Using new mobilities for post-COVID transit recovery strategies

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WCTR SIG F1 & AUM Webinar

Impact of COVID-19 on transport and spatial development: an international perspective

February 25, 2021

Agenda

- Background
- Pre-COVID trends
- COVID-induced impacts
- Challenges for post-COVID transit
- How can we move forward?

Background

The world we live in today

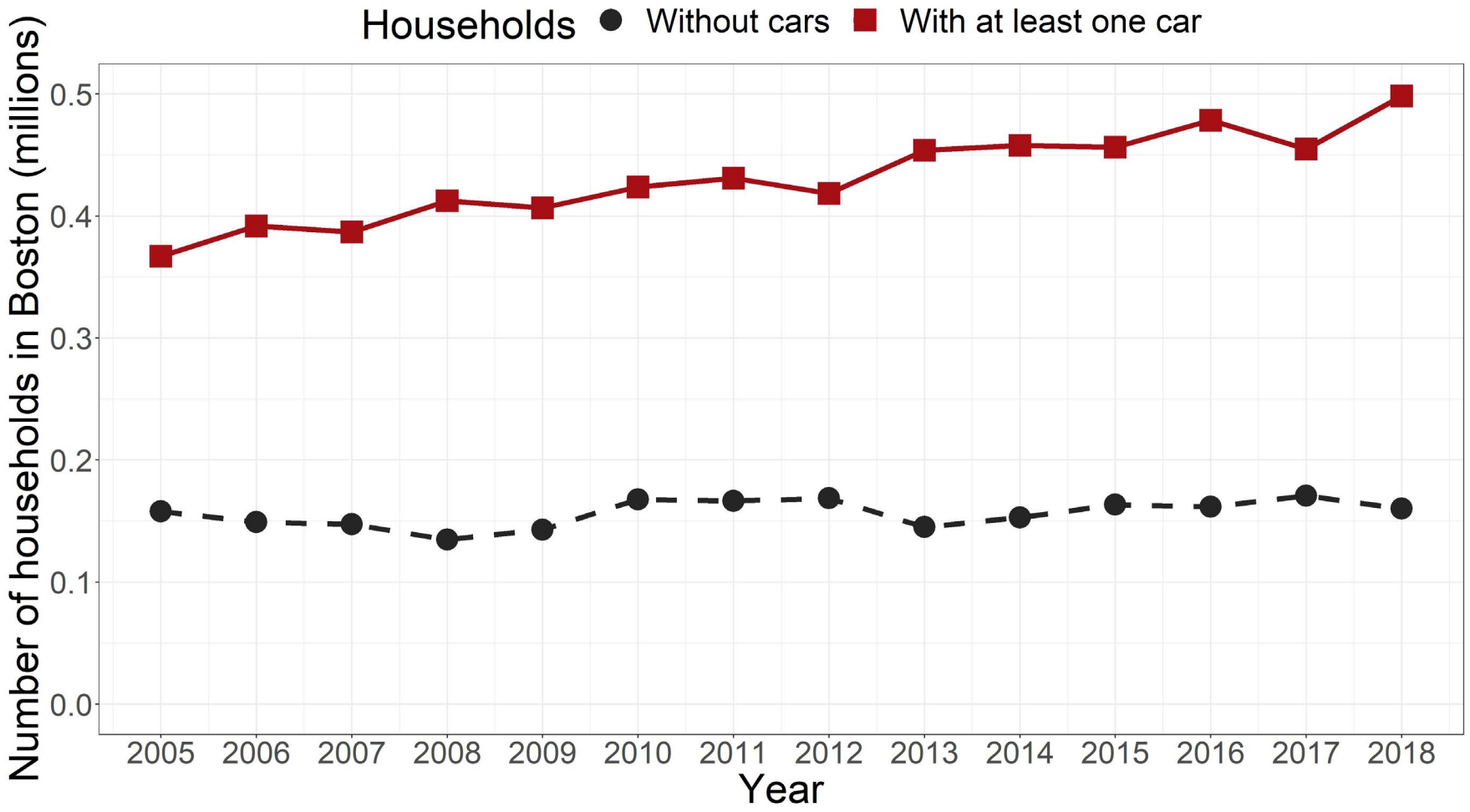
- ~112 million COVID cases
  - > 28 million in the US (25%)
- ~2.5 million COVID deaths
  - ~500,000 in the US (20%)
- ~20.5 million (13% of workforce) individuals in the US claiming unemployment benefits
- Evictions, food security, mental health, …

