



Charles D. Baker, Governor  
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## 2021 RESEARCH PROJECT STATEMENT

### **Research Topic:**

Measuring Accessibility to Improve Public Health

### **Research Budget and Timeline:**

- \$120,000-\$150,000
- 16-21 months (of which final 3 months are for review)

### **Problem Statement and Objectives**

Transportation is an important determinant of public health, and inequitable access to jobs, health care facilities, and food have been shown to be significant contributors to health disparities. Data from a variety of sources can be used to identify gaps in accessibility, but there remains a need to identify actions that can be taken by public officials to address these gaps. This research has two objectives. First, metrics of access to jobs, health care, and food must be linked with demographic and socio-economic data to identify the most critical accessibility gaps. Second, targeted actions will be identified that can be made by public officials to address inequities.

### **Anticipated Outcomes and Deliverables**

There are two anticipated products of this research: (1) the documentation of gaps in accessibility to jobs, health care, and food across time, demographic groups, and locations, which affect the public health of the populations affected; and (2) a guidebook that includes recommendations for how stakeholders can address the specific types of identified accessibility gaps to reduce inequities. These products should support MassDOT's existing accessibility initiatives and data dashboards to continuously monitor accessibility gaps and inequities that affect public health.

### *Data Products*

Although the GIS Services and Data and Policy groups within MassDOT's Office of Transportation Planning will coordinate with the research team to implement the results, the research team is expected to perform calculations on existing data and ensure both revised data and new data are compatible with MassDOT's existing data dashboard(s). Additionally, the research team will make recommendations for which other data layers should be displayed alongside accessibility data within MassDOT's data dashboard(s). The final data product will visually display accessibility gaps across Massachusetts with the ability to overlay other data to understand differences in accessibility across demographic groups and geographic areas. Data, calculations, and geospatial analyses that will result from this work will be displayed publicly on MassDOT's GeoDOT platform and expand the existing Access to Jobs Data Dashboard.



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### *Guidebook*

Based on the data displaying accessibility gaps, the research team will produce a Massachusetts-specific guidebook containing recommendations for concrete actions that key stakeholders in state and local government, as well as health care and public transportation providers, can take to address the identified accessibility gaps. The recommendations of this guidebook should be targeted at areas with the highest accessibility gaps and should be driven by best practices and/or case studies from other states. It is expected that results from this guidebook will be implemented by relevant municipalities and health care and transportation service providers.

### Deliverables:

1. Technical memorandum describing the calculations, assumptions, data dictionaries, references, and methodologies necessary to identify gaps in accessibility, with the goal of MassDOT staff being able to replicate these calculations in the future
2. Mapping and other supporting documentation, including electronic versions of the maps, shapefiles and supporting datasets used to create the maps
3. Recommendations for supporting data to be added to the accessibility data dashboard
4. Guidebook containing recommendations for concrete actions that key stakeholders in state and local government, as well as health care and public transportation providers, can take to address identified accessibility gaps
5. Final Report summarizing research efforts, results, and recommendations
6. Final Presentation