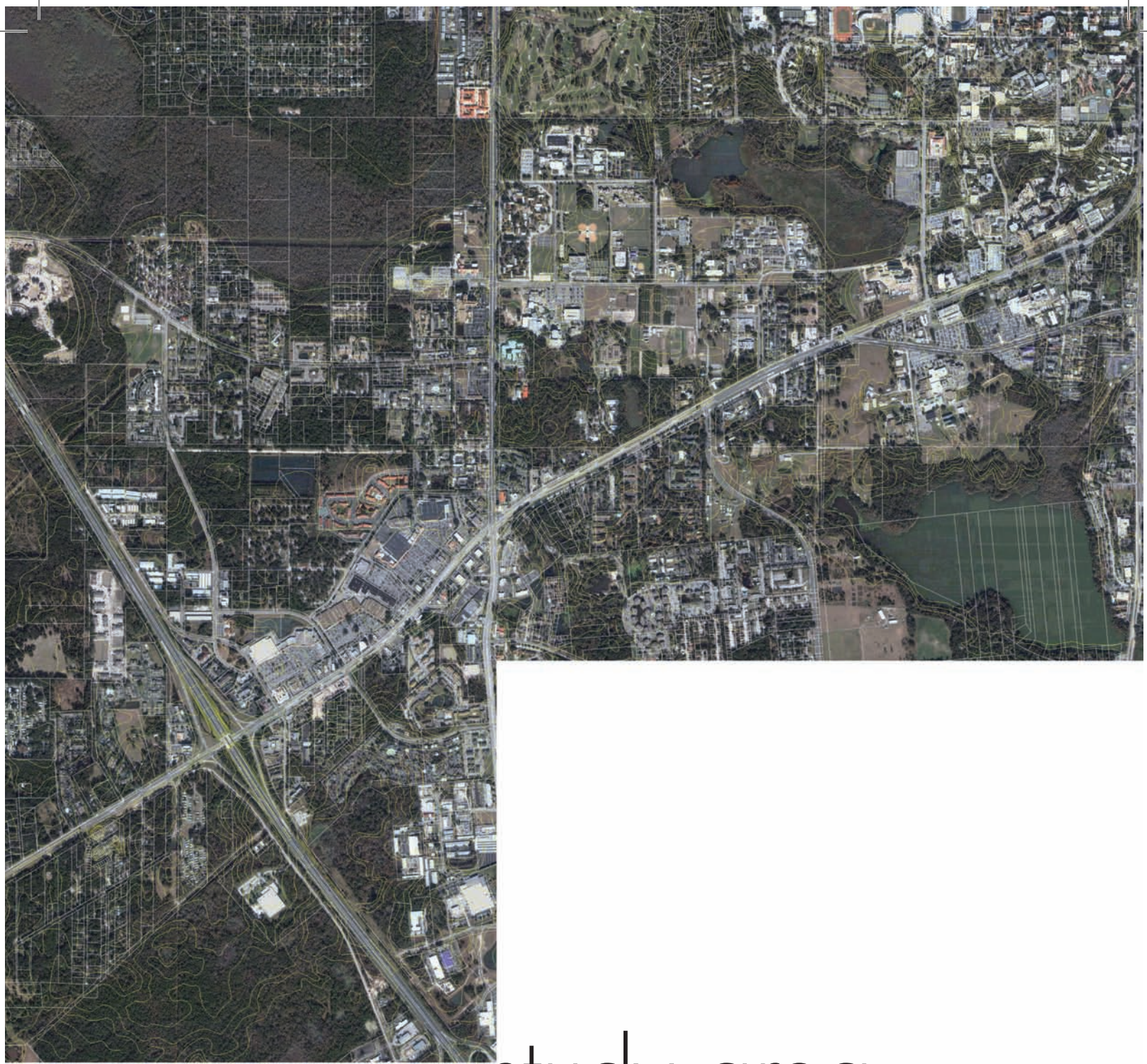
ArcherBraid: a multi-use path

prepared for the
Metropolitan Transportation Planning Organization (MTPO)
North Central Florida Regional Planning Council



study area

ArcherBraid:
a multi-use path

funded by:
Metropolitan Transportation Planning Organization (MTPO)
North Central Florida Regional Planning Council

www.flcdc.org
www.transportingecologies.com

The Florida Community Design Center (FCDC) is a collaborative partnership between Alachua County, the City of Gainesville, the Gainesville Area Chamber of Commerce, and the University of Florida.

ArcherBraid: a multi-use path

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foreword

One unmistakable factor contributing to the widely acknowledged livability of the Gainesville community is its strong commitment to accommodate pedestrian and bicycle use. At the same time, few residents would dispute another widely acknowledged condition, namely that automobile-induced congestions weighs heavily on so many sections of the local environment. Under the auspices of the 2004 Alachua Countywide Bicycle Master Plan, the Gainesville community has been exploring how to strengthen its bicycle and pedestrian infrastructure in the face of expanded automobile congestion. As part of this process, students in the University of Florida School of Architecture's Transporting Ecologies Studio, under the direction of Associate Professor Martin Gold, devised a dedicated bicycle and pedestrian way to accessibility in one of the most intensely developed areas of southwest Gainesville while avoiding competition with automobile traffic. What they have proposed is a unique blend of ecological sensitivity and practical design, built not only on suggestions from knowledgeable and committed local consumers but drawing upon models of similar infrastructure schemes from places that have successfully integrated multiple modes of movement.

It is no exaggeration that this 8.7 mile pathway, the Archer Braid could radically transform the Gainesville community by affording a high-use, pedestrian and bicycle thoroughfare — highly unusual in such an urbanized area. If implemented, and if it proves to be as widely used as is suggested, other communities are likely to follow suit. And then we might have here in the United States an example, comparable to the successful cases in European cities, of a more sustainable multi-modal transportation network, and another reason to celebrate the livability of Gainesville. I hope you'll share my enthusiasm for this groundbreaking idea. Take a look.

Christopher Silver, Ph.D., A.I.C.P.
Dean and Professor
College of Design Construction and Planning
University of Florida

project team

Martin Gold, Project Director
AIA, Associate Professor of Architecture

Team Leaders

Joe Hart, production design, editing & graphic design
Architecture student

Ayesh Bhagvat, editing & graphic design
Architecture student

Philip Forget, graphic design
Architecture student

Transporting Ecologies Studio
Martin Gold, Director

Ayesh Bhagvat
Gustavo Bonet
Greg Chapman
Kristen Cooper
Angela Coullias
Jon-Paul Estupinan
Philip Forget
Lena Gamo
Joe Hart
Mustafa Hussain
Robert Lamb
Scarlet Miller
David Ozawa
Priya Patel
Sangita Patel
Jackie Treat
Sarah Vasconi

steering committee

Rob Avery, Superintendent
Parks & Recreation, CIty of Gainesville

Dekova Batey, Coordinator
Bicycle Pedestrian Advisory Board, City of Gainesville

Mike Byerly, County Commissioner
Alachua County

Linda Crider, AICP, Associate Scientist
Dept. of Urban & Regional Planning, University of Florida

Linda B. Dixon, AICP, Assistant Director
Facilities Planning & Construction Division, University of Florida

Jesus Gomez, Director
Regional Transit System (RTS)

Sharon Hawkey, Co-Chair
SW Alliance for Planning

Rick Hedrick, Public Works Director
Alachua County

Steve Lachnicht, Principal Planner
Growth Management, Alachua County

Roland Loog, Director
Visitor's & Convention Bureau

Dom Nozzi, Senior Planner
Dept. of Community Development, City of Gainesville

Dr. Paul Oppenheim, Professor
School of Building Construction, University of Florida

Jan Patterson, Program Manager
Gainesville Chamber of Commerce

Julia Reiskind, Bicycle Pedestrian Advisory Board Chair
Science Research Manager, Dept. of Botany, University of Florida

Marlie Sanderson, Director of Transportation Planning
North Central Florida Regional Planning Council

Randy Warden, Bicycle, Pedestrian, & Trails Coordinator
Florida Dept. of Transportation, District 2

executive summary

Archer Braid is proposed as a dedicated bicycle and pedestrian way that will enhance connectivity between employment centers, multiple residential neighborhoods, schools, businesses, parks and nature areas. Archer Braid will provide 8.7 miles of viable commuting alternatives for a large segment of the Gainesville population who normally travel by automobile on SW 20th Avenue and SW Archer Road. It will reduce commute time between the many adjacent areas with high proximity but low connectivity. This multi-use path separates bicyclists and pedestrians from the automobile to optimize safe riding for all ages, provides 'safe routes to school', provides an alternative for non-drivers (elderly or others) and buffers these groups from automobile commuter exhaust plumes noted as unhealthy to nearby pedestrians and cyclists by the Centers for Disease Control. Supportive program elements such as mode transfer stations with bicycle parking, repair and refreshment pavilions, park infrastructure and nature area observation decks are presented as component element design alternatives. Design alternatives and path visioning proposals have been developed by the Transporting Ecologies Studio, School of Architecture, University of Florida in association with the Florida Community Design Center.

The 2004 Alachua Countywide Bicycle Master Plan Addendum identified Archer Braid as the top bicycle infrastructure priority based on public input, steering committee recommendations and cost-benefit analysis of eight important 'Braids' needed in Gainesville. This proposal carries the Archer Braid concept further through 1) visualizing implementation strategies identified in the 2004 Alachua Countywide Bicycle Master Plan Addendum; 2) identifying primary and alternate routes and linkages to nearby destinations; and 3) prioritizing the individual path segments in terms of implementation order — utilizing public preference information and cost-benefit ratio based on existing data.

Students enrolled in the Transporting Ecologies Studio under the direction of Associate Professor Martin A. Gold worked together to gather and translate relevant information into design proposals and implementation protocols appropriate for an off street path for non motorized commuter and recreational users. Studies included archival research, local site analysis, and field case studies of top cycle pedestrian communities. These investigations produced alternatives for development and integration within a designed context to produce 1) integrated design options; 2) a matrix of potential components; and 3) a prioritization schedule.

Martin Gold
Associate Professor, UF

Initial concepts and ideas were presented to and reviewed by the Archer Braid Steering Committee consisting of local transportation, planning and bicycle facilities experts, stakeholders and concerned citizens. The steering committee evaluated the work completed, prioritization of ideas and concepts presented and suggested additional study. A working draft of the proposed path and support program elements was presented to the public during a workshop held at the Florida Community Design Center on April 30, 2007. Suggestions from the steering committee and the public were integrated into the recommendations and proposals of this report.

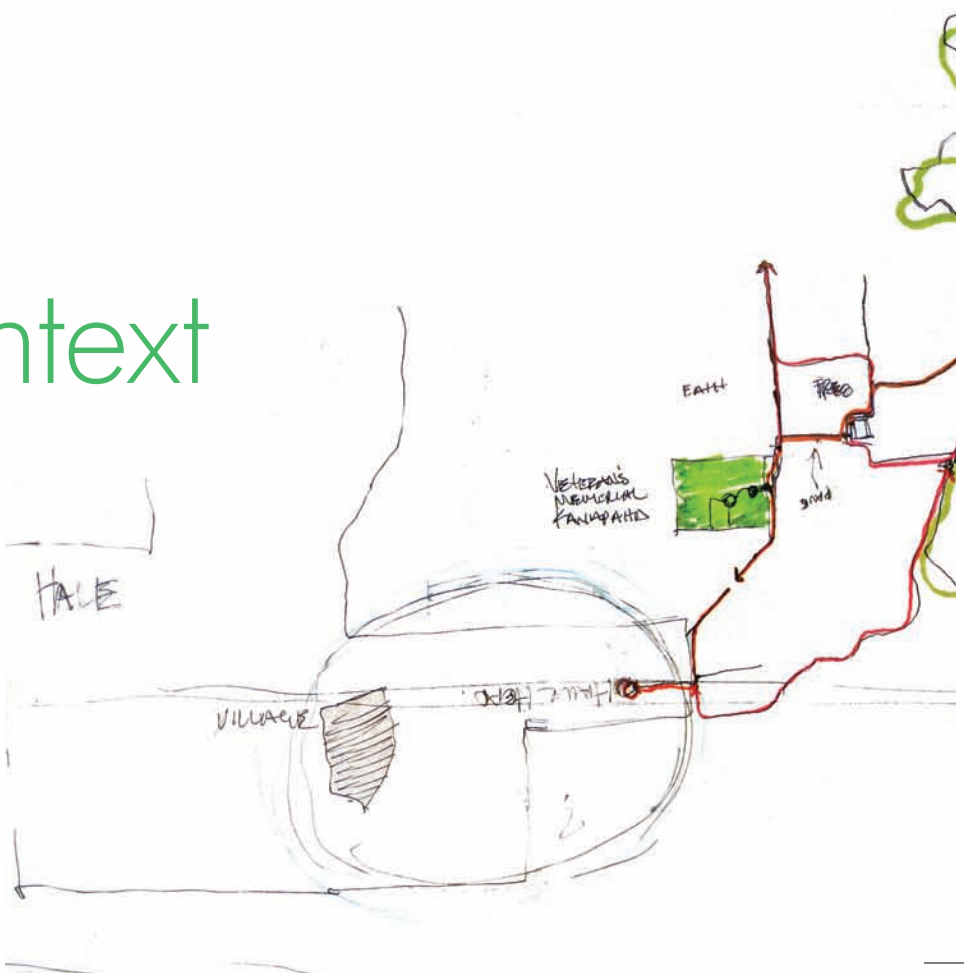
Our process parsed areas connected by to the 8.7 mile path into seven 'context districts' for detailed anlysis. Within each district, the route proposal was divided into logical segments based on existing intersections, proposed crossings, destination nodes, property boundaries or geographic features. Cost-benefit ratios were developed based on a 40 foot right-of-way and county property appraisal values; path construction costs with both traditional and permeable pavement options; costs for designated infrastructure such as bridges; and a benefit survey of the Steering Committee, Bicycle Pedestrian Advisory Board and citizens. Our prioritization is included at the end of the Analysis section of this report.

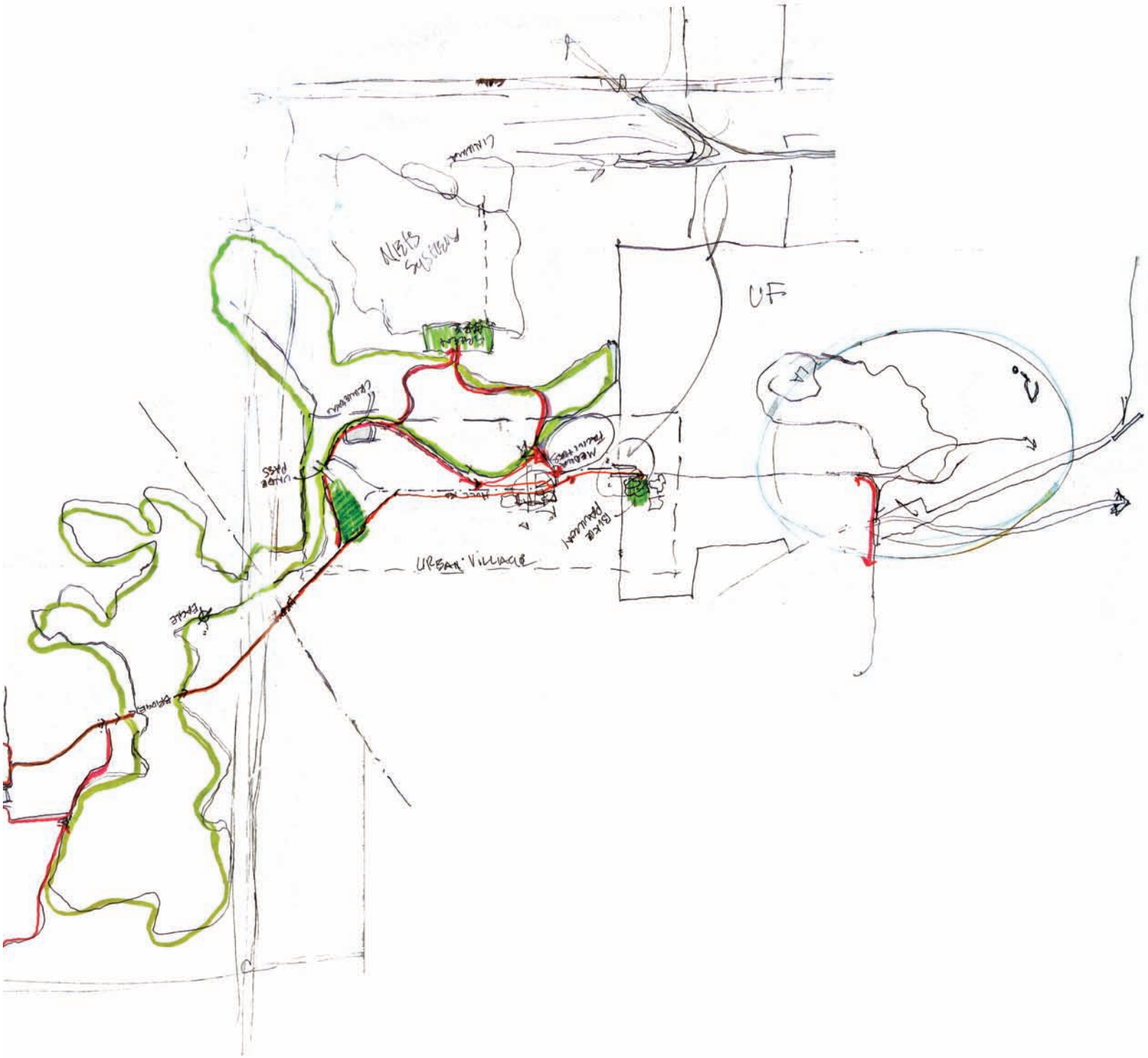
Design concepts have been developed through physical models, computer models, drawings and renderings. These include proposals for bridges, nature observation areas, bicycle storage/mode transfer pavilions and other civic amenities as illustrated in the "Design" section of this report.

This work was funded by the Metropolitan Transportation Planning Organization under the supervision of the North Central Florida Regional Planning Council. Our recommendations and vision studies are intended to facilitate project prioritization, community consensus and to provide a basis for seeking federal, state, and local funding for the Archer Braid.

Forest Park

context



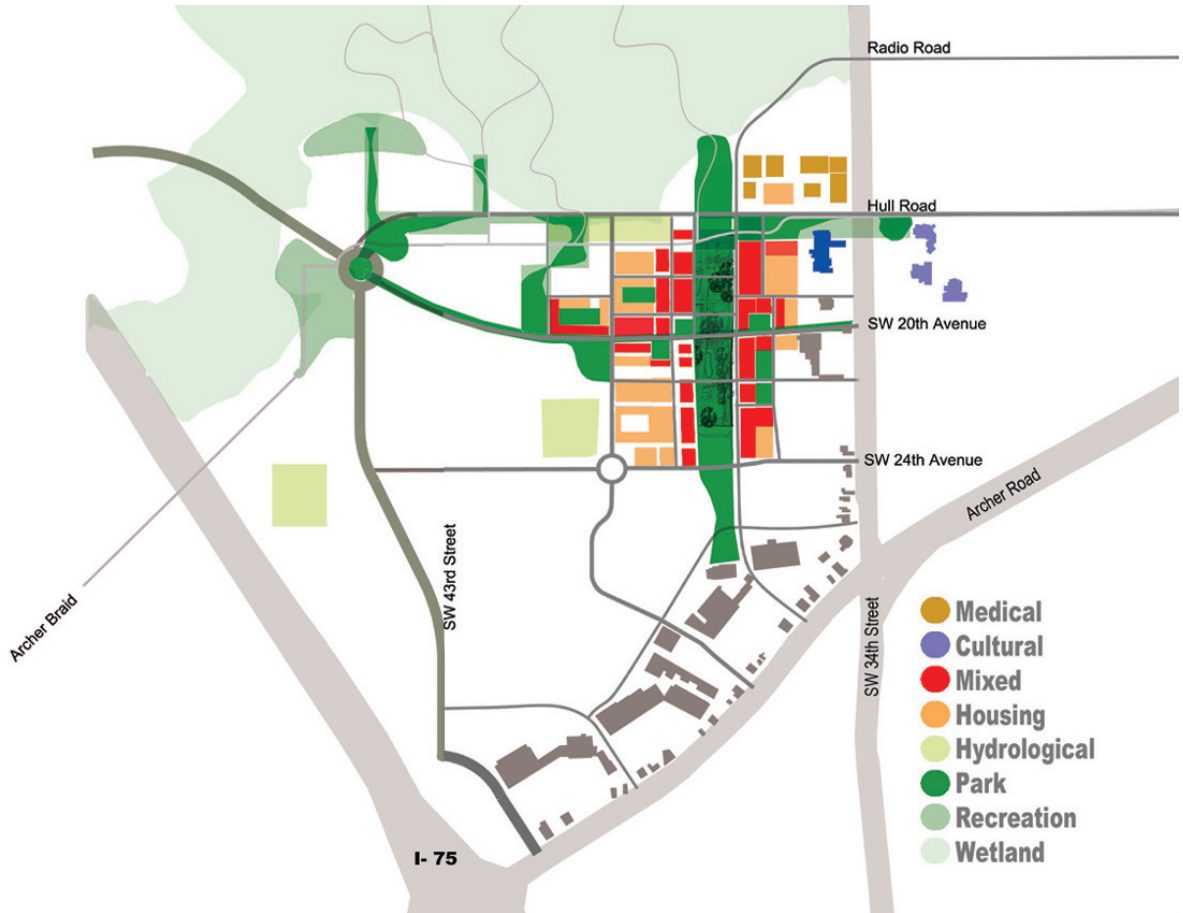

UF
URBAN VILLAGE

Introduction

Archer Braid: A Multi-Use Path proposes design strategies and project implementation prioritization for a major section of the Archer Braid multi-use corridor to link the UF Campus to SW 91st Street at Archer Road. With this vital connector, the multi-use path will extend (using existing and under implementation paths) to link the town of Archer with the Gainesville Regional Airport. Archer Braid was identified in the in the 2003 Alachua Countywide Bicycle Master Plan Addendum as the top multi-use path priority. This report includes analysis of site potentials and existing community amenities, relevant case study based strategies, land acquisition recommendations, estimated right of way costs and recommendations for implementation priorities.

A major segment of the Archer Braid will be developed in conjunction with a proposed Hull Road extension that will provide improved automobile connectivity between SW 34th Street and the intersection of SW 20th Avenue and SW 43rd Street. The new Hull Road and redesigned SW 20th Avenue would dramatically improve the core transportation infrastructure as noted in the *Urban Village: SW 20th Avenue Transportation Design Proposal* which suggests a compact street grid morphology with residential densities that support multimodal transit. Archer Braid is an important component of this new development pattern that will provide non automobile transportation options.

We cannot talk about urban transport until we know what type of city we want. How do we want to live? Do we want to create a city for humans or a city for automobiles? The important questions are not about engineering but about ways to live.
(Enrique Penalosa, former Mayor of Bogota, Columbia in *Massive Change*)



Urban Village Vision (MTPO 2006)

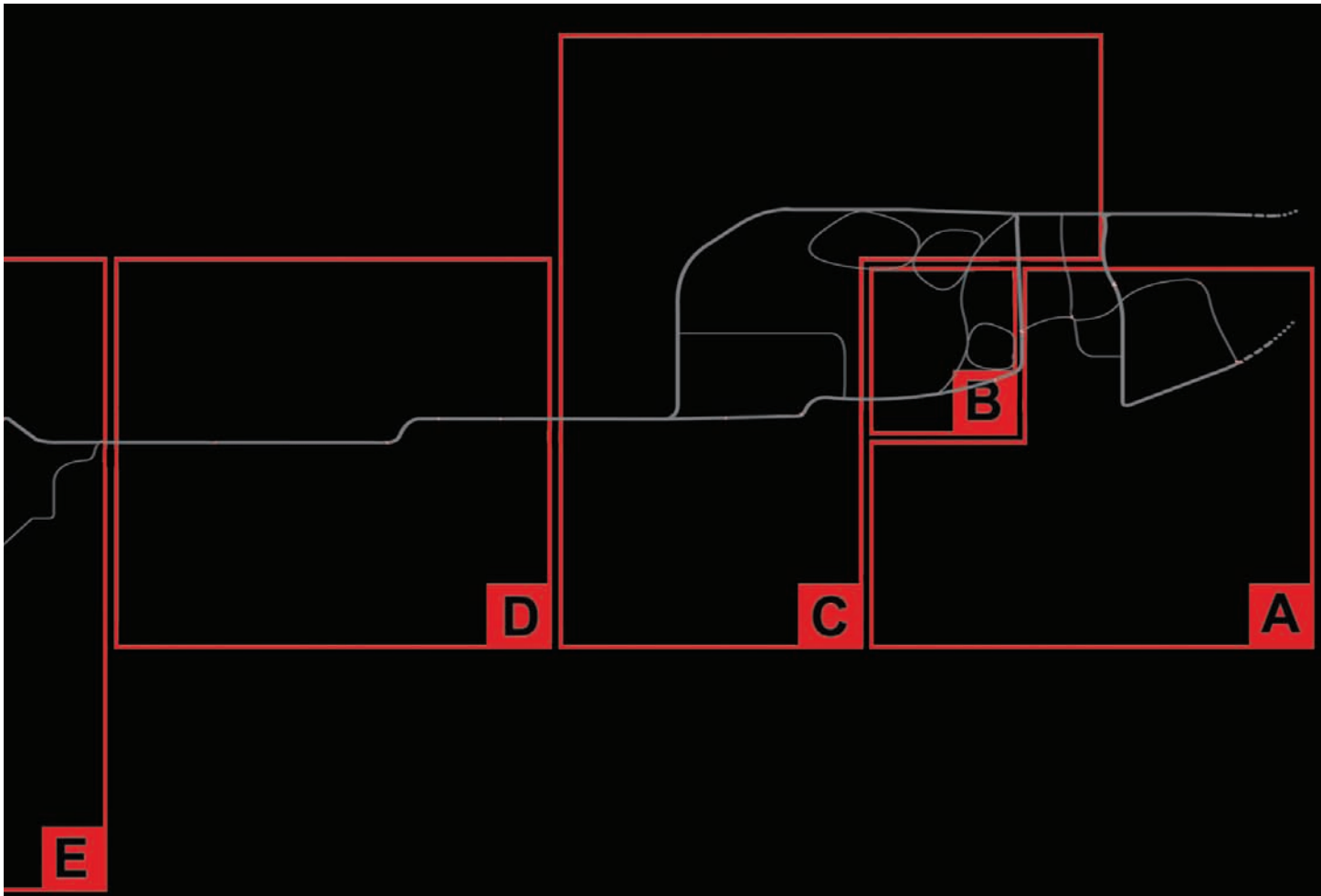
Project Goals

1 Develop and visualize implementation strategies identified in the 2004 Alachua Countywide Bicycle Master Plan Addendum and support the guidelines of the SW 20th Avenue Urban Village study.

2 Explore design alternatives for path design (including permeable paving options) and design alternatives for key intersections and crossings (transport and ecological).

3 Prioritize the individual projects in terms of implementation order — utilizing public preference information and cost benefit ratio based on existing data.


E
F
G



Context Districts

Context Districts

Context & District Studies

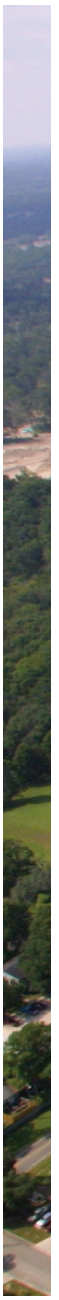
The 2004 Alachua Countywide Bicycle Master Plan Addendum route proposal generally follows the proposed Hull Road extension west of SW 34th Street and then southwesterly along a power line easement across I-75 and across the Kanapaha Prairie along a direct route. East of 34th Street the route adopts the UF bicycle master plan proposal with suggestions for specific crossing locations.

The proposed route is 8.7 miles long and moves through a variety of contexts including single-family and multi-family residential neighborhoods, natural areas, parks, commercial districts and institutional zones. The design team parsed the areas connected by the path into seven districts for detailed study and the development of appropriate strategies for implementing the Archer Braid. The districts were selected based on the character of the adjacent context and the approximate length of path. The illustrations in this section identify the district boundaries.

Field analysis documenting terrain, vegetation, wildlife activity, general character and visual proximity to adjacent residential and commercial structures was conducted. Opportunities for connectivity to existing and future civic, cultural and commercial destinations was included. Preliminary recommendations were developed, as illustrated in this section for the primary Archer Braid route, possible alternate routes and linking 'threads' that would connect proximal destinations and other bicycle infrastructure directly to the Archer Braid.

Conceptual proposals for the integration of paths are provided for each district. Recommendations are based on case study analysis of similar infrastructure, published bicycle infrastructure guidelines and the 2004 Alachua Countywide Bicycle Master Plan Addendum. Conceptual recommendations show desired path dimensions at specific locations. The distance recommendations for separating the Archer Braid from automobile lanes and the influences of curb cuts, vegetation, and terrain are included in this report. At-grade street crossings are shown as well as suggestions for bicycle traffic control intersections based on the automobile traffic circle.

Preliminary path proposals were presented to the Steering Committee as part of an iterative process to propose, critique, reconsider and refine the proposals. Initial studies and preliminary suggestions are included to convey the lineage of the project development and refinement. Improvements in the path location have been made as the project has evolved and the team has responded to community input and additional information. Some of the path elements shown in this section have been refined and are improved as illustrated in the final recommendations included in the Design section of this report.



SW 20th Avenue & SW 43rd Street

Alachua County Cycling Deaths

2001 ◆◆◆◆
2002 ◆◆
2003 ◆◆
2004 ◆◆◆
2005 no fatalities
2006 ◆
2007 ◆◆

2 bicyclists/yr are killed by automobiles in Alachua County (FCDC Database).

Cyclists were legally riding on in-street facilities when struck by automobiles.

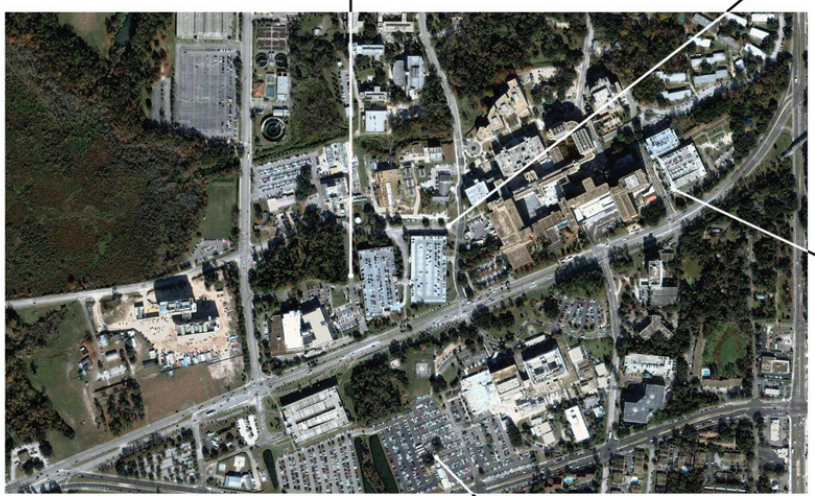
Shands at UF

A

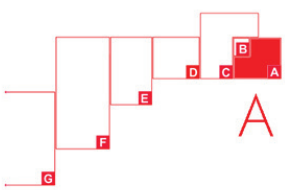
Around the Shands Medical Plaza buildings and Parking Garage III there are bicycle parking racks which are always occupied and some sidewalks that are shared between pedestrians and bicycles. This area of campus has large changes in elevation and the slopes currently create challenges for bicycle riders.

This intersection can be considered as a possible location for a bicycle pavilion with a separated path. Currently, the area provides a unique connection with the environment and open green space but there is no infrastructure designed to connect the area to the bicycle network. The proximity to the parking garages, Shands, and Archer Road makes it a potential key link in this area

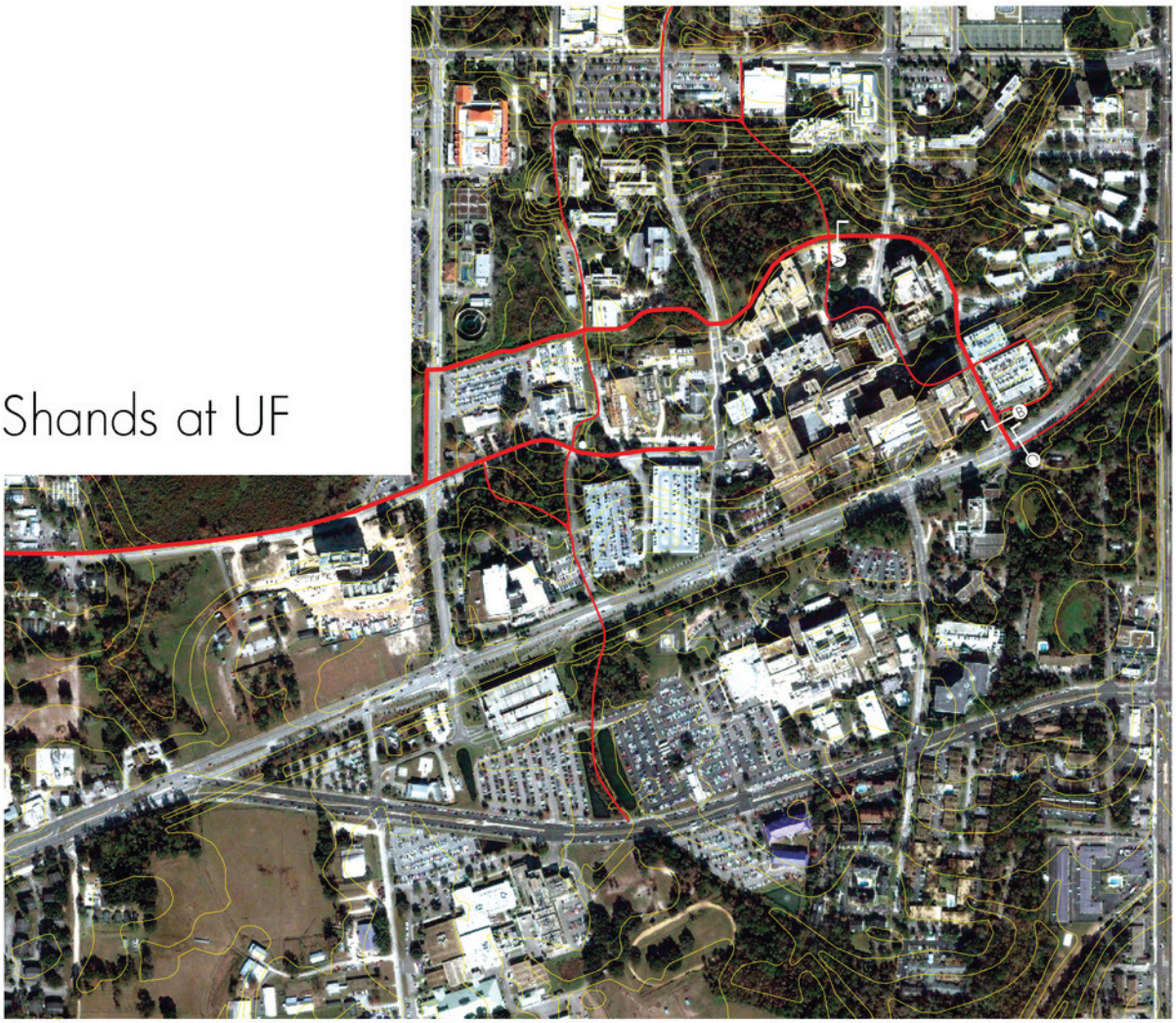
Shands at UF

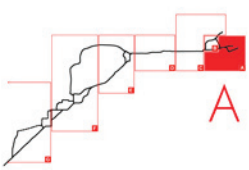


The amount of people visiting Shands at UF increases the demand for a separated bicycle path which could connect the main campus to Shands, also providing a route to connect to Archer Road.