Pre-COVID trends

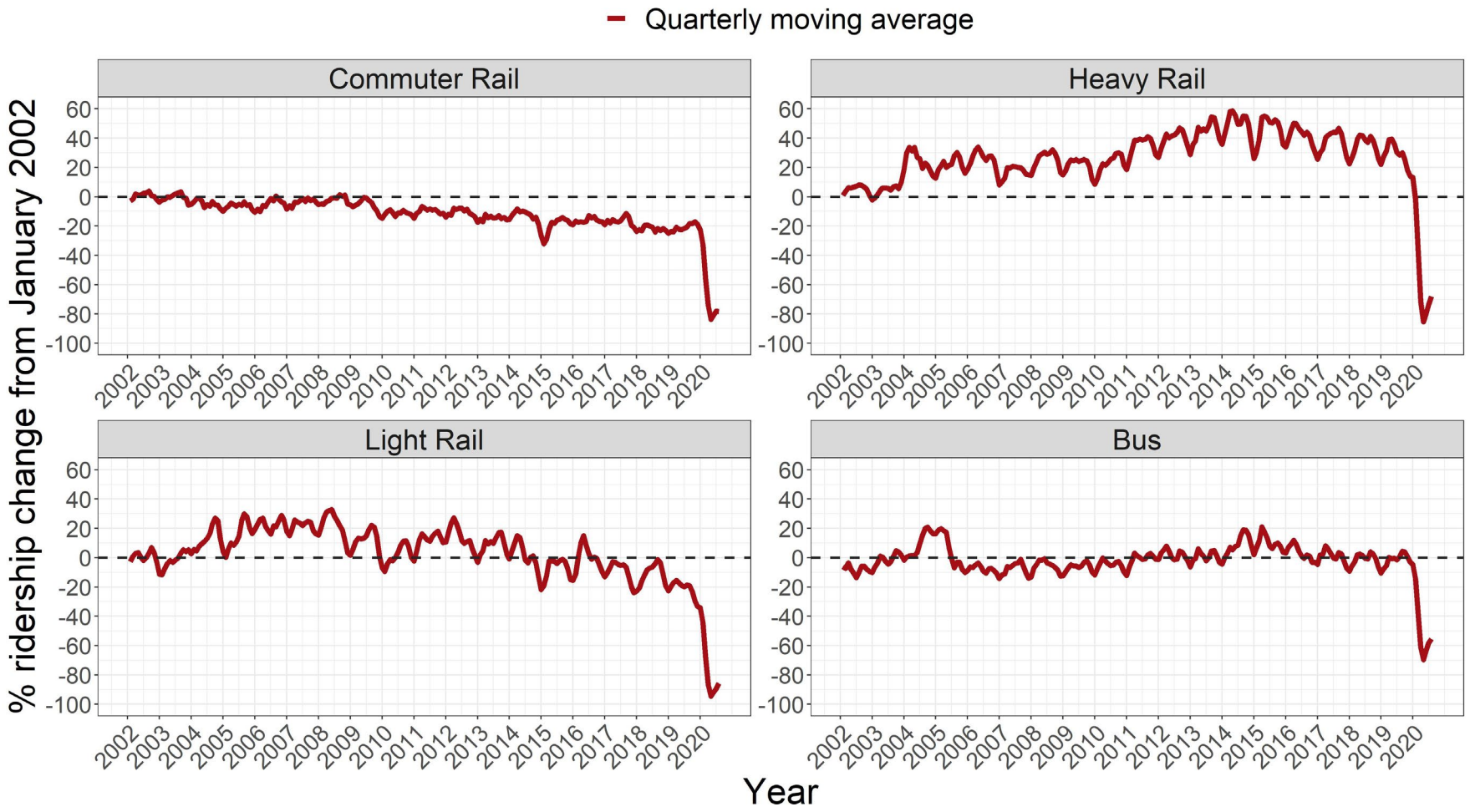
Metro Boston at a glance

- **Highly auto-dependent**
  - > 91% of households own at least one vehicle
  - > 90% of car commutes are made with single-occupancy vehicles
