



Mid-South Regional Greenprint

Health, transportation, land use, and environmental conservation

Location: Memphis and West Memphis Metropolitan Planning Organization Planning Areas

Partners: Office of Sustainability Memphis and Shelby County, LRK Inc., Alta/Greenways, The Trust for Public Land, Placeways



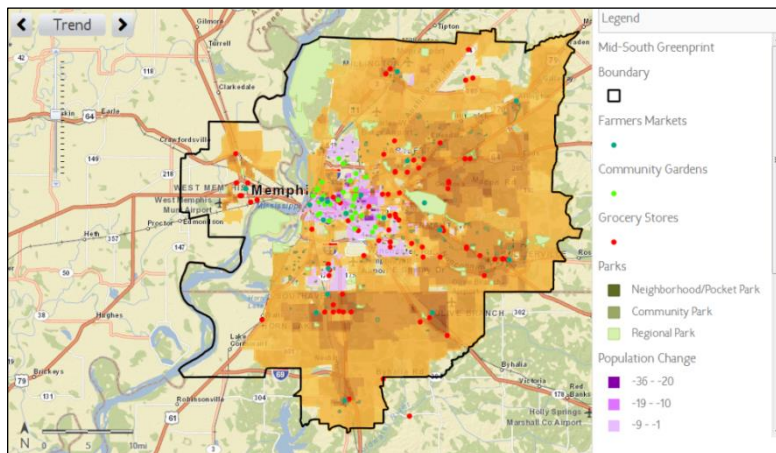
South Memphis Farmer's Market. Source: The Works CDC

Context: Green infrastructure plans or “greenprints” are increasingly common in US metro areas to help communities balance economic growth with goals such as resource conservation, improving citizen health, social equity and sustainability. From 2011 to 2014, the Shelby County Government used a HUD-funded Sustainable Communities Regional Planning Grant to develop a greenprint plan for a six-county region, spanning across three states (TN, AR, MS). The plan was designed to increase livability and sustainability through the establishment of a holistic vision for a regional network of green spaces in the Memphis and West Memphis MPO regions. Placeways led the development of indicators and other metrics as part of a

larger consortium of local and national organizations contracted by Shelby County to assist local leaders in the development of the Mid-South Greenprint and Sustainability Plan.

Project Description:

Working with the Memphis MPO, Placeways obtained the MPO’s CommunityViz analyses for the region to use as a foundation for further work. These analyses included the place type and land use information for the region. Placeways combining these with additional data on local population, transportation, economics, environment and other topics to reflect current conditions and model new land use scenarios. The analysis included a special focus on the needs of vulnerable populations including the elderly, children, and people living below the poverty line. Placeways used CommunityViz to developed 36 indicators to quantify how well areas of the urban area performed in current and potential future scenarios. A few of the indicators are described below.

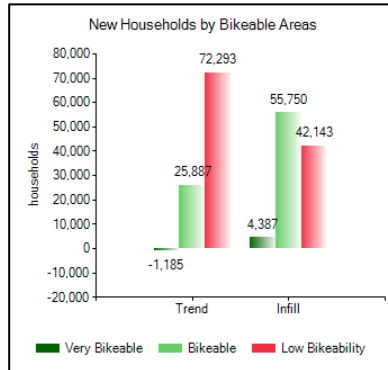
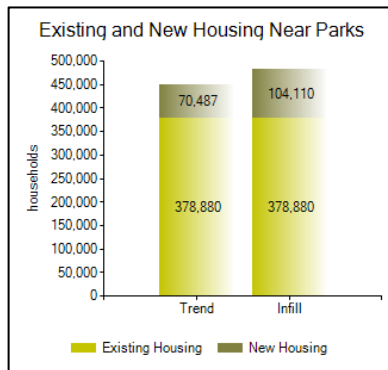


Change in population in the future trend scenario relative to sources of healthy foods. This analysis was published to the web using the CommunityViz Web App.

Healthy Destinations Index - Access to destinations where healthy food can be purchased or grown was a major concern for the area’s stakeholders. Placeways developed a Healthy Destinations Index that weighted vulnerable populations by their distance to community gardens, farmers markets and grocery stores. The index helped identify which vulnerable populations might be most isolated from sources of healthy foods.

Walkability Index - Walkability is an index that estimates how likely people are to get around by walking.

The index is based on three components: intersection density, residential density and amount of service employment and retail space. This technique was based on the academic work of Frank, *et al.* (2005)¹. The walkability index revealed that while many suburban areas of Memphis had low walkability, some older neighborhoods such as Midtown had high walkability scores.



Bikeability Index - Placeways developed an index that estimates how likely people are to get around by bicycle in the region. The Bikeability Index combined four components: intersection density, bike lane density, bike network reach and percentage of workers commuting by bike. For the bike network reach component, Placeways used MIT's [Urban Network Analysis Tool](#) to estimate how many destinations can be reached on a bike trip of limited length. As with walkability, older more established

Comparing Trend and Infill Scenarios relative to existing parks and bikeable areas. Many older, more centralized neighborhoods have more access to healthy destinations than newer suburban areas. How and where the Memphis region chooses to grow could have implications for its sustainability and health goals.

neighborhoods tended to have higher scores, but newer suburban areas that had made investments in bike infrastructure tended to produce moderately good scores as well.

Parks Level of Service Assessment - This assessment examined the area against an established level of service for parks in the Memphis region. The level of service measured both park area per person and park accessibility (e.g., how many residents live within ½ mile of a pocket park). This assessment revealed that while the area had abundant large, regional parks, there were many areas that lacked the kinds of small neighborhood parks that families could walk to from their homes.

Scenario Assessment - Placeways compared the current conditions against two scenarios representing where new jobs and houses would be added to the region by 2030. A trend scenario represented what the area would look like if current patterns of change in the region continued: growth at the edges and population loss in many older neighborhoods. Placeways also created an Infill scenario as a "what-if" exercise to show what the region might look like if growth were focused on existing urbanized areas (i.e., infill development). Placeways used maps and indicators to examine the health and sustainability effects of the two different patterns of growth. The Infill scenario performed substantially better in the sustainability and livability metrics. Much of the region's walkable, bikeable and park-accessible neighborhoods were located in older neighborhoods. This suggests that if the region continues to develop under Trend scenario, it may find it more difficult to achieve its livability and sustainability goals.

Technology and Tools: CommunityViz Scenario 360; Urban Network Analysis Tool, ArcGIS 10.2

Outcomes: This project is an illustration of how the Memphis region is attempting to create a more sustainable and livable future for its citizens. A Regional Vision Plan was published in 2014 and it was accompanied by fair housing and bus transit to work studies. The CommunityViz analysis provided a valuable perspective on the region's challenges and opportunities.

KEY LINKS

CommunityViz
<http://placeways.com/communityviz>
 Placeways LLC
<http://placeways.com>
 Mid-South Regional Greenprint
<http://www.midsouthgreenprint.org/>
 Memphis and Shelby County Office of Sustainability
<http://www.sustainablesbelly.com/>

¹Frank LD, Schmid TL, Sallis JP, ChapmanJ, & Saelens BE. 2005. Linking objectively measured physical activity with objectively measured urban form. *American Journal of Preventative Medicine*, 28(2S2), 117-125.

Sources: Placeways LLC; Memphis and Shelby County Office of Sustainability

CommunityViz is a registered trademark of Placeways LLC. Scenario 360 is a trademark of Placeways LLC.