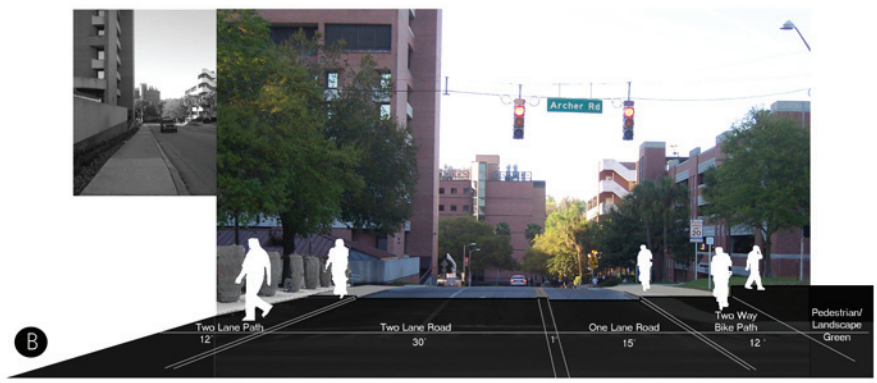


Shands at UF





The existing bicycle infrastructure on-campus is present in some areas and not in others. At the same time the need for wider Multi-use paths and separated pedestrian and bicycle infrastructure increases every day.



Two-way bicycle lanes and pedestrian paths are suggested to provide a better connection between the on-campus bicycle routes and the adjacent roads and streets.

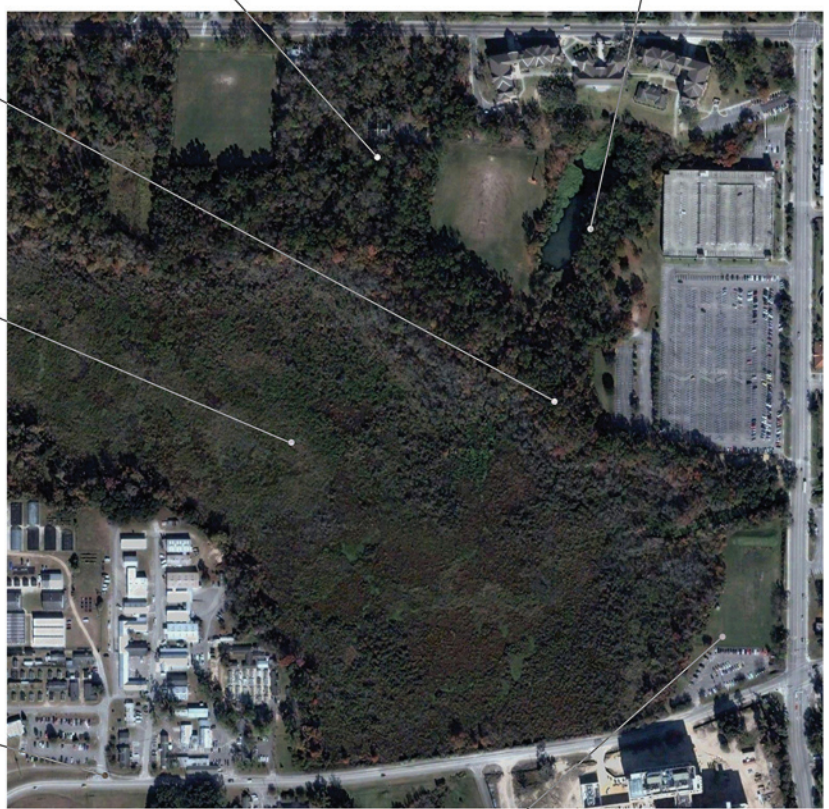
Early Conceptual Analysis

Lake Alice

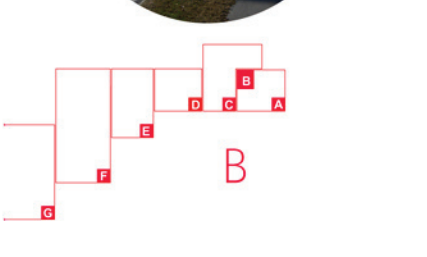
B

Utilizating Lake Alice's trails connects several recreational nodes and allow a revitalization of existing athletic facilities.

Extensive existing paths create an ideal atmosphere for an alternative to using primary roads as transportation through campus.



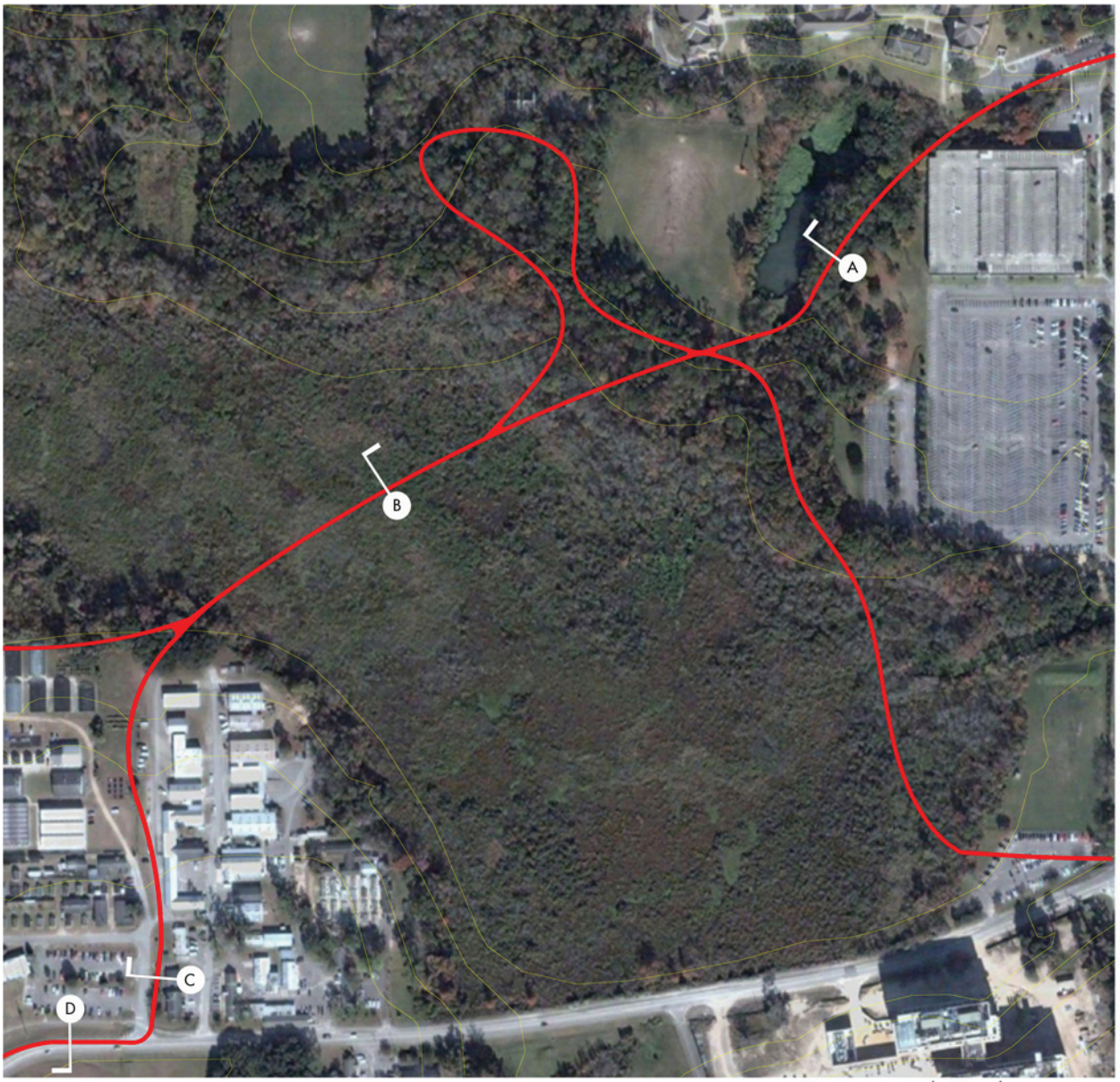
The lowlands surrounding Lake Alice interrupt the flow of circulation between two dense areas of the UF campus.



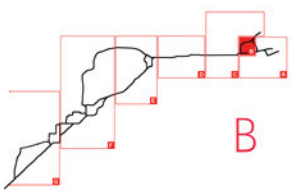
B

Lake Alice

Pony Field is a recreational space for students and is connected to Lake Alice's edge through existing trails.



Proposal Path Lake Alice



B A boardwalk across the Lake Alice wetlands provides a more direct link for transportation between two dense areas of campus.

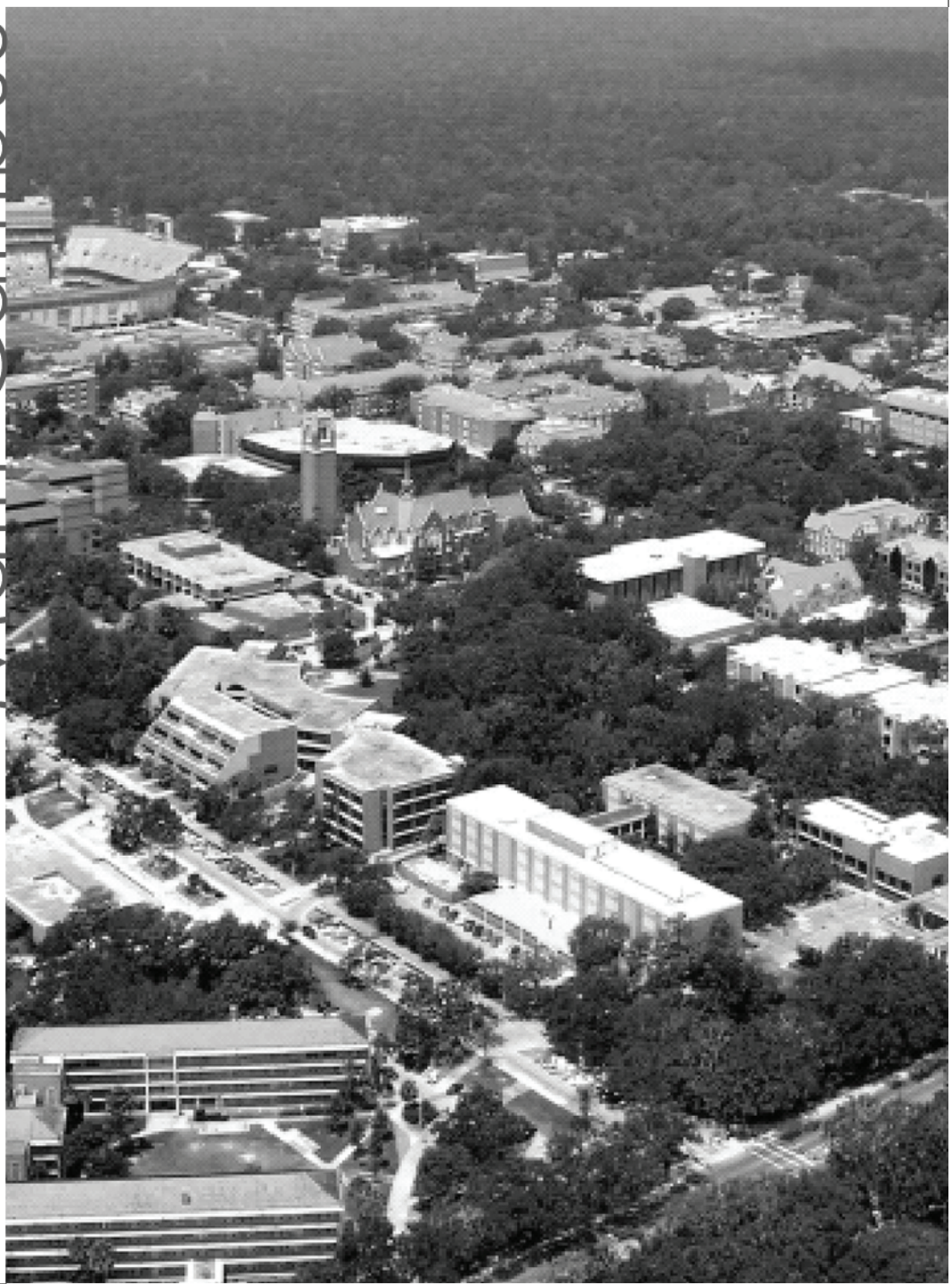
A Compressed Gravel allows for water to permeate the riding surface, reducing runoff and preserving natural drainage.

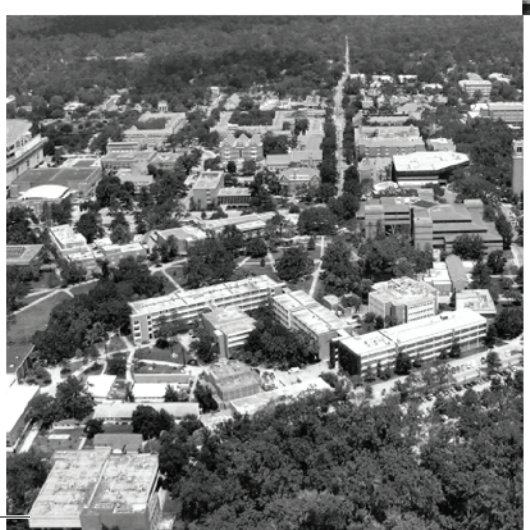
D Existing pathways along Mowry Road provide the necessary infrastructure for biking and are an ideal location expand upon.

C Providing a separated two-way bike path through existing buildings creates strong connectivity for students and faculty who must reach central campus locations.

Early Conceptual Analysis

C Main Campus

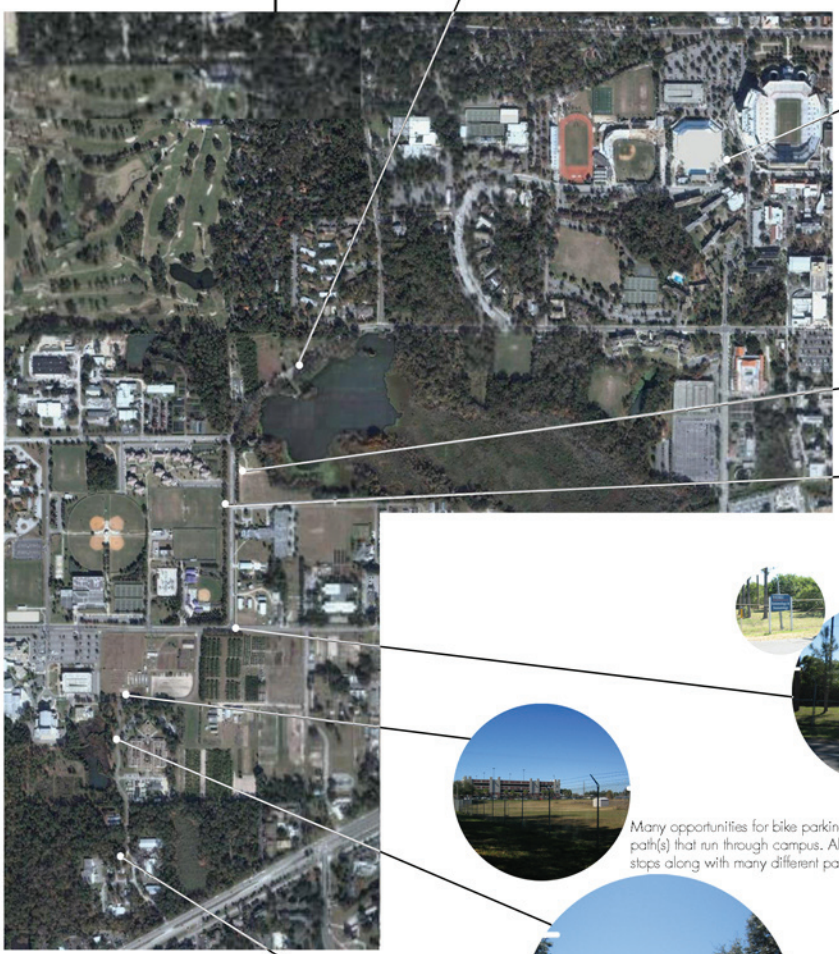




Main Campus

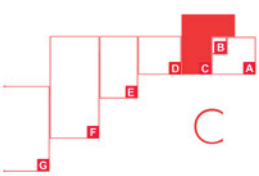
Extensive existing bike lane infrastructure and mixed use paths provides the chance for further options to come available for future development.

Multiple destinations in close proximity influence the frequent visitors to campus to use the bicycle paths instead of driving and/or public transportation. This includes certain times of the day when the campus is in high transit periods.

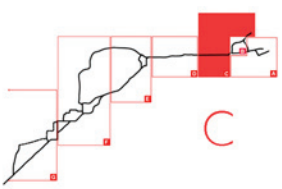


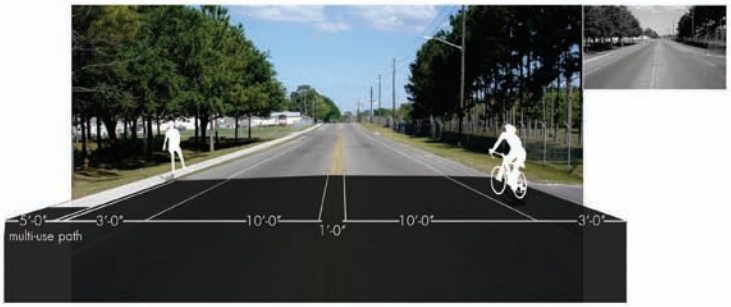
Already existing well shaded areas will help provide a more comfortable riding experience throughout certain areas of campus.

Many opportunities for bike parking/storage along the proposed bike path(s) that run through campus. All options are accessible to different bus stops along with many different parking lots for students, faculty, and visitors.



Main Campus

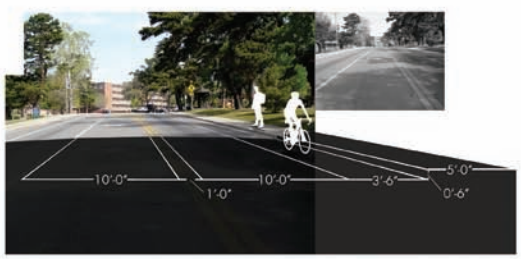




A Hull Road extention is the beginning of the path through the University of Florida campus. An additional bike/pedestrian lane is proposed to be added on the westbound side of the road to correspond to the existing path on the eastbound side.

B Critical site when the path splits and either has the option of heading straight eastbound behind Lake Alice or continuing on Museum Road. Proposed is an additional bike/pedestrian lane to be added heading northbound on Musuem Road.

C Museum Road heading eastbound in this photograph. Proposed additional bike/pedestrian lanes to be added to both sides along with the addition of parallel parking lanes near Lake Alice heading westbound eliminating the existing mixed use bike lane.



D Main campus hub included in the proposed bike path intersecting Gale Lemerand Drive and Museum Road near Reitz Union. Already an existing bike lane heading in all four directions.

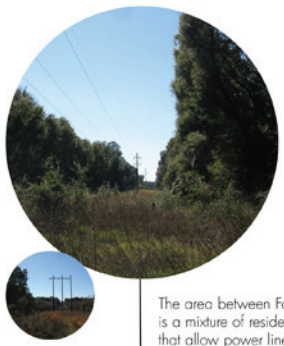
Early Conceptual Analysis

SW 34th Street

D

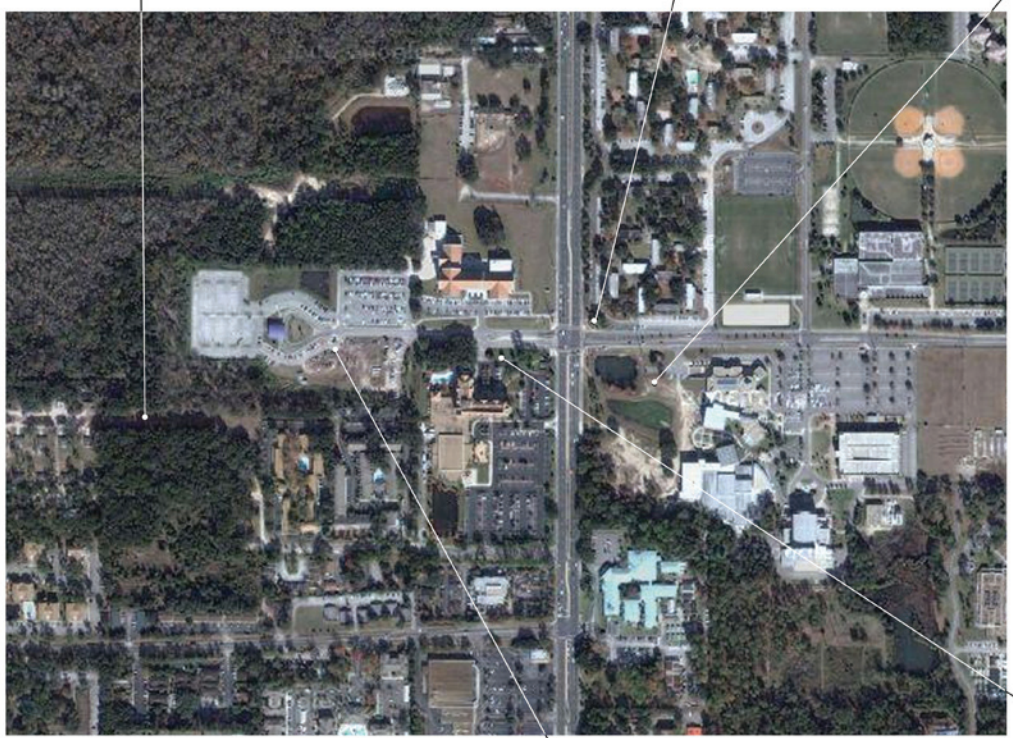
SW 34th St. Crossing

The intersection of SW 34th St. and Hull Rd. is a very busy intersection, especially at rush hour. The traffic along SW 34th St. is densely traveled all day, and Hull Rd. is busy during morning hours and early evening hours due to the entering and exiting of students.



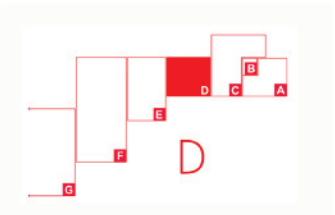
The area between Forest Park and the existing UF Park-n-Ride is a mixture of residential apartments and strips of open land that allow power lines to move across the dense tree cover.

The area around the Harn Museum, Butterfly Garden, and the Florida Natural History Museum is very open, and can become a nice area to inhabit. There is an existing retention pond surrounded by a newly renovated landscape.

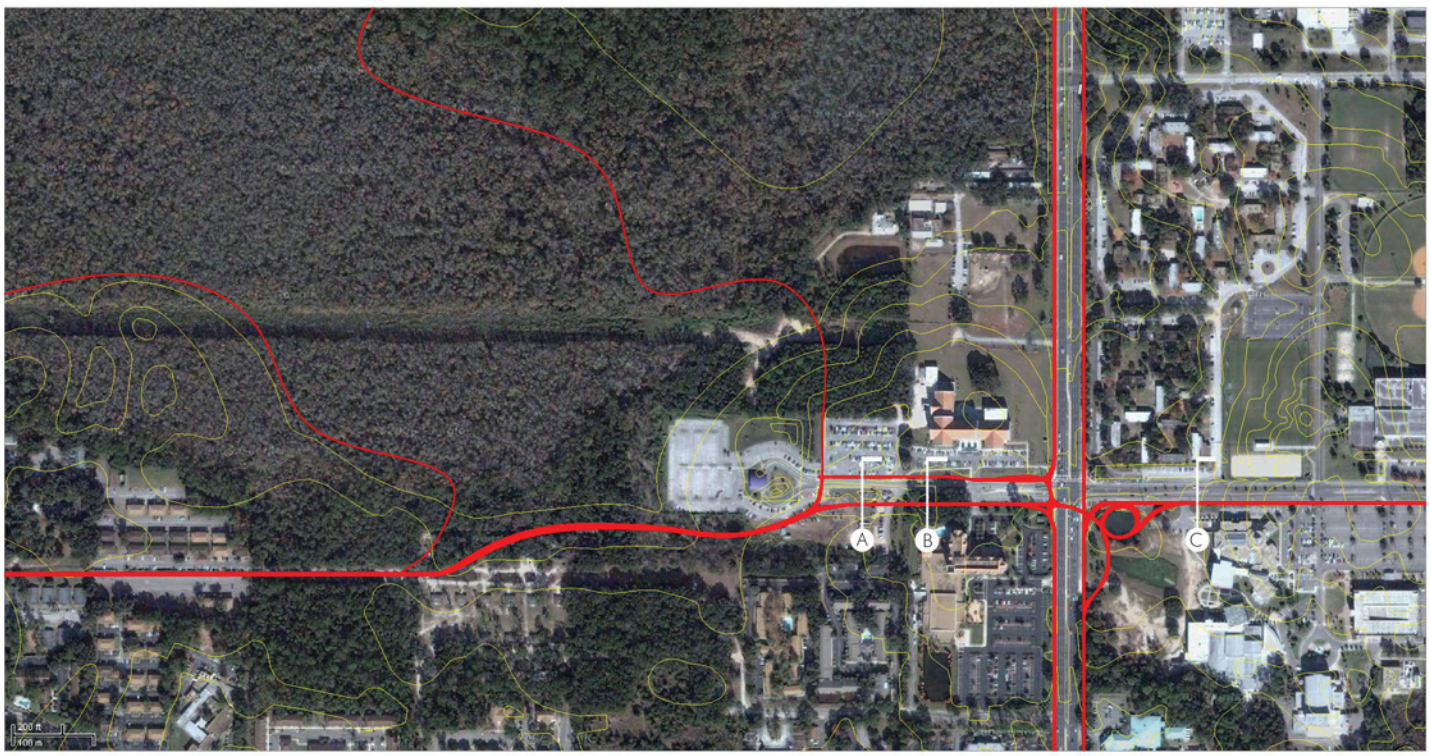


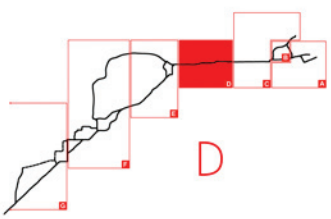
There is a decent amount of green space along the South side of Hull Rd. next to the Hilton Hotel. The area has a large canopy of trees that give the space a lot of shade.

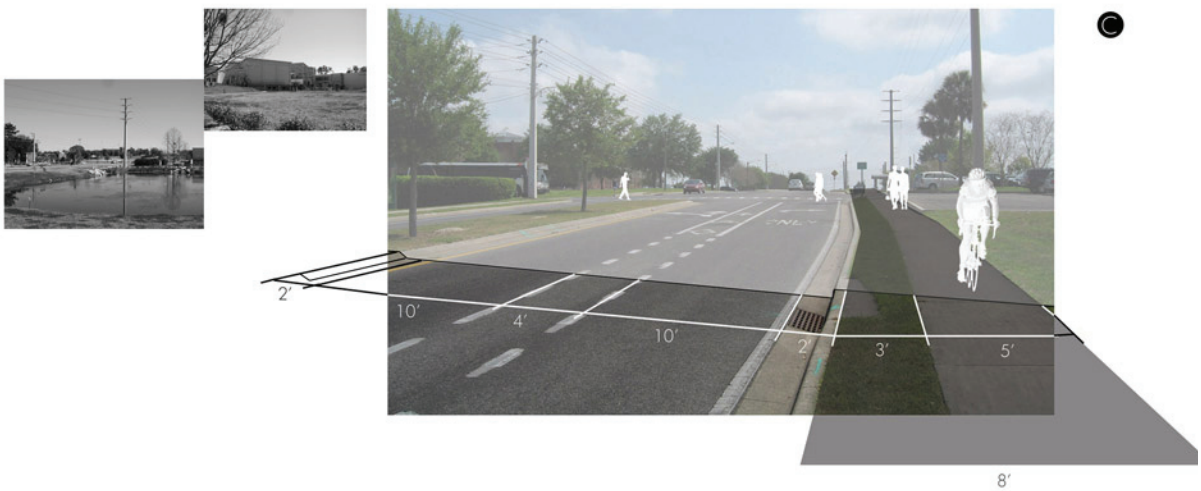
The existing Park-n-Ride across from campus has a Bus Loop and Pavilion that has bike storage racks. Next to that area, there is a large grass space that borders the parking lot, Museum Walk Apartments, and the Hilton.



SW 34th St. Crossing





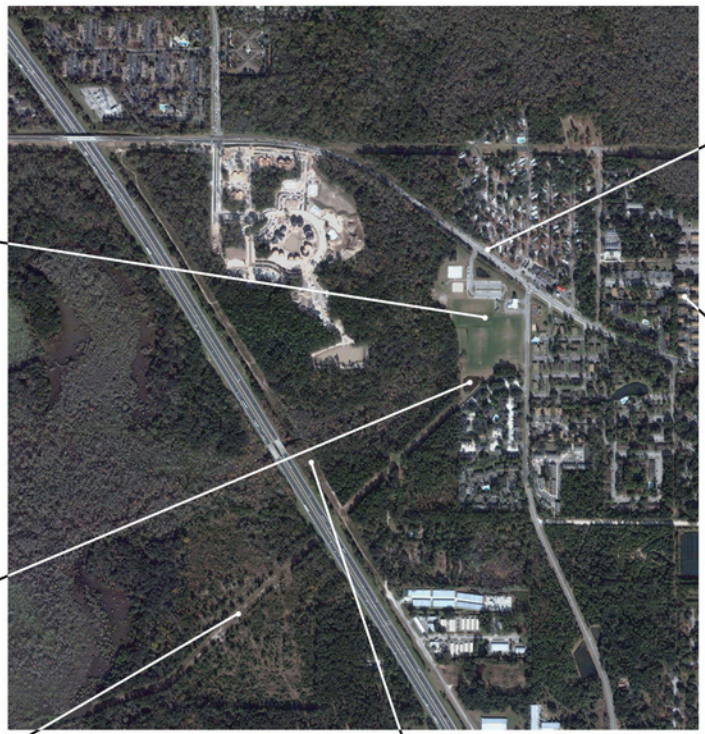


Early Conceptual Analysis

Forest Park

E

Forest Park

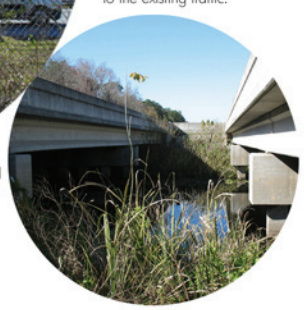


The joint connection from the natural wooden path to the recreational facilities connects here.

Future proposal of four lane expansion will allow an underpass of the proposed bike path.

The right of way on SW 20th Ave. is an ideal opportunity to bridge the bike path juxtaposed to the existing traffic.

The ground level surrounding the interstate is elevated allowing a fluid connection to link the opposite sides of the highway.

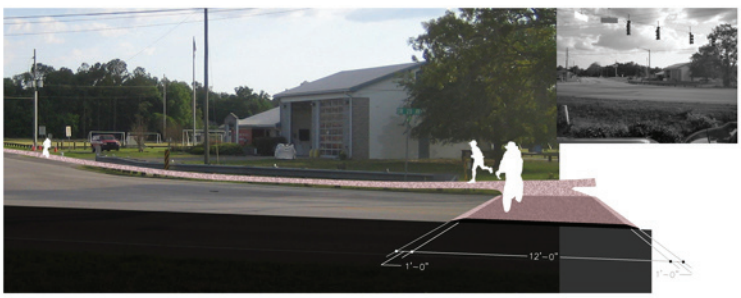


The bike path would have to be bridged across to allow the natural filtration of the rain water in the Kanapaha basin.

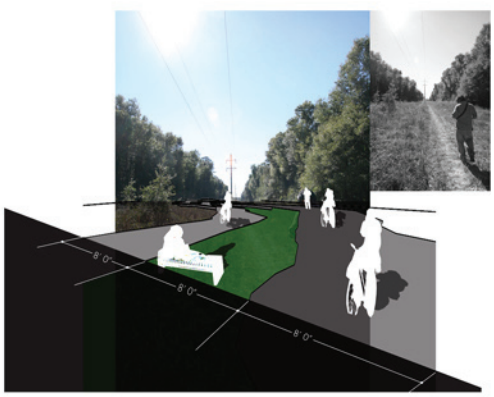
A
The path will slip behind the open fields of Forest Park and pick up the powerline road at the southwest corner of the park

C
The connection from Cabana Beach Apt. Complex to the Forest Park is a raised path to accommodate for flooding. The path is larger and allows for pedestrian linkage as well as bicycle linkage for residents to move easily from Cabana Beach to the Forest Park.

