Cycling and Walking in the South

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Unifying Atlanta through Cycling, Georgia State University, Atlanta, April 2, 2016

Cycle track in downtown Houston

Suspension bridge on Raleigh Greenways
Walking and Cycling: the \textit{MOST} sustainable transport modes

- \textbf{MOST environmentally friendly:}
  > Virtually no pollution at all
  > Almost no nonrenewable resources used

- \textbf{MOST equitable:}
  > Financially affordable by virtually everyone
  > Physically possible by all but the severely disabled

- \textbf{MOST economical and healthiest:}
  > Minimal private and public costs
  > Although they take more time, they provide exercise that reduces medical costs and greatly extends our healthy life expectancy
Growth in Cycling to Work in America’s Largest Cities, 1990-2014

(Percent of daily work commuters by bike)

Crucial lesson from Portland, Oregon:

IT TAKES TIME TO CREATE A COMPLETE BICYCLING NETWORK

It took Portland 35 years (1980 to 2015):

• To expand its bikeway network from 32 miles to 420 miles
• To raise bike mode share from 0.4% to 6.9%
• To reduce fatality rate (per bike trip) by 70%
• To create a city famous for its cycling culture
Why are rates of cycling and walking to work so low in the South?

• Hilly terrain?
• Climate?
• Longer trip distances
  • Lower urban development densities
  • Polycentric metro areas
  • Car-oriented suburban sprawl lacking mixed-use development
• Lack of good, safe walking and cycling infrastructure
  • Sometimes missing even sidewalks
  • Bike lanes rare
• Lack of good public transit (to combine with walking and cycling)
Potential for increasing walking and cycling in the South: *It’s already happening!*

- Rapid growth of large cities
- Booming inner city residential areas
- More neo-traditional neighborhoods being built, even in suburbs
- Transit-oriented development around new rail stations
- Booming network of off-street greenways throughout the South
- Improvements in on-street cycling facilities
- Improvements in walking facilities
Steady Growth in Cycling in the South, 1990-2009

Millions of bike trips per year, all trip purposes

Source: Calculated by Ralph Buehler from U.S. Department of Transportation, Nationwide Personal Transportation Study, 1990 and 1995, and National Household Travel Survey, 2001 and 2009
Growth in Walking in the South, 2001-2009, *all trip purposes*

(Millions of walk trips per year)

Source: Calculated by Ralph Buehler from U.S. Department of Transportation, National Household Travel Survey, 2001 and 2009
Growth in Cycling to Work in the South, 2000 to 2014

Daily bike commuters in U.S. Census region “South”

Walking to Work in the South, 1990 to 2014

Daily walk commuters in U.S. Census region “South”

Increases in Bike Commuting from 2000 to 2014 in Selected Metro Areas in the South

**Sources:** 2000 US Census and 2014 American Community Survey, US Census Bureau
Bike Commute, Metro Areas 2000 to 2014

Increases in Bike Commuting from 2000 to 2014 in Selected Metro Areas in the South

(% = mode share of commuters)

- **Birmingham (Jefferson)**: 186 (0.3%) to 702 (277%)
- **Memphis (Shelby)**: 363 (0.2%) to 775 (113%)
- **Columbia (Richland and Lexington)**: 394 (0.3%) to 818 (108%)
- **Nashville (Davidson)**: 405 (0.3%) to 926 (129%)
- **Knoxville (Knox)**: 231 (0.5%) to 950 (311%)

East Coast Greenway provides crucial interstate links between long-distance off-road, mixed-use greenways in the Southeast.
Over 20,000 users per week just on this 3-mile segment of the BeltLine

40 miles of greenways in Atlanta

North Augusta Greenway

Photo: Jason Hardin

Mixed-use greenways are booming throughout the Southeast

Photo: Atlanta Bicycle Coalition

Chattahoochee Riverwalk in Columbus, GA

Photo: Jason Hardin

Atlanta BeltLine Eastside Trail
Raleigh-Durham-Chapel Hill Area has over 300 miles of greenways, with more planned.
110 miles of paved mixed-use greenways in Knoxville metro area in 2014
Razorback Regional Greenway

The Walton Family Foundation

US DOT TIGER

Northwest Arkansas Razorback Regional Greenway

Legend:
- Northwest Arkansas Razorback Regional Greenway: Main Spine
- Northwest Arkansas Razorback Regional Greenway: Alternative Routes
- Existing Off-Road Northwest Arkansas Razorback Regional Greenway
- Proposed Off-Road Northwest Arkansas Razorback Regional Greenway
- Proposed On-Road Northwest Arkansas Razorback Regional Greenway

(Annotation: Trailheads and Points of Interest)
36 miles of Razorback Greenway in Arkansas

Source: Alta Planning
Centerline miles of bike lanes

- Austin: 242 mi.
- Houston: 110 mi.
- Raleigh-Durham: 120 mi
- Charlotte: 81 mi.
- Memphis: 68 mi.
- Atlanta: 94 mi.
- New Orleans: 38 mi.
- Knoxville: 12 mi

Esplanade bike lane in New Orleans
Booming bike facilities in Memphis

Doubling planned from 2015 to 2017:
• Bike lanes: 68 to 129 miles
• Protected bike lanes: 9 to 26 miles
• Mixed-use paths: 32 to 57 miles
Expansion of bike lanes in Raleigh-Durham Area: 10 miles in 2000 to 120 miles in 2016 from NC State Univ to downtown Raleigh

Richmond expanded bike lanes from 10mi in 2000 to 95mi in 2016
Problems with Bike Lanes

- Bike lanes used for car parking
- Bike lanes used for truck deliveries
- Dooring of cyclists
Transformation of Hornby Street in Vancouver with installation of first-class cycle track
Cycling in Sevilla, Spain increased 10-fold after 164km of cycle tracks were installed from 2006 to 2014. Cycling injury rate fell by 80%.
Montreal is the leader in cycle tracks in North America, with over 90 miles 2014

Separation from traffic via concrete barriers AND bollards

Photo: Velo Quebec
NYC was the first US city to build cycle tracks

Since 2005:
- 320 miles of new bike lanes and paths
- Tripling in bike trips
- 75% reduction in fatality rate per bike trip

55 miles of cycle tracks in NYC 2015

Photo: NYC DOT
Economic benefits of this cycle track exceed costs by over three-to-one!

