

Supplemental Table A: Variables included in typology analysis and data sources.

Category	Measure	Description	Source
CLIMATE	Average summer temperature	Mean monthly maximum temperature for June, July, August of 2010-2012.	Interpolated data from PRISM Climate Group (http://prism.oregonstate.edu)
	Average summer precipitation	Mean monthly precipitation for June, July, Aug of 2010-2012	same
	Average annual temperature	Mean monthly maximum temperature for all months, 2010-2012	same
	Average annual precipitation	Mean annual precipitation for all months, 2010-2012	same
	Mean Elevation	Mean elevation within each CBG	Downloaded 2013; http://gis.utah.gov/data/elevation-terrain-data/10-30-meter-elevation-models-usgs-nd/
LAND COVER	Greenness (NDVI)	Average NDVI score based on LandSat5 raster imagery (30 m pixels) obtained in July 2006 and LandSat7 images from July 2007	http://landsat.usgs.gov/
	Percent Tree Cover	Average CBG percent tree cover. Derived from rasterized MODIS Vegetation Continuous Fields VCF data (~250m pixels)	http://modis.gsfc.nasa.gov
	Percent Impervious Surface	Average Impervious Surface Cover. Derived from 2006 National Land Cover Dataset (NLCD) which reports cover per 30m pixel in 10% bins.	http://www.mrlc.gov
HOUSING DENSITY	Housing Density	Overall housing density: housing units / total area (excluding federal lands and water)	2010 Census of Population (http://www.census.gov)
	Residential Housing Density (logged)	Natural log of Residential Housing Density (# housing units/area of residential land use)	2010 census and Utah Water Related Land Use data (see below)
HOUSING TYPES	Diversity of Building/Housing Types	Index of diversity of housing types; Value of Inverse Simpsons Index calculated using census housing categories in ACS table # B25024	American Community Survey (2007-2011 5-year) http://www.census.gov
	Percent housing units that are detached single-family homes	Percent housing units that are detached single-family homes	same
	Percent of Housing Built Since 1990	Percent of housing built Since 1990	same
	Percent Vacant Housing Units	Percent of housing units that were not occupied in 2010	2010 Census of Population (http://www.census.gov)
	Percent housing units that are mobile homes	Percent housing units that are mobile homes	American Community Survey (2007-2011 5-year) http://www.census.gov
	Median number of rooms	Median number of rooms	same
	Median year structure built	Median year structure built	same

Supplemental Table A: Variables included in typology analysis (continued)

Category	Label	Description	Source
ROADS/PARCELS	Intersection Density	Number of intersections per square mile	NAVTEQ (http://here.com/navteq-redirect/) – downloaded 2013
	Average Block Size	Mean street block length by CBG (in meters), based on AGRC Statewide Roads data. Excludes freeways, U.S. and State highways, and trails	Same
	Median Block Size	Median street block length by CBG (in meters), based on AGRC Statewide Roads data. Excludes freeways, U.S. and State highways, and trails	same
	% 4-Way Intersections	Percent of road intersections that are 4-way configurations.	same
	Average Parcel Size	Mean parcel size in CBG (in sq m)	http://gis.utah.gov/data/sgid-cadastre/parcels/ - downloaded 2013
	Median Parcel Size	Median parcel size in CBG (in sq m)	same
	WATER SYSTEM INFRA-STRUCTURE	% parcels Served by Public Water Supplier	Percent of county parcels in CBG that are inside public community water system (PCWS) service areas
DEMOGRAPHICS	Population Density	Persons per square mile (excluding federal lands and water)	2010 US Census of Population; http://www.census.gov
	Residential Population Density (logged)	Natural log of residential population density (population/area of residential LU), with asymptotically high values recoded to 5 and very low values coded to 0	Same
	Median age: Both sexes	Median age of population	Same
	Percent of population over 65	Percent of population over 65 years old	Same
	Percent of population Non-Hispanic White	Percent of population that are non-Hispanic whites	Same
	Percent renter occupied	Percent of occupied housing units that were occupied by renters 2010	American Community Survey (2007-2011 5-year); http://www.census.gov
	Percent adults with BS or higher ed	Percent of adults over 25 with Bachelor degrees or higher education level	Same
	HOUSEHOLD STRUCTURE	Mean HH Size	Average household size reported in 2010 Census.
	Percent HHs that are Family HHs	Percent of households that are family households (group of 2 or more people related by birth, marriage, or adoption and residing together)	Same
	Working adults per occupied housing unit	Resident workers / number of occupied housing units	US BLS data on employed adults and 2010 Census of Population (units)

Supplemental Table A: Variables included in typology analysis (continued)

Category	Label	Description	Source
SOCIO-ECONOMIC STATUS	Median Household income (est)	Median household income	American Community Survey (2007-2011 5-year); http://www.census.gov
	Per Capita Income (est)	Per capita income	Same
	Median housing value (dollars)	Median housing value	Same
	Percent Households with income > 100K	Percent of households reporting total income over \$100,000	Same
	Estimated Poverty Rate	Estimated individual poverty rate	Same
LAND USE	Land Use Entropy Index (WRLU)	Index of land use diversity – Inverse Gini-Simpson Index for all WRLU categories	Utah Water Related land Use dataset circa 2009; downloaded from http://gis.utah.gov/data/planning/water-related-land/
	% Commercial / Industrial WRLU	Percent area in commercial or industrial land use (WRLU)	Same
	% Residential WRLU	Percent area of residential land use (based on AGRC Water Related Land Use (WRLU) – divided by total land area (excluding fed lands and water)	Same
	% Urban Open Space WRLU	Percent area in urban open space or parks (based on reported WRLU data); more expansive definition than AGRC/ESRI (below) and captures golf courses and public open spaces associated with schools, universities, etc.	Same
	% Irrigated Agriculture	Percent area in irrigated agricultural land uses (WRLU).	Same
	% Non-Irrigated Agriculture	Percent area in non-irrigated agricultural land uses (WRLU; includes subirrigated land)	Same
	% Farmsteads	Percent area in 'farmstead' land use	Same
	Percent Parks	Percent of CBG in local, city or state parks. Based on merger of data on urban park locations from Utah Automated Geographic Reference Center (AGRC) and ESRI.	Downloaded in 2013 from http://gis.utah.gov http://esri.com

References for Supplemental Table A

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