D
The path on the Forest Park lies on the edge of the forested area and provides a continuous trail from Cabana Beach to the main path to the university campus.



B
Path crossing S.W. 20th Ave.



E
A two way path is designed to take advantage of the natural landscape. Each path is wider to accomodate higher traffic coming from the recreation area nearby, Forest Park.

F
A three way intersection offering various options connecting the path from the urban settings to the natural landscape away from vehicular traffic. It also offers a moment to take rest and observe the natural surroundings.

Early Conceptual Analysis

Kanapaha

F

Direct access to the University of Florida TREEO center which emphasizes Excellence in Environmental Education and Training through professional development courses offered each year

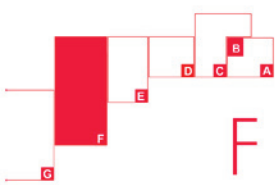
Trail allows easy through access to the Kanapaha Park and its sports facilities

Path works off GRU disposal area, thereby raising awareness of Alternate Waste Treatment Facilities

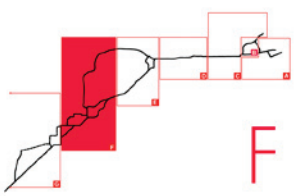
Trail placement emphasizes the use of county land while minimizing the resources required to develop private land reducing infrastructure cost

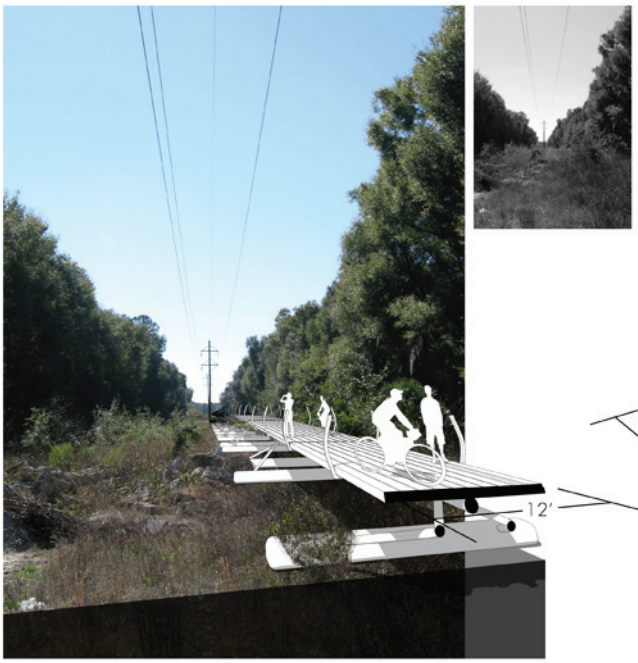
Development of an elevated structure through wetland area, emphasizing minimal intervention, maintaining circulation of light and nutrients and preserving the prevalent ecosystem

Lake Kanapaha



The Lake Kanapaha area consists of unique conditions where appropriate modifications to any design strategy would be called for. Preservation of the delicate ecosystems of the wetlands would be paramount and so structure with minimal intrusion into the wetlands would be appropriate. One also has to take into account the amount of light being screened by the structure designed, as well as the long term repercussions to the surrounding wetland. Keeping these factors in mind, the proposed path strives toward a minimalist intervention into the Kanapaha area, while maximizing the efficiency and practicality of the endeavor.





A The proposed bride would be overlaid on a series of pontoons, adapting to the constantly changing water levels in the site.

Similarly, this floating bridge emphasizes acclimatization, having the ability to conform to the changes in its surrounding while maintaining a minimalist approach to its amount of intervention.

B

The proposed bridge would emphasize efficiency providing the most direct and proficient route through the wetlands

C

Early Conceptual Analysis

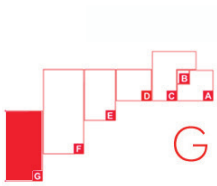
G Haile Plantation

Haile Plantation

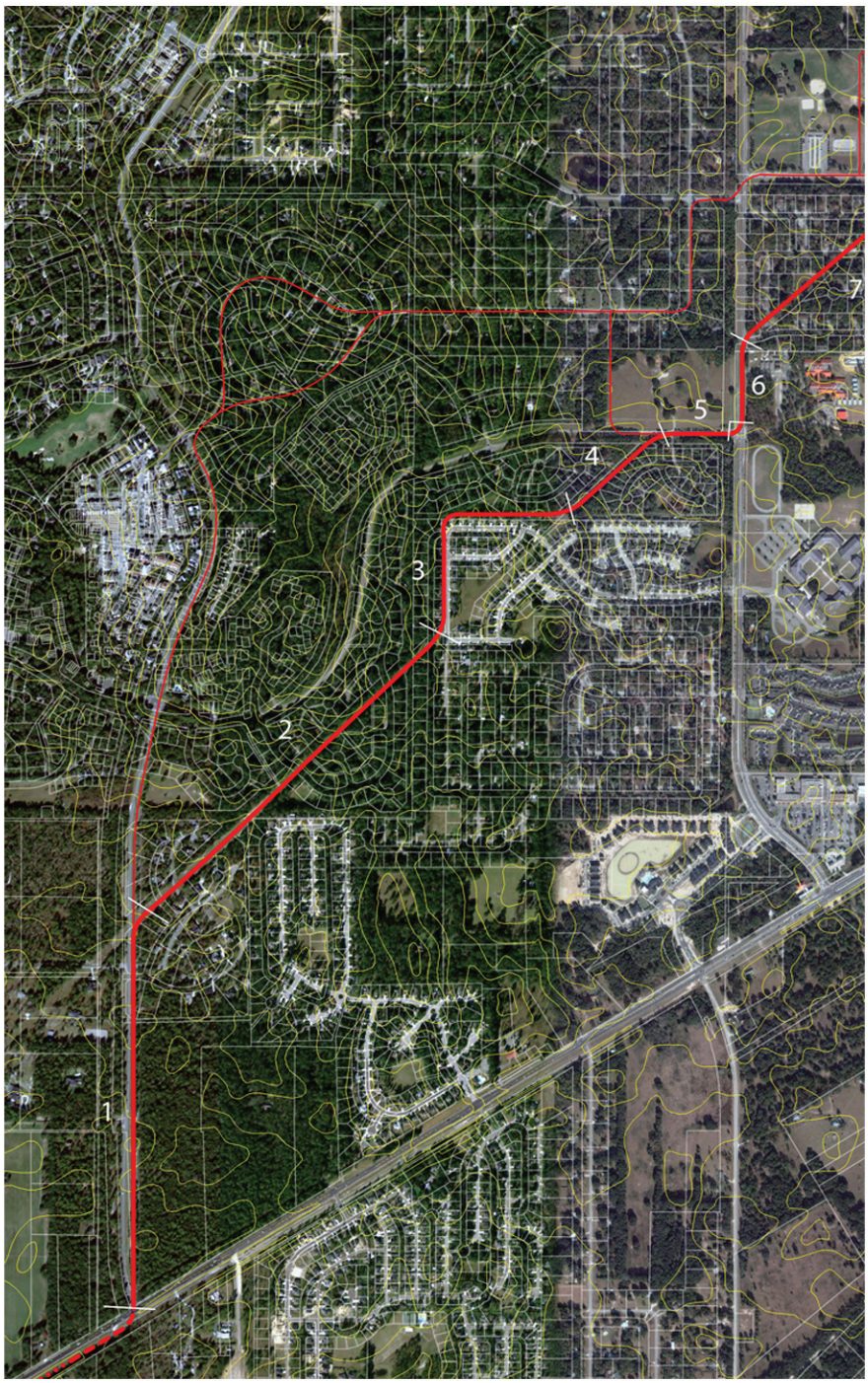
An existing shared use path follow the power lines and would offer open, linear space to accomodate for a wider bike path and programatic elements.

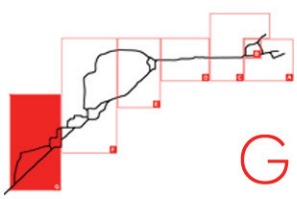
10 Feet approximate parcel setback from the road would provide ample room for a bike path. Pending community approval.

Open, level terrain that serves as a reference point for cyclists and pedestrians.



Two lane road provides main access into Haile Plantation with a 10 foot easement on either side. Would provide room for bike path or shared use path.

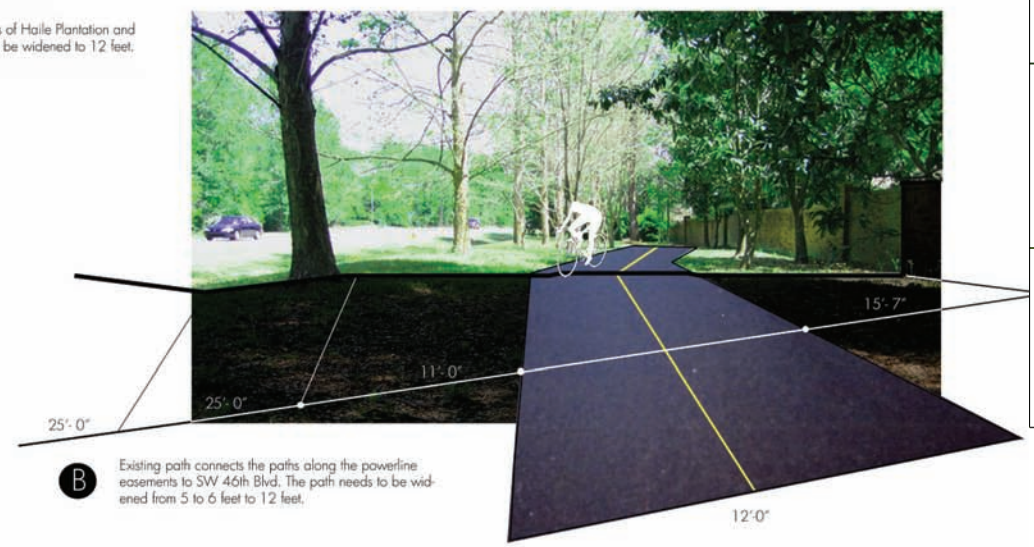




Existing conditions

A Existing path along powerline easement connects the residential areas of Haile Plantation and Tower Road. The exisitng path is 5 to 6 feet wide and would need to be widened to 12 feet.

Existing conditions



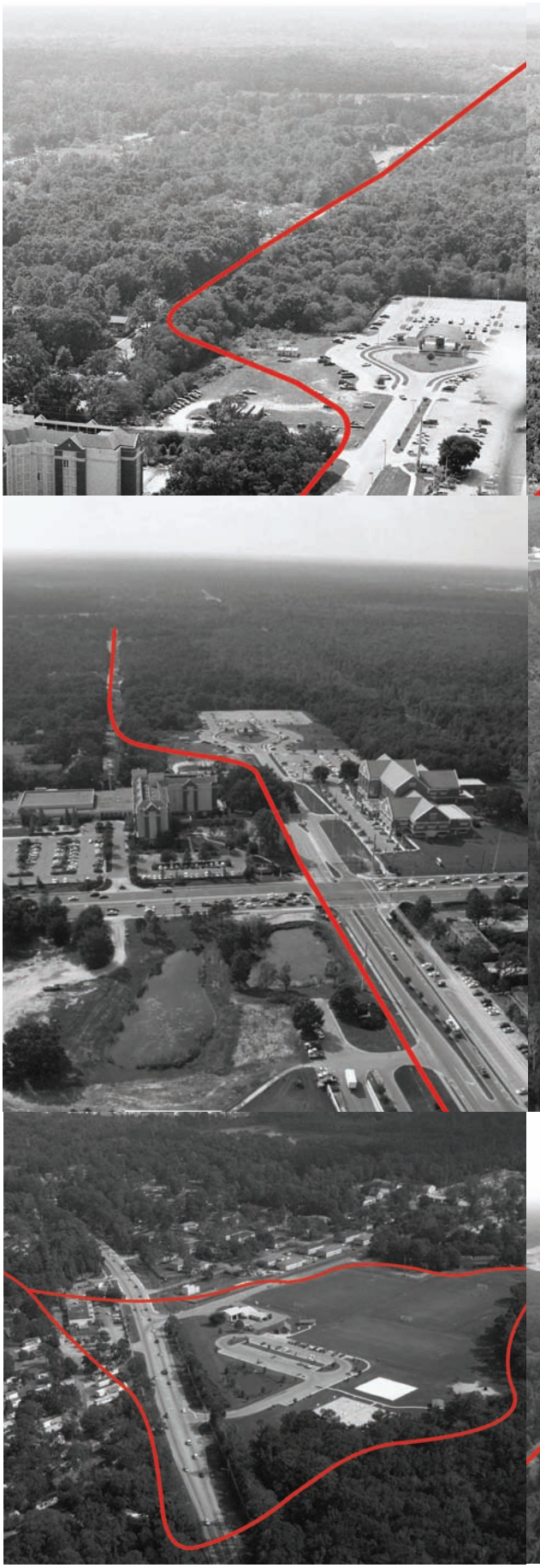
B Existing path connects the paths along the powerline easements to SW 46th Blvd. The path needs to be widened from 5 to 6 feet to 12 feet.

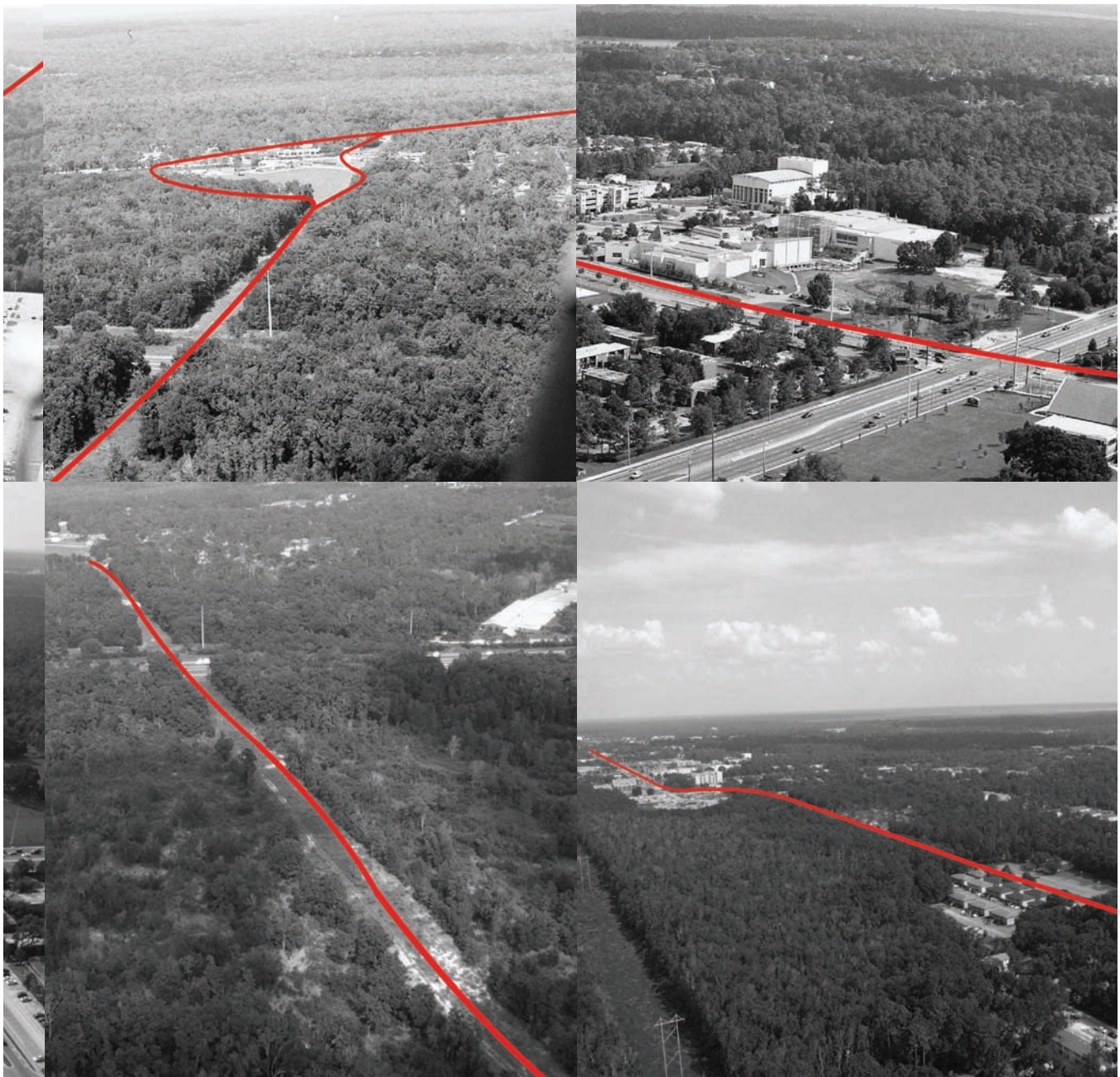
C A new path in the subdivision of Kenwood would connect Haile Platnaon and other residential areas along Tower Road to Veteran's Memorial Park.

Existing conditions

Early Conceptual Analysis

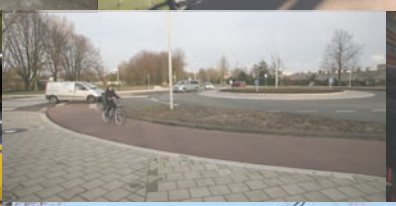
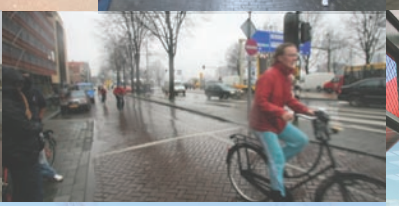
research

















Case Study
















Case Study

The project team researched notable multi-use facilities in the United States and Europe and identified strategic destinations for field analysis, documentation and implementation feasibility. One of the most difficult obstacles to conceiving and developing even somewhat innovative proposals and recommendations is answering the question of feasibility. Combining the educational mission of the School of Architecture, with the need for local transportation strategies that may not currently exist locally, requires designers to physically experience, document and internalize the primary and subtle tones that harmonize context with infrastructure. This allows infrastructural investment to transcend utilitarian needs, enhance the place of investment and elevate the quality of a community. Furthermore, field studies allow the design team to gather the specific information needed to answer feasibility questions, qualify the value of monetary investment and directly evaluate elements that enhance usability.

The design team traveled to Boulder and Denver Colorado to investigate the Boulder Creek Greenway and multi-use path. The greenway extends from the mountains through downtown Boulder as a riparian corridor and into a flood-plain east of town. There were multiple excellent examples of varied grade separated crossings and connections at automobile intersections throughout the urban and suburban areas. This includes crossing the creek, following the creek under roadways, connecting back to roadways and traveling on platforms in the flood-plain. The team studied multiple overpass elements in Denver providing important connectivity across a major highway, a creek and a rail yard. This infrastructure demonstrated opportunities for marking the landscape with large scale design elements, improving connectivity, and creating high quality urban space – ultimately revitalizing an economically stagnant former industrial area.

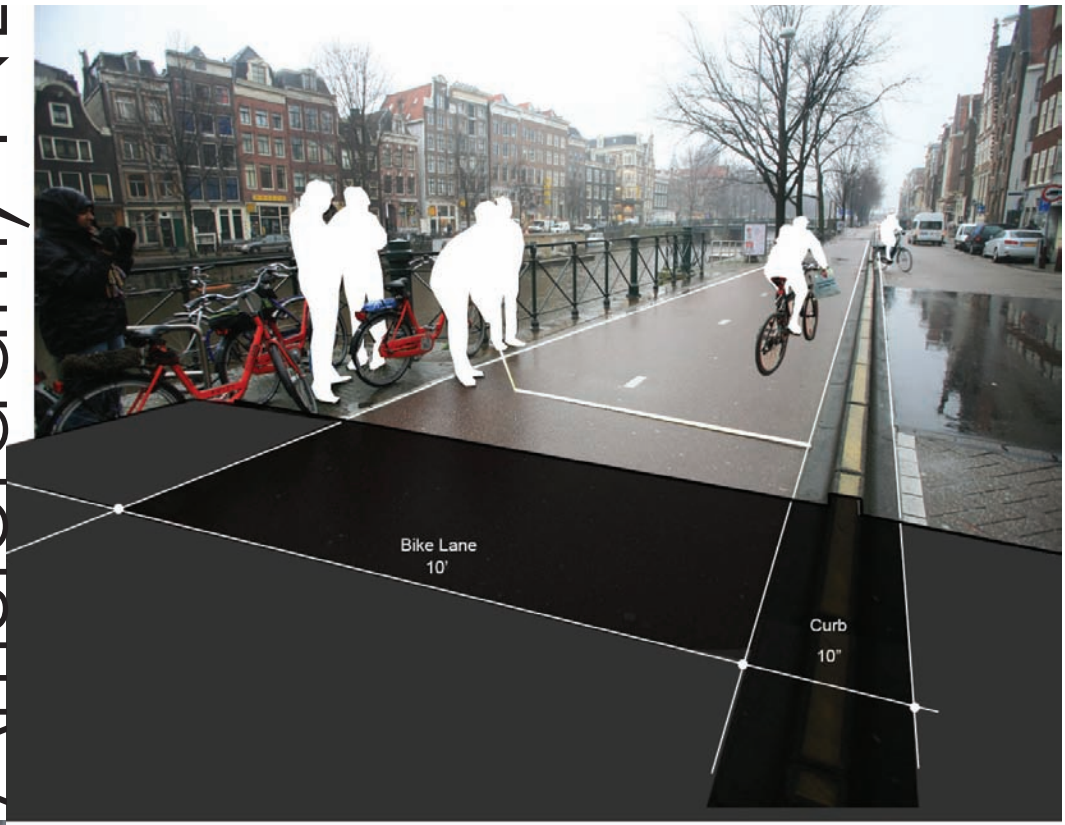
The Netherlands continues to be a pioneer for multi-use path design and integration within the public realm. Design team members investigated Amsterdam, Rotterdam and Utrecht documenting many practical and innovative elements. The design team gathered important information regarding diverse strategies for addressing dense urban, civic urban, urban artery, suburban and rural multi-use path conditions. Spatial circumstances were documented via measurement, photograph, sketches and observational notations. The team cycled and walked during the investigation period experiencing the system and documenting in detail what appeared to be notable strategies.

In both 'cases,' it took some time riding the system to identify strategic innovation that was context specific from the normative elements that can be gleaned from guidelines and recommendations typically found in the many texts on the subject. However, there are many contradictory forces that influence any 'text book' approach in practice and may even require a solution that contradicts common practice. Field studies provide a basis for anticipating and/or qualifying these contradictions to provide a basis for feasibility – this is how it was done.

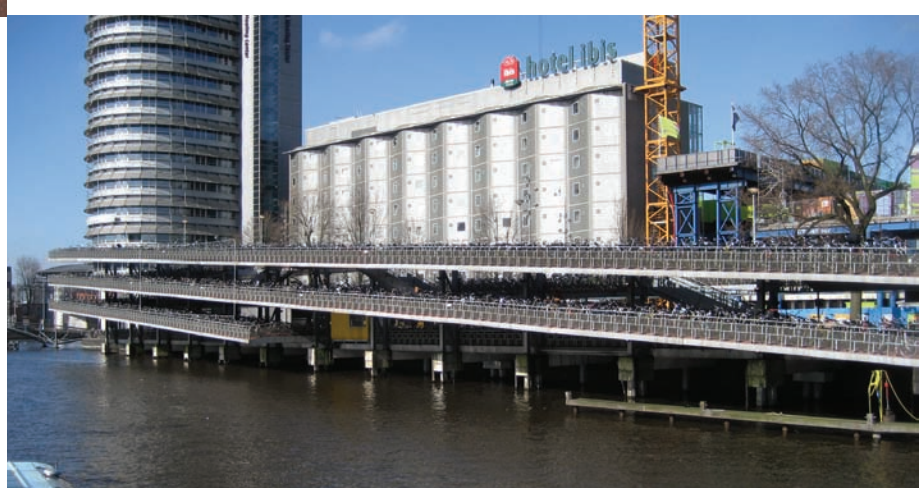
This section summarizes the conditions identified and studied that suggest implementation strategies for the Archer Braid and other locations for multi-use paths in the Gainesville area.

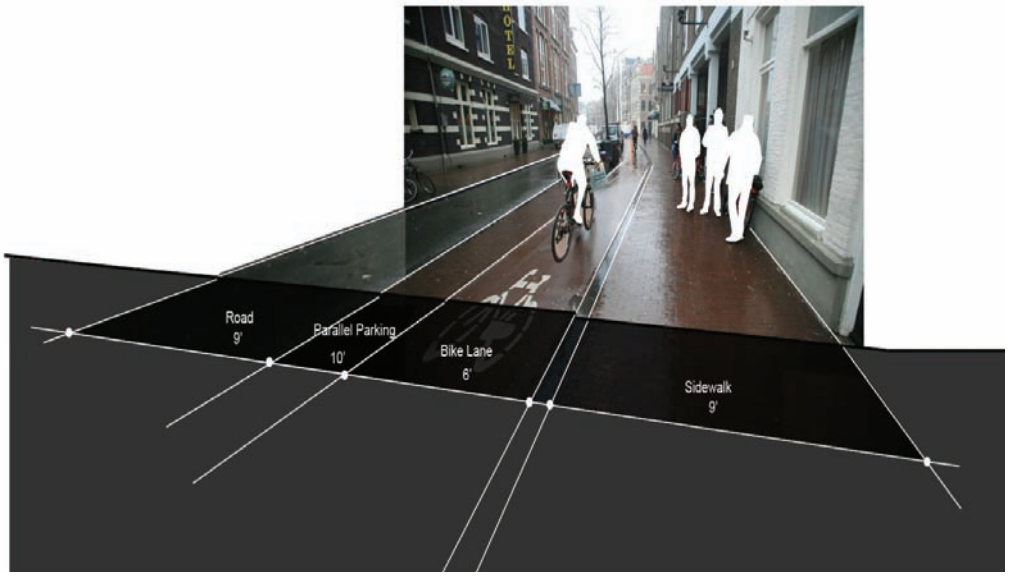
Bicycle commuting an average of 3 hours per week decreased risk of mortality by about 40%...concluded from a Copenhagen study assessing effects over 14.5 years, of over 30,000 people ranging in age from 20 to 93 (University of Central Florida, 2004).

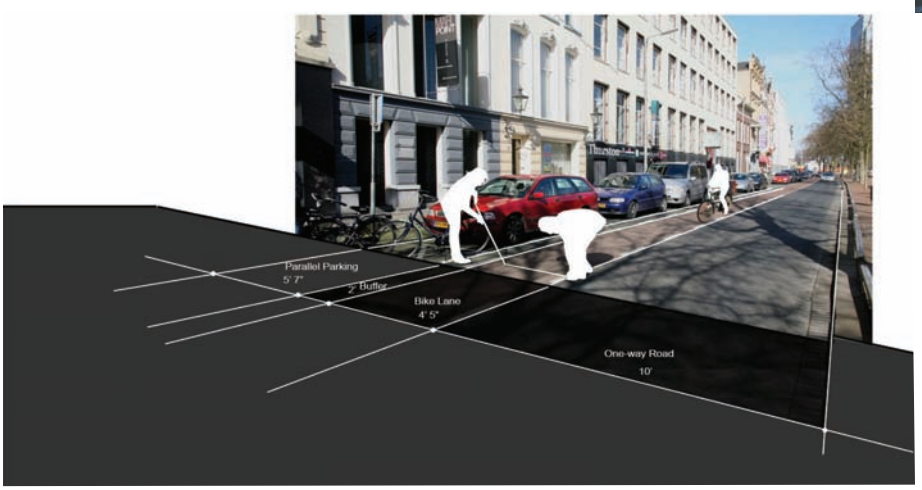
Amsterdam, NL



With one bike per inhabitant, The Netherlands ranks first among the world's nations for the number of bicycles per capita (Case Studies, 2004).







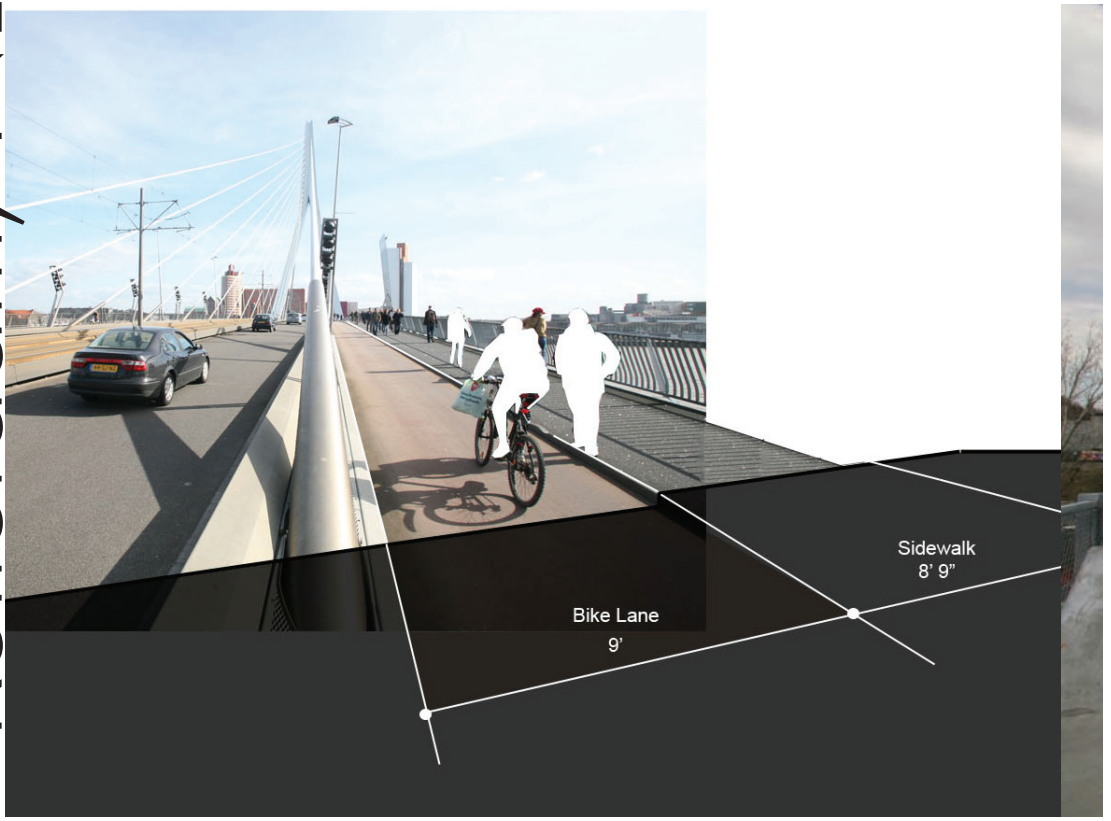
Utrecht, NL

Pedestrian/Bike only Bridge

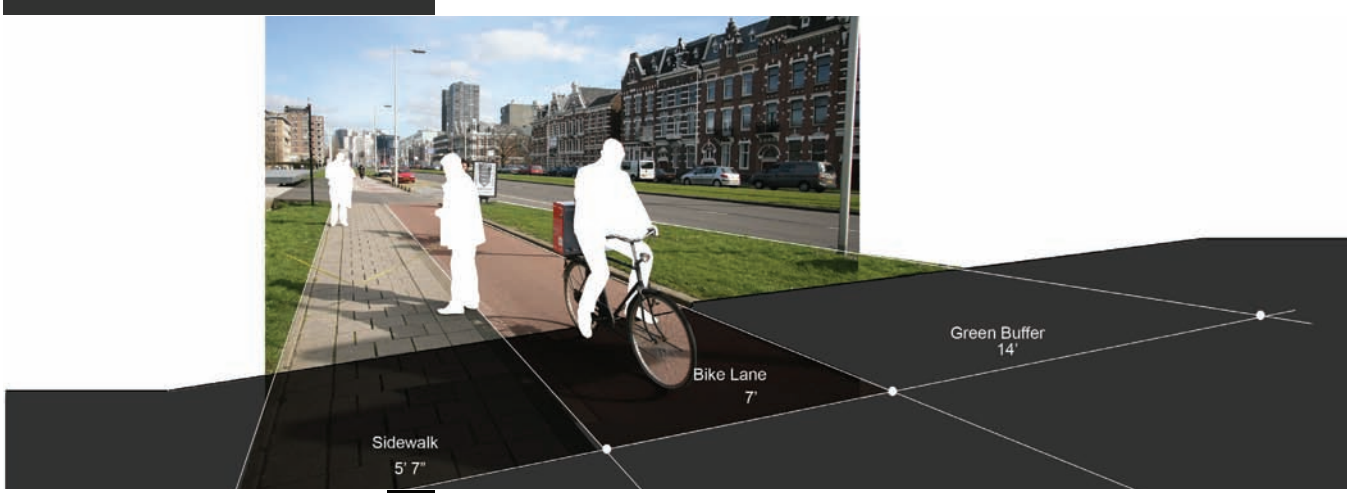
8’

The proportion of bikers and pedestrians in the centre has grown from 34.4% to 45.6%...while automobile traffic has decreased from 18.4% to 12.4%
(Case Studies, 2004).

Rotterdam, NL



Europe's 11 principal cities average 390 cars per 1000 people and have an average GRP of US$32,000 per capita. Meanwhile, the USA's 10 principal cities average 600 cars per 1000 people with a GRP of only $27,000. (University of Central Florida).



Denver, CO

Boulder, CO

The Bikeway system of Boulder consists of 362 miles of dedicated bike pathways integrated into the community and Colorodo's University campus, also connecting to various off-road bicycle and hiking trails (Case Studies, 2004).

