

CHAPTER 8

HEALTH EQUITY





A PRODUCT OF THE
Western Piedmont
Council of Governments

**Greater Hickory Metropolitan
Planning Organization**

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Our transportation system creates both positive and negative impacts. On one hand, a transportation system can provide the kind of access that we all need on a daily basis: to work, to food and to play. On the other hand, transportation systems also contribute to pollution, and if not thoughtfully planned out, can lead to the creation of areas that lack easy access to economic opportunities, healthcare and recreation. Simply put, the GHMPO's transportation system plays a big role in the health of everyone because it influences activity levels (both physical and vehicular activity) and air pollution emissions. Yet from a historical perspective, transportation planning efforts have mostly focused on developing roads, not multimodal options like sidewalks, multiuse paths, trails and public transit.

Areas with multimodal options provide residents and visitors with more accessibility options – and can also improve health outcomes. For example, more multimodal options can lead to increased physical activity levels, contribute to improved air quality through reduced vehicle trips, and improve mental health by providing opportunities to be outdoors.

Health equity is the state in which everyone has a fair and just opportunity to attain their highest level of health.

--Centers for Disease Control and Prevention

According to the U.S. Department of Transportation, a lack of walking and bicycling options can make travel unsafe for those who rely on those modes to get around, leading to higher incidences of collisions involving vehicles, pedestrians and cyclists. These types of barriers often prevent people from fully realizing the benefits of the region's economic, social and health-related opportunities.

Rural areas can present special mobility challenges for residents due to the longer distances between key locations (parks, employment locations, medical facilities, etc.) that are a part of rural life – and rural roads can be very dangerous for pedestrians and bicyclists. “On-demand” transit options are vitally important to the disabled, elderly and low-income populations living in rural areas. This service is currently available through Greenway Transportation in all 4 counties of the GHMPO region, and the implementation of micro-transit service in select locations is currently being evaluated.

Transportation planners should evaluate the feasibility of including pedestrian facilities in each applicable transportation project, and also work closely with other planners at the Western Piedmont Council of Governments (the Community and Regional Planning and Community and Economic Development departments) to identify areas that lack walkability/park access during the development of those departments' comprehensive plans and grant applications. While funding for parks and trails may not be available through state or federal transportation agencies, other agencies (including the Parks and Recreation Trust Fund, the North Carolina Land and Water Fund, the Recreational Trails Program, etc.) do offer grants for these facilities.

Public health professionals are uniquely positioned to provide valuable input about areas of the GHMPO region that are impacted by health equity-related disparities. GHMPO planners should work closely with public health agencies to assist during the project screening and prioritization phases to gain a better understanding of health equity concerns within a project's vicinity, and to better align each organization's interdependent health equity goals.

The following maps use data from the Centers for Disease Control and Prevention's (CDC) Environmental Justice Index Explorer to show Census tracts in the GHMPO region that lack adequate access to parks and walkability options. To develop a clearer picture of health equity, the park access and walkability information is combined with other measures from the CDC, including:

- » Limited English speaking abilities
- » Disabled residents
- » Minority residents
- » Low income residents
- » Residents over age 65
- » Residents under age 17
- » Residents that lack health insurance
- » Pollution (PM 2.5)

The Census tracts are then given a percentile ranking by the CDC. The CDC states that, for example, a ranking of 0.85 signifies that 85% of Census tracts in the nation likely experience less severe cumulative impacts than the Census tract of interest, and that 15% of Census tracts in the nation likely experience more severe cumulative impacts. A rank of 0.75 or higher indicates that there is a high prevalence of that factor within the Census Tract.

The maps should be used as a guide for transportation planners to use during the project screening and prioritization phases to help ensure that health equity factors are evaluated within the transportation planning context (like walkability, etc.). It is important to note that these maps can also be used to help determine locations that currently have high pollution and pollution-related disease rates – and could therefore be negatively impacted by projects that add to existing pollution levels.

MAP USE EXAMPLE

If we are planning a project in a Census Tract that lacks...

- » Recreational parks (access)
- » **Walkability**
- » Health insurance
- » Transit access

where we know there are high...

- » **Pollution levels**
- » **Disease rates**
- » Concentrations of older/younger people
- » Concentrations of disabled people
- » Concentrations of minorities
- » Concentrations of poverty
- » Concentrations of limited English speaking populations

then planners should evaluate the feasibility of incorporating sidewalks/multiuse paths into the proposed project.