- Ranked the **most congested city in the US** by INRIX twice in a row
  - Drivers lose $2,205/year stuck in traffic
  - Lost hours cost Boston's economy $4.1 billion
- Average speed during the last mile of a car trip: 12 mph

Private vehicle ownership on the rise



Transit ridership on the decline



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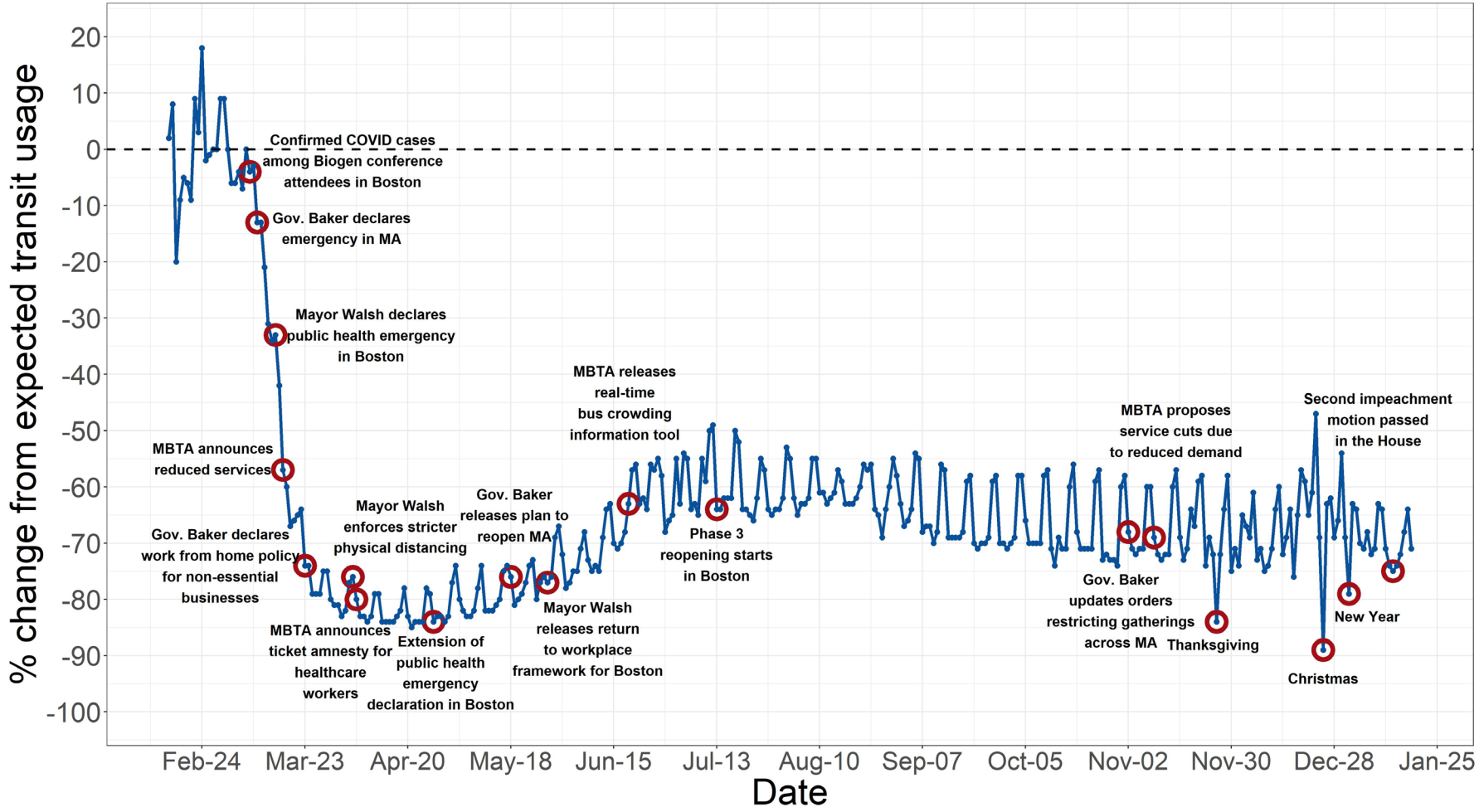
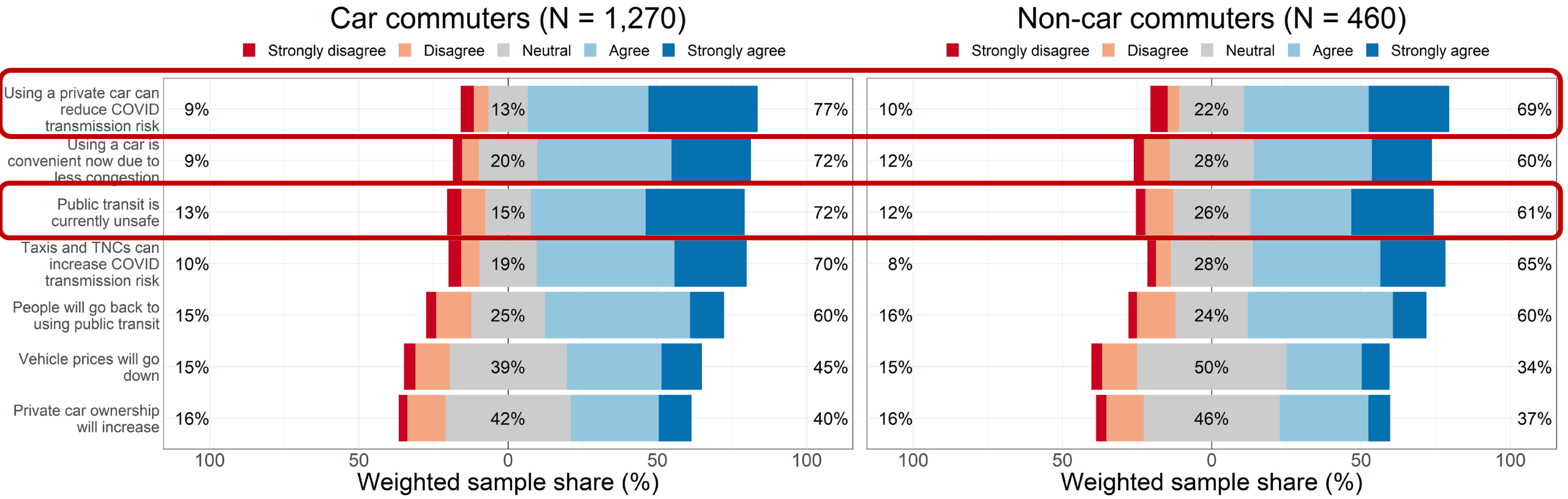
COVID-induced impacts

