Accessibility Data Documentation 2017

Prepared by the
Accessibility Observatory at the University of Minnesota

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ACCESSIBILITY OBSERVATORY

UNIVERSITY OF MINNESOTA
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1 Overview

This document describes the 2017 accessibility data released by the Accessibility Observatory at the University of Minnesota. The data are organized into individual files for each core-based statistical area (CBSA) included in the Access Across America project for 2017, as well as for each state in the US. Data files can be accessed at `http://access.umn.edu/research/america/transit/2017/`

The following sections describe the format, naming, and content of the data files.

2 Data Formats

The data files are provided in two data formats: CSV and shapefile. CSV files are in a text-based, comma-separated tabular format that can be read by most text editor, spreadsheet, and database software. Shapefiles are a geospatial data format that can be read by most GIS software, including QGIS and ArcGIS. The two formats include the same data, with the exception that CSV files do not include the Census block geometry data which is present in the shapefiles.

3 Geography and Coverage

The data files provide accessibility records for individual Census blocks within each CBSA. Each record is uniquely identified by its 15-digit [geoid] field, which corresponds to an individual block's GEOID code based on the U.S. Census Bureau's 2010 geography definitions.

Additionally, data files in the shapefile format include a geospatial data field for each record which describes the geographical boundary of the Census block. This is based on 2010-vintage TIGER/Line data from the U.S. Census Bureau, and is stored in the WGS84 coordinate system.

Data are provided for each block in the selected CBSAs, and in all states, that include any amount of land area. Blocks with a land area of zero (e.g. blocks that are entirely water) are omitted.

4 File Naming Conventions

Accessibility data files are named according to the following template:

```
[CBSA or STATE]_[MODE]_[YEAR]_[STIME]-[ETIME].[EXT]
```

- `[CBSA or STATE]` is the 5-digit code identifying a core-based statistical area, or 2-digit code identifying a state.

- `[MODE]` is a 2-character code identifying the transportation mode. Currently defined codes are `tr` for public transit and `au` for automobile.

- `[YEAR]` identifies the year of the accessibility data.

- `[STIME]` indicates the first departure time included in averaged accessibility data.

- `[ETIME]` indicates the last departure time included in averaged accessibility data.

- `[EXT]` is the file extension, which is determined by the data format. CSV files have the extension `csv.gz` and compressed shapefiles have the extension `zip`.

For example, the file named `33460_tr_2017_0700-0859.zip` contains transit accessibility data for CBSA 33460 (Minneapolis-St. Paul-Bloomington, MN-WI) in 2017, averaged between 7:00 AM and 8:59 AM (inclusive). The data are in a compressed shapefile format.

As another example, the file named `27_au_2017_0800.csv.gz` contains auto accessibility data for the state of Minnesota in 2017, for a departure time of 8:00 AM. The data are in a compressed CSV format.

5 Data Field Definitions

Data Field Definitions

Field Position	Field Name	Type	Definition
1	`geoid`	string	Census block ID
2	`threshold`	integer	Travel time threshold, in minutes
3	`tot_jobs`	integer	Total number of jobs reachable from block `geoid` within `threshold` minutes, on average between `start_time` and `end_time`, inclusive

For example, the CSV file record

```
geoid,threshold,tot_jobs
270030502282045,30,4430
```

indicates that 4,430 jobs can be reached within 30 minutes starting from Census block 270030502282045.

Data files for all modes follow the format and field definitions as above; for transit, there is one file describing the average accessibility between 7:00 AM and 8:59 AM; for auto, there is one file for each hourly departure time; for non-motorized modes not sensitive to departure time (biking and walking), there is 1 file each, corresponding to a 12:00 noon departure time.