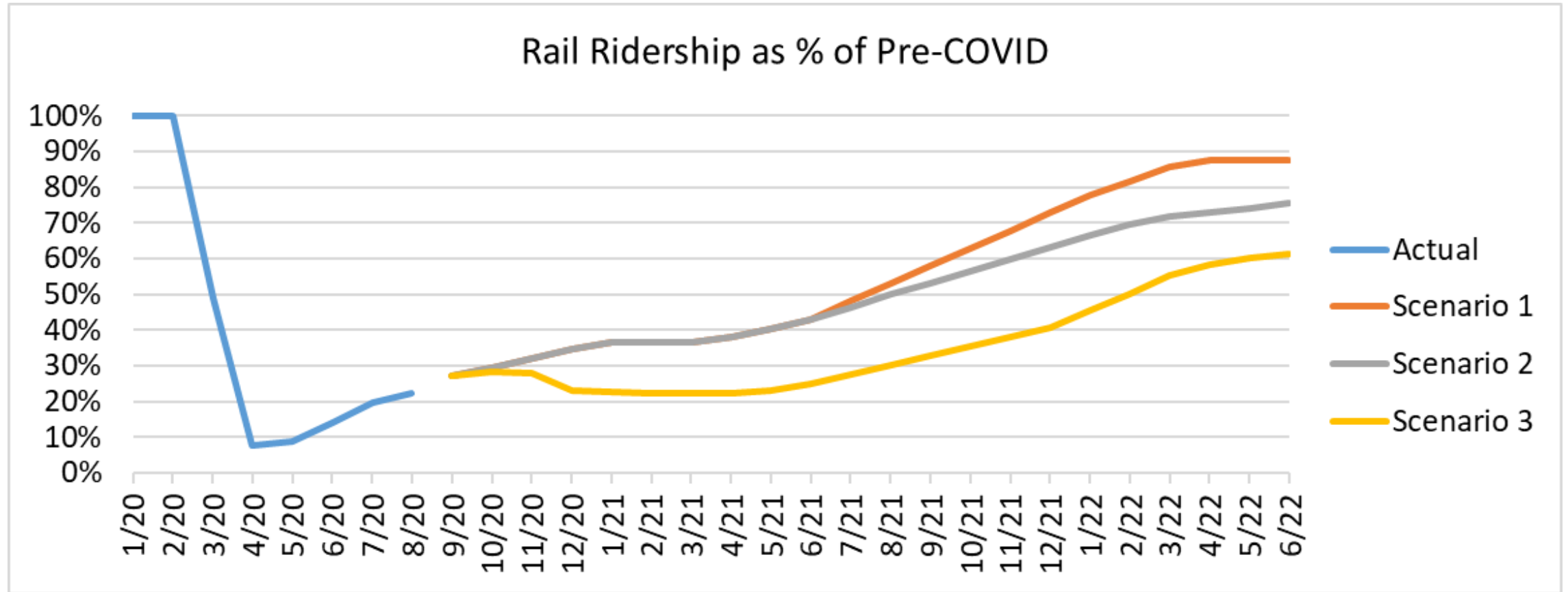
Scenario Implications:

MBTA Ridership: Bus



Scenario Implications:

MBTA Ridership: Rail



Scenario Implications:

MBTA Ridership: Commuter Rail

