

Criteria	Criteria Weights	Methodology	Data & Source (Description, Date, Resolution)
Connect (weighted 20%)			
CT01: Create Connections to Parks and Schools	75%	<p>This model identifies priority linkages to create a connected trail system emphasizing parks and schools as destinations. The analysis uses a least-cost path model incorporating three input factors:</p> <p>(CT01A) Trail needs at popular destinations: This model identifies areas with the highest need for trails and bikeways based on an overlay of the following -Demographic: Population density, Low-income HH, Children under 5 -Destinations: Historic sites & districts, Schools, Libraries, Trailheads, Boat ramps, forested areas, park & rides, parks - Roadways: Minor arterials, areas of high intersection density</p> <p>(CT01B) Network gaps: This model identifies gaps in existing bikeways, trails and greenways. Density of trails within a 1/2 mile circle radius is analyzed (focal stats). Trail density values are ranked 0-5 using natural breaks classification on an inverse basis (higher trail density areas are lower priority).</p> <p>(CT01C) Landscape opportunities: This model identifies long, linear features that could be used to increase connectivity in the city based on the following: -Proposed Trails -Wide Local Streets (>29 ft wide) -Rivers and Creeks -Out-of-Service Railroads -Utility Corridors</p> <p>All identified connections are given very high priority (5).</p>	<ul style="list-style-type: none"> -Trails - City of Chattanooga Obtained Feb 2018. - Bike Lanes - City of Chattanooga Obtained Feb 2018. - Trails - Hamilton County. Obtained Dec. 2017 - Roads with road width - from phase . City of Chattanooga. - Parks - City of Chattanooga Obtained Feb 2018. - Parks & 10MW service areas - TPL Park Serve 2018 - Park access points - TPL Park Serve 2018 - Hydro polys - Hamilton County GIS. Obtained Dec 2017. - Schools - Hamilton County GIS. Obtained Dec. 2017. - 2017 EJ Screen Demographics by census block group, EPA - National Historic Districts. City of Chattanooga. Obtained Feb 2018. - Local Historic Districts. City of Chattanooga. Obtained Feb 2018. - Historic Sites, Structures, Buildings - National Register of Historic Places. 2017 National Park Service IRMA Portal. - Public Libraries - City of Chattanooga. Obtained Feb 2018. - Trailheads - City of Chattanooga. Obtained Feb 2018. - Boat Ramps & Marinas - Univ of TN Chattanooga, Outdoor Chattanooga. - Forest Cores - University of Tennessee at Chattanooga Interdisciplinary Geospatial Tech Lab - Park and Rides - GoCarta - Street centerlines - Hamilton County GIS. Obtained Dec. 2017 - Hydro polys - Hamilton County GIS. Obtained Dec 2017. - Not Active Railroads - City of Chattanooga. 2015 - Utility Corridors - Tennessee Valley Authority. 2015
CT02: Fill in Bikeway and Trail Gaps	25%	<p>This model identifies routes that will best increase connectivity in the existing active transportation network. Non-connected trail endpoints on existing trails were routed to the 3 nearest trails (existing and proposed). Planned and proposed active transit facilities were also incorporated. All routes were buffered by 100 feet. Planned/proposed trails were assigned as very high priority (5), computed routes were assigned high priority (4).</p>	<ul style="list-style-type: none"> - Trails - City of Chattanooga Obtained Feb 2018. - Bike Lanes - City of Chattanooga Obtained Feb 2018. - Trails - Hamilton County. Obtained Dec. 2017
Cool (weighted 20%)			
CL01: Daytime Land Surface Temperature Hot Spots	50%	<p>This model identifies areas where land surface temperature is highest in the city. Where green infrastructure cooling interventions may help to alleviate human impacts from heat. Areas where land surface temperature is greater than 1.25 degrees hotter than the average land surface temperature for the study area are considered heat islands. Within identified heat islands, land surface temperatures are classified from 3-5 using a natural breaks method. Land surface temperatures below 70 degrees were removed to eliminate errors from cloud cover.</p>	<p>Landsat 8 thermal bands. Scenes from July, 21 and Aug 22 2016</p>
CL02: Impervious Cover	50%	<p>This model identifies areas with impervious cover based on hard surfaces inventory data, including buildings, roads, sidewalks, driveways, parking Lots, rail, and other miscellaneous structures within the city limits where green infrastructure cooling interventions may help to alleviate human impacts from heat. A focal statistics analysis is run to sum the amount of impervious surface in a 1/8 mile radius. The results of the focal statistics are classified using a natural breaks method.</p>	<p>Buildings, Sidewalks, Driveways, Roads, Parking Lots, Miscellaneous Impervious - Hamilton County GIS. Obtained Dec. 2017.</p>

Absorb (weighted 20%)