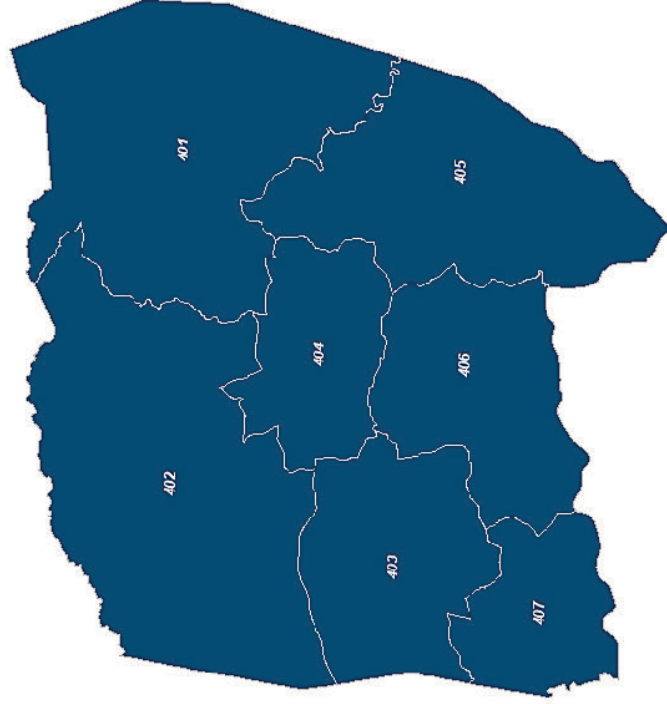
In order to obtain the most accurate information about the Census Tract and evaluate the proposed project's impacts (positive and negative) on the residents of the tract, outreach sessions that are designed to engage as many people as possible will need to occur within the proposed project community. A partial list of potential organizations to contact includes:

- » Health departments
- » Faith communities
- » Fire departments
- » Civic associations
- » Minority & limited English populations
- » Senior centers
- » Area Agency on Aging
- » Libraries

“Negative health effects related to the transportation system can fall hardest on vulnerable members of the community, such as low-income residents, minorities, children, persons with disabilities, and older adults. Households in low-income areas typically own fewer vehicles, have longer commutes, and have higher transportation costs.”

--U.S. Department of Transportation

MAP 8-1. ALEXANDER COUNTY HEALTH EQUITY FACTORS



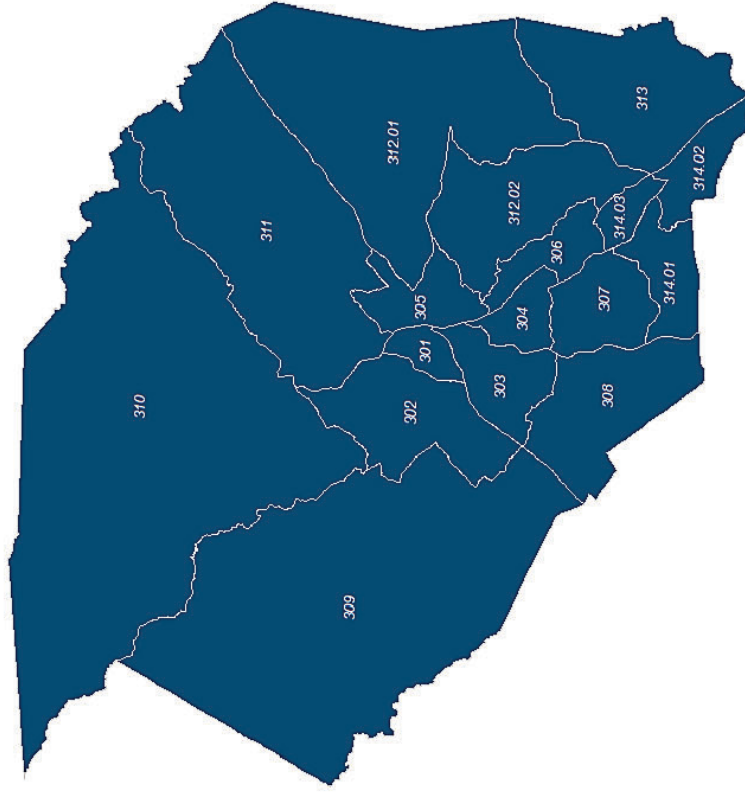
Census 2010 tract boundaries.