Effect of COVID-19 on transit ridership

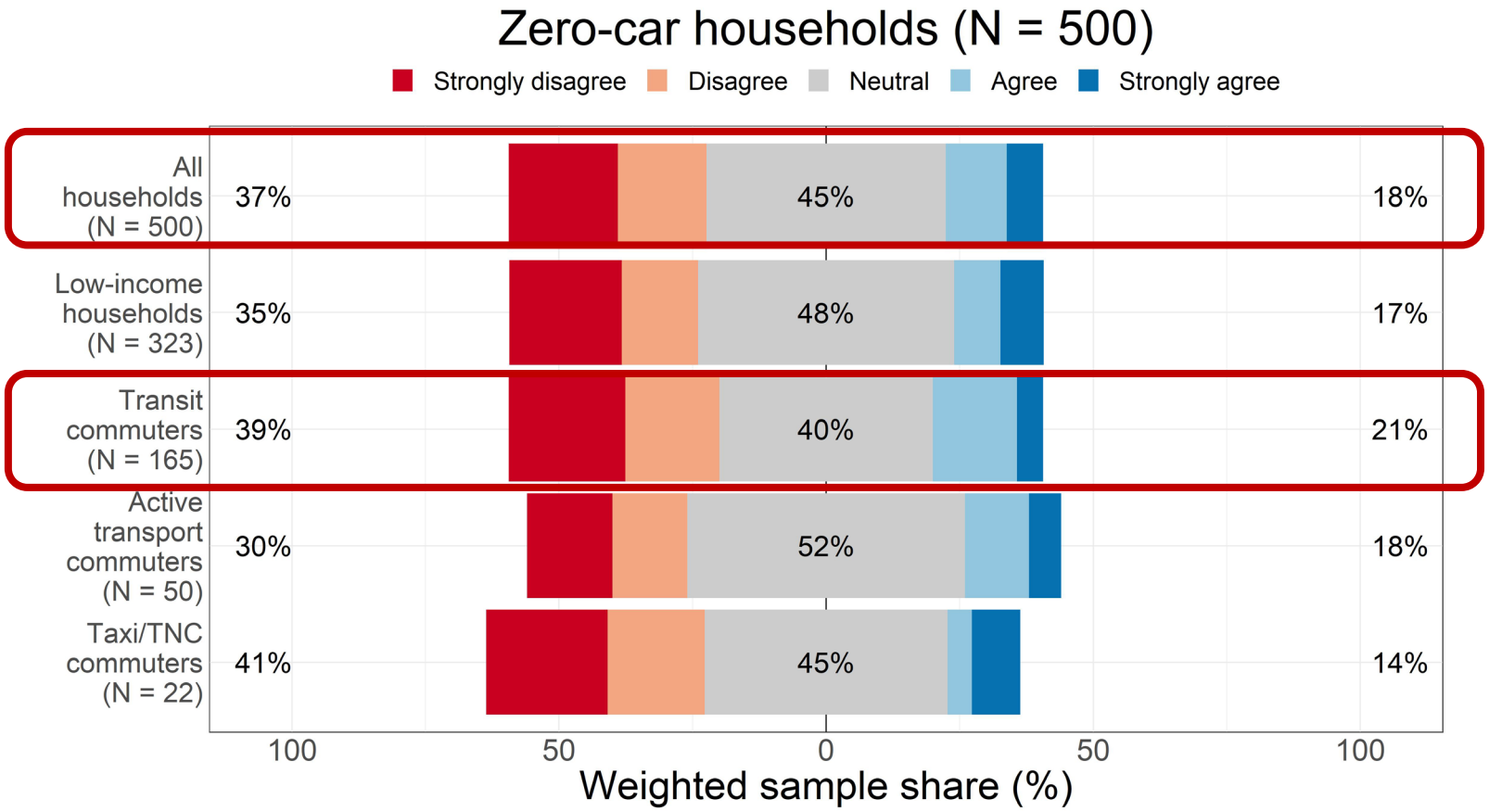


Perceptions of mobility options



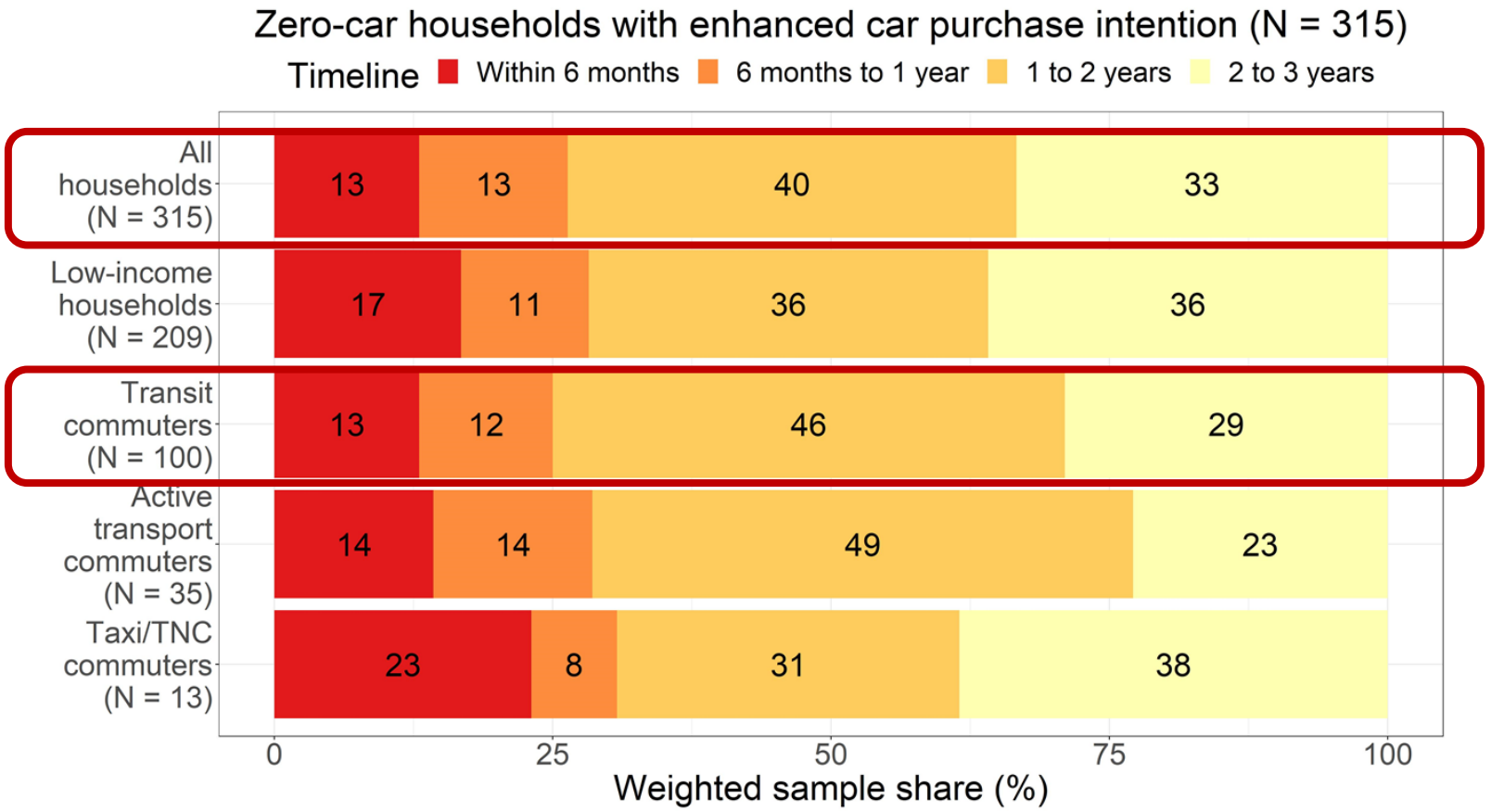
Car purchase intentions

Has COVID-19 enhanced your intention to purchase a car?



Car purchase intentions

How soon do you intend to purchase a car?



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Challenges for post-COVID transit

