



Walk This Way:

Infrastructure Equality Through GIS

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Why Sidewalks Matter


- Roads without sidewalks are more than twice as likely to have pedestrian involved crashes as roads with sidewalks on both sides of the street.
- Research shows that if you build it they will come, and quality matters.



Why Sidewalks Matter

- Birmingham is a City of neighborhoods
- Sidewalks are the most basic community infrastructure
- Sidewalks provide many benefits including safety, mobility, and healthier communities.
- 8 out of 10 Americans prefer being in a community that has sidewalks.
- 47% of people who live in a neighborhood with sidewalks are more likely to be active at least 39 minutes a day than those who live in neighborhoods without sidewalks.

How does this relate to Mississippi and Alabama?



Mississippi and Alabama are national leaders in obesity, health related issues, and poverty



35%

of Alabamians are obese



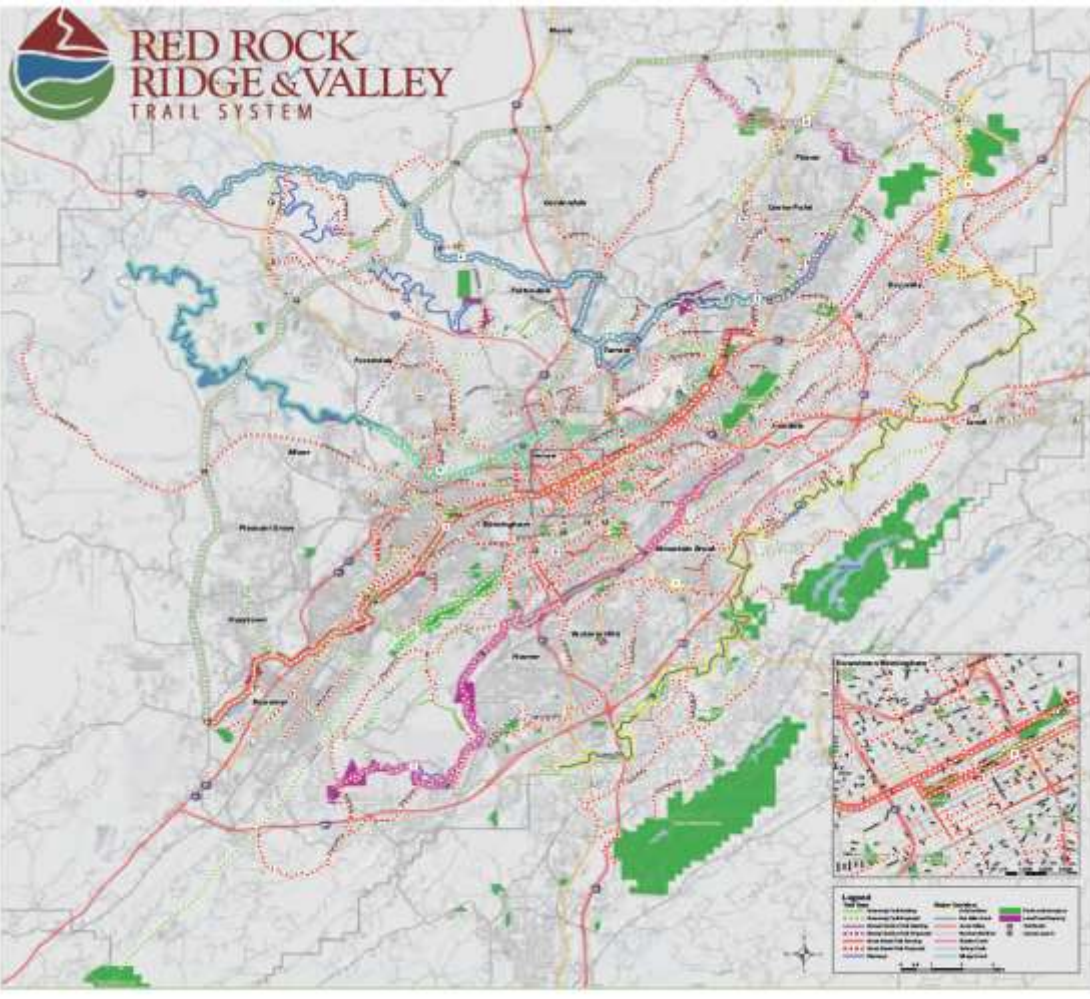
28%

of Alabamians don't get any leisure activity on a given day



62%

of Alabamians don't have access to exercise opportunities



- Collaborative county-wide plan for greenways and trails
- Planned to promote active lifestyles, improve health, economic benefits, reduce flooding and increase community awareness of the environment
- Conducted over 50 open house meetings and 6 design charrettes
- Planned 800 miles of trails – 200 miles of shared-use trails and 600 miles of street-based and pedestrian trails
- Resulted in \$10 million TIGER VI grant to implement 29 miles of greenways and trails

Birmingham Sidewalk Planning: Phase I

Inventory

Public meetings

Deliverables:

Development of a master sidewalk map and descriptions, maintenance needs for existing sidewalks compliant with FHWA's A Guide for Maintaining Pedestrian Facilities for Enhanced Safety access needs compliant with the United States Access Board's latest edition of the Public Rights Of Way Accessibility Guidelines (PROWAG) possible funding and potential phasing of recommended sidewalk operations.

Birmingham Sidewalk Planning: Phase I

IMPLEMENTATION

DETERMINING PRIORITIES

CITYWIDE

As the Birmingham Sidewalk Master Plan identifies sidewalk priorities throughout the City, City officials and staff must prioritize sidewalk construction and repair further.

Areas that have existing framework area plans are the obvious place to start directing funding for sidewalk construction and repair, as these places have a substantial amount of information, mapping, data, and public input already available. The Birmingham Sidewalk Master Plan should work in concert with the framework area plans with the long-term planning of these projects allowing the way that funding is allocated to the priorities identified in the Sidewalk Master Plan.