Bridging

Highland Pedestrian Bridge, I-25

Denver, Colorado, 2006
Hammon Constructors
320′ long, 70′ high
$5.2 million cost

I-75 Land Bridge

Florida, 2000
200′ long, 53′ wide
Pedestrian, equestrian,
bicycle, wildlife crossing
$3.1 million cost
Est. $3.6 million 2007$

McCaslin Blvd. Pedestrian Bridge

Denver, Colorado, 2006
Regional Transportation District
Parsons Brinckerhoff
234′ span over
20 in. diameter pipe tied arches
$2 million cost

Borneo/Sporenburg Pedestrian
& Cyclist Bridges

Amsterdam, Netherlands,
2000
Twin truss bridges
290′ span, 9′ wide
$1.9 million cost
Est. $2.3 million 2007$

A survey of multi-use bridge structures was conducted to begin to relate design expectation for a community marker on I-75 with cost feasibility. Bridge elements in the United States and Europe were considered. Linking between commercial and residential districts to enhance economic activity was a common theme among the studied elements. Most have catalyzed new businesses in close proximity. Construction dates, original costs and costs converted into 2007 dollars are provided. The design team suggests establishing working budgets of between $4 and $8 million for the I-75 bridge, $0.3 to $0.5 million for the Kanapaha elevated crossing and $3 to $7 million of the SW 34th Street overpass.

bicycle/pedestrian overpass cost analysis

Berkeley I-80 Overcrossing

Berkeley, California, 2002
OPAC Engineers
270' long
$5.2 million cost
Est. $5.8 million 2007$

The Diamondback Bridge

Arizona, 2002
280' long, 14' wide
$2.5 million cost
Est. $2.7 million 2007$

I-5/124th Street Overpass

Washington, 2006
Mowat Construction Co.
$3.9 million cost

Northside Bike/Ped Crossing

Montana, 1999
250' span, 10' wide
Elevators
$2 million cost
Est. $2.4 million 2007$

Denver Millenium Footbridge

Denver, Colorado, 2002
Architecture Denver &
Ove Arup & Partners
130' long, 80' wide
200' tubular steel mast
$10 million cost
Est. $11.1 million 2007$

I-4 Trail Overpass

Florida, 2003
1003' long, 14' wide
$3.6 million cost
FDOT $2.6 million
Seminole Co. $1 million
Est. $3.9 million 2007$

Sparta/Elroy Trail Connection

Wisconsin, 2002
240' span
$620,000 cost
Est. $690,000 2007$

Sacramento River Trail Bridge

California, 1990
420' long, 13' wide
concrete stress ribbon
$600,000 cost (1990 dollar)
Est. $1.1 million 2007 dollar

Community Workshop

The public was invited to an Archer Braid design workshop at the Florida Community Design Center held on April 30, 2007. Approximately 30 people attended the event. Professor Martin Gold presented research findings and outlined issues and strategies identified by the design team. After questions and comments, citizens formed design workgroups. Each workgroup was asked to consider the proposed path and identify improvements, alternate routes or more cost effective strategies. Specific comments are included in this section from each of the groups. Groups internally discussed and refined their proposals. The larger group was reconvened with workgroup representatives presenting the revised proposals, answering questions and discussing the implications of varied priorities.

Many suggestions were offered in terms of expanding connectivity, utilizing existing path segments, marketing the path and weigh-in comments regarding the feasibility of the alternate path utilizing the existing SW 20th Avenue Interstate overpass. Connection to the new Split Rock City Park was highly recommended. Presently there is no access to the park and limited opportunity for public auto access. Concerns were raised in regard to mountain bikes using the area based on a perception that this activity is detrimental to the natural ecology. Comments were made suggesting the alternate path utilizing the Old Bellamy Road and the SW 20th Avenue overpass might not be a cost savings given the circumstance of property ownership and the cost of configuring bicycle suitable approaches and attaching a path to the existing bridge. The intersection of SW 20th Avenue and SW 62nd Boulevard was noted as difficult for cyclists. One participant suggested an alternate path along SW24th Avenue crossing SW 34th Street at the natural teaching area and proceeding through to Shands and other destinations. Others recommended emphasizing the commuter aspects of the path and doing a marketing study to find a more suggestive name. A connector between Archer Road at the approximate location of the Kanapaha Botanical Garden was also recommended.

04.30.2007

Public Comments

Implementation & Funding

- Who is funding the study? Has there been money allocated for the path?
- Need to research ADA compliance to get federal monies/grants
- Road ownership?
- What is the estimated time period for completion? (25 years approx.)
- Over that time period, how will the project maintain momentum? Would look to present phases to keep project going over time.
- Suggestion was also made that breaking projects into phases would allow for sections that will require more money to be constructed at a later date
- Suggestion to use existing bike lanes and paths to initiate path creation

Natural Area Connections & Environmental Treatments

- Connect to Green Acres Park?
- Team needs to carefully consider Split Rock Park and what is appropriate usage (specifically there was concern expressed regarding mountain bikes) as it is environmentally significant. The City of Gainesville is working to gain an entry feature to the park and it was noted that perhaps the cycle path could be used as the point of entry.
- Path going through Kanapaha – safety and security issues?
- Kanapaha Location
    - One group envisions a parking facility near Kanapaha with access to a separate recreational loop (this loop path being separate and leisurely is very important) – and the bridge over

separate and leisurely is very important) – and the bridge over I-75 being a landmark of the park/path
    - Is there a safety issue with 23rd Street?
    - Would lighting and path instigate further development?
- Also, some inquired as to the materials the trail would consist of and suggested researching alternate materials (pervious pathways) to minimize disruption of rainwater infiltration systems

Trail Alignment

- Plan A (bike/ped-only bridge over I-75 & thru Kanapaha) and/or Plan B (bike lanes following existing roadways such as SW 20th Avenue, I-75 car bridge)
- Pedestrian Bridge over I-75
    - Positive: Would be a landmark of Gainesville identified on major interstate
    - Negative: Represents a major financial investment with no direct connectivity to residential and commercial
    - Design method not clear (point A to point B)
    - Suggestion to reverse design path to understand how path is accessed
    - Suggestion to look at alternate path options from I-75 into campus – need to locate adjacent to roadways for land use
- Tower Road – plan for roundabouts on Tower Road needs to be considered in the design – verify with County and MTPO (plan is currently at "wish list" status)
- Possible alternate route by O'Conner Building adjacent to dedicated natural area
- Connectivity to Commercial & Archer Road
- Lack of connectivity of Gainesville a question?
    - I-75 to Kanapaha and 91st to Tower Road path already exists in some areas
    - Archer Rd. might be a cheaper and more efficient alternative – if there are budget issues, go with Archer.
    - Not directly connecting to commercial, residential south of Archer is a question
    - Issues with placing a path on or adjacent to Archer Road include:
- decreased safety of the trail users because of proximity to auto traffic,
- decreased ease of use due to traffic congestion, and
- poor air quality due to the pollution from automobile emissions that would be breathed by trail users.

Urban Village / UF Campus

Public Comments

- Cycle/ped crossing at 34th and Archer is almost an impossibility
- Need for an overlay – 50 units/ac and above is a dramatic mode shift – min. 40 units/ac. Need for smaller blocks and a denser grid
- Would connect to Urban Village area including the proposed SoHo Apartments (currently going through City of Gainesville's development review) around SW 20th Avenue
- Marketing team should promote university student use
- Path would encourage student exploration of Gainesville away from campus – a healthy recreational opportunity
- Suggestion to propose multiple routes into campus to increase student ridership
- Suggestion to speak to school officials to identify student needs (and this could also apply to other levels of schools – elementary, secondary and high – that are located in close proximity to path)
- Introduction of path may alleviate worsening traffic conditions in this area

- Programs Introduced:
    - Ampitheatre at Forest Park, swimming pool, bathroom facilities, cycle rental and repair near trailhead at Hilton and Kanapaha, nature lookout at Kanapaha, shower facilities at UF, YMCA

Neighbor – Written Comment

- Important that trail planning team connect with Gainesville Dept. of Nature Operations (Steve Phillips) on use of Split Rock Park
- Please check on considered use of SW 69th Terrace as public trail. Currently, the road is privately owned – perhaps A.C. Dept. of Public Works could help. Believes that eventually SW 69th Terrace would be an appropriate connector road to help take traffic off of SW 75th St. (Tower Road), but that possibility has not been explored.
- Split Rock Park is a server of different ecological systems: prairie, swamps, high ridge hardwoods and endangered or protected species and not appropriate for mountain bike trails.

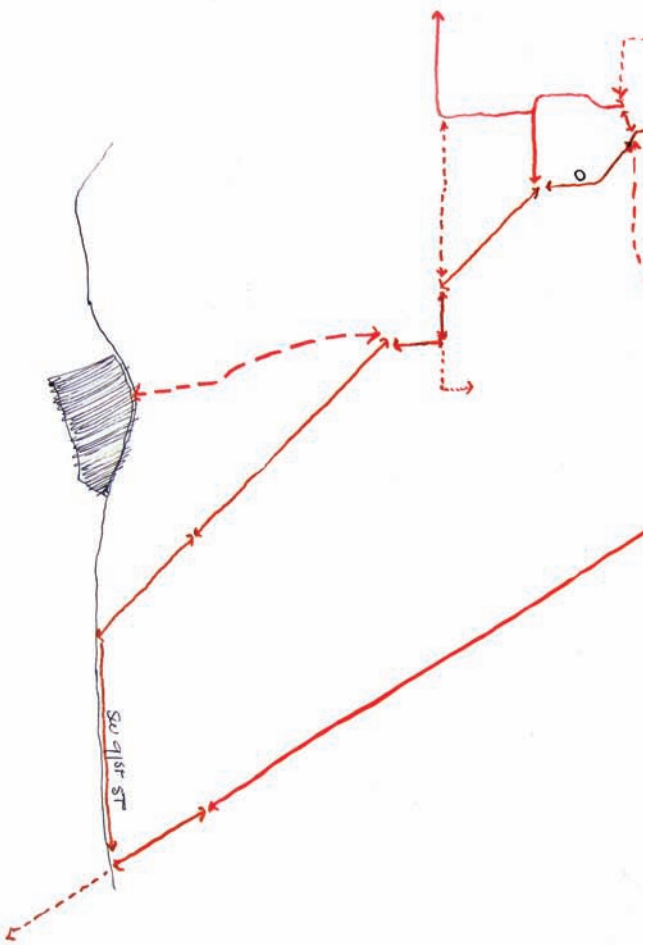
Miscellaneous

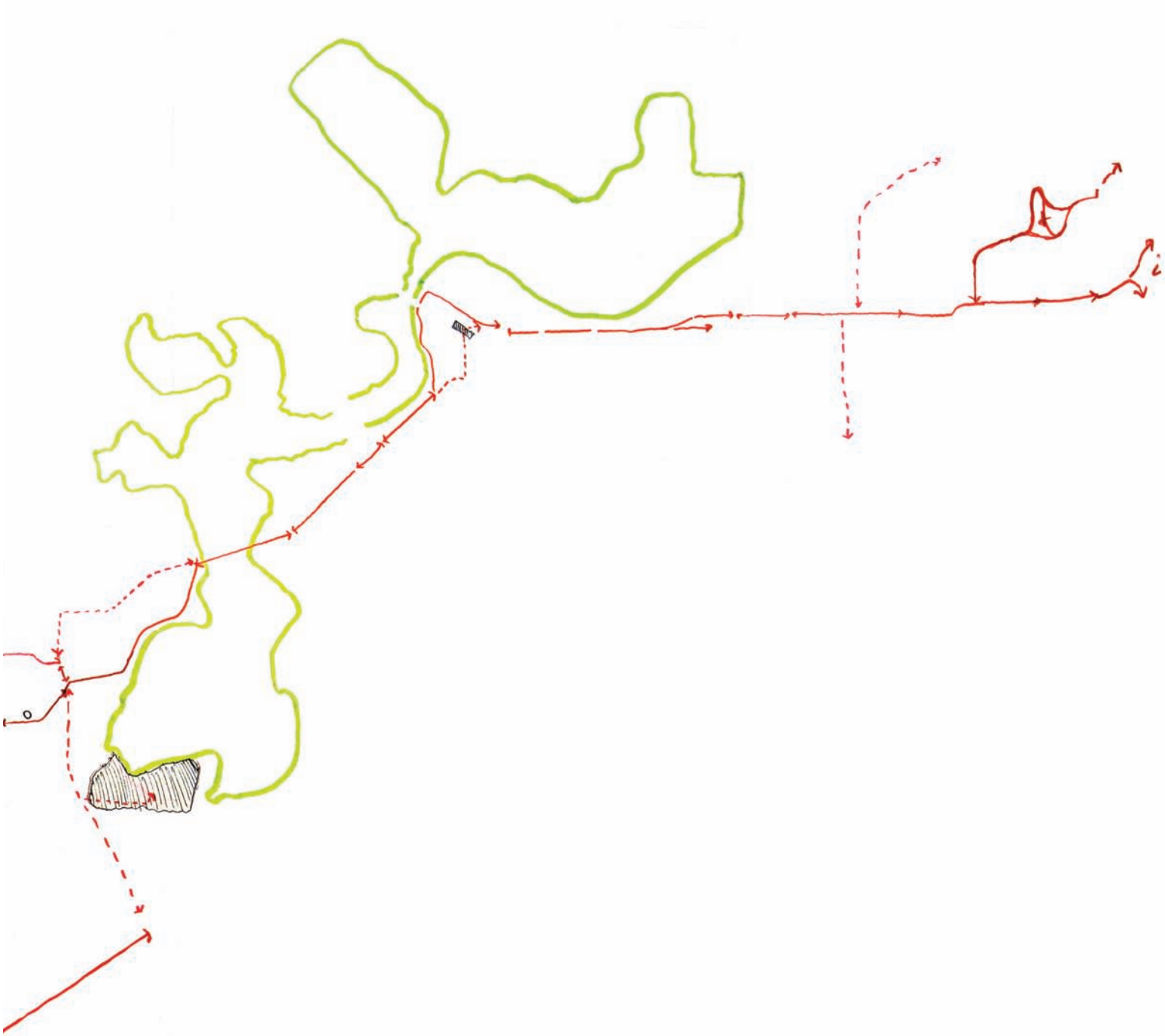
- Suggestion to rename Archer Braid to increase interest - Apalanche Trail? Kanapaha Nature Trail? Gator Alley? Gator Trek?
- Have Nature Operations and the City Council been involved?
- Planning maps need to include zoning (color coding) for residential, commercial, mixed use, etc. to show what the path is connecting to
- Need a trail user map including locations of first aid, drinking fountains, emergency and safety information and access, lighting, public phones, bike repair, etc., and also points of interest along the map (environmental and commercial)
- Modes of Travel: Leisure/Recreational, Work/School, Exercise/Fitness
- Trail is intended for both commuters and recreational users, although it seemed recreating is more emphasized (by whom?) than commuting to the attendees of the workshop – planning team or marketing team should promote path for commuter use rather than solely recreational
- Look to identify connections to outlying development to promote interest
- Look at possible odor issues in regards to water treatment center

Funding Opportunities

Implementing Agency	Funding Program	Description	Link or Contact Info.
Turner Foundation	Turner Foundation	Funds air quality, energy, and transport policies that support sustainable land use	http://www.turnerfoundation.org/grants/pa.asp
The Conservation Fund	Kodak American Greenways Awards	Provides small grants to stimulate planning and design of greenways throughout America.	www.conservationfund.org/?article=2106
Bikes Belong Coalition	Bikes Belong Coalition	Seeks to assist local organizaitons, agencies, and citizens in developing bicycle facilities projets that will be funded by TEA-21. Accepting applications for grants up to $10,000 each, will consider successor grants for continuing projects.	www.bikesbelong.org
US DOT FHWA	Integrating Transportation and Resource Planning to Develop Ecosystem Based Infrastructure Projects	The purpose of this program is to promote the use of integrated transportation planning strategies in the development of ecosystem-based infrastructure projects.	http://gn.ecivis.com/go/r_grantDetail/USERSAVEDGRANTID/43754/PROJECTID/0/GRANTID/24137
US DOT FHWA	Transportation, Community, and System Preservation Program	Program provides funding for a comprehensive initiative including planning grants, implementation grants, and research to investigate and address the relationships between transportation, community, and system preservation and to identify private sector-based initiatives	kenneth.petty@fhwa.dot.gov
Florida DEP / US DOT FHWA Florida Office of Greenways and Trails	Recreational Trails Program	Provides grants for projects that provide, renovate, or maintain recreational trails, trailhead and trailside facilities	alexandra.weiss@dep.state.fl.us
FL DEP, Office of Greenways and Trails	Florida Greenways and Trails Acquisition Program	A component of Florida Forever, the program provides funding to communities to acquire land for greenways and trails program in order to help create a statewide system of greenways and trails. Municipalities, nonprofits and individuals of FL are eligible to nominate acquisition projects to the program.	www.dep.state.fl.us/gwt/acq/
FL Dep. Of Community Affairs	Florida Communities Trust	FCT helps local gov. implement comp plans through acquisition of land. Each year, the program makes trants to local gov. to help buy coastal, conservation, recreation, greenways and open space land and provide technical assistance.	www.dca.state.fl.us/ffct/
FL DEP, Div. Of Rec & Park, Bureau of Design & Rec Services	Florida Recreation Development and Assistance Program	Program provides grants for acquisition or development of land for public outdoor recreation use. Administered by DEP. Funds may be used to acquire or develop land for public oudoor recreation or to construct or renovate recreational trails. Municipalities or county covernments may apply. Early fall. match required.	www.dep.state.fl.us/parks/bdrs/frdap.htm
National Park Service	Land and Water Conservation Fund	LWCF grants can be used by communities to build parks and rec facilities	www.nps.gov/ncrc/programs/lwcf

analysis





Segmentation & Priority

Segment implementation priority recommendations were initiated by first identifying logical segments that would either connect notable destinations or fill gaps between existing infrastructure. Segment designation also considered context (natural or urban), infrastructural requirements (platform, bridge or on-grade path), potential for new connections in the natural areas, connections to newly proposed destinations such as Split Rock Park and intersections with automobile streets.

Cost analysis of each segment considered basic construction for a traditional asphalt path, permeable paver alternatives, specific infrastructure and the value of the privately owned properties that would be traversed by the Archer Braid. Estimates of the property costs were calculated using Alachua County Property Appraiser land values applied to a 40' right-of-way. In some cases, larger portions of property, legal easements, or long-term lease agreements may be required — these are not included in the cost benefit calculations. Infrastructure costs are based on average per mile costs for typical terrain. Our estimates do not consider engineering or design fees which could add 5% to 10% of the actual construction costs. At the time of this report, our best estimate of the total cost of the 8.7 mile Archer Braid project is $15.5 million with a nominally 10' wide asphalt path including the bridges and platforms required. Individual segment cost estimates are included in this section.

An opinion survey was conducted to measure the qualitative value and perceived connectivity improvement for each segment. The opinion survey asked citizens to rate the individual segments based on four criteria including 'connectivity improvement', 'civic impact', 'properties affected' and 'parks/nature enhancement'. Survey respondents were provided with an aerial map showing the proposed route, topographical contours and property boundaries directly and indirectly affected by the route proposal.

Segments located on the UF campus were prioritized as part of the Recommended Bicycle Circulation Plan, Figure 8-2 (March, 2006) from the University of Florida Comprehensive Master Plan 2005-2015. This information was considered in addition to the survey data noted above in the overall priority recommendations.

Segments connecting between the Archer Braid and residential neighborhoods or other transportation routes are suggested in our proposal and illustrated in the maps provided in this section. However, cost and benefit analysis was not conducted for these connecting elements. Connecting elements include logical links to provide high connectivity between the Archer Braid and schools, natural areas, residences and areas designated for future development. These elements were recommended by the steering committee and citizens during the public workshop.

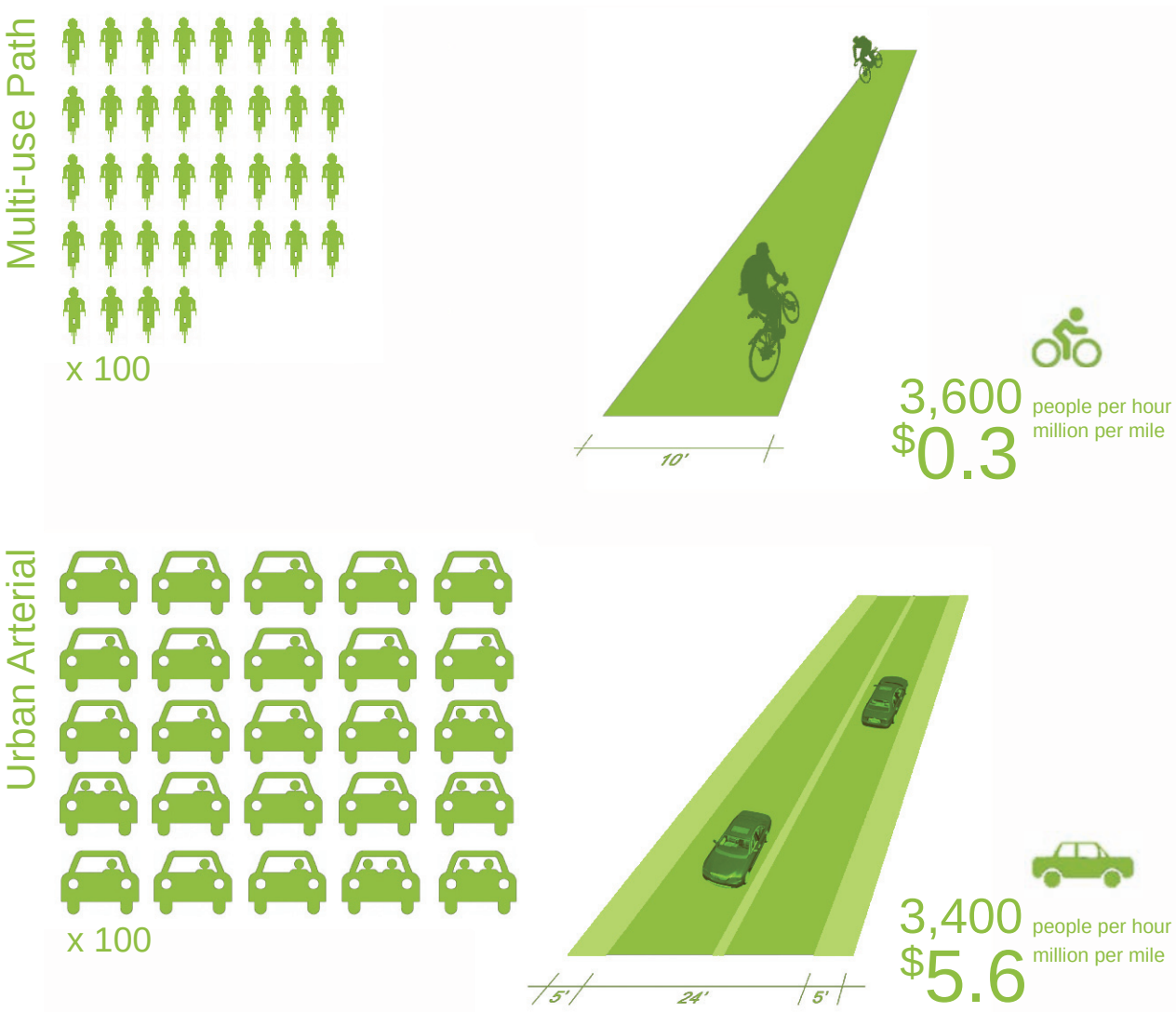
An alternate route, utilizing the Old Bellamy Road and existing in-street lanes that cross over Interstate 75 at the SW 20th Avenue bridge was recommended by the Steering Committee. This route has the benefit of crossing I-75 with existing bridge infrastructure which may cost less to complete the connectivity. It also provides enhanced connectivity between residents north of SW 20th Avenue and Split Rock Park, the Kanapaha environs, Veteran's Park and the TREEO Center. The Old Bellamy Road is presently in private ownership which will require individual negotiations to connect through from the TREEO Center to SW 20th Avenue. If the approaches to the I-75 overpass were optimized for cyclists, and a dedicated path was attached to the bridge to provide the same level of service that is proposed for a new I-75 crossing, the cost savings of an alternate route may be negligible. Public workshop attendees noted that routing the path through the intersection at SW 62nd Boulevard may not be desirable. The design team recommends targeting both the main Archer Braid proposal and the alternate route (using existing in-street lanes on SW 20th Avenue in the short-term). Upon completion of the Old

Bellamy Road connection, adding the separated path along SW 20th Avenue is recommended. This 'designed redundancy' would provide improved use of both facilities through better connectivity, expand the potential user population, allow choices for varied users and may efficiently use SW 20th Avenue improvement funding to enhance and extend cycle infrastructure along that portion of the route.

Segment priorities are represented as high, medium or priority projects. Suitable existing infrastructure and existing infrastructure that should be renovated are also identified in the priority matrix. High priority projects occur in highly populated areas with high latent demand and where other infrastructure that would accommodate the path is planned such as along the proposed Hull Road extension. Medium priority projects respond to latent demand opportunities (connectivity) and access to natural areas. Priority projects rely on other segments to become viable before implementation — this includes key linking infrastructure elements such as a bridge over I-75 and a nature platform recommended to cross the Kanapaha Prairie.

High profile project elements such as spanning I-75 and a Kanapaha crossing, even though they are not assigned high priority, have the ability to attract funding from a range of sources. These elements should be actively promoted to generate private, state and federal funding that normally would not be directed to the Alachua County area. Should one of these projects be funded, the linking path segments should move to high priority status.

Auto lanes cost $5.3m more than cycle paths to convey the same number of people.

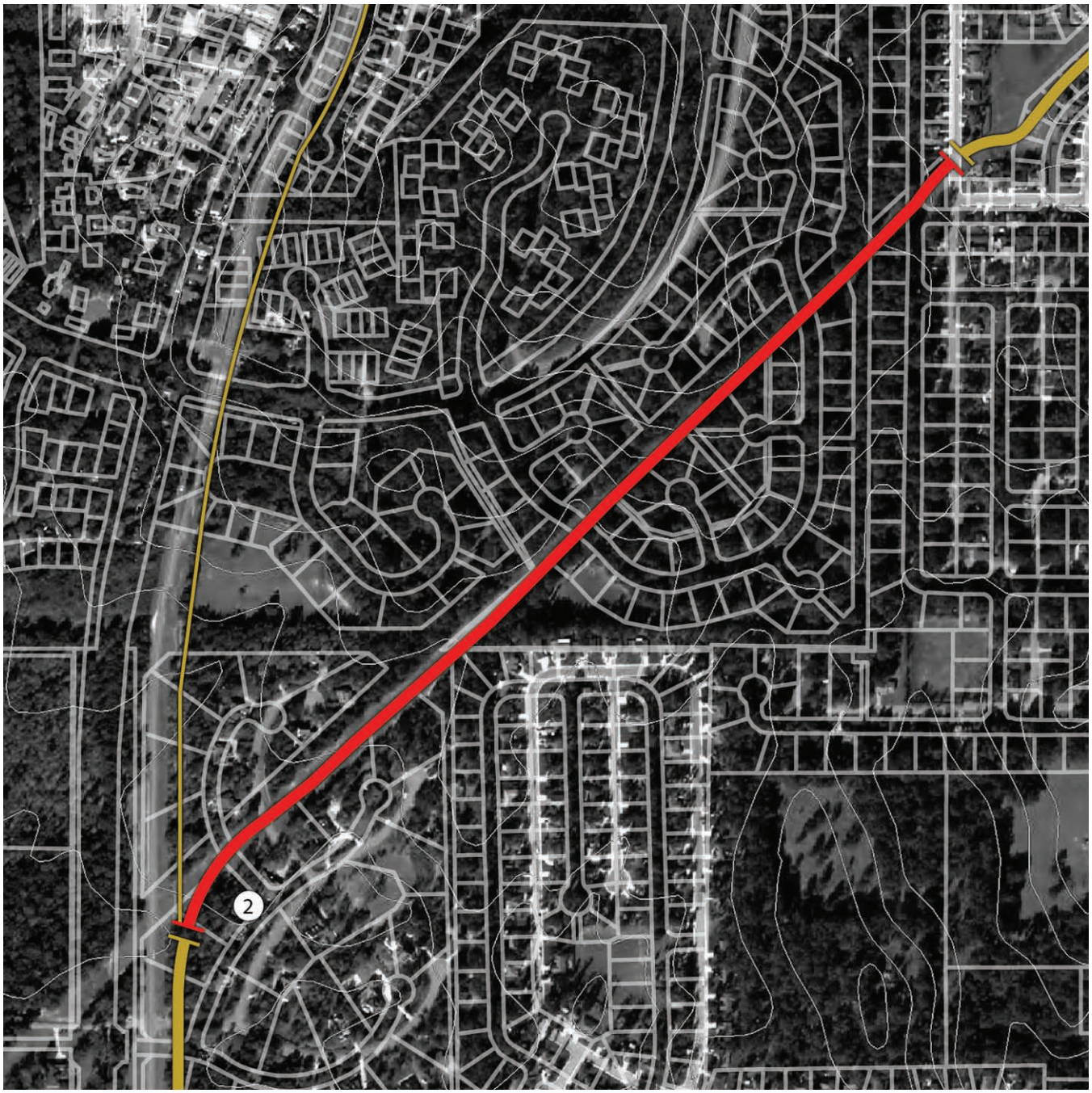


1 Segment One

"…among cities in the developed world, regional wealth (as measured by per capita gross regional product - or GRP) actually goes down as car use goes up. In other words, the more we drive, the poorer we get…"(University of Central Florida, 2004).

SW 91st Street

Land Ownership*	Length	R.O.W. Cost**	Recomended Surface Material(s)	Infrastructure Cost	Total Cost	Priority
Haile Joint Venture	3120 ft.	0***	**Existing**	**0**	**0**	



2 Segment Two

Haile Plantation Trail

Land Ownership*	Length	R.O.W. Cost**	Recomended Surface Material(s)	Infrastructure Cost	Total Cost	Priority
Saile Plantation Corp.	3600 ft.	0	**Existing**	**0**	**0**	
Haile Plantation Assoc.						

3 Segment Three

The average annual traffic delay per person in the United States has climbed from 11 hours in 1982 to 36 hours in 1999.
(Bruce Mau, et al., *Massive Change*)

Stillwind Oaks Trail

Land Ownership*	Length	R.O.W. Cost**	Recomended Surface Material(s)	Infrastructure Cost	Total Cost	Priority
Stillwind Community Assoc.	2500 ft.	0	**Asphalt**	**94,000 - 141,000**	**94,000 - 141,000**	
			Permeable Asphalt	180,000 - 255,000	180,000 - 255,000	

4 Segment Four

Haile Plantation Trail (part 2)

Land Ownership*	Length	R.O.W. Cost**	Recomended Surface Material(s)	Infrastructure Cost	Total Cost	Priority
Haile Plantation Assoc.	1000 ft.	0	Asphalt	37,800 - 56,700	37,800 - 56,700	
			Permeable Asphalt	**72,000 - 102,000**	**72,000 - 102,000**	

5 Segment Five

"… a progression from shared use lane, to bike lane or paved shoulder, to shared use path adjacent to roadway, and finally to shared use path in a separate right-of-way increases the number of motorists who will convert to the bicycle for their travel" (Conserve By Bicycle, 2007).

