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2021 RESEARCH PROJECT STATEMENT

Research Topic:

Outdoor Information Panels to Convey Real-Time Travel Information for Ridership Recovery

Estimated Budget and Timeline:

- \$100,000-\$125,000
- 16-21 months (of which final 3 months are for review)

Problem Statement and Objectives

The MBTA has launched an Outdoor Information Panels ("OIP") program. This will update legacy outdoor advertising locations or add other strategic locations near major roadways through digitization, where 25% of the playlists will have dedicated "set aside" time for MBTA purposes. As all locations eligible for digital upgrade will be near decision-making points for persons in vehicles, optimizing MBTA set aside time with real time travel information ("RTTI") (e.g. train departures, parking availability) will be critical information delivery to users of transit and to non-users to 'nudge' them towards a behavior change at that point or in the future.

The MBTA wishes to best understand which RTTI meets the needs of current ridership connecting to transit by vehicle, how RTTI can be used to incentivize off-peak travel and how RTTI may lead to mode-shifting based on the value proposition(s) of information presented. Further, it is of interest to draw inference on the potential decreases to carbon emissions brought forth through anticipated increases in transit use.

In the era of covid-19 and its aftermath, using RTTI for occupancy data will also be crucial for rider trust and relaying the information in an understandable way to vehicular traffic must be studied and implemented.

Anticipated Outcomes and Deliverables

Referent to MBTA's OIP assets' set-aside time, the MBTA is seeking a policy and a process on how to make use of this time with RTTI to target different ridership typologies (e.g. the frequent vs infrequent user) during different time periods (peak vs. off peak vs. special events) and the variations required per location to optimize flow to modes with capacity (e.g. Greenbush Commuter Rail vs. Red Line on the South Shore). This is best informed by surveying the traveling public both before and after program sites are implemented.

Beyond policy and tooling, testing prototypes the MBTA designs for displaying RTTI and their acceptability to drivers will be important to establishing design guidelines (e.g. font sizing, color).



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The MBTA would also benefit from parameters that would inform tools that predict net benefits to public health through reduced emissions and to the lessened traffic burden by way of RTTI interventions.

At present, the MBTA anticipates the first OIP sites to be live in the fall of 2020. The first 6 months of the project should be dedicated to surveying through phone interviews and focus groups among a variety of populations in areas before a site is operationalized, with further sub-refinement that is geographically-targeted (e.g. near underutilized commuter rail). This will provide initial policy and process.

The second phase will be post-intervention, intended to survey the acceptability and value of the presented RTTI in the live environment, evaluate and refine design of displayed RTTI and look for further opportunities for RTTI to inform mode-shifting. Finally, applying parameters to build sensitivities for RTTI into existing carbon-emission tools can function as a predictor of lessened greenhouse gas emissions that can be utilized to inform net benefits of future program roll-out.

Deliverables:

1. Map layers that include current and expected sites, along with influence radii.
2. Proposed RTTI content, cadence and/or most accepted format(s) for display
3. Survey data at agreed upon intervals to inform iteration
4. Final Report
5. Final Presentation