Currently, there is no line item in the City's budget for sidewalk repair and construction. Including an annual source of funding that is designated for sidewalk repair in the City's operational budget will allow the City to allocate funding for sidewalk repair and construction based on the needs identified in this plan and based on neighborhood feedback. Furthermore, as the City resurfaces streets, funding should be included in these projects to repave, improve, or, where possible, construct sidewalks based on the priorities set forth herein. Including sidewalk funding in resurfacing projects is a simple and cost-effective way to ensure that the Sidewalk Master Plan is implemented.

The City's Capital Improvements Program should be reestablished and also coordinated with the Sidewalk Master Plan, ensuring that Capital Improvements such as sewer water or other utility repair can occur concurrently with sidewalk repair.

HEALTH OF THE COMMUNITY

In addition to the factors identified in this plan, the health of a community's residents may impact the priorities for sidewalk improvements, as that one community with poorer health conditions may be a better candidate for immediate sidewalk improvements than a community with better health conditions.

NEIGHBORHOOD ADVOCACY

It is essential that neighborhoods and communities have the ability to advocate for these sidewalk projects in their areas and understand the avenues by which they may do so. Citizens may appeal directly to their City Councilor to include sidewalk repair and construction in the budget or to allocate funds from the general fund to their projects. As the framework planning process continues, neighborhoods can advocate for specific sidewalk projects to be included in the implementation section of the plan as action items, which will mean those projects are prioritized with funding in the implementation stages of these plans.

As streets are resurfaced in neighborhoods and communities, citizens should work with the representatives to ensure that sidewalk funding is included in the resurfacing project. Neighborhood organizations should use sidewalks as priorities in mobilization efforts and let their representatives know that "complete streets" are essential to these efforts, as recommended in both The Plan and the framework area plans.

Neighborhood organizations can also work with the Health Action Partnership (HAP) as the leading coalition in the provision of active transportation. The HAP can help advocate for sidewalk projects and can especially focus on Safe Routes to School sidewalks, as this program is a focus of the HAP. Members of the HAP could also serve as an implementation committee for the Sidewalk Master Plan in order to ensure the repair and construction recommended in the plan occur.

Sidewalk obstructions, while not covered in this plan due to their temporary nature, can be a major hindrance to walkability. If citizens encounter sidewalk obstructions such as broken illegally parked cars, or other items, they should call 311 to report the issue.