Primary challenges

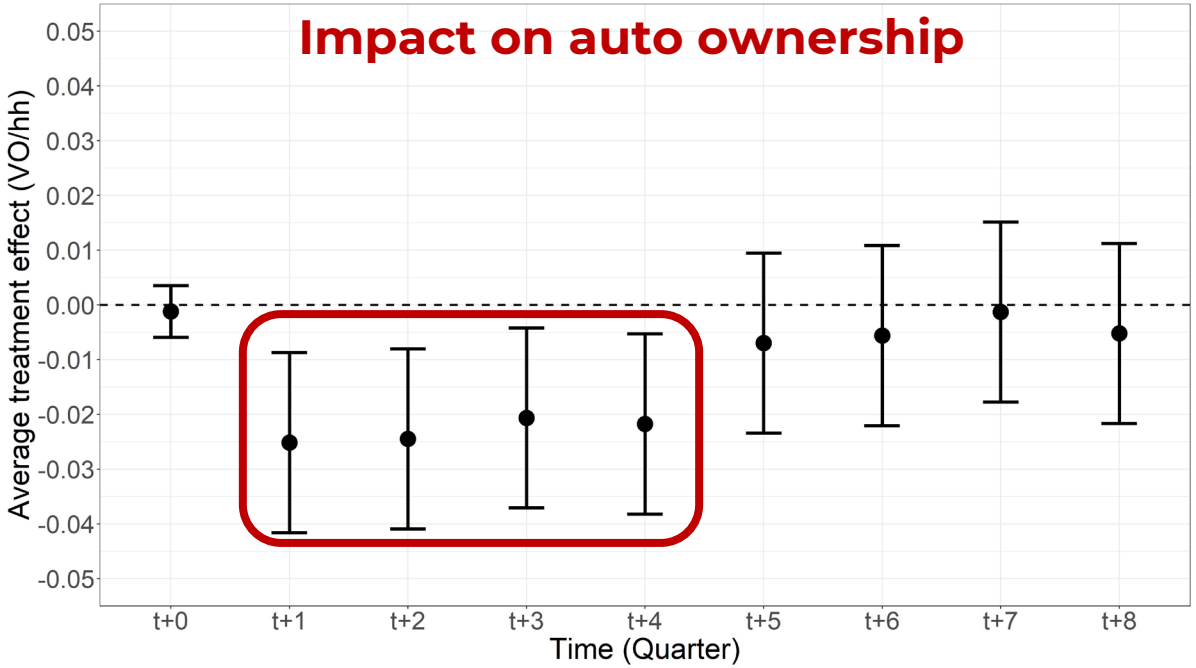
- Crowding risk on public transit
- Perceptions of mobility options
- Car purchase intentions of zero-car households
- Substitution effect of ride-hailing services

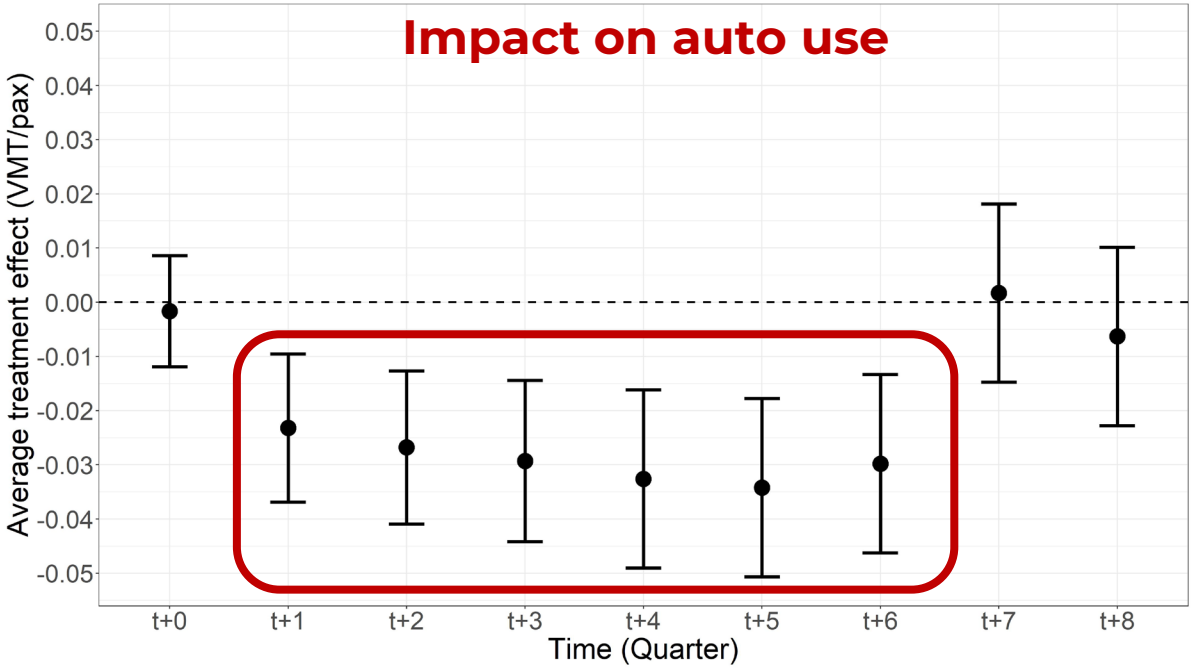
How can we move forward?