Alexander County Health Equity Factors											



Burke County Health Equity Factors																				
Tract	PM 2.5	Lack of Recreational Parks		Lack of Walkability		Limited English		Minority Status		Lack of Health Insurance		Poverty		Under Age 17		Age 65+	Tract	Disability Status	Tract	Estimated High Disease Prevalence
		Tract	Recreational Parks	Tract	Walkability	Tract	English	Tract	Minority Status	Tract	Health Insurance	Tract	Rate	Tract	Age 17					
211	0.64	208.01	1	213.02	1	205	0.85	214	0.54	205	0.55	214	0.94	206	0.75	208.02	0.92	201	0.98	201
212.02	0.61	208.02	1	212.03	0.98	214	0.71	206	0.6	202.01	0.92	201	0.84	214	0.74	209	0.92	211	0.97	210
210	0.59	210	1	201	0.95	203.01	0.7	205	0.52	213.02	0.91	203.01	0.79	212.03	0.6	202.01	0.87	202.01	0.95	212.01
212.03	0.59	212.03	1	202.01	0.95	206	0.61	213.01	0.45	206.02	0.89	206	0.79	203.01	0.58	212.01	0.82	209	0.92	213.02
209	0.55	212.02	0.85	212.01	0.95	208.02	0.6	203.01	0.43	214	0.88	212.03	0.79	205	0.41	205	0.81	212.03	0.91	214
213.01	0.54	212.01	0.81	203.01	0.94	208.01	0.52	202.01	0.42	206	0.83	212.01	0.75	202.02	0.36	203.02	0.77	213.02	0.88	202.01
208.02	0.51	203.01	0.79	203.02	0.86	201	0.49	208.02	0.38	212.01	0.81	212.02	0.73	203.02	0.35	208.01	0.77	213.01	0.86	202.02
208.01	0.5	203.02	0.74	208.01	0.85	203.02	0.46	212.03	0.34	213.01	0.72	213.01	0.71	205	0.35	202.01	0.75	214	0.86	206
213.02	0.5	211	0.73	212.02	0.85	212.02	0.44	201	0.33	212.03	0.71	208.02	0.7	212.02	0.35	211	0.74	202.02	0.85	208.02
213.01	0.49	214	0.73	210	0.84	213.01	0.42	202.02	0.29	212.02	0.7	203.02	0.67	210	0.3	206	0.72	212.02	0.85	212.03
206	0.48	206	0.72	213.01	0.84	212.03	0.4	210	0.28	201	0.67	211	0.66	211	0.28	201	0.66	205	0.82	203.01
205	0.46	209	0.69	202.02	0.79	209	0.37	212.02	0.27	202.02	0.67	209	0.64	212.01	0.21	214	0.66	210	0.82	205
214	0.46	213.01	0.55	208.02	0.78	210	0.35	203.02	0.35	210	0.66	203.01	0.62	201	0.19	203.01	0.65	203.01	0.81	208.01
203.02	0.45	205	0.54	211	0.77	212.01	0.35	208.01	0.19	203.01	0.64	213.02	0.61	208.01	0.15	212.02	0.62	212.01	0.79	209
203.02	0.42	201	0.51	206	0.66	211	0.29	211	0.19	203.02	0.61	210	0.58	208.02	0.15	210	0.54	206	0.75	211
203.01	0.42	213.02	0.48	209	0.66	202.02	0.25	209	0.16	211	0.58	205	0.57	202.01	0.1	213.02	0.51	212.02	0.74	212.02
201	0.41	202.01	0.41	214	0.57	202.01	0	212.01	0.1	206.01	0.58	208.01	0.54	213.01	0.08	213.01	0.46	208.02	0.74	213.01
203.01	0.32	202.02	0.38	205	0.47	213.02	0	213.02	0.1	209	0.53	202.02	0.53	213.02	0.05	212.03	0.45	208.01	0.73	202.02