ACTION ITEMS

The following action items should be taken to ensure that sidewalks will be considered priorities for budgeting and implementation in the future:

ACTION	TIMEFRAME
Create a City policy that ensures sidewalk repair/construction shall be included in contract and funding for resurfacing projects	Immediate
Create an Implementation Committee to serve as continuing education, advocates, and members of the Sidewalk Master Plan	Immediate
Meet with the HAP to obtain health data that can be overlaid with sidewalk priorities in order to determine areas where sidewalk improvements can provide health outcomes	Immediate
Coordinate with utility companies so they implement marks on sidewalk surfaces to ensure ADA compliance and continuity of sidewalks	Immediate
Include sidewalk priorities in framework area plans	Ongoing
Add a line item in the annual budget for sidewalk repair/construction	Next budgeting cycle
Add a line item in the annual budget for ADA compliance projects	Next budgeting cycle
Coordinate the Capital Improvements Program with the Sidewalk Master Plan	2-4 years

Birmingham Sidewalk Planning: Phase II

- Inventory
- Detailed survey of the current sidewalks to determine the condition of the sidewalks and their compliance /non-compliance with the American Disabilities Act (ADA)



Birmingham Sidewalk Planning: 5-Year Improvement Program

Vision:

To improve the walkability within the City's neighborhoods by making increased progress in terms of sidewalk repair throughout the City's 23 communities. As a result of a multi-year, multi-phase planning process the City's adopted Sidewalk Master Plan will provide a basis for implementation for this Sidewalk Action Plan.

Birmingham Sidewalk Planning: 5-Year Improvement Program

Theme:

The major theme for this plan will highlight action items related to implementing a short-term 5 year sidewalk improvement program as an implementation component of the City's adopted Sidewalk Master Plan

Year	Fiscal Year	Cost Estimate
1	2020	\$1,114,500
2	2021	\$2,601,510
3	2022	\$7,094,663
4	2023	\$7,094,663
5	2024	\$7,094,663

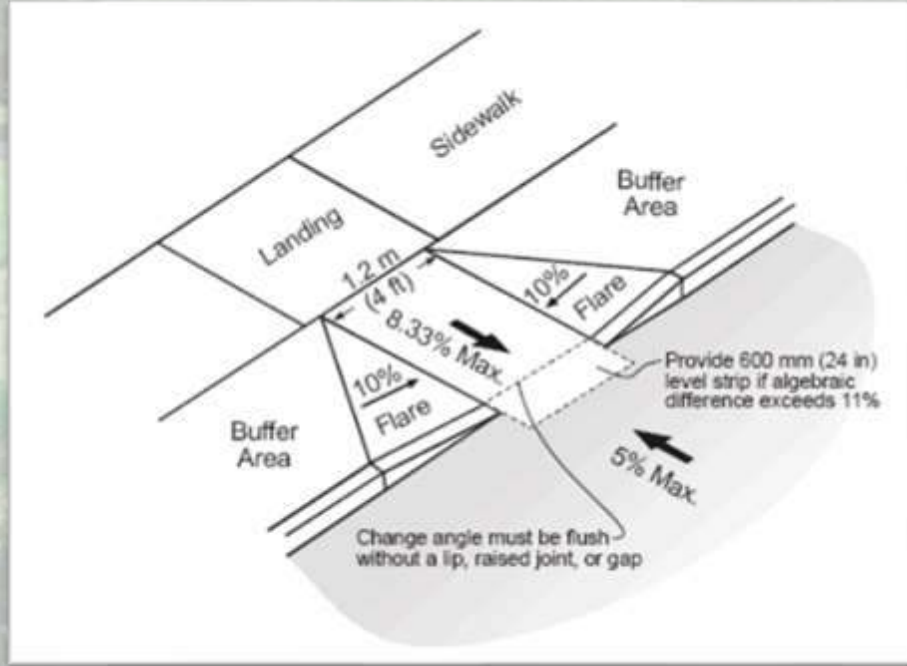
5 Year/\$25,000,000 Sidewalk Spending Estimates