<p>AB01: Estimated Stormwater Runoff Depth</p>	<p>16%</p>	<p>City of Chattanooga Stay-On-Volume (SOV) initiative seeks to manage small rainfall events on a site-by-site basis so that there is no runoff or surface discharge. As part of the SOV initiative, the 1" rule is currently defined as: Any new or redevelopment project must capture the first 1" of rainfall (1.6" for portions of the watershed with state-listed species). This model identifies areas with the highest potential amounts of surface runoff where green infrastructure could help to capture runoff.</p> <p>This model estimates runoff volume for a 1" storm event using the LTHIA curve number methodology which considers soil and landcover characteristics. Runoff levels were scored based on projected runoff as follows: 15-19 mm = Very High Priority 11-15 mm = Moderately-High Priority 8-11 mm = Moderate Priority Less than 8mm = not scored</p>	<p>Soils - Hydrologic Soil Groups - NRCS</p> <p>National Landcover Dataset 2011 - USGS</p> <p>Buildings, Sidewalks, Driveways, Roads, Parking Lots, Miscellaneous Impervious, Hydro Polys - Hamilton County GIS. Obtained Dec. 2017</p>
<p>AB02: Floodway and Flood Zones</p>	<p>16%</p>	<p>This model identifies areas prone to flooding based on FEMA DFIRM delineations. Where green infrastructure could help to capture floodwater. Flood areas were scored as follows: Floodways = Very High Priority 100-yr Floodzone = Moderately High Priority 500-yr Floodzone = Moderate Priority</p>	<p>FEMA Floodzones - Hamilton County GIS. Obtained Dec. 2017</p>
<p>AB04: Stream Corridor Evaluation (SCORE) for Riparian Buffers</p>	<p>16%</p>	<p>This model applies a Stream Corridor Evaluation (SCORE) ranking to riparian buffers. SCORE is the City of Chattanooga's method for visually inspecting all streams in Chattanooga in accordance with the NPDES permit requirements. SCORE analyzes streams to determine the following impairment severity indices: in or near stream construction, channel alteration, barriers and blockages, outfalls, current erosion, canopy, and buffer. An overall severity index is computed by combining the individual severity indices listed above. 35 is the greatest possible severity index.</p> <p>Riparian buffers were created for streams and FEMA floodzones. Buffers were then assigned a protection priority as follows based on a SCORE Severity index of: 17-24 = Very High Priority - 5 14-17 = Moderately High Priority - 4 7-13 = Moderate Priority - 3</p> <p>The Tennessee River was assigned very high priority (5) Stream buffers not assessed by SCORE program were assigned moderate priority of (3)</p>	<p>SCORE streams - City of Chattanooga. Obtained Feb 2018.</p> <p>Hydrology Lines - Hamilton County GIS. Obtained Dec. 2017</p> <p>FEMA Floodzones - Hamilton County GIS. Obtained Dec. 2017</p>
<p>AB05: Wetland and pond buffers</p>	<p>16%</p>	<p>This model buffers wetlands and ponds by 100 ft. All buffers are given very high priority (5)</p>	<p>National Wetlands Inventory - NRCS</p>
<p>AB06: Combined Sewer System Areas</p>	<p>16%</p>	<p>This model identifies areas where stormwater drains to a combined sewer system (CSS). Individual CSS basins are overlaid with impervious surfaces to calculate the percent impervious surface for each basin. Basins are ranked using a natural breaks classification: 9% - 46% impervious = moderate priority 46% - 63% impervious = high priority 63% - 93% impervious = Very high priority</p>	<p>Combined Sewer System Areas (CSS) - City of Chattanooga from Phase 1.</p> <p>Buildings, Sidewalks, Driveways, Roads, Parking Lots, Miscellaneous Impervious - Hamilton County GIS. Obtained Dec. 2017.</p>
<p>AB07: Illicit Discharge Potential (IDP) Scores by Subbasin</p>	<p>20%</p>	<p>Illicit discharge potential (IDP) quantifies the likelihood that an illicit discharge will occur and is used to identify priority sub-basins. The criteria for determining the IDP score includes discharge complaints, age of sanitary sewer infrastructure, impervious cover, outfalls per mile of stream, NPDES permitted industrial dischargers, amount of clay pipe present, stream corridor assessment, drainage complaints, SSOs, area of industrial property, area of commercial property, and presence of hot areas. The City has defined sub-basins as smaller drainage areas within larger watersheds. An IDP score is computed for each sub-basin using the criteria listed above. This model reflects the relative overall Illicit Discharge Potential for each sub-basin.</p> <p>Sub-basins were assigned a protection priority as follows: IDP 18 or greater = Highest Priority - 5 IDP 15 -17 = Moderately high Priority - 4 IDP 13-15 = Moderate Priority - 3 IDP Score not available = assume Moderate Priority</p>	<p>Subbasins with IDP - City of Chattanooga Obtained. Feb 2018.</p>

