

Research Summary

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

Research Need

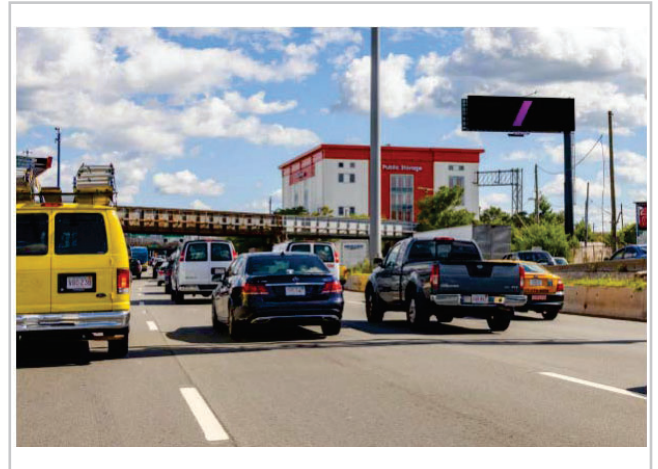
The MBTA has launched an Outdoor Information Panels (OIP) program. This will update legacy outdoor advertising locations or add other strategic locations near major roadways through digitization, for which 25% of the playlists will have dedicated "set aside" time for MBTA purposes. Research is needed to optimize the set aside time with real time travel information (RTTI), with an aim of nudging travelers towards more transit use.

Goals/Objectives

The MBTA seeks to determine 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. 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 must be studied.

The project objectives include:

1. Develop guidelines for determining the location, content, graphic design and cadence of OIPs with high potential for incentivizing mode shift, recovering ridership loss due to COVID-19, and building rider trust post COVID-19.
2. Understand transit users and non-users preferences of RTTI and the value users and non-users place on the information before the deployment of OIPs.
3. Identify transit users and non-users potential transit use increases in response to OIPs for various trip purposes.



Methodology

An online interview was first conducted with a small number of participants to obtain preliminary insights that can guide the design of the subsequent survey questionnaire by narrowing down the large array of information contents. An online survey was then conducted to gather Great Boston Area (GBA) travelers travel experience, preferred real-time information contents, preferred OIP graphic designs, preferred OIP setup locations, and intended mode shift or travel experience improvement.

Randomly sampled households in the Great Boston Area (GBA) were recruited through postcards and text messages. Data analysis and visualization were conducted after the survey responses were collected. Recommendations were provided on the guidelines for deploying OIPs.

Key Findings

Through data analysis of the online interview and household survey, RTTI contents valued by GBA travelers for various trip purposes, GBA travelers' intended mode shift and travel experience improvement with the provision of RTTI, appropriate information load, information display cadence, preferred information combination, preferred OIP graphic design and setup location are determined. These findings support recommendations for the deployment of OIP.

Use of Findings

Recommendations in the deployment of RTTI highway billboards are provided as follows:

1. Given the radial nature of MBTA services, it is recommended that inbound trips be displayed on locations at or beyond the 128 beltway to allow for enough decision time.
2. Three or four information units are recommended for non-staggering billboards and five information units for staggering ones.
3. Transit travel time, next two train arrivals, parking availability at the start station, transit cost, and transit crowding level are the top 5 recommended items for non-major event trips.
4. Transit travel time, next two train arrivals, transit cost, parking cost at the destination, and parking availability at the start station are the top 5 recommended items for major event trips.
5. Designs with light background and horizontal presentation of content are recommended.
6. It is recommended that RTTI be displayed for 10 seconds for each 40 seconds.

Project Information

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