Workflow Notes

Block group shapefile- should either come with Median data attribute or be joined to it. It also should be matched to extent of subject area (in this case Iowa City city limits)

GTFS- open source files on every public transit agency, They almost all follow a similar layout so 'shapes.txt' and 'routes.txt' should exist in the file folder

- Make layer out of block group shape file
- Using specific gtfs tool make features off routes and stops
- Those features may not have any map projection information so define the projection to match block groups shapefile
- Reduce block group layer to block groups that are "low-income" for our purposes below the livable wage threshold for 1 adult with no kids
- Spatial Join block groups with routes
- Use specific tool to generate service area that is not "Euclidean distance" rather based on actual travel time on foot
- Use Arc pro to generate "POI" data for your given area
- Filter POI's within reduced block groups

Using Bureau of Labor Statistics data to match NAICS two digit codes with mean income adjusted to represent only jobs requiring a High School education or below

- Create income dictionary for NAICS codes and adjusted mean income
- Create a new field in POI data for mean income
- Filter POI data to make "workplaces" that can provide opportunity for economic mobility by paying a livable wage
- Filter POI data again to be total suitable workplaces in adjusted block groups
- Filter the total workplaces that are within service areas creating layer of workplaces that are suitable for economic mobility and accessible by transit
- Iterating through block groups, count accessible and suitable workplaces in each block group, and calculate a percentage of suitable workplaces that are accessible in each block group