Cycling has doubled in Sydney, Australia since installation of its cycle track network.

Photo: Fiona Campbell
Austin has 36 miles of buffered bike lanes: bollards being installed in mid-2016, converting this into a protected cycle track over the bridge.
10 miles of 2-way protected bike lanes in Atlanta by end of 2017, with more planned
Construction of new 2-way protected bike lanes (cycle track) on Portman Blvd in downtown Atlanta
Austin has 8 miles of cycle tracks, more coming soon
Basin Street cycle track in New Orleans

Photo: City of New Orleans Planning Commission
This cycle track in St. Petersburg, Florida has increased cycling by senior citizens and women.
Lamar St. cycle track in downtown Houston
/connects Sam Houston Park with Discovery Green Park/

Photo: City of Houston
Expansion of cycling and walking facilities in Birmingham in coming years.

Planned transformation of 20th Street (near Vulkan statue) to include protected cycle track and walking facilities.
25 miles of off-road greenways in Chattanooga, rising to 39 miles by 2020

2 miles of buffered bike lanes and protected cycle tracks in Chattanooga, rising to 23 miles by 2020
Conversion of First Ave cut in Birmingham to ped/bike greenway in center of city

Already under construction
Raleigh’s first cycle track planned for Six Forks Road Corridor in North Hills (5 miles each direction)
Charlotte, NC: Transforming East Boulevard into a complete street that includes signed bike lanes in both directions
Road conversion on Tryon Street Bridge in Charlotte:
Key route for bike commuters into the city center

- Two lanes re-allocated from motor vehicles to pedestrians and cyclists
- New bike lanes in both directions, 5ft wide
- Widened sidewalks in both directions, 12ft wide
Magnificent new ped/bike bridge over I-40 provides a key connection for the American Tobacco Trail in Durham, NC

Crucial link in East Coast Greenway
Protected ped/bike path already on Ravenel Bridge over Cooper River. Need protected path on Legare Bridge over Ashley River and around the tip of Charleston to fill crucial missing links in East Coast Greenway network.

Probably the most important missing link

Missing bridge connection over Ashley River

Missing greenway around Battery

Planned greenway in Mount Pleasant

Protected path on Ravenel Bridge over Cooper River.
Bike boulevards (neighborhood greenways) increase the convenience and safety of both cycling and walking, while reducing pollution and noise in residential areas.

- Relatively inexpensive, usually costing less than $1 million per mile for redesign of roads and installation of signs, pavement markings, bollards, diverters, etc.
Traffic calming in Quebec City and Montreal

Cheap, easy, and very effective traffic diverters
Blockage of through car and truck traffic but convenient cut-through for cyclists and pedestrians
152km of bike boulevards in Vancouver
Bike-Transit Integration in Charlotte

- Bike racks on light rail trains
- Bike sharing at light rail stations
- Bike path along light rail transit line
Bike-transit integration in Atlanta

Source: Preston Tyree

213 bike parking spaces at MARTA train stations

Source: Alta Planning

All MARTA buses in Atlanta have bike racks

Source: MARTA

Bikes allowed on board MARTA trains

Source: Byron Rushing

Convenient, sheltered bike parking inside MARTA train stations

Source: Byron Rushing
Bike Station next to Union Station in Washington, D.C.

Capacity: 150 bikes
10 times more bikes than cars in same space: means more customers can park right in front
Bike parking costs much less!

$150-300

cost of bike rack
for two bikes

$17,000-$29,000 in 12 urban areas

Source: Shoup, *High Cost of Free Parking*, pg. 90

Source: http://www.bicyclinginfo.org/engineering/parking.cfm
After installation of this cycle track in Sydney, Australia, over a third of children now bike to school!

Photo: Fiona Campbell
Expansion of Open Streets (Ciclovias) in the Americas
(cities with at least two events per year)

Síclovía in San Antonio, Texas
Annual Tour de Fat bike ride in Durham, NC, with 5,200 participants in 2015, including me!
Annual “Undie Run” in Raleigh for cancer research funding, NOT including me!
STREETS ALIVE in Atlanta

Held in spring, summer, and fall
105,000 participants in Sept 2014

Photo: Atlanta Bicycle Coalition
Outlook for the South

Bad news:
• Cycling will continue to be dominated by recreation, sports, and exercise
• Sprawled polycentric land use will continue to make cycling to work, school, shopping, and services difficult or impossible due to long trip distances
• Summers will remain hot and humid
• Lack of an integrated network of safe, well-designed cycling (but rapid growth in recent and coming years toward that goal!)
• Limited but growing public and political support to allocate street space and financing for good, connected on-street cycling facilities

Good news:
• Widespread public and political support for off-road greenways, with significant expansion planned in many Southern cities
• Mixed-use recreational facilities are heavily used by a wide range of social groups (all ages and abilities) encouraging valuable physical activity
• Densification and mixed-use development in a few downtown areas and subcenters, but not well connected to each by transit and bike facilities