PHASE I			PHASE II			PHASE III		
COMMUNITY ENGAGEMENT	P L A N A D O P T I O N							
		DATA COLLECTION						
		MAPS						
DRAFT MASTERPLAN								
		CITY ENGAGEMENT						
						5-YEAR ACTION PLAN		
FALL 2014 – SPRING 2018			SUMMER 2018 – SPRING 2019			SUMMER 2019 – PRESENT		

ADA Compliance

- The Americans with Disabilities Act (ADA) has created design guidelines to ensure that transportation facilities are constructed to a set of standards that ensures accessibility for the disabled. Sidewalks are one of the most common pieces of transportation infrastructure, yet if not accessible, they can pose great challenges and danger to anyone in a wheelchair or with crutches. The ADA provides standards to help anyone constructing sidewalks do so in a safe, accessible manner.
- This became effective in 2016, and the City wanted to live up to its motto by going beyond the minimums required by what is called a Transition Plan.

ADA Sidewalks Explained



Maximum Sidewalk Slope:

Run Slope $\leq 5\%$

Cross Slope $\leq 2\%$

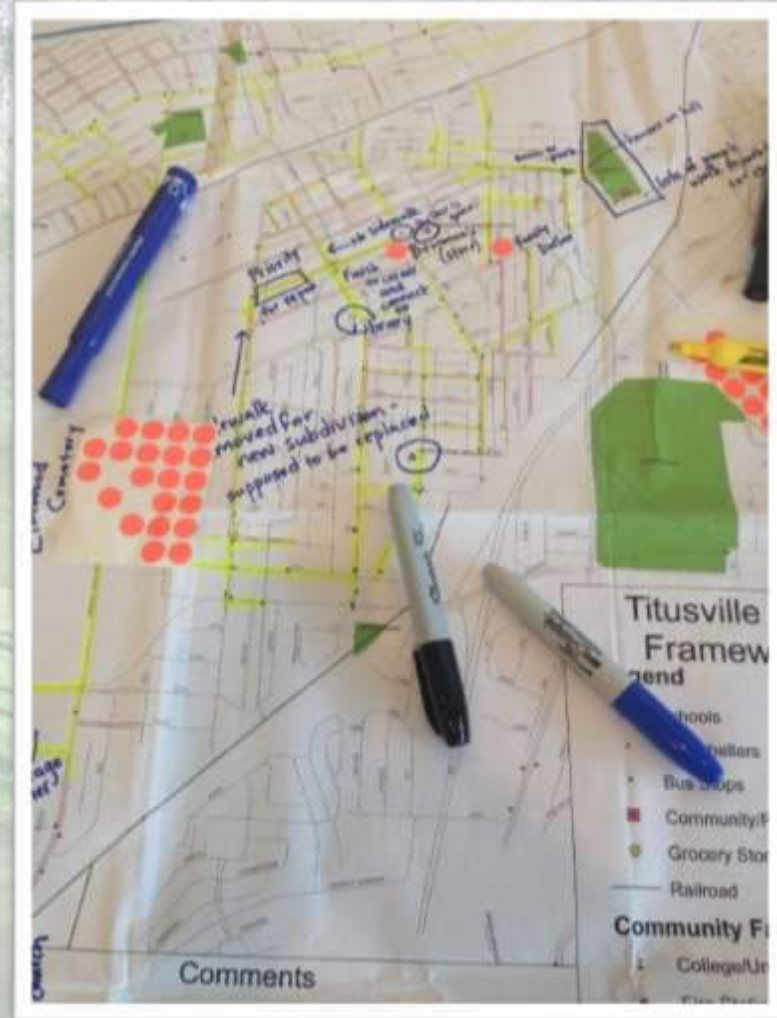
However, sidewalks may follow the slope of the adjacent roadway if 5% or less is technically infeasible.

Preliminary Inventory

- The first phase of the Master Plan was to conduct a preliminary windshield survey.
- This mapped where sidewalks existed and did not exist.
- Basic quality of existing sidewalks.
- Approximately 1000 miles roadways were analyzed.
- This data was based on blocks.
- This data was layered on top of existing GIS City data.

Establishing Priorities

- Three public meetings were held to identify community priorities.
- Residents were asked to rank designations by importance, and rank designations based on importance of community walkability.
- This data was converted to GIS data and seven community destinations emerged as priorities for the plan.