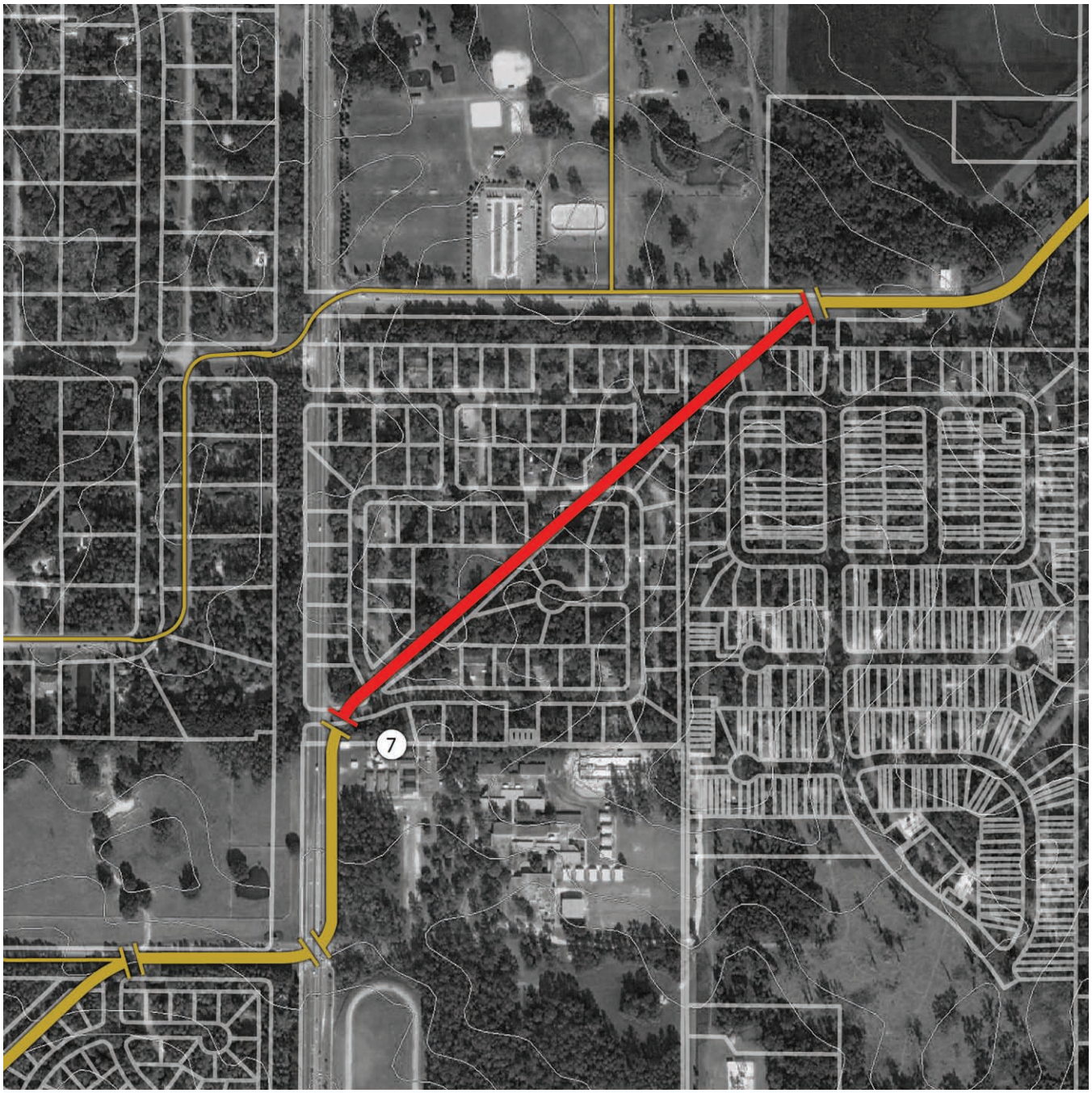
Haile Plantation Trail (part 3)

Land Ownership*	Length	R.O.W. Cost**	Recomended Surface Material(s)	Infrastructure Cost	Total Cost	Priority
Haile Plantation Assoc.	700 ft.	0	**Asphalt**	**26,600 - 39,900**	**26,600 - 39,900**	
			Permeable Asphalt	50,400 - 71,400	50,400 - 71,400	

6 Segment Six

Tower Road

Land Ownership*	Length	R.O.W. Cost**	Recomended Surface Material(s)	Infrastructure Cost	Total Cost	Priority
School Board of Alachua Co.	800 ft.	0	**Asphalt**	**30,000 - 45,000**	**30,000 - 45,000**	
			Permeable Asphalt	57,600 - 81,600	57,600 - 81,600	



7 Segment Seven

The University Of Florida generates over 70,000 automobile trips per day.
(University of Florida Sustainability Report, Draft, 2002)

Tower Road to SW 41st Place

Land Ownership*	Length	R.O.W. Cost**	Recomended Surface Material(s)	Infrastructure Cost	Total Cost	Priority
City of Gainesville	2000 ft.	0	**Asphalt**	**76,000 - 114,000**	**76,000 - 114,000**	
			Permeable Asphalt	144,000 - 204,000	144,000 - 204,000	

8 Segment Eight

Kanapaha Park to Treeo Center

Land Ownership*	Length	R.O.W. Cost**	Recomended Surface Material(s)	Infrastructure Cost	Total Cost	Priority
City of Gainesville	2025 ft.	0	**Asphalt**	**76,200 - 115,000**	**76,200 - 115,000**	
			Permeable Asphalt	145,800 - 206,550	145,800 - 206,550	

9 Segment Nine

Separated multi-use paths, rather than in-street cycle lanes, should be used when vehicles travel at speeds over 35 mph. This would suggest separated path alternatives for all arterial connector roads in Gainesville.
(SIWOV, Netherlands, 1989)

Treeo Center to Kanapaha Wetlands

Land Ownership*	Length	R.O.W. Cost**	Recomended Surface Material(s)	Infrastructure Cost	Total Cost	Priority
City of Gainesville	3300 ft.	0	Asphalt	125,000 - 187,500	125,000 - 187,500	
Alachua County			**Permeable Asphalt**	**237,600 - 336,600**	**237,600 - 336,600**	

10 Segment Ten

Kanapaha Boardwalk

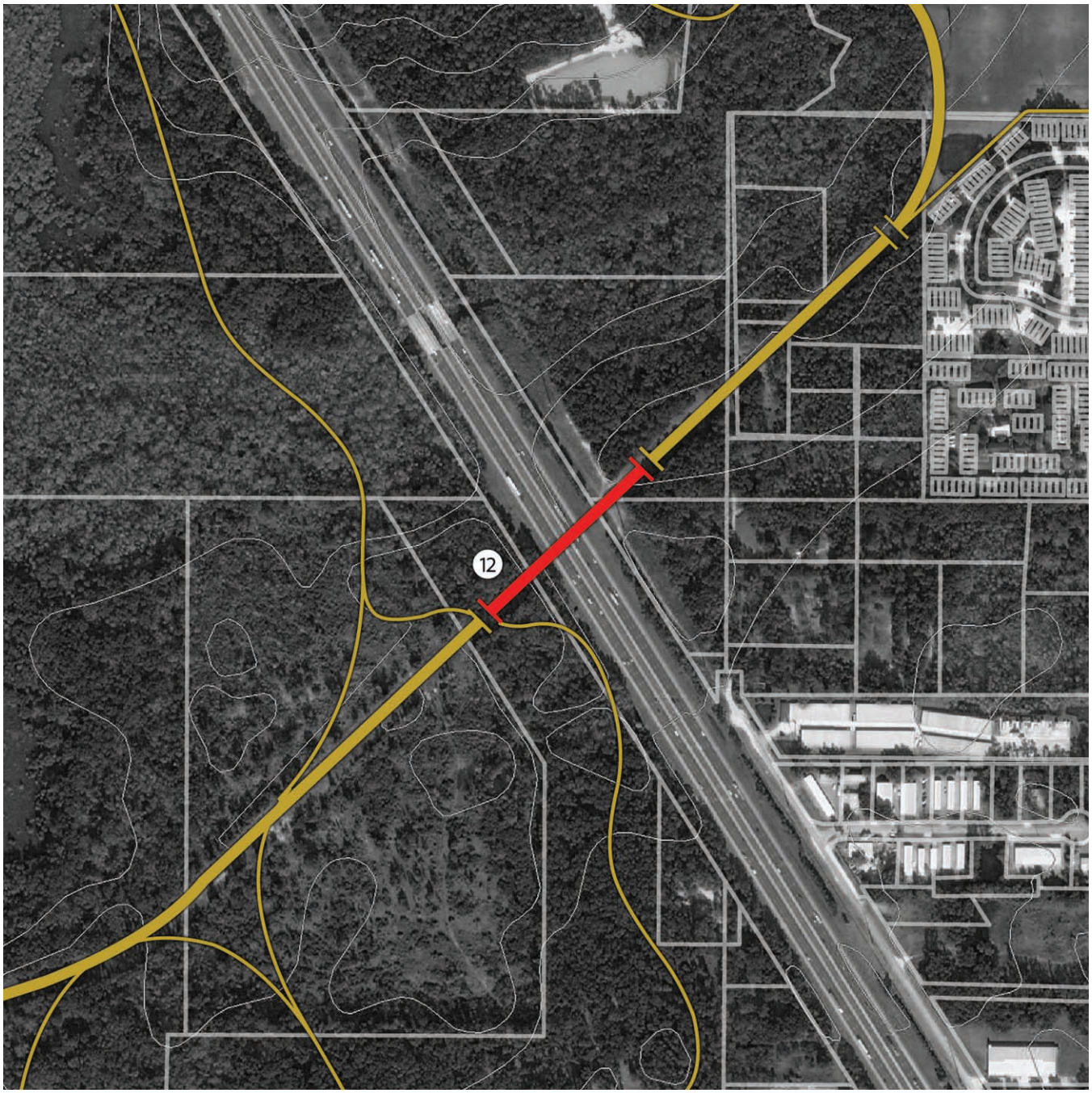
Land Ownership*	Length	R.O.W. Cost**	Recomended Surface Material(s)	Infrastructure Cost	Total Cost	Priority
Alachua County	1380 ft.	0	Boardwalk	391,500 - 522,000	391,500 - 522,000	
			Other			

11 Segment Eleven

A 12-foot wide bike path costs about 5% as much as a 12-foot wide road to construct. A bike weighs just one one-hundredth what a typical car weighs, and when moving takes up just 3.3% to 5% as much space as a moving car and five percent of the parking space. (University of Central Florida, 2004).

Kanapaha to Interstate 75

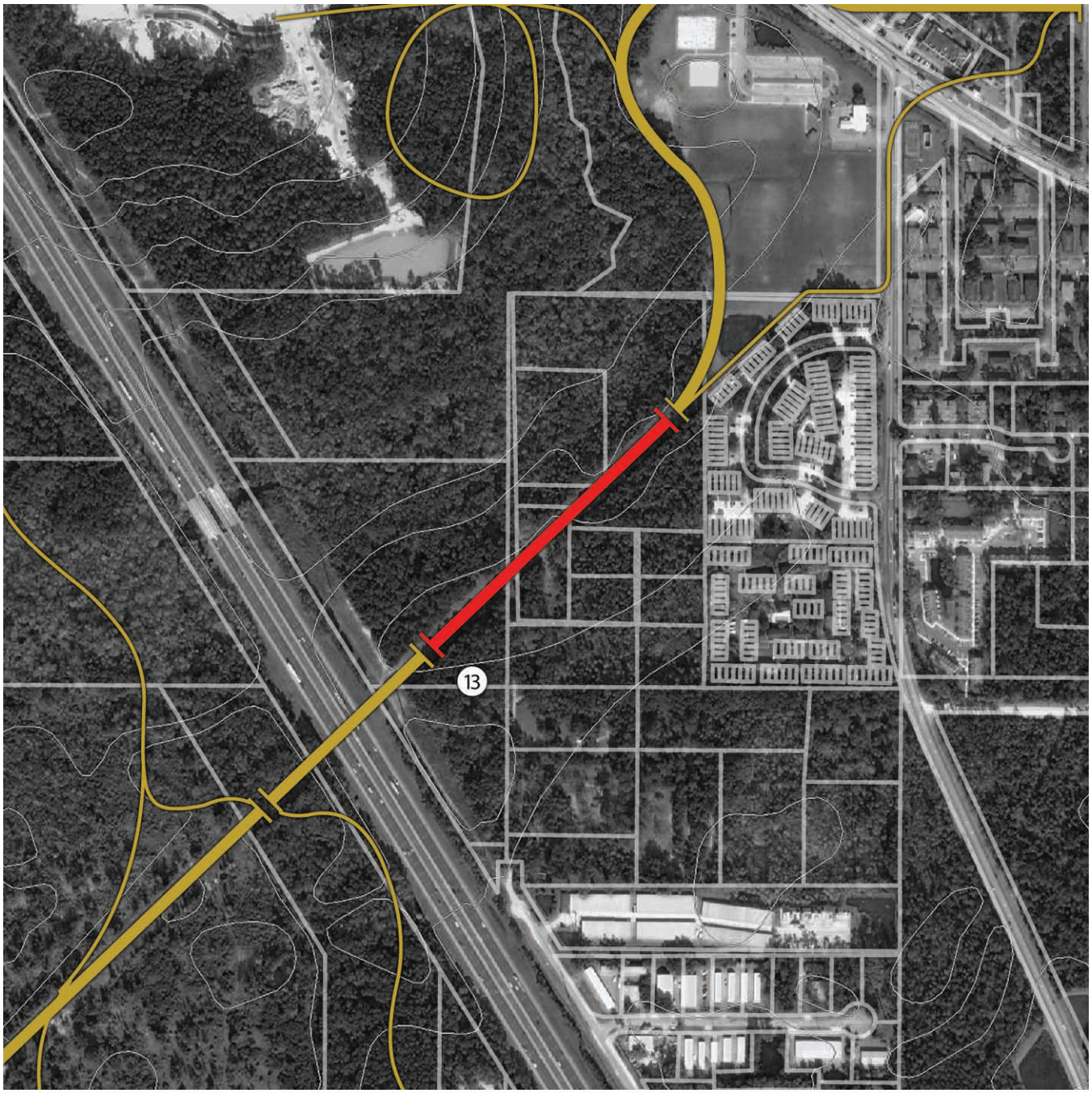
Land Ownership*	Length	R.O.W. Cost**	Recomended Surface Material(s)	Infrastructure Cost	Total Cost	Priority
Barnes	2100 ft	0	Asphalt	79,600 - 119,400	79,600 - 119,400	
Alachua County			**Permeable Asphalt**	**151,200 - 214,200**	**151,200 - 214,200**	



12 Segment Twelve

Interstate 75 Bridge

Land Ownership*	Length	R.O.W. Cost**	Recomended Surface Material(s)	Infrastructure Cost	Total Cost	Priority
Federal Land	800 ft.	5514	Steel	**4,000,000 - 8,000,000**	**4,000,000 - 8,000,000**	
Kamlah			Other			

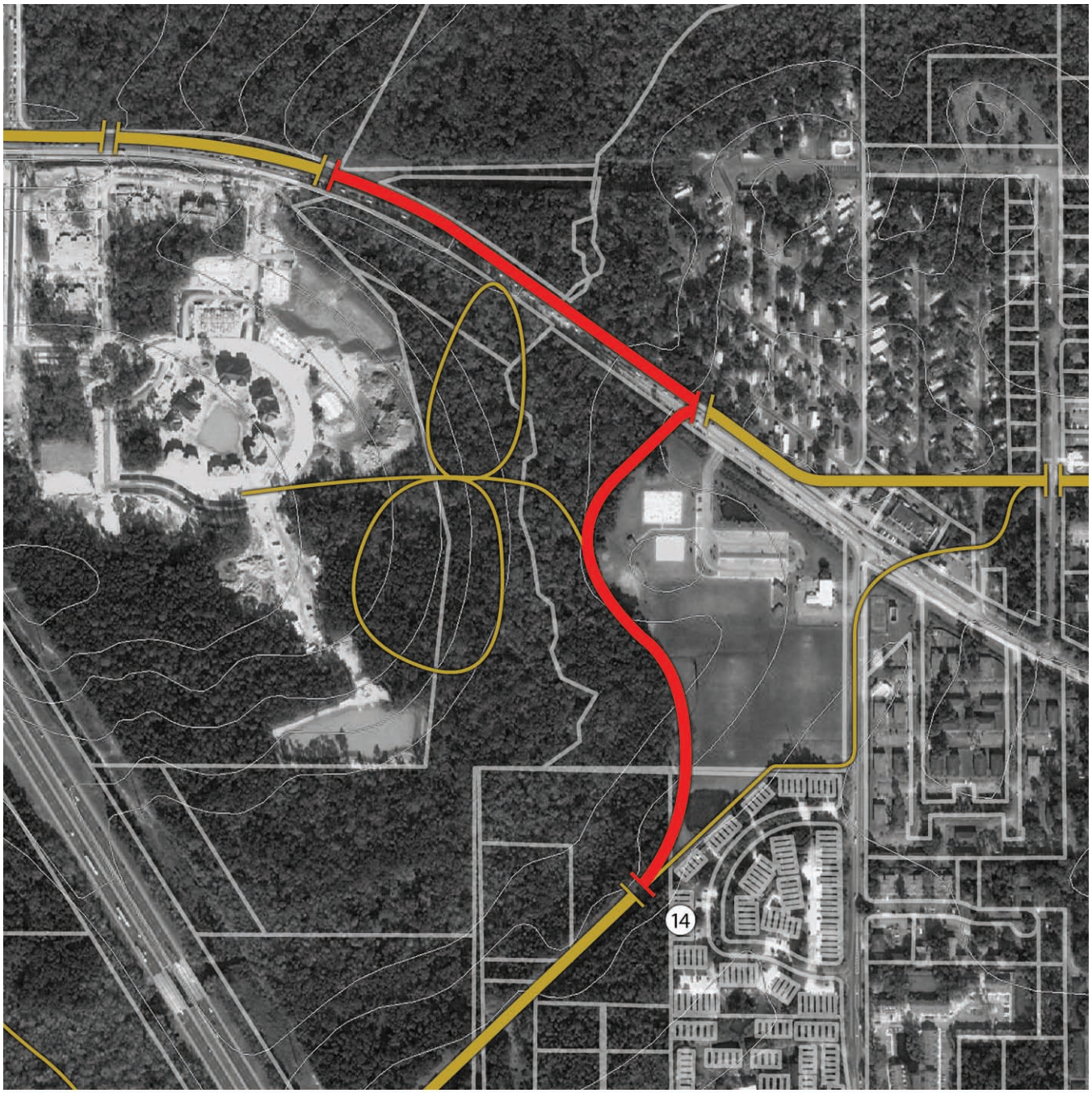


13 Segment Thirteen

Safety was identified as the primary reason people do not cycle more in the Gainesville area. The second most critical issue to potential cyclists was connectivity. Inclement weather was not rated as a significant factor. (Alachua Countywide Bicycle Master Plan Addendum, 2004)

Interstate 75 to Forest Park

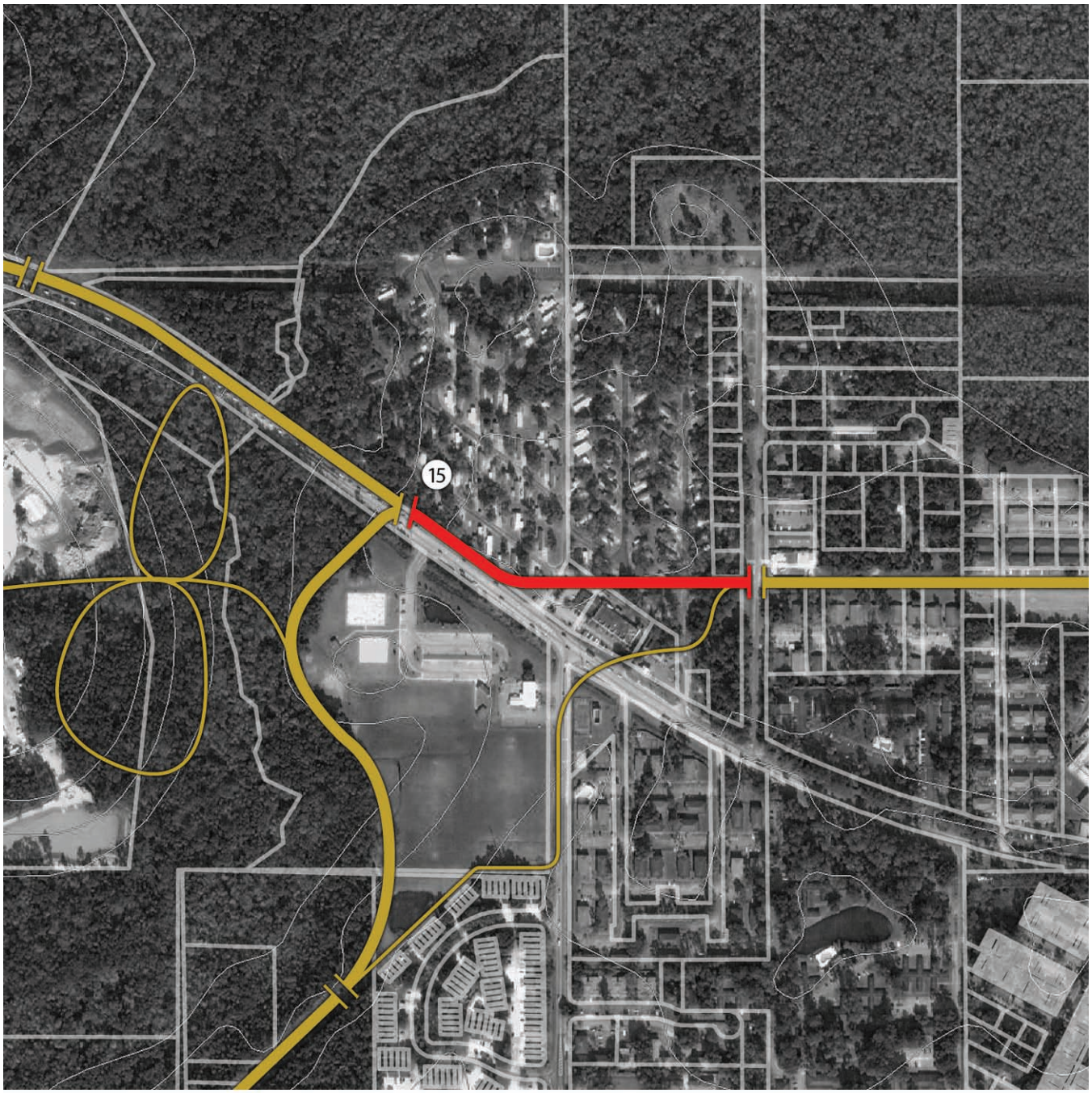
Land Ownership*	Length	R.O.W. Cost**	Recomended Surface Material(s)	Infrastructure Cost	Total Cost	Priority
Harris	800 ft.	25445	Asphalt	30,000 - 45,000	55,445 - 70,445	
Baxter			**Permeable Asphalt**	**57,600 - 81,600**	**83,045 - 107,045**	
Hunter & Hunter						



14 Segment Fourteen

Forest Park

Land Ownership*	Length	R.O.W. Cost**	Recomended Surface Material(s)	Infrastructure Cost	Total Cost	Priority
Alachua County	1890 ft.	0	Asphalt	71,600 - 107,400	71,600 - 107,400	
			Permeable Asphalt	**136,080 - 192,780**	**136,080 - 192,780**	
Alachua County	2400 ft.	11948	**Asphalt**	**92,000 - 138,000**	**103,948 - 149948**	
Marchwood Homeowners			Permeable Asphalt	172,800 - 244,800	184,748 - 256,748	
Biltmore Corp.						
M R A Corp.						



15 Segment Fifteen

Rain, lightning, and heat are seasonable, predictable, and manageable. In our four hottest months—June, July, August and September, the temperatures average below those in Davis, California, a town with a 22-28% cycling rate. (University of Central Florida, 2004).

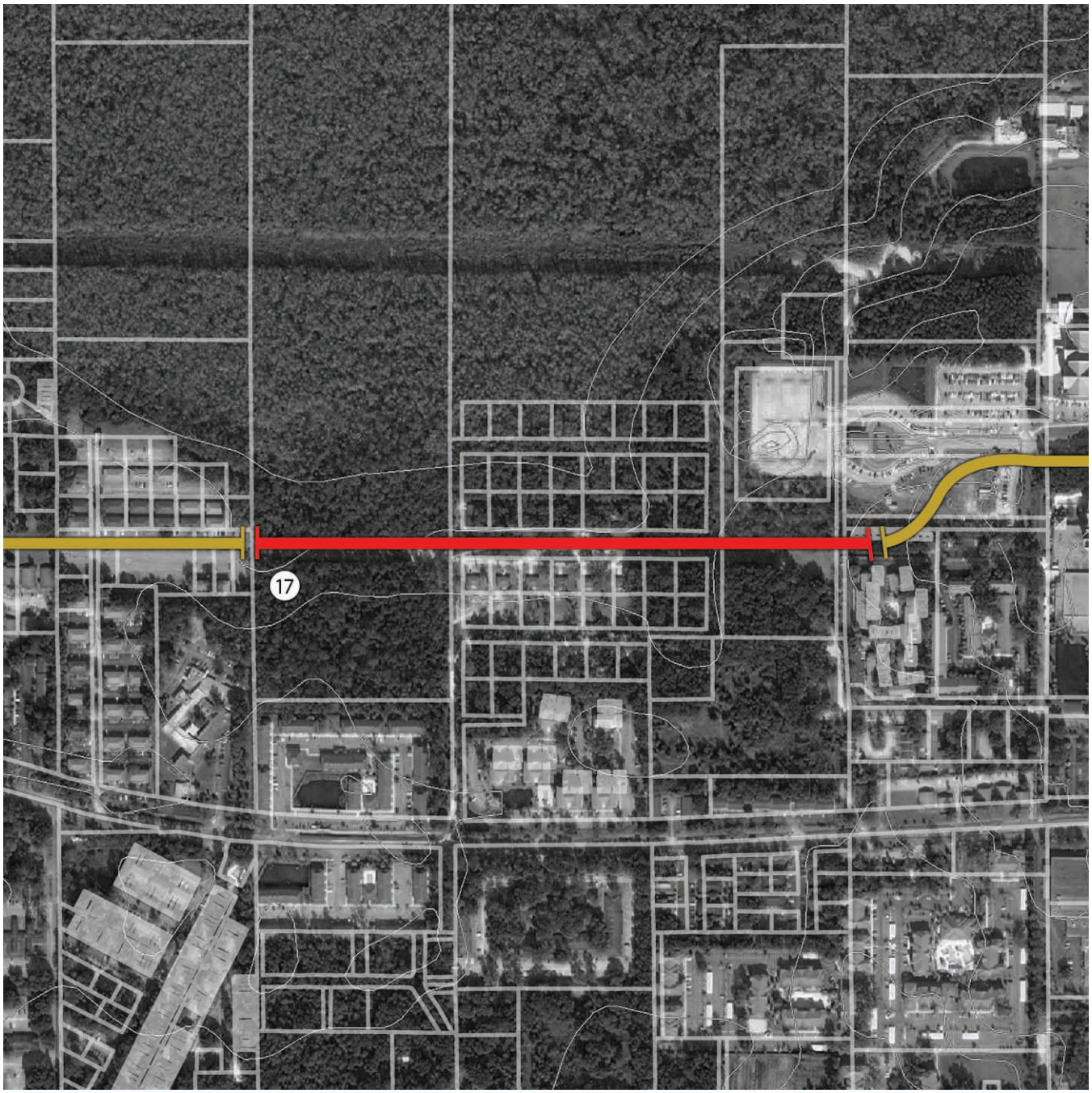
Forest Park to SW 42nd Street

Land Ownership*	Length	R.O.W. Cost**	Recomended Surface Material(s)	Infrastructure Cost	Total Cost	Priority
Alachua County	1350 ft.	29125	**Asphalt**	**51,200 - 76,800**	**80,325 - 105,925**	5
Biltmore Corp.			Permeable Asphalt	97,200 - 137,700	125,325 - 166,825	

16 Segment Sixteen

SW 42nd Street & Hull Road extension

Land Ownership*	Length	R.O.W. Cost**	Recomended Surface Material(s)	Infrastructure Cost	Total Cost	Priority
Alachua County	1380 ft.	62084	**Asphalt**	**52,000 - 78,000**	**114,084 - 140,084**	4
Boughannam			Permeable Asphalt	99,360 - 140,760	161,444 - 202,844	
Hodge						

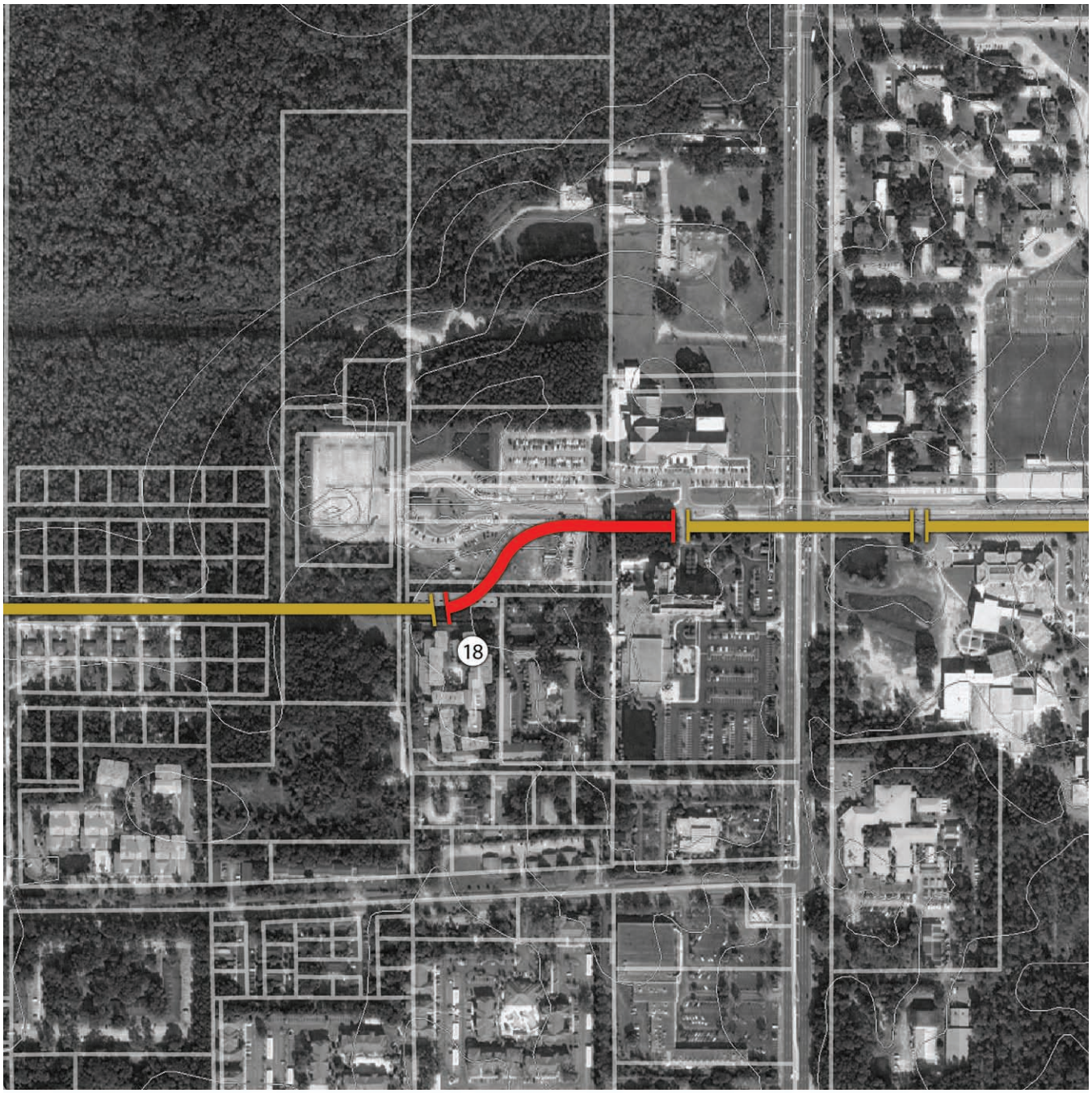


17 Segment Seventeen

Reduced driving actually increases local business development because most economic inputs to driving--vehicle, parts, and fuel--come from outside a region..."Money saved by reduced driving tends to provide net local economic development benefits" (University of Central Florida, 1999).

Hull Road extension

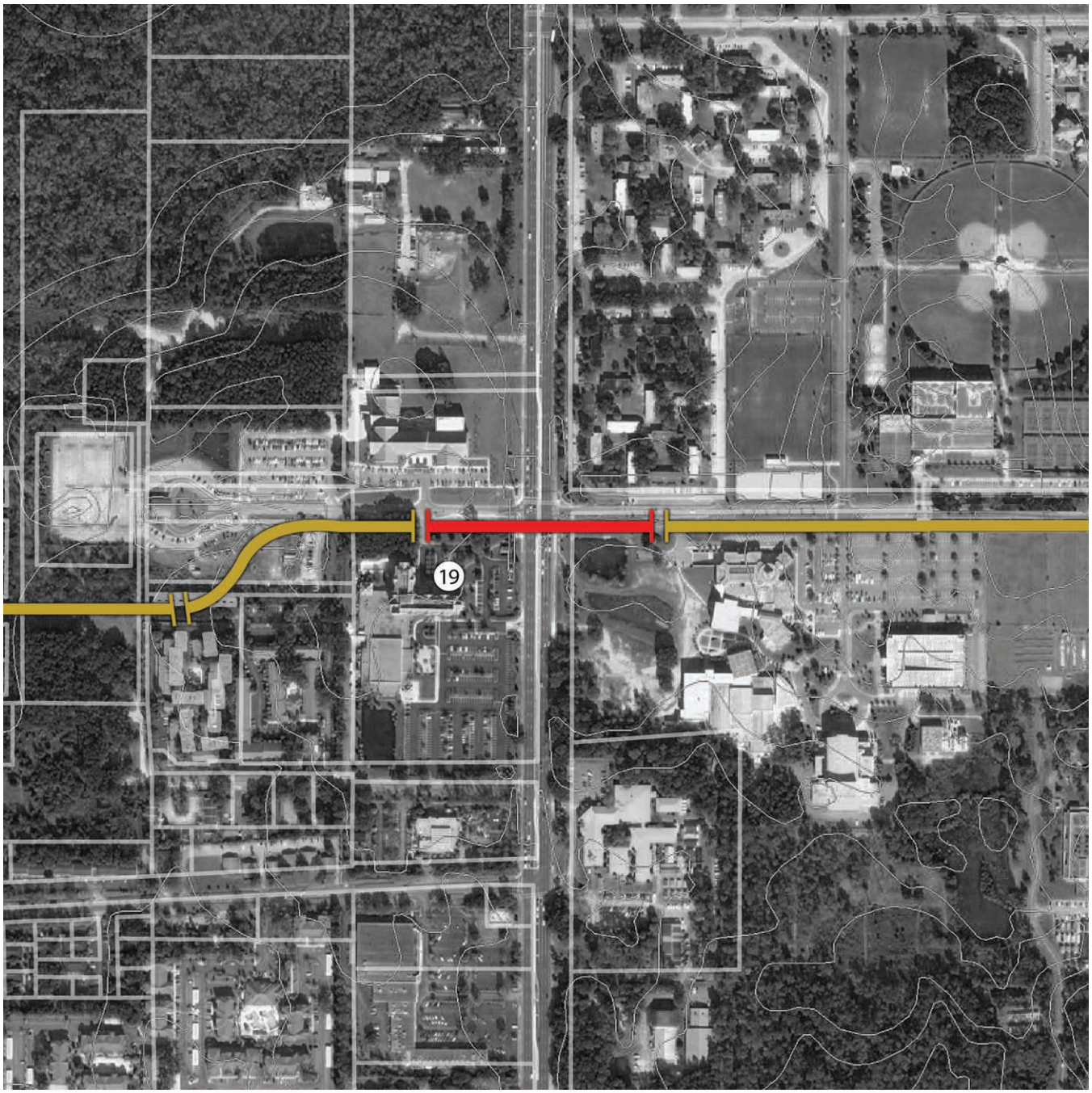
Land Ownership*	Length	R.O.W. Cost**	Recomended Surface Material(s)	Infrastructure Cost	Total Cost	Priority
Burch	2100 ft.	19920	Asphalt	79,600 - 119,400	99,520 - 139,320	
College Bound LLC			**Permeable Asphalt**	**151,200 - 214,200**	**171,120 - 234,120**	3
State Board of Education						
University of Florida						



18 Segment Eighteen

Hull Road Extension & Parking Area

Land Ownership*	Length	R.O.W. Cost**	Recomended Surface Material(s)	Infrastructure Cost	Total Cost	Priority
State Board of Education	900 ft.	0	**Asphalt**	**34,000 - 51,000**	**34,000 - 51,000**	2
University of Florida			Permeable Asphalt	64,800 - 91,800	64,800 - 91,800	



19 Segment Nineteen

Resources that would normally go into the construction of roads and parking spaces, lots and garages and their maintenance can be put into other areas that can improve life for all of us, such as education, landscaping, sports facilities, preservation of nature, and the arts and culture.
(University of Central Florida, 2004).