Transit service improvements

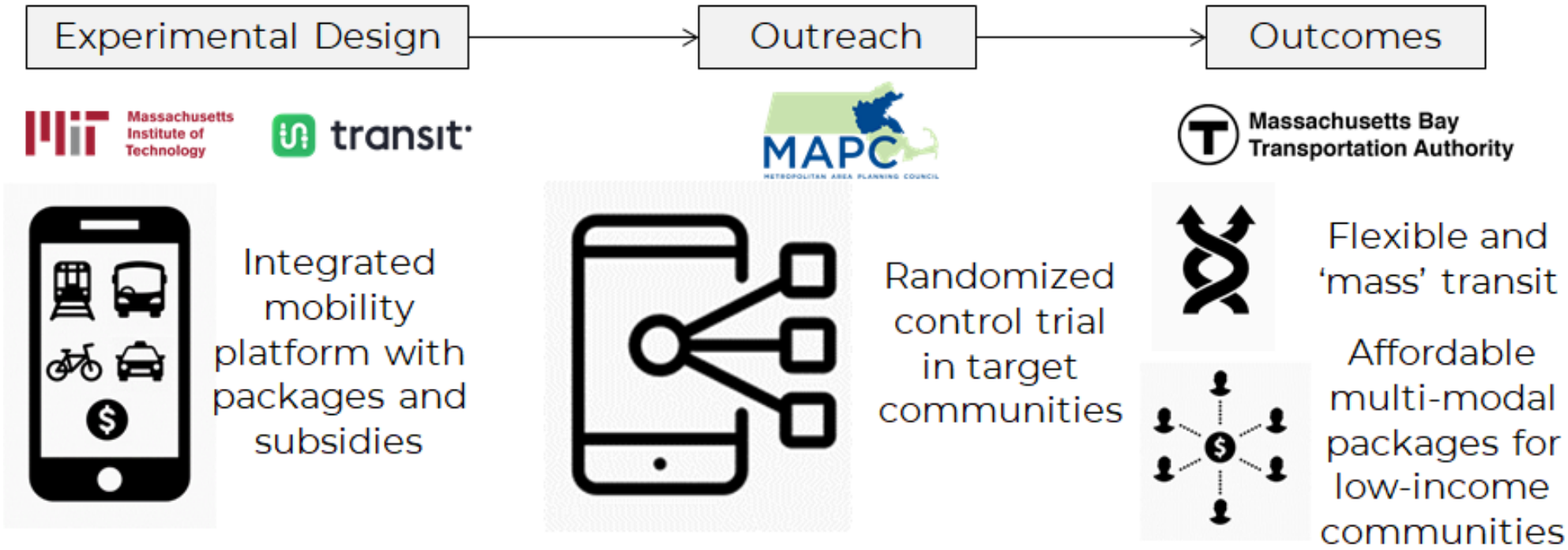
- Near-term strategies
  - Real-time crowding information
  - Safety measures, e.g. sanitation, mask requirements
- Longer-term strategies
  - Flexible scheduling
  - Bus transit priority

Bikesharing feeders to transit





MaaS for *mass* transit



NSF CIVIC Planning Grant

Flexible Mobility-as-a-Service to Improve Post-Pandemic Regional Sustainability

References

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- **Impact of bikesharing on auto ownership, use, and GHG emissions**
  - Basu, R. & Ferreira, J. (2021). Planning car-lite neighborhoods: Does bikesharing reduce auto-dependence? *Transportation Research Part D: Transport and Environment*. doi: 10.1016/j.trd.2021.102721

Thank you! Questions?

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