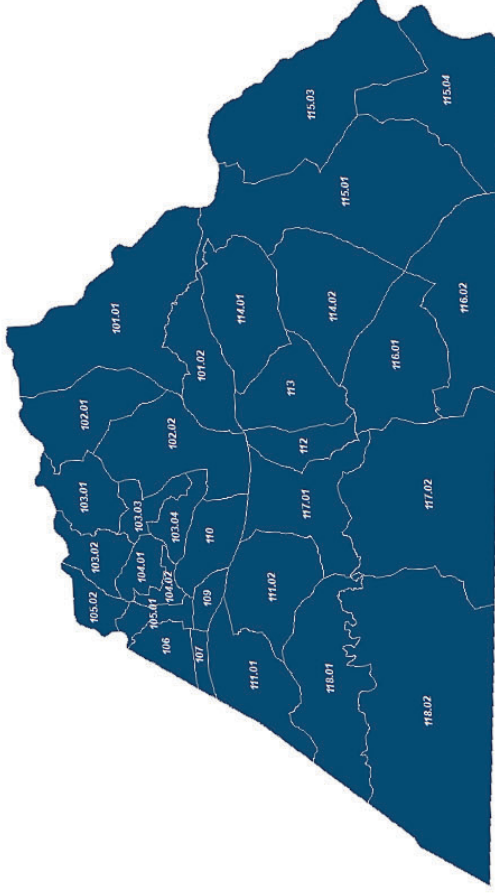
MAP 8-3. CALDWELL COUNTY HEALTH EQUITY FACTORS



Census 2010 tract boundaries.

[illegible]

MAP 8-4. CATAWBA COUNTY HEALTH EQUITY FACTORS



Census 2010 tract boundaries.

