

Downtown Troy-University





Bicycle-Pedestrian Study



Prepared for the City of Troy, Alabama by the South Central Alabama Development Commission with assistance from KPS Group, Inc. and Studio A



Downtown Troy-University Bicycle-Pedestrian Study

Troy, Alabama, seeks to enhance its small-town collegiate atmosphere as a pedestrian friendly place to walk and cycle. The City envisions a comfortable and inviting bicycle and pedestrian facility that will link the cozy downtown square and the campus of Troy University, offering healthy alternative connections between the campus and the heart of the City. The primary goal of the planning study is to identify the preferred route that connects the campus to downtown and to provide a strategy for planning, engineering, and construction of a preferred bicycle and pedestrian route.

Process: The planning process involved an intensive study of several routes and facility types, in an effort to determine the most suitable option. Three options emerged as potential routes between campus and Downtown Troy:

Option A: Elm Street to Park and Madison Option B: Oak Street to Madison Option C: South Brundidge to East University



Routes A, B, and C were analyzed for their suitability, by evaluating several factors, including the following:

- Traffic Volume
- Right of way width
- Potential conflict points between motorists and bike/ped users
- Hills/slopes
- Number of driveways, curb cuts into parking lots
- Presence of center turn lane
- Utility poles and other conflicts

Park/Elm Street Route

A connection along Park and Elm Streets was selected as the preferred route. The proposed route begins at the Downtown Square, and travels along Elm, Park, and Madison Streets until it enters the campus on Madison Street at the Troy University pond. It is anticipated that the University will provide interior connections within the campus.

The total length of the route is 5,188 linear feet, which is approximately one mile. The Park/Elm Street Route features **Shared Paths** and **Share the Road** facilities (see map).



Park/Elm Corridor Benefits

- Lower volume of automobile traffic compared to Madison and South Brundidge
- Off-street multi-use trail on Park Street is a more comfortable facility for inexperienced cyclists.
- Expanded sidewalks on Elm Street provide an alternative for inexperienced cyclists who are not comfortable with cycling in the road.
- A new pathway on Park Street will accommodate pedestrian access to Charles Henderson Middle School.

Park/Elm Corridor Issues

- Six pull-in parking spaces at vacant building on Elm Street need to be relocated
- Survey needs to be prepared to determine if there is sufficient ROW on Elm Street for the multiuse trail
- Steep topography/incline on Park Street may be difficult for cyclists; however, because there is no stopping required, cyclists may be able to glide downhill and back up without great difficulty
- Parallel parking on shared roads can be a hazard, as motorists can potentially open doors into the path of a bicyclist

Park/Elm Corridor Facility Types

"Share the Road" Facility

Share the Road facilities, or "sharrows," are identified by signing and pavement markings as bike routes. There are no exclusive bicycle lanes on a Share the Road route. Bicycles are permitted to ride on the travel lane of the roadway. A travel lane width of twelve (12) feet or greater is preferred. Signage, pavement markings, street trees, and other traffic calming devices help to notify motorists that there are cyclists sharing the road. The routes typically extend along local neighborhood streets and collectors that lead to destination such as a park, school or commercial district.





Shared Path Facility

Shared paths are located separate from the street, within the public right of way. The paths allow for both pedestrians and two way bicycle traffic. Inexperienced cyclists are much more comfortable with shared paths, as they allow the user to maintain separation from motor vehicles. Paths are a minimum of eight feet wide. Signage and pavement markings indicate that cyclists are to keep right. The shared path is separated from the roadway a minimum of four horizontal feet so that cyclists are not travelling adjacent to the opposite flow of traffic.



Street Trees

Street trees are an important element of a bicycle and pedestrian friendly environment. Street trees provide a character and scale that is enclosed and focused, which assists the introduction of cyclists and pedestrians to an otherwise automobile-oriented environment. Street trees help to naturalize the urban environment, filter the air, and provide cooling during warm seasons, which is particularly important for pedestrian and cycling comfort in Alabama.

Street trees should be of sufficient height to provide a clear zone for pedestrian and bicycle circulation beneath the canopy. Shade trees appropriate for Troy include Chinese Elm, Ash, Oak, and Maple. In areas with overhead lines and limited planting area, "understory" or smaller species such as Trident Maple can be planted beneath the overhead lines. Trees should be spaced an average of about 50 feet on center.

Street Lighting

Street Lighting should be included along the route, and should be of a type and size that provides consistent lighting levels along the route. Shorter street lights—in the range of 15-20 feet—spaced more closely together create more attractive and uniform light levels that make pedestrians and cyclists feel safer and more comfortable. For best results pedestrian oriented lighting should be placed 60-80 feet on center.