Equity (weighted 20%)			
Criteria	Criteria Weights	Methodology	Data & Source (Description, Date, Resolution)
EQ01: Population Density	14%	Population per square mile by census block group. Density values were sliced into 0 to 5 priority classes using a natural breaks classification.	2017 Environmental Justice Screen Demographics by census block group. US EPA.
EQ02: Minority Population	15%	This model identifies socially vulnerable populations based on the percent of individuals within a block group who list their racial status as a race other than white alone and/or list their ethnicity as Hispanic or Latino. The percentage of individuals identifying as a person of color were sliced into 0 to 5 priority classes using a natural breaks classification.	2017 Environmental Justice Screen Demographics by census block group. US EPA.
EQ03: Low Income Households	14%	This model identifies the percent of households within a block group where the household income is less than or equal to twice the federal poverty level. The percentage of households with incomes less than or equal to twice the federal poverty level were sliced into 0 to 5 priority classes using a natural breaks classification.	2017 Environmental Justice Screen Demographics by census block group. US EPA.
EQ04: Population with Less Than High School Education	14%	This model identifies areas with a high percentage of people who possess less than a high school education. The percentage of individuals identifying as possessing less than a high school education were sliced into 0 to 5 priority classes using a natural breaks classification.	2017 Environmental Justice Screen Demographics by census block group. US EPA.
EQ05: Linguistically Isolated Population	14%	This model identifies areas with a high percentage of households where all members speak English less than very well. The percentage of households where all members speak English less than very well were sliced into 0 to 5 priority classes using a natural breaks classification.	2017 Environmental Justice Screen Demographics by census block group. US EPA.
EQ06: Population Under 5	14%	This model identifies areas with a high percentage of children aged 5 and under.	2017 Environmental Justice Screen Demographics by census block group. US EPA.
EQ07: Population Over 64	14%	Percent seniors 65 and older by census block group.	2017 Environmental Justice Screen Demographics by census block group. US EPA.

Health (weighted 20%)			
Criteria	Criteria Weights	Methodology	Data & Source (Description, Date, Resolution)
HE01: Overweight Adults	12.5%	This model identifies areas where there are a high percentage of overweight adults. Overweight adults are defined as Respondents aged ≥ 18 years who have a body mass index (BMI) ≥ 30.0 kg/m ² calculated from self-reported weight and height. Percentage of overweight adults in each census tract were sliced into 0 to 5 priority classes using a natural breaks classification.	500 Cities 2017 release census tract level data. Centers for Disease Control
HE02: Adults not meeting Physical Activity Recommendations	12.5%	This model identifies areas where there are a high percentage of adults not meeting physical activity recommendations. Adults not meeting physical activity recommendations are defined as Respondents who answered "no" to the following question: "During the past month, other than your regular job, did you participate in any physical activities or exercises such as running, calisthenics, golf, gardening, or walking for exercise?" Percentage of adults not meeting physical activity recommendations in each census tract were sliced into 0 to 5 priority classes using a natural breaks classification.	500 Cities 2017 release census tract level data. Centers for Disease Control
HE03: Heart Disease	12.5%	This model identifies areas where there are a high percentage of adults with heart disease. Adults with heart disease are defined as Respondents aged ≥ 18 years who report ever having been told by a doctor, nurse, or other health professional that they had angina or coronary heart disease. Percentage of adults with heart disease in each census tract were sliced into 0 to 5 priority classes using a natural breaks classification.	500 Cities 2017 release census tract level data. Centers for Disease Control
HE04: Diabetes	12.5%	This model identifies areas where there are a high percentage of adults with diabetes. Adults with diabetes are defined as Respondents aged ≥ 18 years who report ever been told by a doctor, nurse, or other health professional that they have diabetes other than diabetes during pregnancy. Percentage of adults with diabetes in each census tract were sliced into 0 to 5 priority classes using a natural breaks classification.	500 Cities 2017 release census tract level data. Centers for Disease Control
HE05: Mental Health Conditions	12.5%	This model identifies areas where there are a high percentage of adults with mental health conditions. Adults with mental health conditions are defined as Respondents aged ≥ 18 years who report 14 or more days during the past 30 days during which their mental health was not good. Percentage of adults with mental health conditions in each census tract were sliced into 0 to 5 priority classes using a natural breaks classification.	500 Cities 2017 release census tract level data. Centers for Disease Control
HE06: Stroke	12.5%	This model identifies areas where there are a high percentage of adults who have had a stroke. Adults who have had a stroke are defined as Respondents aged ≥ 18 years who report ever having been told by a doctor, nurse, or other health professional that they have had a stroke. Percentage of adults who have had a stroke in each census tract were sliced into 0 to 5 priority classes using a natural breaks classification.	500 Cities 2017 release census tract level data. Centers for Disease Control
HE07: Asthma	12.5%	This model identifies areas where there are a high percentage of adults with asthma. Adults with asthma are defined as Weighted number of respondents who answer "yes" both to both of the following questions: "Have you ever been told by a doctor, nurse, or other health professional that you have asthma?" and the question "Do you still have asthma?" Percentage of adults with asthma in each census tract were sliced into 0 to 5 priority classes using a natural breaks classification.	500 Cities 2017 release census tract level data. Centers for Disease Control
HE08: COPD	12.5%	This model identifies areas where there are a high percentage of adults with COPD. Adults with COPD are defined as Respondents aged ≥ 18 years who report ever having been told by a doctor, nurse, or other health professional that they had chronic obstructive pulmonary disease (COPD), emphysema, or chronic bronchitis. Percentage of adults with COPD in each census tract were sliced into 0 to 5 priority classes using a natural breaks classification.	500 Cities 2017 release census tract level data. Centers for Disease Control