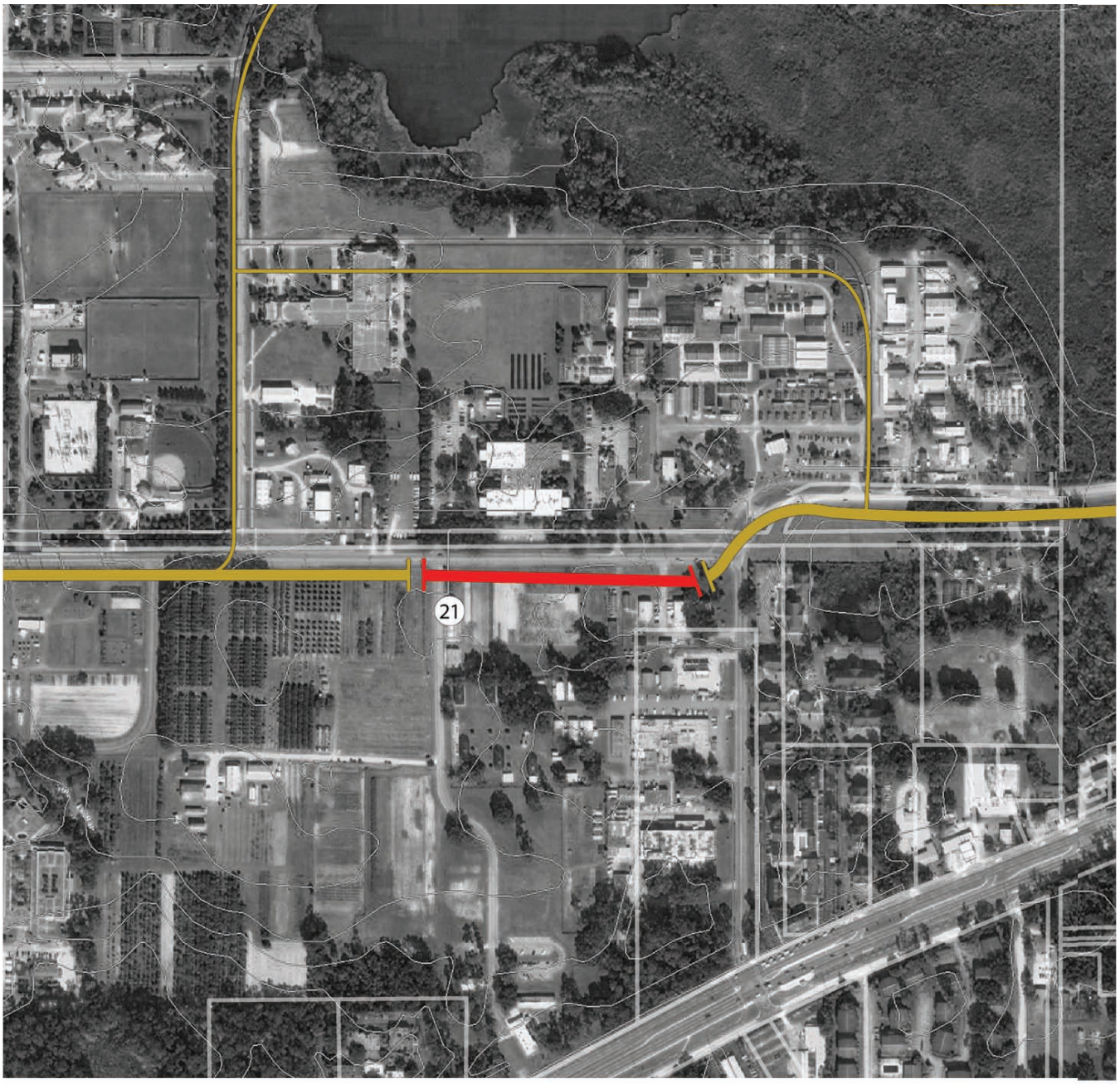
S.W 34th Street Crossing

Land Ownership*	Length	R.O.W. Cost**	Recomended Surface Material(s)	Infrastructure Cost	Total Cost	Priority
University of Florida	900 ft.	0	Steel	**3,000,000 - 7,000,000**	**3,000,000 - 7,000,000**	1
Alachua County			Other			

20 Segment Twenty

UF Cultural/Sports Area & Hull Road

Land Ownership*	Length	R.O.W. Cost**	Recomended Surface Material(s)	Infrastructure Cost	Total Cost	Priority
University of Florida	3000 ft.	0	**Asphalt**	**113,600 - 170,400**	**113,600 - 170,400**	
			Permeable Asphalt	216,000 - 306,000	216,000 - 306,000	

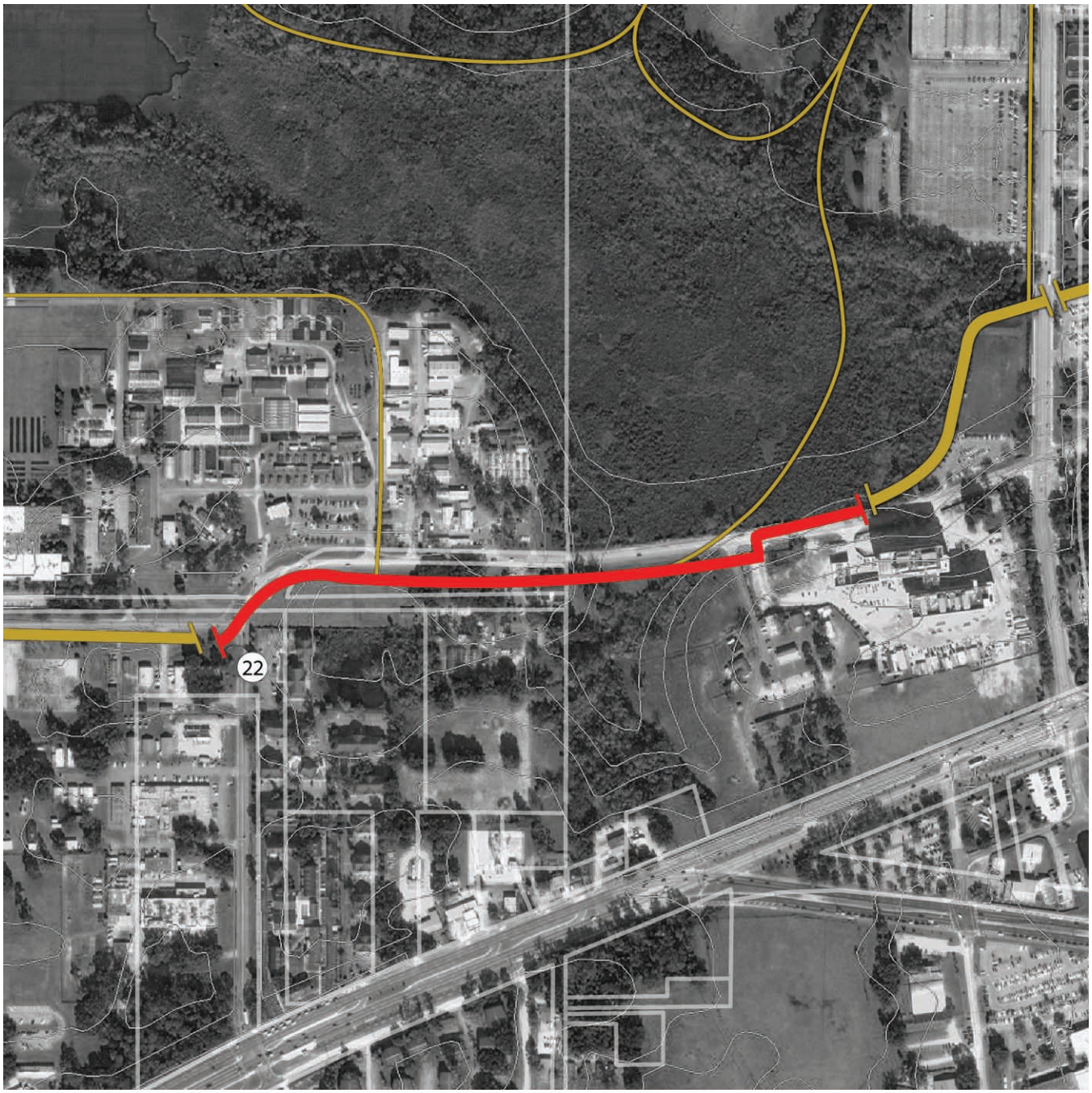


21 Segment Twenty-one

…the automobile no longer gives us the mobility it promises. Clogged roads often mean averaging the speed of horse-drawn carriages without the sense of mobility and safety they afford. In contrast, bicycles on paths can maintain a steady speed, permeate areas cars cannot, and be readily parked on arrival near a destination
(University of Central Florida, 2004).

Agriculture/IFAS Facilities & Hull Road

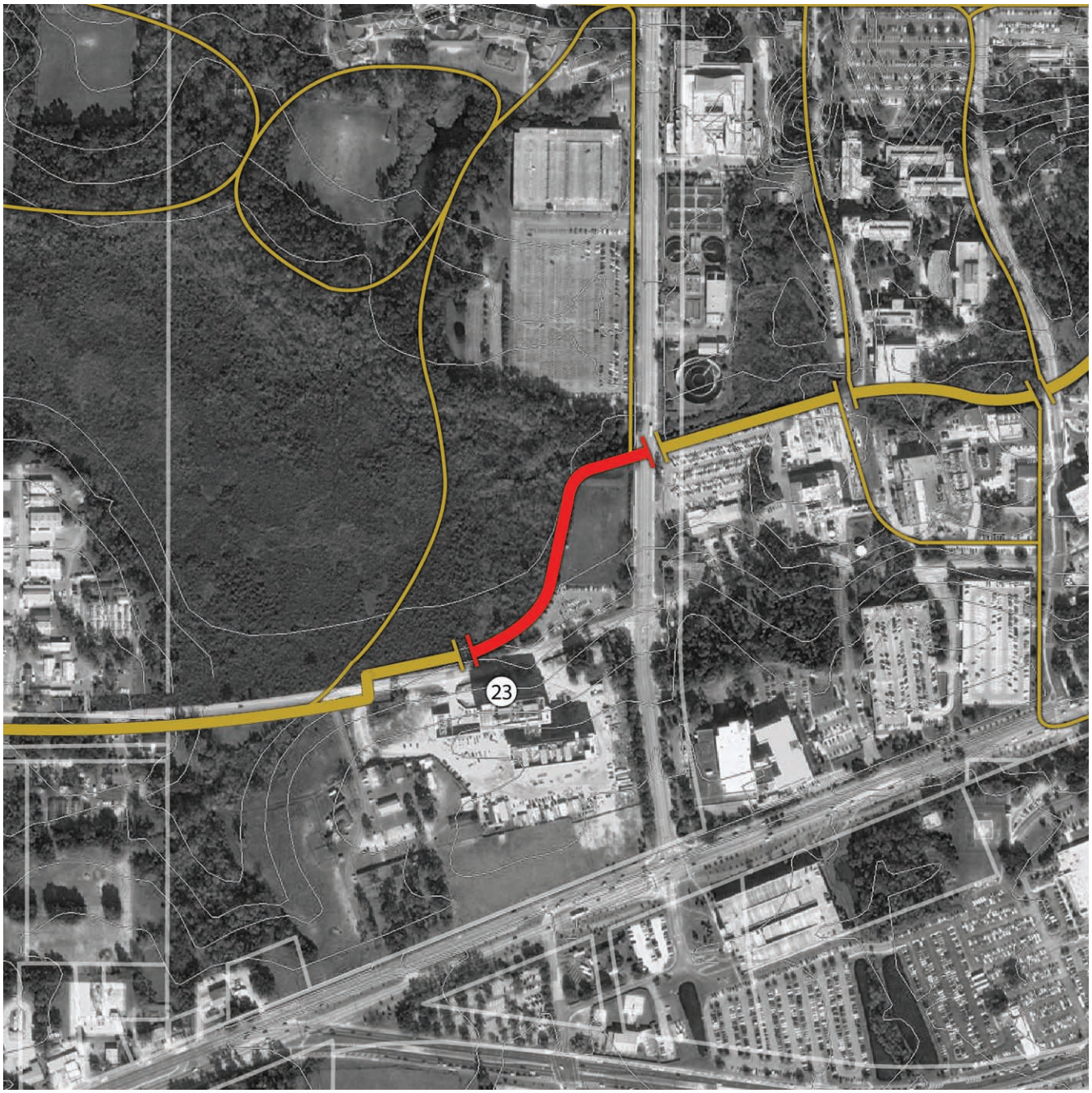
Land Ownership*	Length	R.O.W. Cost**	Recomended Surface Material(s)	Infrastructure Cost	Total Cost	Priority
University of Florida	1000 ft.	0	**Asphalt**	**37,800 - 56,700**	**37,800 - 56,700**	
			Permeable Asphalt	72,000 - 102,000	72,000 - 102,000	



22 Segment Twenty-two

Mowry Road

Land Ownership*	Length	R.O.W. Cost**	Recomended Surface Material(s)	Infrastructure Cost	Total Cost	Priority
University of Florida	2500 ft.	0	**Asphalt**	**94,000 - 141,000**	**94,000 - 141,000**	
State of Florida			Permeable Asphalt	180,000 - 255,000	180,000 - 255,000	

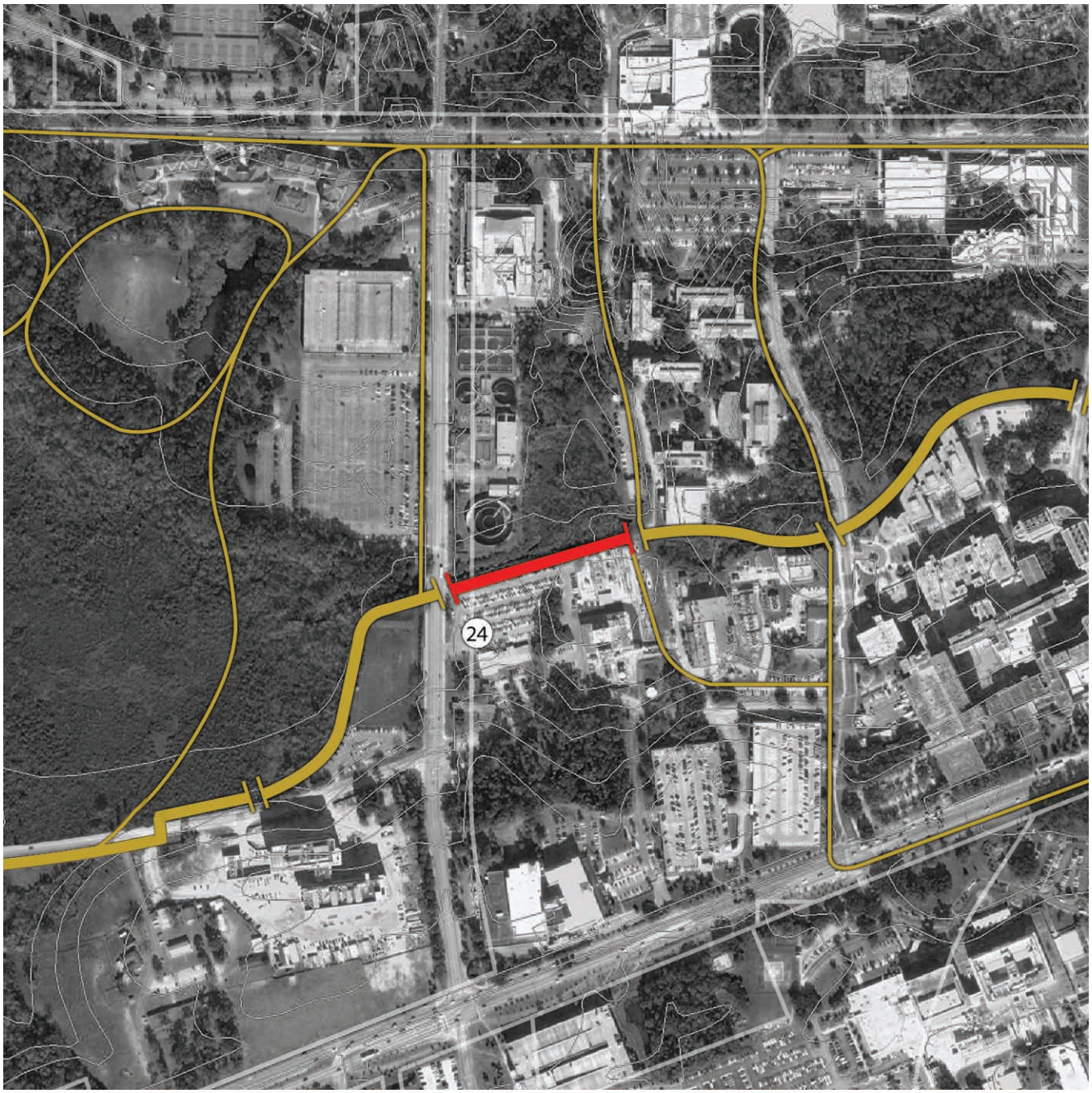


23 Segment Twenty-three

In urban areas, about 40% of the hazardous air pollutants come from mobile sources (cars & trucks). (Environmental Protection Agency).

Mowry Road. to Gale Lemerand Drive

Land Ownership*	Length	R.O.W. Cost**	Recomended Surface Material(s)	Infrastructure Cost	Total Cost	Priority
University of Florida	1000 ft.	0	**Boardwalk**	**283,500 - 378,000**	**283,500 - 378,000**	
			Permeable Asphalt	75,000 - 105,000	75,000 - 105,000	



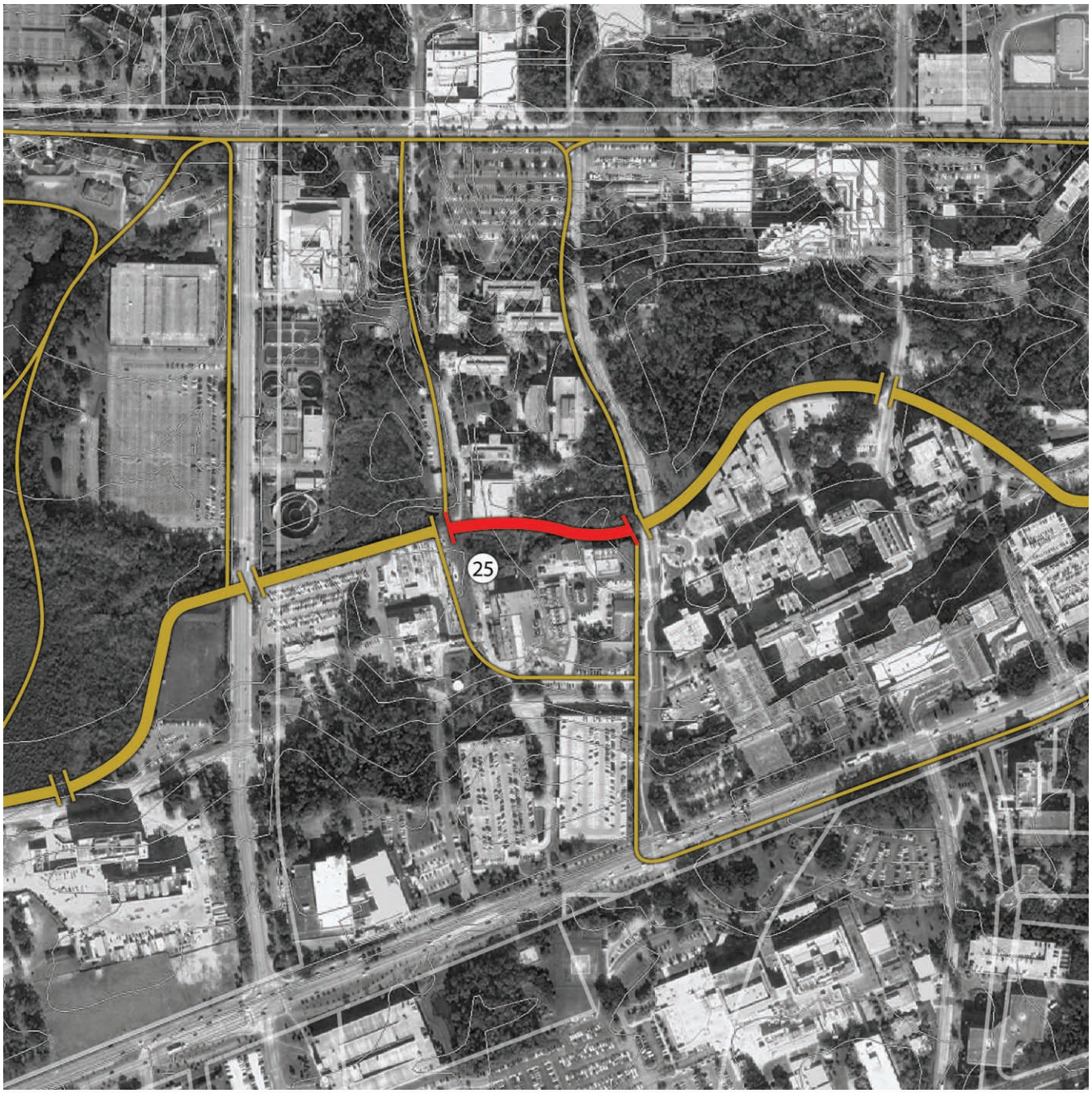
north

0′ 200′ 1000′

24 Segment Twenty-four

Gale Lemerand Drive to Engineering Buildings

Land Ownership*	Length	R.O.W. Cost**	Recomended Surface Material(s)	Infrastructure Cost	Total Cost	Priority
University of Florida	750 ft.	0	Asphalt	28,000 - 42,000	28,000 - 42,000	
			Permeable Asphalt	**54,000 - 76,500**	**54,000 - 76,500**	

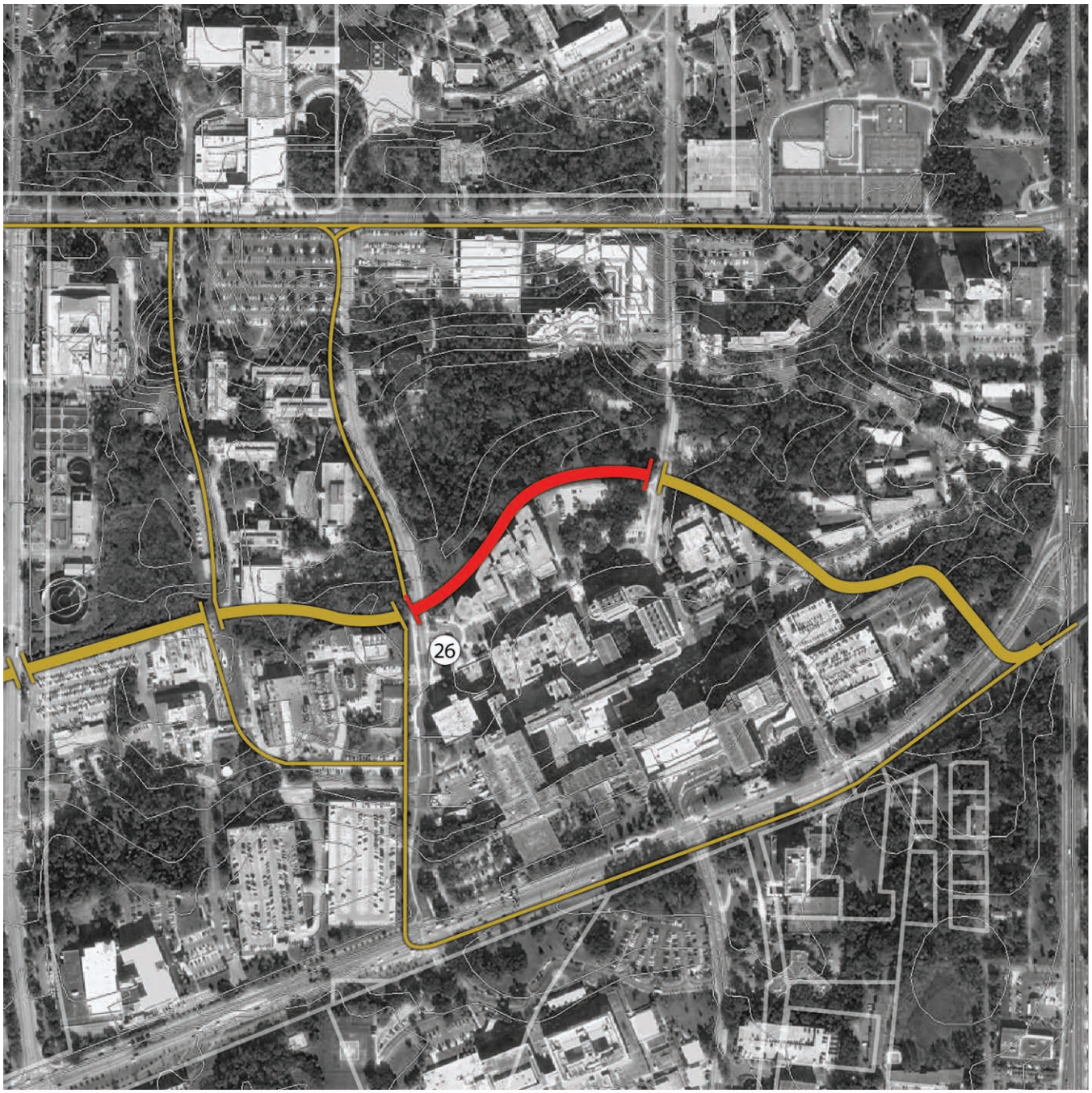


25 Segment Twenty-five

Bicycle commuters have greater control over the timing of their trip because they do not have to follow a transit schedule or sit in traffic jams. (Univeristy of Central Florida, 2004)

Engineering Buildings to Center Drive

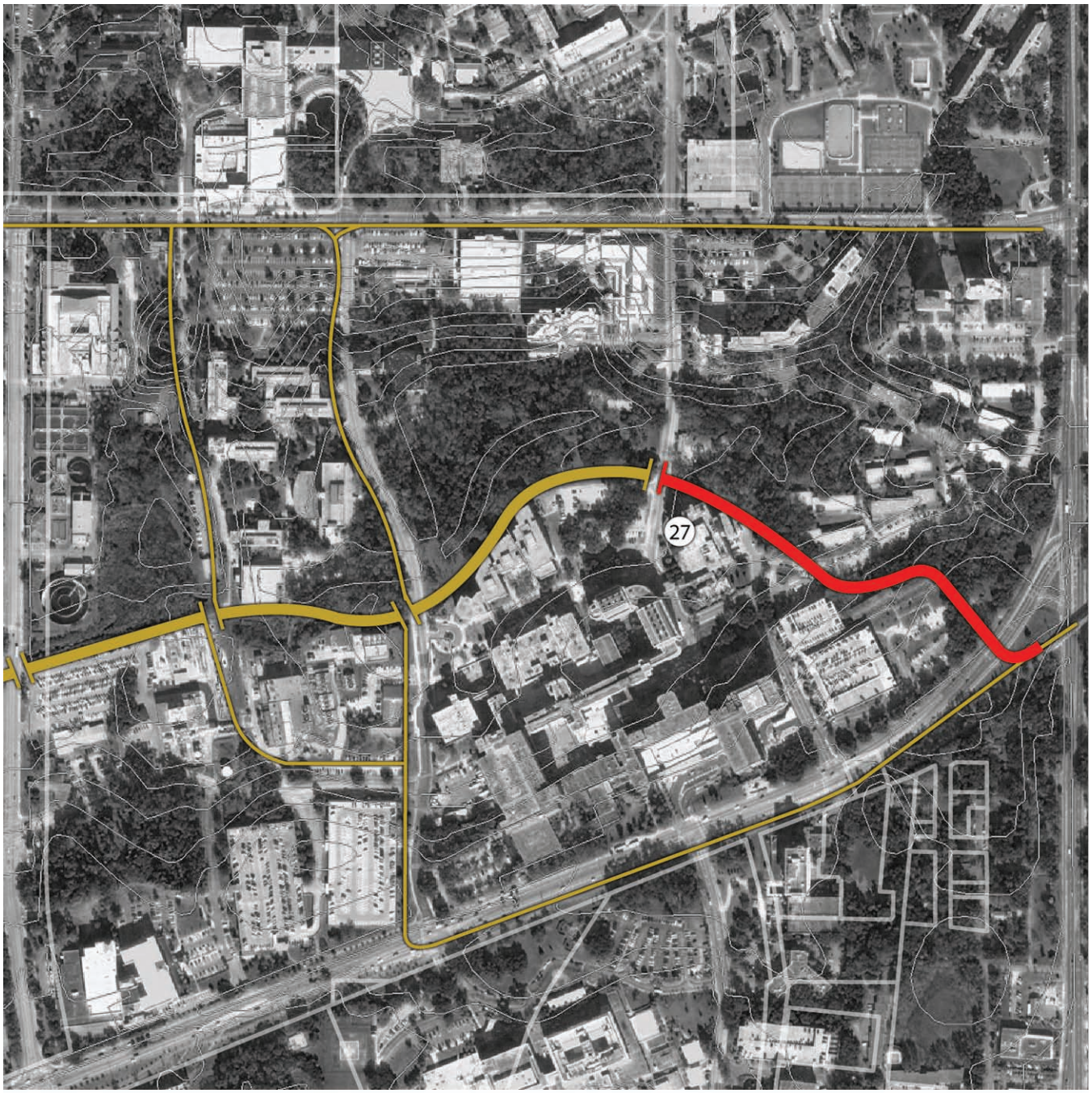
Land Ownership*	Length	R.O.W. Cost**	Recomended Surface Material(s)	Infrastructure Cost	Total Cost	Priority
University of Florida	620 ft.	0	Asphalt	23,400 - 35,100	23,400 - 35,100	
			Permeable Asphalt	**44,640 - 63,240**	**44,640 - 63,240**	



26 Segment Twenty-six

Center Drive to Newell Road

Land Ownership*	Length	R.O.W. Cost**	Recomended Surface Material(s)	Infrastructure Cost	Total Cost	Priority
University of Florida	1050 ft.	0	**Asphalt**	**39,800 - 59,700**	**39,800 - 59,700**	
			Permeable Asphalt	75,600 - 107,100	75,600 - 107,100	



27 Segment Twenty-seven

In a twelve-month experiment in which a hundred people volunteered to commute part of the time by bike, the cyclists improved physical work capacity and aerobic fitness, had a lower risk of heart attack and stroke, and significant improvement in both LDL and HDL readings (Department of Environmental Protection, 1999).