Catawba County Health Equity Factors																					
Tract	PM 2.5	Lack of Recreational Parks		Lack of Walkability		Limited English		Minority Status		Lack of Health Insurance		Poverty Rate		Under Age 17		Age 65+		Disability Status		Estimated High Disease Prevalence	
		Tract	Value	Tract	Value	Tract	Value	Tract	Value	Tract	Value	Tract	Value	Tract	Value	Tract	Value	Tract	Value	Tract	Value
112	0.73	103.01	1.00	114.01	0.97	103.04	0.81	109	0.78	107	0.95	110	0.91	113	0.89	114.02	0.90	109	0.93	107	0.94
113	0.73	103.04	1.00	114.01	0.96	104.01	0.79	110	0.67	109	0.94	109	0.93	110	0.87	101.02	0.88	118.02	0.90	109	0.94
114.02	0.73	103.04	1.00	116.01	0.95	110	0.79	113	0.66	114.02	0.92	104.02	0.92	111.02	0.81	105.01	0.81	107	0.87	110	0.87
115.01	0.73	107	1.00	115.03	0.93	103.01	0.78	103.04	0.61	110	0.88	107	0.88	116.01	0.79	105.02	0.81	115.01	0.83	113	0.83
115.03	0.73	114.01	1.00	118.01	0.93	103.01	0.77	104.01	0.61	104.02	0.86	113	0.88	103.04	0.77	104.01	0.80	101.02	0.79	103.03	0.79
115.04	0.73	114.02	1.00	118.02	0.90	107	0.77	107	0.59	116.01	0.85	103.03	0.8	116.02	0.76	118.01	0.80	116.02	0.78	101.02	0.78
116.01	0.73	115.01	1.00	114.02	0.88	115	0.77	104.02	0.57	115	0.84	103.04	0.78	102.01	0.74	101.01	0.79	113	0.77	104.01	0.77
116.02	0.73	115.04	1.00	113	0.86	106	0.74	112	0.57	112	0.83	118.02	0.73	103.03	0.66	115.03	0.78	111.01	0.75	104.02	0.78
117.01	0.72	118.02	1.00	101.01	0.85	112	0.74	116.01	0.55	115.02	0.82	116.02	0.71	117.01	0.66	111.01	0.75	102.02	0.72	106	0.72
117.02	0.72	101.02	0.85	117.02	0.85	102.02	0.71	111.02	0.54	103.01	0.80	102.01	0.7	102.02	0.65	118.02	0.69	110	0.72	111.01	0.72
101.02	0.71	102.02	0.85	103.01	0.83	109	0.71	102.02	0.52	104.01	0.80	104.01	0.7	117.02	0.64	106	0.68	102.01	0.69	114.01	0.69
114.01	0.71	115.01	0.83	115.01	0.82	116.01	0.69	114.01	0.52	116.02	0.80	116.01	0.65	100	0.59	110	0.66	106	0.69	114.02	0.67
102.02	0.70	104.02	0.83	116.02	0.79	102.01	0.63	106	0.48	103.03	0.79	106	0.65	105.02	0.56	113.01	0.66	101.01	0.66	116.02	0.66
110	0.70	103.02	0.79	103.02	0.76	104.02	0.63	111.01	0.47	114.01	0.79	114.01	0.63	118.02	0.55	103.03	0.63	103.03	0.64	118.02	0.63
111.02	0.70	117.02	0.79	117.01	0.76	117.02	0.59	101.02	0.43	118.01	0.79	102.02	0.61	118.02	0.55	115.01	0.63	104.01	0.61	105.02	0.61
105.04	0.69	111.01	0.78	105.02	0.73	117.01	0.57	117.02	0.41	105.02	0.76	114.02	0.61	114.01	0.45	109	0.59	103.01	0.59	103.04	0.59
109	0.69	116.01	0.78	115.04	0.72	111.01	0.56	103.03	0.4	103.04	0.74	111.02	0.5	103.02	0.44	116.02	0.59	104.02	0.59	105.01	0.59
101.01	0.68	117.02	0.78	103.04	0.7	114.01	0.55	102.01	0.39	102.02	0.71	103.01	0.57	105.01	0.44	103.01	0.57	114.02	0.58	105.02	0.58
103.03	0.68	116.02	0.76	101.02	0.69	105.02	0.54	103.02	0.38	106	0.69	103.02	0.52	115.01	0.42	115.04	0.55	111.02	0.57	112	0.57
104.02	0.68	117.01	0.75	111.02	0.66	115.01	0.54	117.01	0.38	111.01	0.68	112	0.5	101.02	0.4	117.02	0.52	112	0.52	115.03	0.52
107	0.68	101.01	0.74	102.02	0.64	105.02	0.49	103.01	0.32	117.02	0.68	117.01	0.5	109	0.39	102.02	0.51	103.04	0.46	115.04	0.46
111.01	0.68	102.01	0.74	103.03	0.62	105.01	0.49	101.01	0.26	115.01	0.65	117.02	0.45	107	0.38	112	0.51	115.03	0.46	116.01	0.46
118.01	0.68	115.03	0.74	104.01	0.62	101.01	0.44	105.01	0.24	117.01	0.61	101.02	0.45	112	0.37	103.02	0.5	117.01	0.43	117.01	0.43
102.01	0.67	113	0.73	106	0.62	116.02	0.42	114.02	0.23	105.01	0.56	111.01	0.4	111.01	0.34	102.01	0.49	116.01	0.42	102.01	0.42
104.01	0.67	113	0.67	111.01	0.62	118.01	0.42	118.01	0.22	115.04	0.54	101.01	0.39	115.04	0.34	104.02	0.48	115.04	0.4	102.01	0.4
105.01	0.67	118.01	0.67	110	0.57	115.03	0.37	118.02	0.17	116.02	0.54	115.01	0.35	104.01	0.32	114.01	0.48	118.01	0.36	102.02	0.36
106	0.67	105.01	0.59	112	0.51	114.02	0.35	115.01	0.16	102.01	0.52	115.04	0.33	115.03	0.32	116.01	0.44	117.02	0.35	103.01	0.35
118.02	0.67	105	0.53	107	0.47	111.02	0.32	105.02	0.14	101.01	0.32	105.01	0.25	105.01	0.23	103.04	0.39	105.02	0.33	111.02	0.33
103.01	0.66	112	0.53	105.01	0.44	115.04	0.25	115.03	0.09	101.02	0.24	118.01	0.25	114.02	0.21	107	0.37	103.02	0.3	115.01	0.3
108.02	0.65	105.02	0.5	109	0.42	118.02	0.25	116.02	0.09	108.02	0.38	105.02	0.23	118.01	0.21	111.02	0.3	114.01	0.28	117.02	0.28
102.02	0.63	109	0.48	104.02	0.36	101.01	0	115.04	0.04	115.03	0.36	115.03	0.21	104.02	0.1	113	0.27	105.01	0.2	118.01	0.2

RECOMMENDATIONS

1. Add a representative from the public health sector to the Technical Coordinating Committee.
2. Incorporate health equity factors from the CDC (or similar data sources) into the initial project screening and prioritization phases.
3. Focus on Complete Streets – where feasible, include sidewalks/multiuse paths in projects in order to make access to community destinations (parks, community centers, medical offices, downtowns etc.) easier/safer.
4. Evaluate accessibility – where feasible, work with local governments to apply for NCDOT LAPP funding for sidewalks to make access to community destinations (parks, community centers, medical offices, downtowns etc.) easier/safer.
5. Evaluate accessibility – where feasible, use Movability Action Committee walk audit data to develop future improvement projects.
6. Identify potential new locations for transit stops.
7. Work to expand access to micro-transit.
8. Identify and work to resolve bottlenecks to reduce the impacts of pollution on communities located near high-volume roads.