Preliminary Budget

The following estimates are preliminary opinions of probable cost, intended to serve as a guide for general budgeting purposes. More detailed survey information and engineering will be required to develop a more accurate estimation of costs. An eight-foot shared path along Elm Street is included as an alternate in the event such a facility is determined to be feasible based upon further analysis.

Madison Avenue Shared Path	
(Park St to Campus)	75,000
8 ft wide path, signage, crosswalks,	
earthwork, erosion control, landscape	
Park Street Shared Path	
(Elm St to Madison St)	83,000
8 ft wide path, signage, crosswalks,	
earthwork, erosion control, landscape	
new curb and gutter near Elm intersection	
Elm Stroot Sharo the Boad	
Cook St to Dork St)	27 000
navement markings, signage, crosswalks	37,000
pavement markings, signage, crosswarks	
Town Square Share the Boad	24 000
novement markings signage crosswalks	24,000
pavement markings, signage, crosswarks	
Total Baseline Cost	219,000
Total Baseline Cost + 25%	274,000
includes survey, design, engineering and contingency	
Alternate	
Film Street Shared Path	1/10 000
8 ft wide path signage crosswalks	140,000
earthwork erosion control landscape	
cartinwork, crosion control, landscape	
Total Baseline Cost with Alternate	359.000
	,
Total Cost with Alternate + 25%	449,000
includes survey, design, engineering and contingency	

Sections along Park/Elm Corridor





A1 Share the Road Downtown Square One Way Street





A2 Share the Road Elm Street **Two-way Street**



Existing Elm Street, east of Brundidge





C Share the Road and Shared Path Elm Street, east of Brundidge





Existing Elm Street, east of Brundidge



C Share the Road and Shared Path Elm Street, east of Brundidge







D Shared Path Park St, North of Madison







E Shared Path Madison, east of Park Street

Appendix

Oak/ Madison Route

Connects Downtown Square to Troy University at the Pond; total length= 4,940 lf.

Benefits

- Added benefit of beautification along E Madison St., a major gateway to Troy
- Added benefit of traffic calming along E Madison St
- East Madison (East of Brundidge) is a low-volume local street (2,000 ADT)

Issues

- Railroad bridge under-pass requires coordination with Railroad
- Steep terrain/incline on sewer right- of-way
- Driveway relocation/ parking lot renovation required at Funeral Home
- New Bike/ped crossing and crossing light required at mid-block on E Madison
- West Madison (West of Brundidge) is a Minor Arterial, (6,900 ADT) with truck traffic
- Steep terrain/incline on E Madison St
- New driveway and parking lot buffer required at properties with continuous curb cuts
- Major intersection at S Brundidge and E Madison could be intimidating for inexperienced cyclists
- Retaining Wall may be required at NE corner of Brundidge/ Madison intersection
- New driveway and parking lot buffer required at SE corner of Brundidge/ Madison intersection
- Retaining wall may be required adjacent to the Troy University parking lot
- Three homes are located very close to the roadway on E Madison (East of Brundidge)



Brundidge Street Route

Connects Downtown Square to Troy University at the roundabout on University Avenue; total length = 5,650 lf.

Benefits

- Provides a walkable environment along Brundidge Street and University Ave- two major entrances to Downtown Troy and Troy University
- Beautification to Brundidge Street is an added bonus
- Very little topographic changes; very little incline- flattest route for cyclists
- All bicycle facilities are off-street (except Downtown Sharrow), which is appealing to less experienced cyclists



Issues

- Survey information required to determine if there is sufficient ROW width for the proposed trail
- Seven pull-in parking spaces need to be relocated. New driveway and parking lot buffer required at SE corner lot of Brundidge/ Elm St
- Four direct pull-in parking spaces need to be relocated
- Landscape buffers at parking areas required
- New driveway and landscape buffers need to be installed at parking lot at SE corner of Madison and Brundidge
- Five direct pull-in parking spaces that cross the proposed bike path need to be relocated
- Brundidge (south of Madison) is a collector street (11,900 ADT)

- Landscape buffer required at existing parking lot. Restripe 6 spaces
- Landscape buffer required at existing parking lot. May lose 2 parking spaces
- Eight direct pull-in parking spaces and dumpster need to be relocated
- Landscape buffer required at parking area
- Landscape buffer required at parking area
- Six direct pull-in parking spaces that cross the proposed bike path need to be relocated
- Landscape buffer and new driveway required at continuous curb cut area
- Five direct pull-in parking spaces that cross the proposed bike path need to be relocated