Newell Road to Archer Road

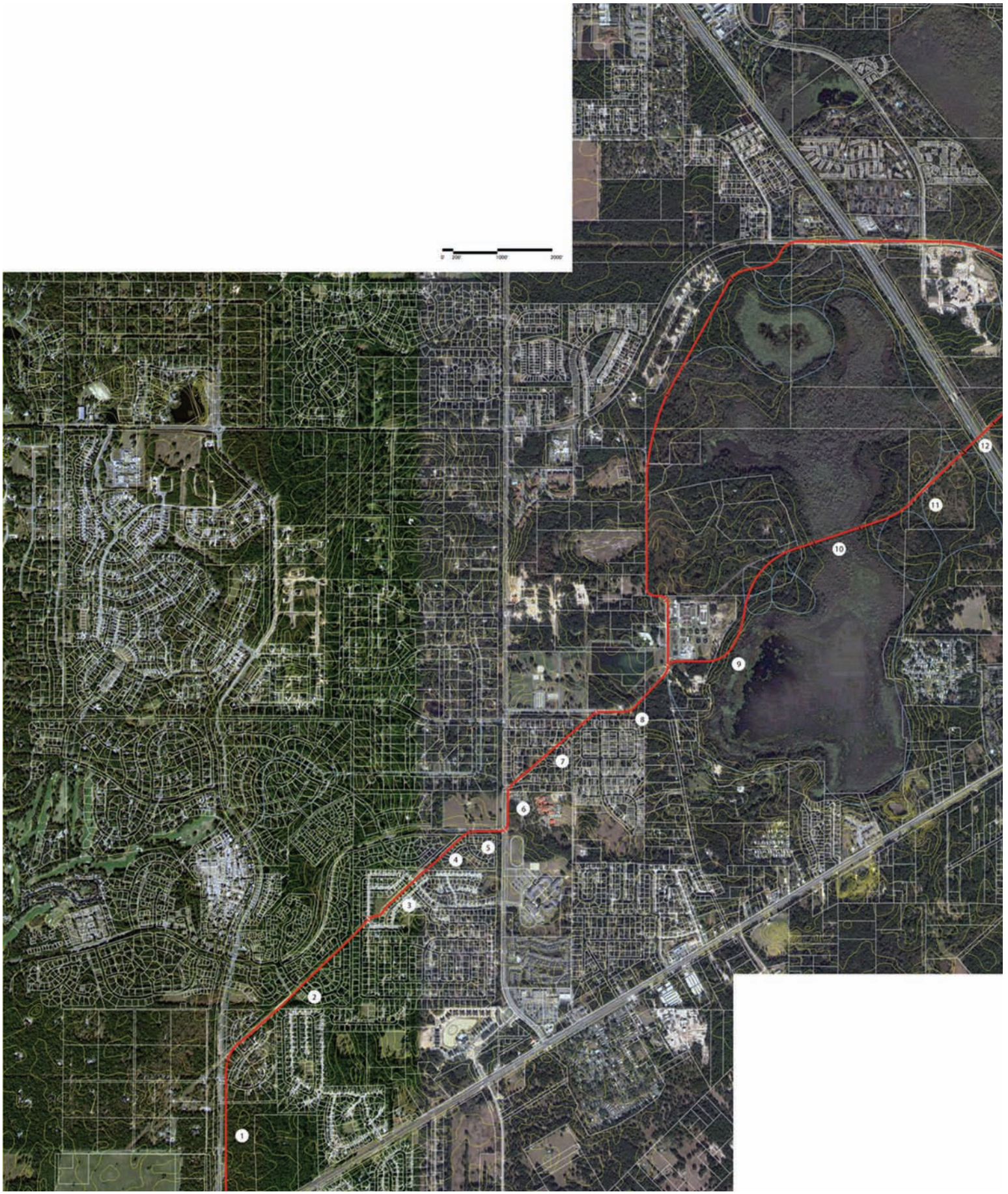
Land Ownership*	Length	R.O.W. Cost**	Recomended Surface Material(s)	Infrastructure Cost	Total Cost	Priority
University of Florida	1250 ft.	0	**Asphalt**	**47,000 - 70,500**	**47,000 - 70,500**	
			Permeable Asphalt	89,300 - 126,500	89,300 - 126,500	

north

0′ 200′ 1000′

Alternate Route

	Description	Land Ownership*	Length	R.O.W. Cost**	Recomended Surface Material(s)	Infrastructure Cost	Total Cost
1	**Road along Treo Center**	City of Gainesville	1170 ft.	0	**Asphalt**	**44,400 - 66,600**	**44,400 - 66,600**
					Permeable Asphalt	84,240 - 119,340	84,240 - 119,340
2	**Treo Center to SW 20th Avenue Part 1**	Arredondo & Dickenson	2500 ft.	20,662	Asphalt	94,600 - 141,900	115,262 - 162,562
		City of Gainesville			**Permeable Asphalt**	**180,000 - 255,000**	**200,662 - 275,662**
		Dickenson, M F					
		Alachua County					
3	**Treo Center to SW 20th Ave. Part 2**	City of Gainesville	1240 ft.	14,320	Asphalt	47,000 - 70,500	61,320 - 84,820
		Dickenson, M B			**Permeable Asphalt**	**89,280 - 126,480**	**103,600 - 140,800**
		Dickenson, M F					
4	**Treo Center to SW 20th Ave. Part 3**	City of Gainesville	3640 ft.	0	Asphalt	137,800 - 206,700	137,800 - 206,700
					Permeable Asphalt	**262,080 - 371,280**	**262,080 - 371,280**
5	**Residences to SW 20th Ave.**	Henderson	2200 ft.	74,690	Asphalt	83,400 - 125,100	158,090 - 199,790
		City of Gainesville			**Permeable Asphalt**	**158,400 - 224,400**	**233,090 - 299090**
6	**Existing I-75 Bridge**	Henderson	1200 ft.	88,100			
		Legacy Fountains					
7	**SW 20th St.**	Henderson	1000 ft.	201,320	**Asphalt**	**37,800 - 56,700**	**239,120 - 258,020**
		Cabana Beach Apts.			Permeable Asphalt	72000 - 102,000	273,320 - 303,320
		Legacy Fountains					
8	**SW 20th St. at Cabana Beach Apts.**	Cabana Beach Apts.	600 ft.	0	**Asphalt**	**22,800 - 34,200**	**22,800 - 34,200**
		Alachua County			Permeable Asphalt	43,200 - 61,200	43,200 - 61,200
9	**SW 20th St. to Forest Park**	Alachua County	1245 ft.	0	Asphalt	47,200 - 70,800	47,200 - 70,800
					Permeable Asphalt	**89,640 - 126,990**	**89,640 - 126,990**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Cost/Benefit Analysis Summary

Archer Braid Cost Analysis									
Seg.	Description	Land Ownership*	Length	R.O.W. Cost**	Recomended Surface Material(s)	Infrastructure Cost	Total Cost	Notes	Priority
1	SW 91st St.	Haile Joint Venture	3120 ft.	0***	Existing	0	0	Accesses Archer Road	
2	Haile Plantation Trail	Saile Plantation Corp.	3600 ft.	0	Existing	0	0		
		Haile Plantation Assoc.							
3	Stillwind Oaks Trail	Stillwind Community Assoc.	2500 ft.	0	Asphalt	94,000 - 141,000	94,000 - 141,000		
					Permeable Asphalt	180,000 - 255,000	180,000 - 255,000		
4	Haile Plantation Trail Part 2	Haile Plantation Assoc.	1000 ft.	0	Asphalt	37,800 - 56,700	37,800 - 56,700		
					Permeable Asphalt	72,000 - 102,000	72,000 - 102,000		
5	Haile Plantation Trail Part 3	Haile Plantation Assoc.	700 ft.	0	Asphalt	26,600 - 39,900	26,600 - 39,900		
					Permeable Asphalt	50,400 - 71,400	50,400 - 71,400		
6	Tower Road	School Board of Alachua Co.	800 ft.	0	Asphalt	30,000 - 45,000	30,000 - 45,000	Parallels Kimball Wiles	
					Permeable Asphalt	57,600 - 81,600	57,600 - 81,600	Elementary	
7	Tower Rd. to SW 41st Pl.	City of Gainesville	2000 ft.	0	Asphalt	76,000 - 114,000	76,000 - 114,000	Access to Kanapaha	
					Permeable Asphalt	144,000 - 204,000	144,000 - 204,000	Park	
8	Kanapaha Park to Treo Center	City of Gainesville	2025 ft.	0	Asphalt	76,200 - 115,000	76,200 - 115,000	Along roadway	
					Permeable Asphalt	145,800 - 206,550	145,800 - 206,550	Access to Historic Site	
9	Treo Center to Kanapaha Wetlands	City of Gainesville	3300 ft.	0	Asphalt	125,000 - 187,500	125,000 - 187,500	Rural	
		Alachua County			Permeable Asphalt	237,600 - 336,600	237,600 - 336,600		
10	Kanapaha Boardwalk	Alachua County	1380 ft.	0	Boardwalk	391,500 - 522,000	391,500 - 522,000	Elevated path required	
					Other				
11	Kanapaha to Interstate 75	Barnes	2100 ft	0	Asphalt	79,600 - 119,400	79,600 - 119,400		
		Alachua County			Permeable Asphalt	151,200 - 214,200	151,200 - 214,200		
12	Interstate 75 Bridge	Federal Land	800 ft.	5514	Steel	4,000,000 - 8,000,000	4,000,000 - 8,000,000	Bike/Ped crossing over	
		Kamlah			Other			Interstate	
13	Interstate 75 to Forest Park	Harris	800 ft.	25445	Asphalt	30,000 - 45,000	55,445 - 70,445		
		Baxter			Permeable Asphalt	57,600 - 81,600	83,045 - 107,045		
		Hunter & Hunter							
14a	Forest Park west route	Alachua County	1890 ft.	0	Asphalt	71,600 - 107,400	71,600 - 107,400	Path 14a or 14b will be	
					Permeable Asphalt	136,080 - 192,780	136,080 - 192,780	decided based on future	
14b	Forest Park east route	Alachua County	2400 ft.	11948	Asphalt	92,000 - 138,000	103,948 - 149948	roadway development	
		Marchwood Homeowners			Permeable Asphalt	172,800 - 244,800	184,748 - 256,748		
		Biltmore Corp.							
		M R A Corp.							

Archer Braid Cost Analysis

Seg.	Description	Land Ownership*	Length	R.O.W. Cost**	Recomended Surface Material(s)	Infrastructure Cost	Total Cost	Notes	Priority
15	**Forest Park to SW 42nd St.**	Alachua County	1350 ft.	29125	**Asphalt**	**51,200 - 76,800**	**80,325 - 105,925**	Connectivity to future student housing	5
		Biltmore Corp.			Permeable Asphalt	97,200 - 137,700	125,325 - 166,825		
16	**SW 42nd St. neighborhood connector**	Alachua County	1380 ft.	62084	**Asphalt**	**52,000 - 78,000**	**114,084 - 140,084**		4
		Boughannam			Permeable Asphalt	99,360 - 140,760	161,444 - 202,844		
		Hodge							
17	**Hull Road extension**	Burch	2100 ft.	19920	Asphalt	79,600 - 119,400	99,520 - 139,320	Coincides with future University of Florida and student housing development	3
		College Bound LLC			**Permeable Asphalt**	**151,200 - 214,200**	**171,120 - 234,120**		
		State Board of Education							
		University of Florida							
18	**Hull Rd. Parking Area**	State Board of Education	900 ft.	0	**Asphalt**	**34,000 - 51,000**	**34,000 - 51,000**	Opportunity for storage, repair, vending, etc.	2
		University of Florida			Permeable Asphalt	64,800 - 91,800	64,800 - 91,800		
19	**34th Street Crossing**	University of Florida	900 ft.	0	Steel	**3,000,000 - 7,000,000**	**3,000,000 - 7,000,000**	Recommended bridge or overpass crossing	1
		Alachua County			Other				
20	**UF Cultural/Sports Area**	University of Florida	3000 ft.	0	**Asphalt**	**113,600 - 170,400**	**113,600 - 170,400**		
					Permeable Asphalt	216,000 - 306,000	216,000 - 306,000		
21	**Agriculture/IFAS Facilities**	University of Florida	1000 ft.	0	**Asphalt**	**37,800 - 56,700**	**37,800 - 56,700**	Path crosses Hull Rd. to existing infrastructure	
					Permeable Asphalt	72,000 - 102,000	72,000 - 102,000		
22	**Mowry Road**	University of Florida	2500 ft.	0	**Asphalt**	**94,000 - 141,000**	**94,000 - 141,000**	Existing separated path	
		State of Florida			Permeable Asphalt	180,000 - 255,000	180,000 - 255,000		
23	**Mowry Rd. to Gale Lemerand Dr.**	University of Florida	1000 ft.	0	**Boardwalk**	**283,500 - 378,000**	**283,500 - 378,000**	Recommended Boardwalk	
					Permeable Asphalt	75,000 - 105,000	75,000 - 105,000		
24	**Gale Lemerand Dr. to Engineering Buildings**	University of Florida	750 ft.	0	Asphalt	28,000 - 42,000	28,000 - 42,000	Follows Creek	
					Permeable Asphalt	**54,000 - 76,500**	**54,000 - 76,500**		
25	**Engineering Buildings to Center Dr.**	University of Florida	620 ft.	0	Asphalt	23,400 - 35,100	23,400 - 35,100	Follows Creek	
					Permeable Asphalt	**44,640 - 63,240**	**44,640 - 63,240**		
26	**Center Dr. to Newell Rd.**	University of Florida	1050 ft.	0	**Asphalt**	**39,800 - 59,700**	**39,800 - 59,700**	Follows Creek	
					Permeable Asphalt	75,600 - 107,100	75,600 - 107,100		
27	**Newell Rd. to Archer Rd.**	University of Florida	1250 ft.	0	**Asphalt**	**47,000 - 70,500**	**47,000 - 70,500**	Access to Archer Rail Trail	
					Permeable Asphalt	89,300 - 126,500	89,300 - 126,500		

*Property Ownership information is obtained from the May 2007 Alachua County Property Appraiser
**ROW cost is estimated from Alachua County appraisal. Market Land Values for a 40 ft. wide portion of property are multiplied by a factor of 2 for sale
***ROW Cost of 0 represents existing right-of-way, easement, or publicly owned land
****Cost estimates are derived from *Trails for the Twenty-first Century* by Flink, Olka, & Searns, as well as public project data

= High Priority	= Medium Priority	= Priority	= Upgrade Needed	= Existing

"...property values are higher adjacent to paths or trails...trails have either positive or no adverse effects on property values... greenbelts may increase property tax revenues... and developers or builders may benefit from the presence of trails." (UCF, 2004).

Rank	Segment	Benefit
1	19	5.42
2	17	5.25
3	16	5.15
4	18	5.13
5	15	4.94
6	27	4.91
7	26	4.82
8	10	4.74
9	14	4.72
10	25	4.72
11	9	4.7
12	11	4.69
13	8	4.61
14	12	4.59
15	24	4.59
16	13	4.43
17	23	4.37
18	7	4.07
19	20	4
20	3	3.82
21	6	3.8
22	4	3.6
23	5	3.49

Benefit Summary

Weighted benefit rankings were derived using the following formula:

Benefit = # of survey entries × (Connectivity Improvement x 0.5 + Civic Impact x 0.2 + Parks/Nature Enhancement x 0.2 + Properties Effected x 0.1)

Benefit Analysis

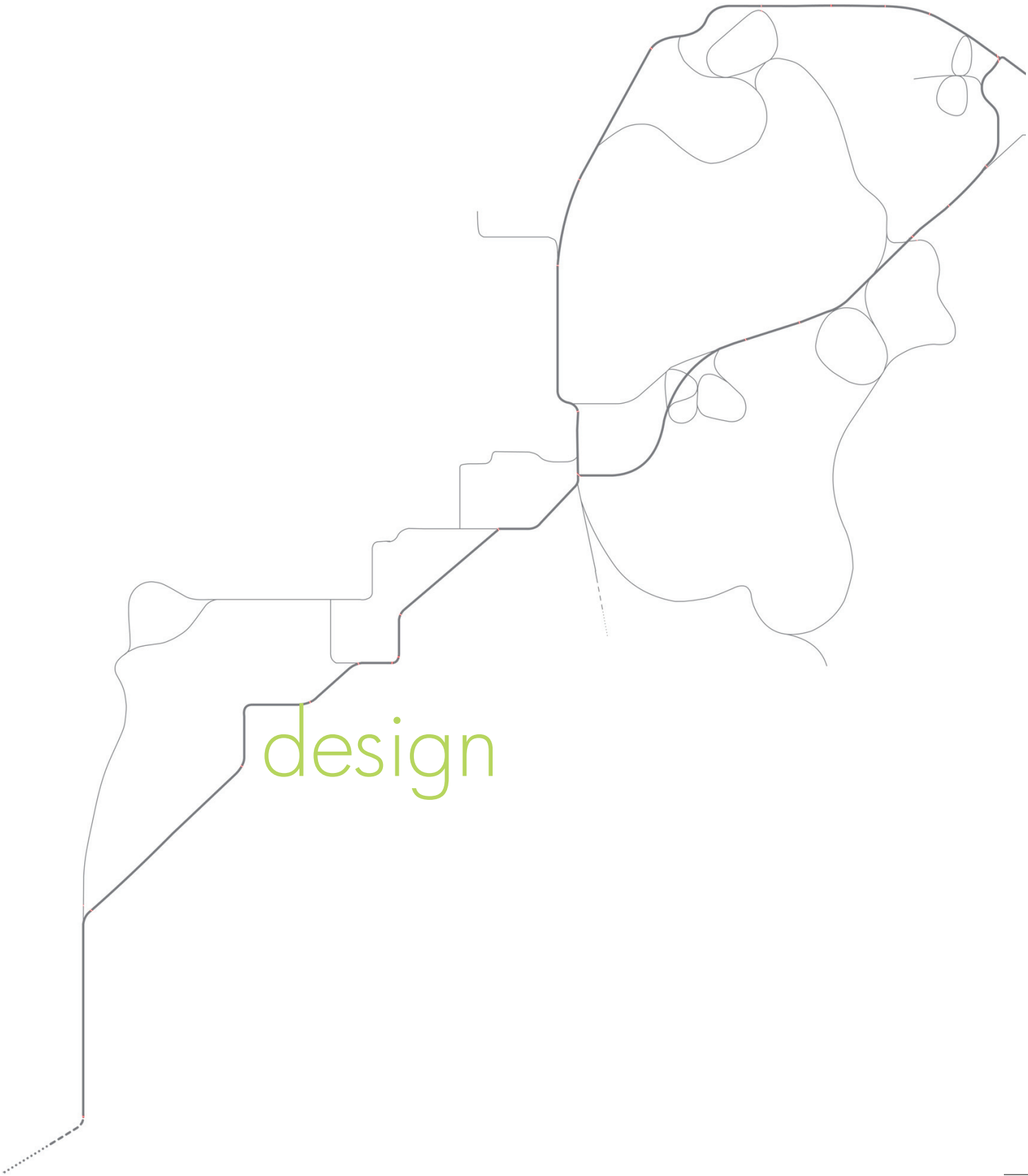
Sample Survey

Please rank each benefit quality on a scale of 1 to 7 (1= Lowest Benefit, 7= Highest Benefit)
Refer to the attached segment map for segment location and identification

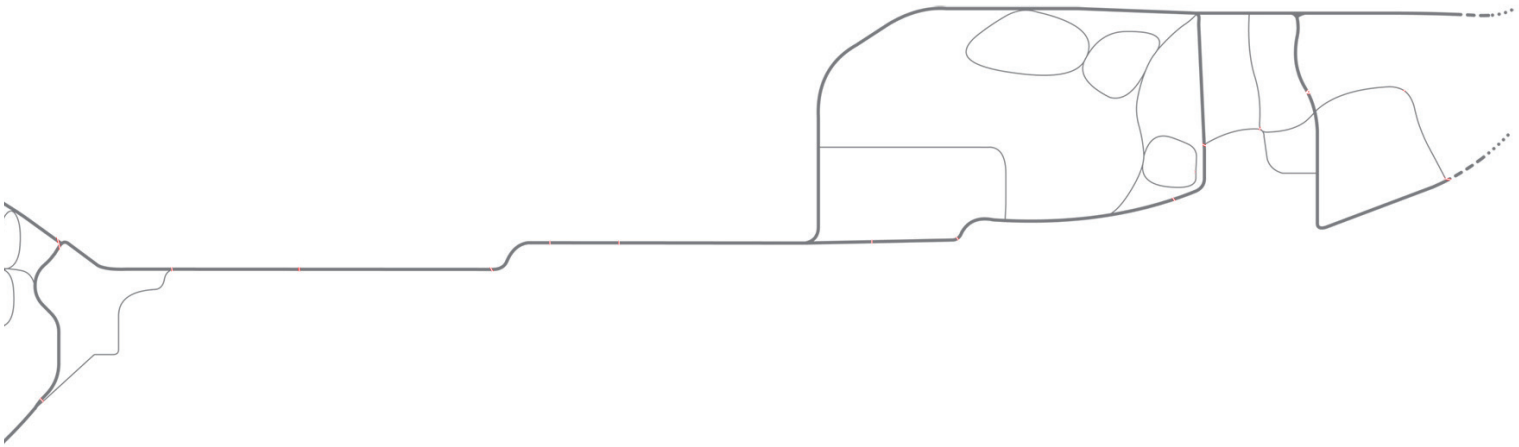
Archer Braid		Benefit Qualities			
	Segment	Connectivity Improvement (1-7)	Civic Impact (1-7)	Properties Effected (1-7)	Parks/Nature Enhancement (1-7)
1	SW 91st St. (Existing)				
2	Haile Plantation Trail (Existing)				
3	Stillwind Oaks Trail				
4	Haile Plantation Trail Part 2				
5	Haile Plantation Trail Part 3				
6	Tower Road				
7	Tower Rd. to SW 41st Pl.				
8	Kanapaha Park to Treo Center				
9	Treo Center to Kanapaha Wetlands				
10	Kanapaha Boardwalk				
11	Kanapaha to Interstate 75				
12	Interstate 75 Bridge				
13	Interstate 75 to Forest Park				
14a	Forest Park west route				
14b	Forest Park east route				
15	Forest Park to SW 42nd St.				
16	SW 42nd St. neighborhood connector				
17	Hull Road extension				
18	Hull Rd. Parking Area				
19	34th Street Crossing				
20	UF Cultural/Sports Area				
21	Agriculture/IFAS Facilities (Existing)				
22	Mowry Road (Existing)				
23	Mowry Rd. to Gale Lemerand Dr.				
24	Gale Lemerand Dr. to Engineering Buildings				
25	Engineering Buildings to Center Dr.				
26	Center Dr. to Newell Rd.				
27	Newell Rd. to Archer Rd.				

Prioritization

Segment		
	High Priority	
19	34th Street Crossing	1
18	Hull Rd. Parking Area	2
17	Hull Road extension	3
16	SW 42nd St. neighborhood connector	4
15	Forest Park to SW 42nd St.	5
	Medium Priority	
9	Treo Center to Kanapaha Wetlands	
10	Kanapaha Boardwalk	
11	Kanapaha to Interstate 75	
12	Interstate 75 Bridge	
13	Interstate 75 to Forest Park	
14	Forest Park	
23	Mowry Rd. to Gale Lemerand Dr.	
24	Gale Lemerand Dr. to Engineering Buildings	
25	Engineering Buildings to Center Dr.	
	Priority	
26	Center Dr. to Newell Rd.	
27	Newell Rd. to Archer Rd.	
20	UF Cultural/Sports Area	
3	Stillwind Oaks Trail	
4	Haile Plantation Trail Part 2	
5	Haile Plantation Trail Part 3	
6	Tower Road	
7	Tower Rd. to SW 41st Pl.	
21	Agriculture/IFAS Facilities	
22	Mowry Road	



design



Connectivity

Archer Braid proposes to connect presently high proximity yet low connectivity community destinations in southwest Gainesville. This would allow cycle and electric personal vehicle commuters near the Kanapaha to reduce trips to the core of the UF campus by approximately 2 miles (3 miles for average trip). At 12 mph, the speed of the Segway model 'i2 Commuter' personal transporter, the 3 mile commute would take just 15 minutes. Automobile commutes from similar destinations traverse approximately 5 miles an can take from one half to an hour or more to complete during peak times. Cyclists typically commute at approximately 15 mph which would reduce their commute time to only 12 minutes.

Adding cycle lanes to existing roads is highly beneficial in terms of expanding alternate routes and making the most efficient use of the existing infrastructure. However, direct routes with high short-distance connectivity are critical in terms of making alternate commuter options viable. Users must be able to save time and money. Furthermore, separating multi-use paths from the main automobile arterial roads provides a healthier commuter environment as users do not breath toxic fumes from exhaust plumes typically associated with lines of traffic at congested intersections.

From a users cost standpoint, a five mile a day commute sums to 2,500 miles per year. At $3.00 per gallon of gas, using the US average new car mile per gallon rating of 24 mpg, commuting fuel costs are just over $300 per year — the cost of a decent bicycle. If one amortizes the cost of car ownership using the IRS rate of $0.405 per mile over the 2,500 miles of commuting per year the total cost is $1,012.50. This savings could easily finance a high quality bicycle or even an electric personal transport device.

With the proliferation of development backing-up to the Kanapaha along Archer Road, existing low to middle income housing south of Veteran's Park and other higher density housing proposed along Tower Road, there is a population that will be directly served by a cost effective and viable transportation alternative — Archer Braid. Residents in Haile Plantation and in Hale Village would be linked through their existing infrastructure with the Kanapaha Prairie and other recreational destinations. Commuting to UF from Haile Village would take approximately 27 minutes at 15 mph by reducing the existing trip by just over a mile.

Improved connectivity between the proximal locations served by the Archer Braid will provide cost savings, time savings and health incentives to capture latent cycle commuter demand. Like most cultural phenomenon, there will be a tipping point with pioneer users first and more mainstream users to follow.

Linked Destinations

Shands at UF
University of Florida
Ben Hill Griffin Stadium
O'Connell Center
Lake Alice
Student Housing
Sports & Recreation Center
Arts & Culture Plaza
Wetlands
Shands Hull Rd. Expansion
Student Village

Big Box & Retail
Apartment Housing
Hogtown Creek
Forest Park
Cabana Beach Apartments
Residential Community
Apartments
Kanapaha Wetlands
Lake Kanapaha
Wastewater Treatment Facility
Kanapaha Botanical Gardens
Treeo Center

Veteran's Park
Oaks of Kanapaha
Greenleaf
Tower Village
Wiles Kimball Elementary School
Kenwood Community
Kanapaha Middle School
Arredondo Estates
Haile Plantation
Stillwind Oaks
Haile Forest
Archer

Design

Design visioning integrates multiple priorities, strategies and site specific contexts to optimize utility, cost savings, amenity, investment and community benefit. Often contradictory when viewed as isolated elements — lowest cost is usually not the highest quality — design, as an iterative process, tests the whole value of integrated solutions. This allows issues to be weighed in relative terms avoiding polarizing absolutes.

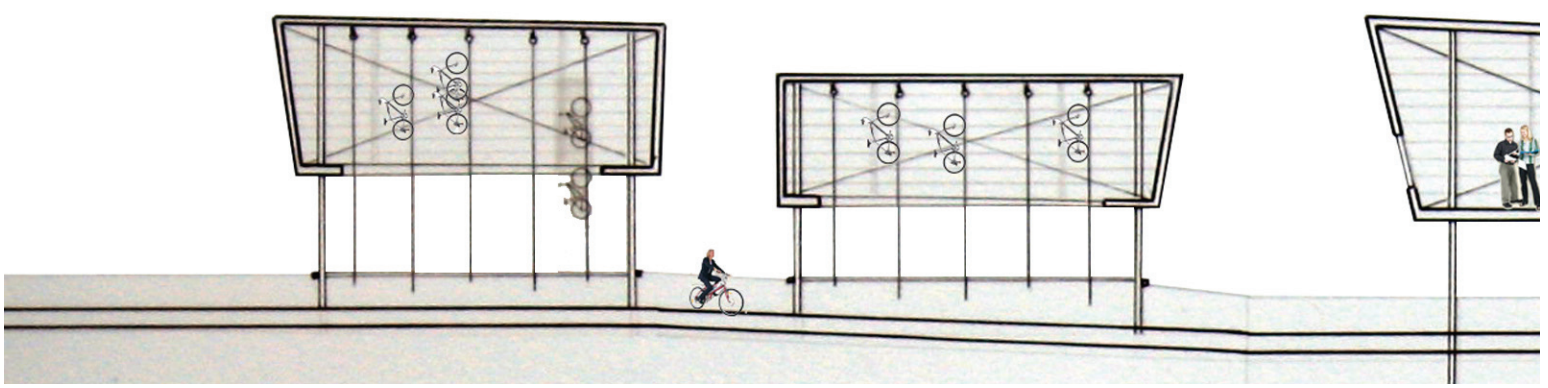
Design studies proposed for the Archer Braid present conceptual possibilities for implementation of multi-use path infrastructure and program elements that will support path users. Site conditions, natural amenities, topographic conditions, sustainable materials, potential to draw more users (latent demand), civic improvement and project costs are gathered into very specific spatial proposals for elements that would be desired as part of the Archer Braid. Proposals are not intended to be directly implemented as presented. They provide a basis for community engagement as a strategy to focus priorities and resources toward energy efficient and cost effective transportation alternatives.

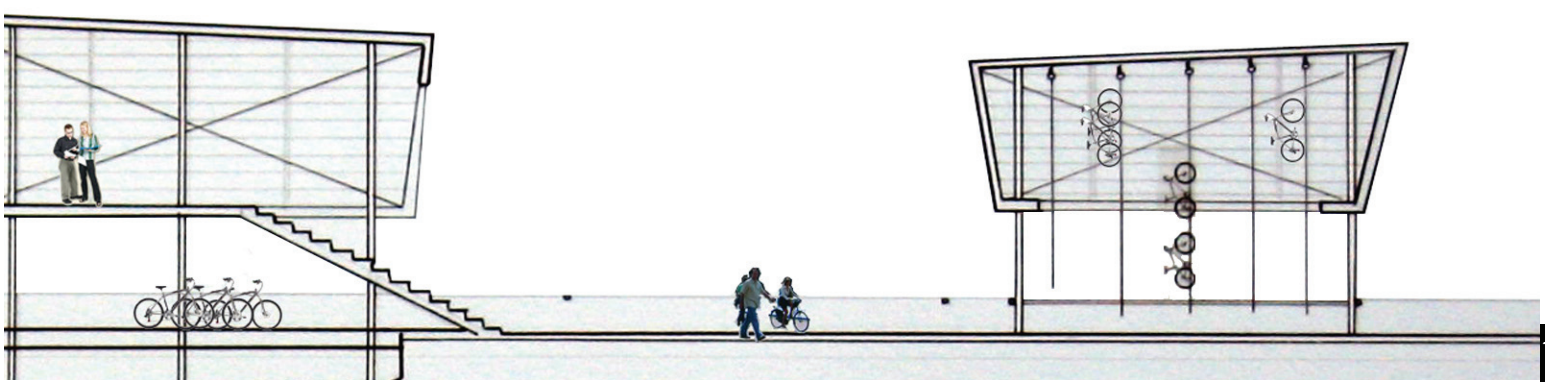
Local professionals including civil engineers, planners, landscape architects and architects will need to be engaged to execute the implementation recommendations included in this report. Our design visioning studies are presented to establish the public expectation for infrastructure, establish feasible project budgets and aid in finding alternative funding sources for implementation. Outside funding will require visionary proposals that effectively address, at the local level, national needs such as traffic congestion, obesity, our daily reliance on foreign oil and reduction of automobile borne pollutants and carbon dioxide. If Gainesville can demonstrate innovation in transportation and planning strategies, funding will become available to advance these opportunities.

"...57% of bicyclists take trips of two miles or less. Therefore, a barrier that adds even a mile to a bicycle trip makes the distance twice as long – and thus puts the destination out of reach for most bicyclists" (National Survey of Pedestrian & Bicyclist Attitudes and Behaviors, 2002).

Intermodality

Intermodality





Intermodality

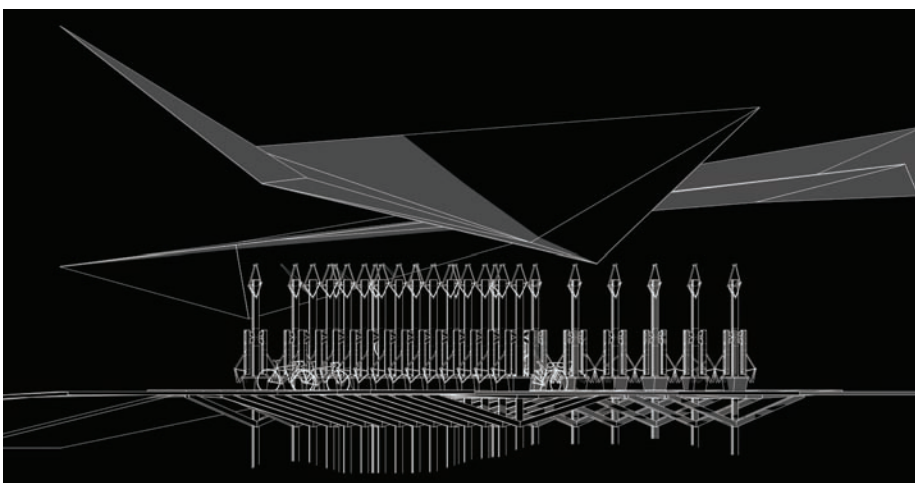
Ease of transfer from one transit mode to another is needed to attract the largest population of non-automobile commuters. This could take on many forms as part of the Archer Braid infrastructure including auto to cycle or bus to cycle or auto to bus transfers. This section of our report provides conceptual designs for cycle-bus or cycle-auto mode shift locations. The bicycle pavilions shown are not necessarily place specific and may be adapted for many different contexts. More importantly, they explore strategies and combinations of program elements that make cycle storage, repair or rental more accessible, safe and perhaps even a civic amenity.

Important program concerns for the design team included safety and layering civic uses. Space for people to gather and meet is provided in each proposal. Multiple opportunities for varied user groups are included in pavilion designs which contain cycle repair facilities, vending areas and study spaces. Safe storage for especially high-tech bicycles and their components was also an important design concern. Open air design with rain and sun protection overhead offered high user visibility, incorporated CPTED (Crime Prevention Through Environmental Design) strategies and is spatially inviting to users.

Individual projects are presented that respond to the natural landscape in terms of touching the ground, respecting prominent trees, controlling storm water and utilizing natural shade. Projects take different attitudes to architectural form based on the movement of cyclists, landscape elements, traditional materials or emergent architectural materials. The latter includes high impact resistance polycarbonate plastics, cementitious fiberboard (Hardy Board), heat actuated plastic membranes, durable fiber textiles and water permeable paved surfaces.

Bicycle pavilions are recommended at locations where commuters would naturally shift modes such as at existing commuter parking lots on and near the UF campus locations or at key bus stop locations near campus. As residential housing density increases in the Urban Village area, these pavilions would be desirable at Forest Park and at a limited number of bus stops.

"...improving the bicycling accomodation in the existing surrounding transportation network adds much to the shift from the auto to the bicycle mode of travel... improvement throughout the transportation network provides a greater benefit than the sum of the parts" (Conserve By Bicycle, 2007).