Establishing Priorities

- Schools
- Parks
- Transit Stops
- Community Centers
- Grocery Stores
- Libraries
- Commercial Areas



Field Work

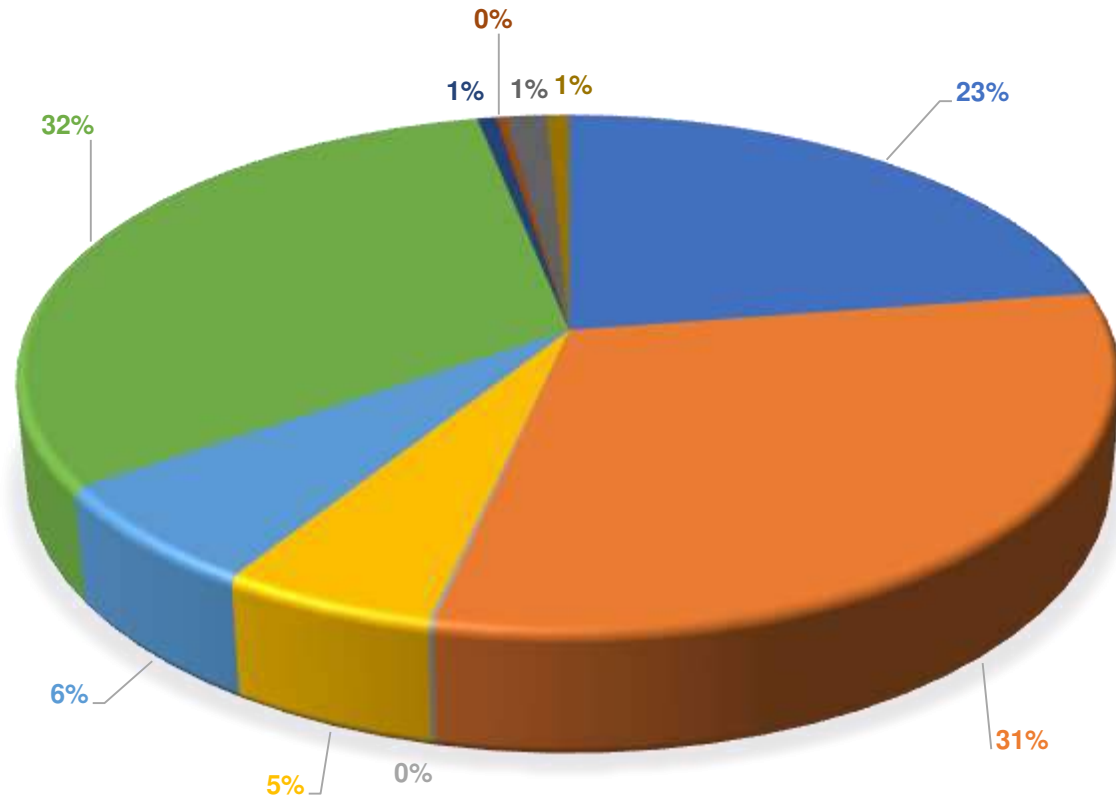
- To truly address ADA the team set out to identify all sidewalk ADA incompatibilities.
- This was a 3 year process performed by a 3 person team that walked the nearly 1,000 miles of Birmingham roadway to document each inconsistency using GIS.



Data Points

- Approximately 150,000 GPS points during this data collection process.
- Data points were stored in the ArcGIS Online Cloud in a geodatabase which contained customized domains and attribute table along with photos of sidewalk and curb ramps.
- Due to the amount of photo attachments, this geodatabase weighed in at over 60GB!

- Slope
- Busted
- Construction
- Debris/Gravel
- Heavy Vegetation
- Joint Displacement
- Other
- Ponding
- Sidewalk Ends
- Utility



Organizing and Communicating the Data

- Classify and prioritize the worst sidewalk segments
- Priority buffer zones
- 5-year Plan selection



5 year Plan



Challenges

Deciding on the final deliverable

Selecting data collection software

Testing workflow and GPS equipment

Customizing Geodatabase

Changing the conversation about how we budget
funding across the city for sidewalks