FLOATING IN THE CANOPY BIKE PAVILION

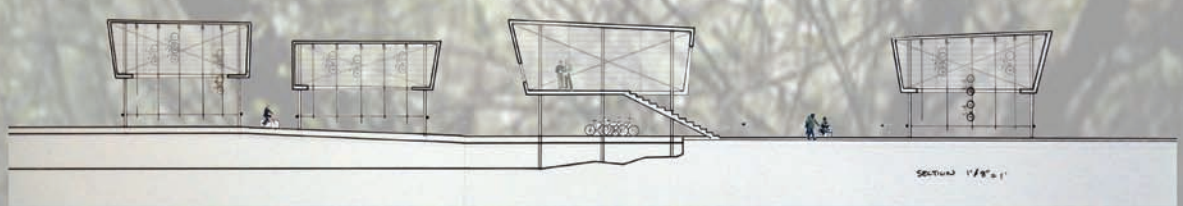
JON-PAUL ESTUPINAN

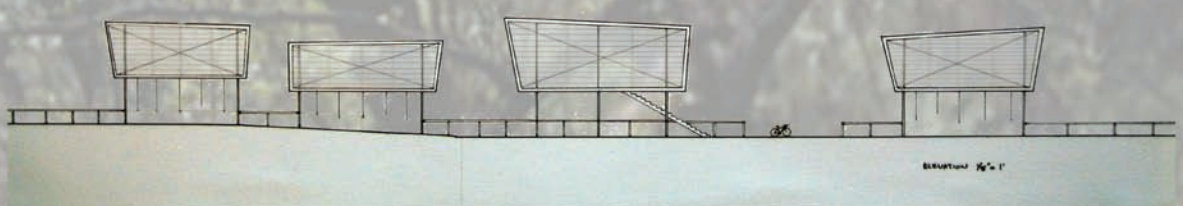
THE BIKE PAVILION WAS INFLUENCED BY THE NATURAL FORM OF THE EXISTING LANDSCAPE AND THE TREE CANOPY THAT COVERS THE SITE. THE IDEA WAS TO CONNECT THE BIKE PATH TO THE MAIN CORNERS OF THE SITE, AS WELL AS THE PATH THAT LEADS THROUGH THE NEW THEATER ON CAMPUS JUST TO THE NORTH. THE PATH COMES INTO THE SITE WHICH IS PROGRAMED BY THREE BIKE STORAGE PAVILIONS THAT FLOAT ABOVE THE BIKERS. THE BIKES ARE STORED ON A PULLEY SYSTEM THAT COULD BE LOCKED TO THE DESIRED HEIGHT OF SECURITY INTO THE FLOATING VOLUME. THE FORTH PIECE ON THE SITE WAS DESIGNED AS A PLACE FOR STUDENTS OR BIKERS TO REST AND STUDY/READ. THE FLOATING PAVILION SITS OVER THE EXISTING POND TO CREATE A SENSE OF RELAXATION AND A PLACE TO VIEW CIRCULATION AND SOCIAL INTERACTION ON THE SITE.

THE PAVILIONS ARE MADE OF A COMBINATION OF NATURAL AND LIGHT ELEMENTS. THE PAVILIONS' EXTERIOR SHELL ARE MADE FROM WOOD TO CREATE A NATURAL FEEL ON THE SITE, AND GLASS TO ALLOW LIGHT IN THE PAVILIONS. THE GLASS ALSO ALLOWS BIKERS TO SEE THE SHADOWS OF BIKES THAT ARE STORED WITHIN THE STORAGE PAVILION DURING THE DAY AND NIGHT. ALL FOUR OF THE PAVILIONS ARE HELD UP BY LIGHT STEEL COLUMNS THAT LIGHTLY TOUCH THE GROUND.

1 WOOD PANELS
2 LAYERED FROSTED GLASS
3 STEEL COLUMNS AND TENSION CABLES
4 SPECIALIZED ASPHALT
5 RECYCLED RUBBER FLOORING

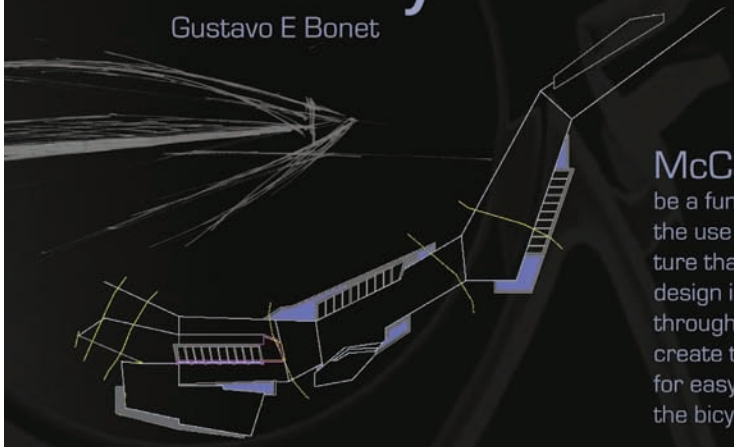
1 BIKE STORAGE
2 BIKE STORAGE
3 BIKE STORAGE
4 READING PAVILION



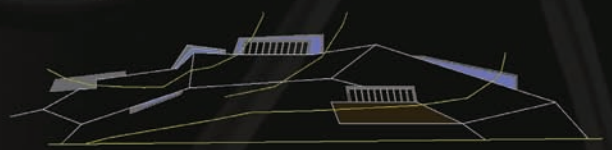


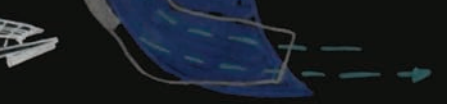
McCarty SwitchBack

Gustavo E Bonet

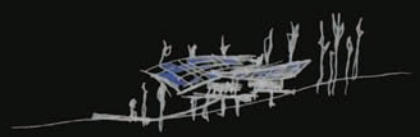


McCarty SwitchBack bicycle pavilion is designed to be a functional yet inspiring element on the UF campus. Through the use of wood and concrete, a character is given to the structure that is modern but not devoid of context. The pavilion itself is design in a way that is conducive for the bicycle rider. This occurs through the use of two major structural anchors or wings that create the configuration of the project. These two sections allow for easy movement in and out of the pavilion by registering with the bicycle traffic from both McCarty Drive and Museum Road.



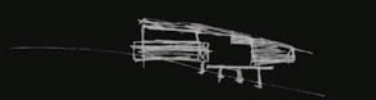


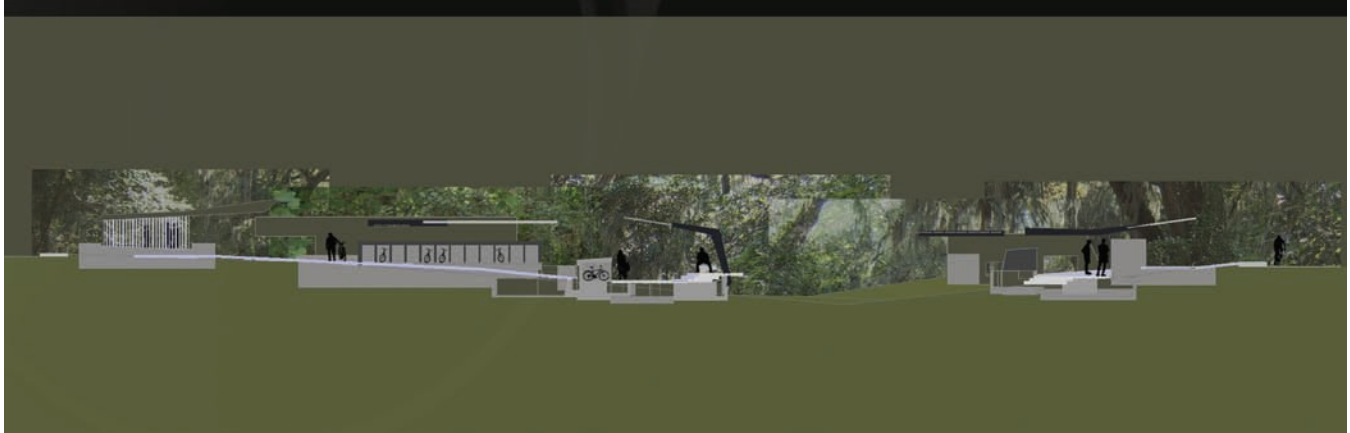
The formation of the pavilion begins with concrete as a strong but delicate foundation that also allows for water collection and redistribution. As the transition between foundation and walking plane begins the concrete then follows at specific points to alleviate the tension that could occur at this threshold as a result of the materiality change. The areas in which the concrete follow become the storage areas for the bicycles being house in the facility. McCarty SwitchBack is capable of housing 40 bicycles that provide full shelter from any weather conditions and room for about 20 – 25 additional units to be stored in the structure without complete protection.

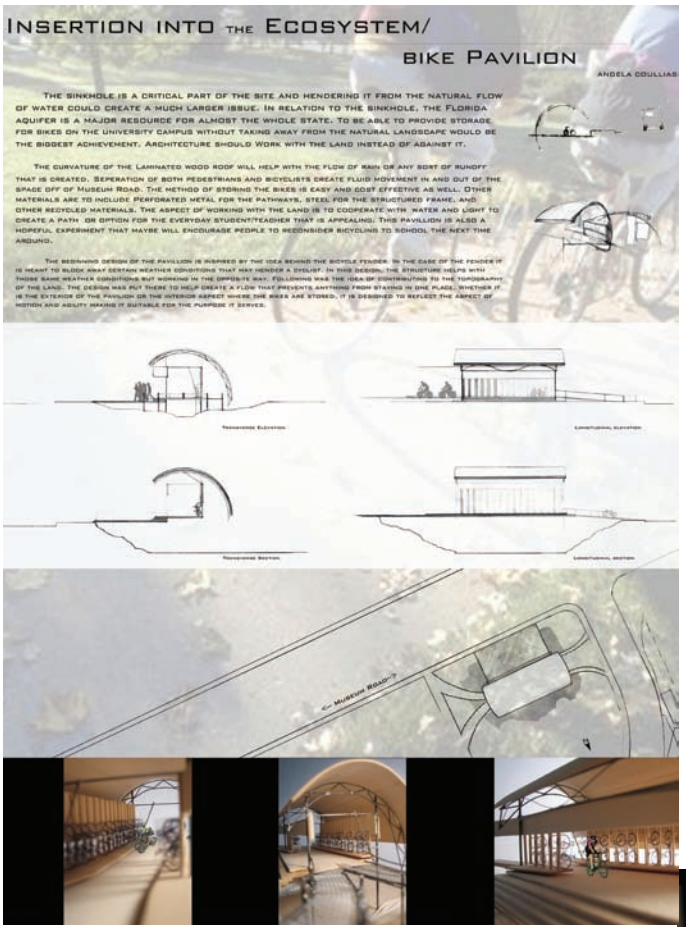


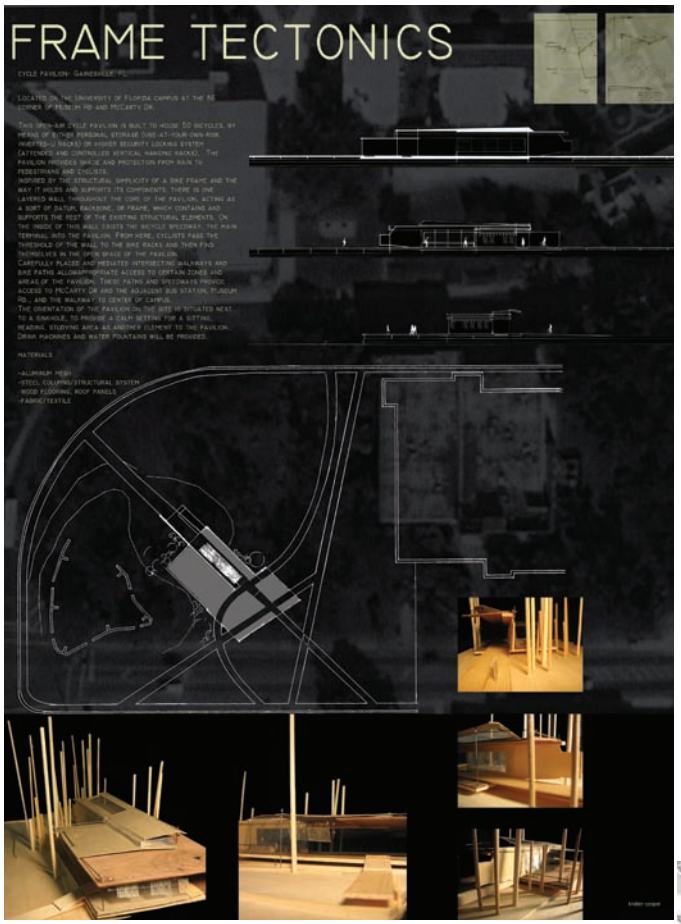
Developing from the language in which the foundation is constructed, wood becomes the primary element that is experienced by the inhabitant. The decking, vertical and overhead elements of the structure will be made of wood. This becomes a system that moves and twists throughout the project creating a rhythm of reveal and closure within the structure. This vocabulary allows the project to engage the site in a unique way, creating moments of great exposure to the environment that are both physically and analytically appealing to the inhabitant.

At the core of both structural wings is an area of meditation which can function as a place for leisurely activities for students. Each wing also in composes areas for gathering where students can take time to gather their belongings before going to class or just take time to wait for a friend.

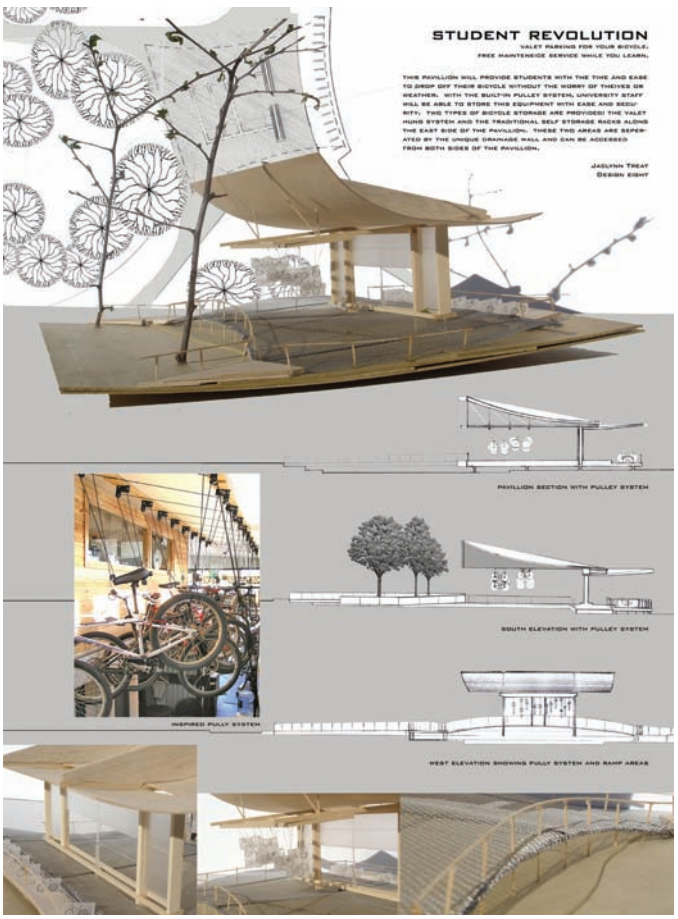






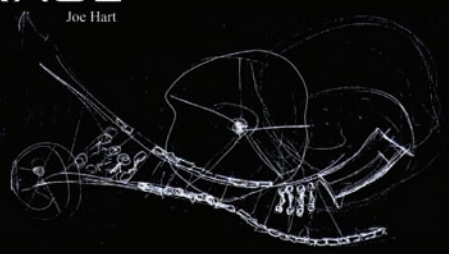


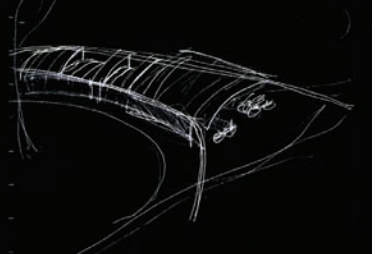
...with an average cost of $252 per bicycle (reported), the financial loss to American bicyclists on account of stolen bicycles (approx. 500,000) amounts to some $126 million per year. (Federal Bureau of Investigation, 1994).



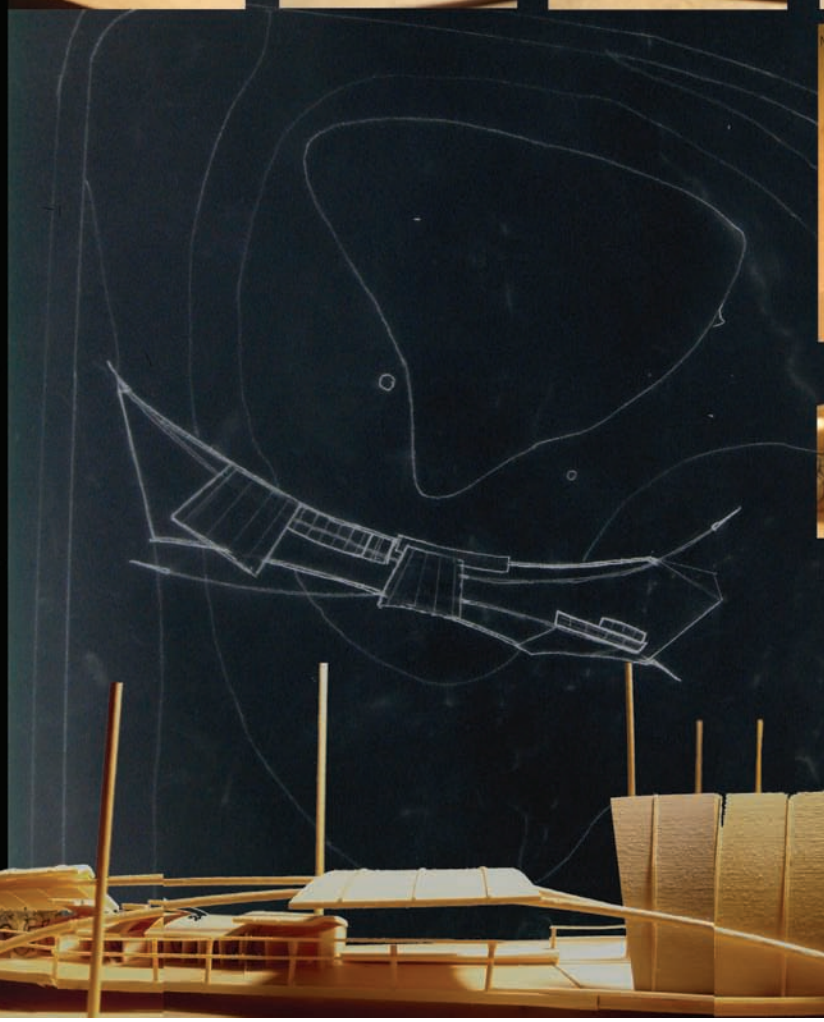
Reactive Storage

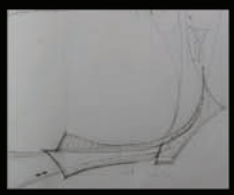
Joe Hart

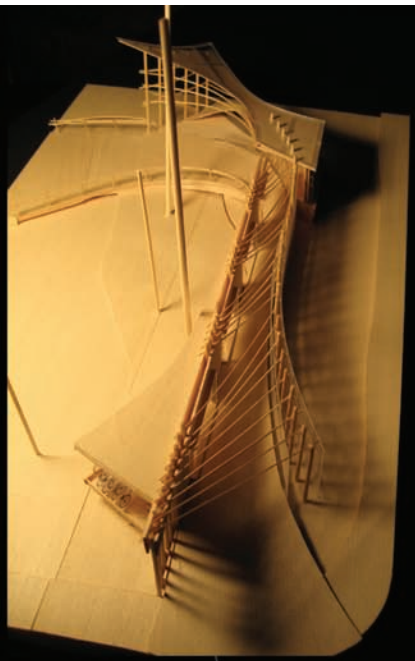




Reactive Storage represents an attempt to identify with the language of a bicyclist. Bicyclists are fluid, rhythmic, and constantly adapting. To genuinely design a structure in which their instruments are held, the construction must embody these characteristics while congruently noting the safety needs for both the commuter and his/her property. Reactive Storage spans sloping ground located parallel to an existing sinkhole and links two existing cycle/pedestrian paths. The structure is constructed with lightweight, modular parts that attach to two large, curving frames which define the fluid movement through the site. The extreme modularity allows the site to be expanded and adapted based on the needs of its users and its surrounding environment. As bicycles are moved stored and removed in secure lockers, the latching design of the units allows the form of the pavilion to be continuously reacting spatially in response to its occupancy. Protective barriers from the environment are multifunctional; they may be utilized as a roof, a wall, or a hybrid of both, and may be placed at different points or positions along the frame. These modules react to their environment by rotating or shifting in relation to season and weather.







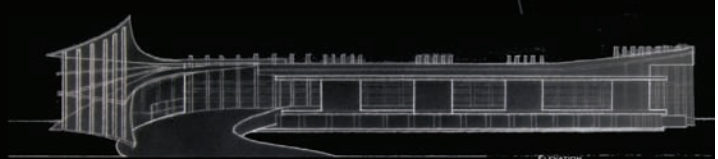
ELEMENTAL MORPHOLOGY

Space cannot be clearly distinguished as a homogenous realm but a heterogeneous entity characterizing itself by its functionality and efficiency. This project was designed with the ideals of being a self-sufficient unit completely off the city's power grid. A combination of solar paneling and electro chromatic lumi-walling generates adequate amounts of energy during the day while tinting to provide the bicyclist an area of shade and temporary relief from the elements. After sunset, energy collected during the day exponentially expends itself through the LED lighting in the lumi-walls to provide an adequate source of ambient light.

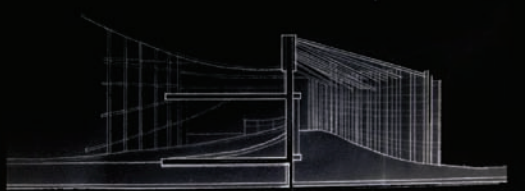
The motive of this was to imply criticism to the Modernist sense of renewal accompanied by demolition and erasure, creating in its stead a design symbiotically functioning with the existing landscape. The project circulates on the ideals of compression and expansion, the trussing choreographing the motion of the bicyclist through to its respective points. The form the project takes on in its multifarious and isolating architecture is an attempt to enact its own ethics and in doing so shows the contradictions and diversions of the structural organization within and without its architecture.

Materials involve symbiotic compositions of Steel with Glass walling, Solar panelling and Interactive Lumi-walling

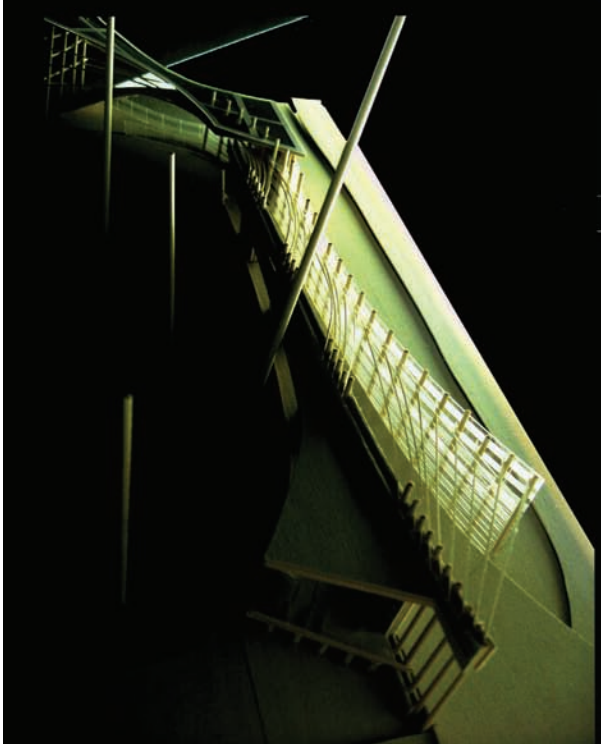
Section



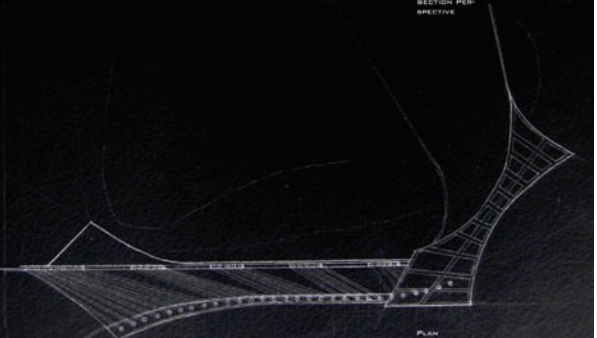
Elevation



Section Perspective

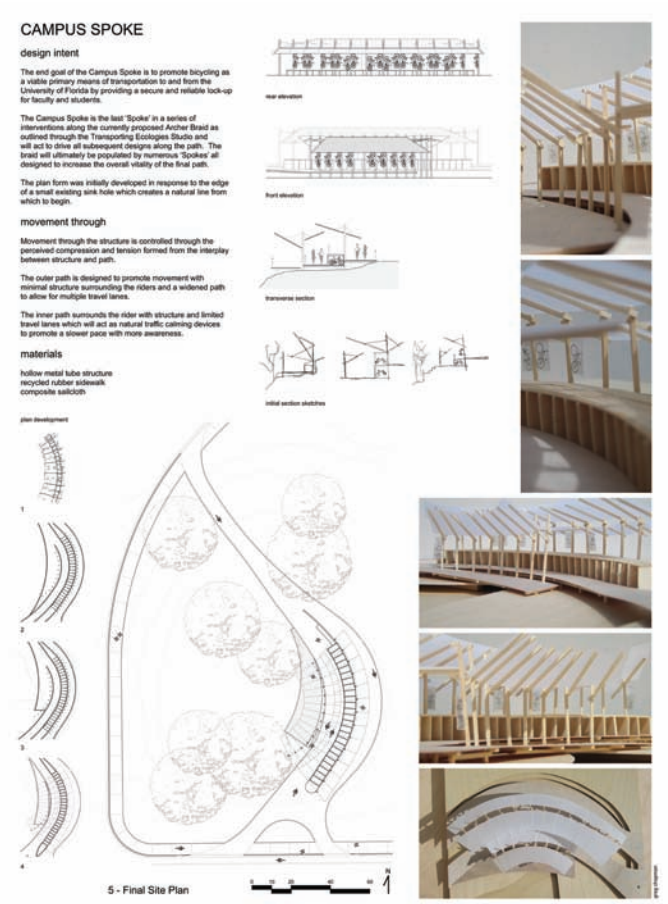


Electro-Luminescent Walling with self emitting Ambient Light.



Plan

Ayesh Bhagvat



Vertical Translucence

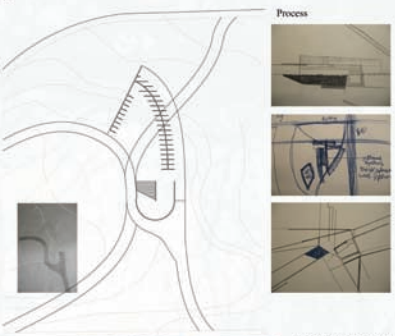
David Ozawa
4857-0860

One of the primary goals is for the bike pavilion to strategically be placed within the topography of the context of the site. The site naturally rises from the sink whole out into the boundaries. This creates the largest height change in ground level to occur from the sink whole to the north eastern corner of the site. The bike paths chosen take advantage of both high traffic areas of circulation and the height level change creating a fly over system in where the north eastern path flows down to the south eastern corner by hovering over the other path at there intersection.

The space created by the two crossing paths fluid motion provides for the shape of the lockers, stairway, and second level resting place.

The stairway acts as a roundabout system into the locker from the north western path and the stair has a straight path filled in alongside the stairs to allow easy transport of the bikes from level to level.
The linkage between what is going on at the second and the bottom level is created by the textured glass flooring above the bottom level. While moving within the pavilion people are able to know what is going on around them.

Process



Materials:
Steel
Tempered Glass
Textured Rubber

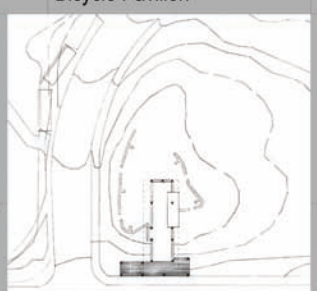
The roof on the second floor acts as a resting point from travelers along the upper path and allows space for bike stopping distance as one rides quickly along the top path. After the round about provided by the staircase the space between the south eastern path and the lockers gives bike riders a place to pause and transition between moving along paths and storing ones bike.

A primary design goal was to allow for the travelers to have an ability to either stop at the pavilion or continue to move through the paths. It was important to set up the pavilion the right way so that travelers can see what is ahead of them and who else is moving throughout the pavilion. The bike pavilion has a constant traffic of bikes which give the pavilion a constant sense of movement and crossing.

Natural Reflections

Bicycle Pavilion

The charge of this project was to design a pavilion to store 50 bicycles. The site is located near a sinkhole at the bend of McCarty Drive, and is adjacent to a busy bus-stop. The concept driving my design was to let the skin of the pavilion be comprised of bicycles. The walls would be very transparent and open so that as one approaches the pavilion he or she will get a sense of how the level of occupation that is taking place within the pavilion. Furthermore, the pavilion would serve as a place for pedestrains and cyclists alike to seek refuge during the frequent rain showers we experience
in Florida. With this in mind, I knew that I wanted to create a pavilion that would celebrate the rain and create a sensual experience for those seeking refuge. This idea led to the creation of a metal roof that slopes down on each end to collect the water and then dispenses it at a single point, creating a wall of water. The water then filters through the landscape and eventually seeps into the sinkhole. The intention of this pavilion was to create a space that celebrates the bicycle and the nature



Site Plan

Process Sketches

Section

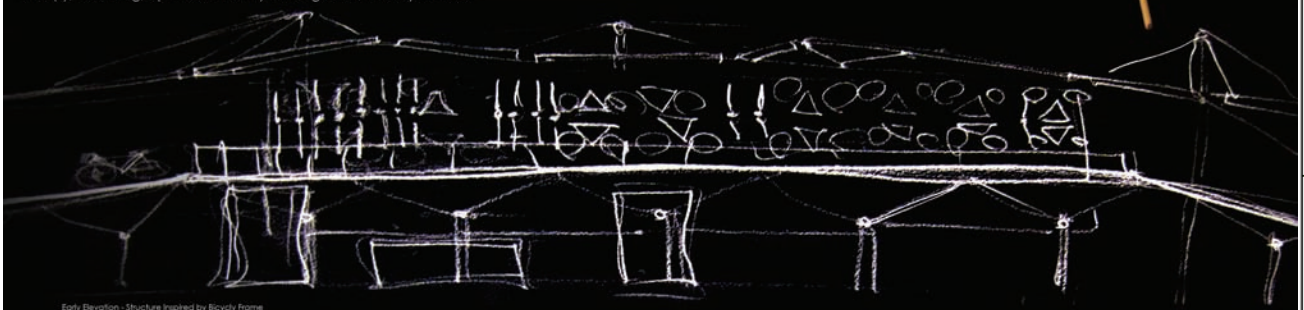
East Elevation

West Elevation

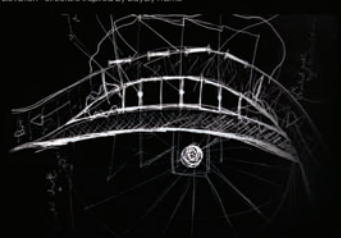
Temporal : ***Shift***

Temporal Shift's structure is inspired by the form of a bicycle. In the earliest stages of its conception, much time was spent studying the geometry of a bicycle and how it works. I learned that the bicycle has evolved over time, in tune with technology, to become as efficient as is economically feasible. This observation and the other information gathered in the case study becomes evident in the early plans. My design strives for efficiency in movement, and thus, separates riders from those storing their cycles totally. In addition to the removal of stagnant cyclists, the slower pedestrian travel parallels the bike path to allow cyclists a, "speedway," to move through the intervention as efficiently as possible.

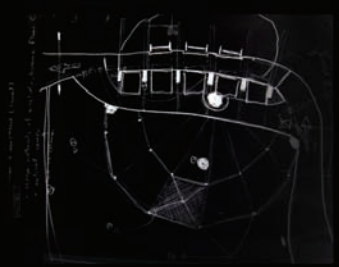
As you approach the pavillion you have three options, continue through, temporarily park your cycle, or store your cycle for a longer period of time. As you move into the pavillion or into the cycle garden, there is a perceived *shift* in speed. The bicycle garden operates at a much slower pace than the pavilion itself. Cycles are stored in glowing polycarbonate boxes and serve to attract and slow pedestrians and cyclists alike. It is my intention for pedestrians and cyclists to interact within the cycle garden and occupy, "breathing," spaces created by the tangencies of the cycle boxes.



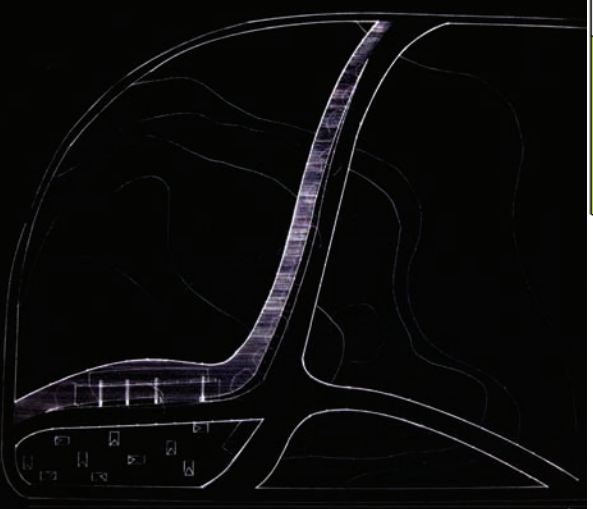
Early Elevation - Structure Inspired by Bicycly Frame



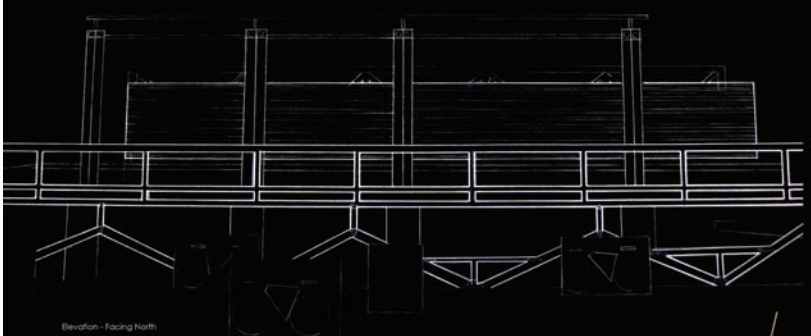
Conceptual Sketch



Conceptual Sketch



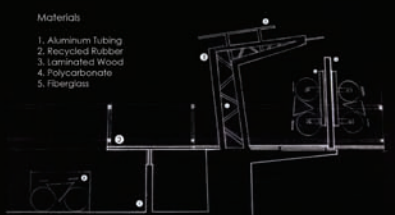
Plan



Elevation - Facing North

Materials

1. Aluminum Tubing
2. Recycled Rubber
3. Laminated Wood
4. Polycarbonate
5. Fiberglass



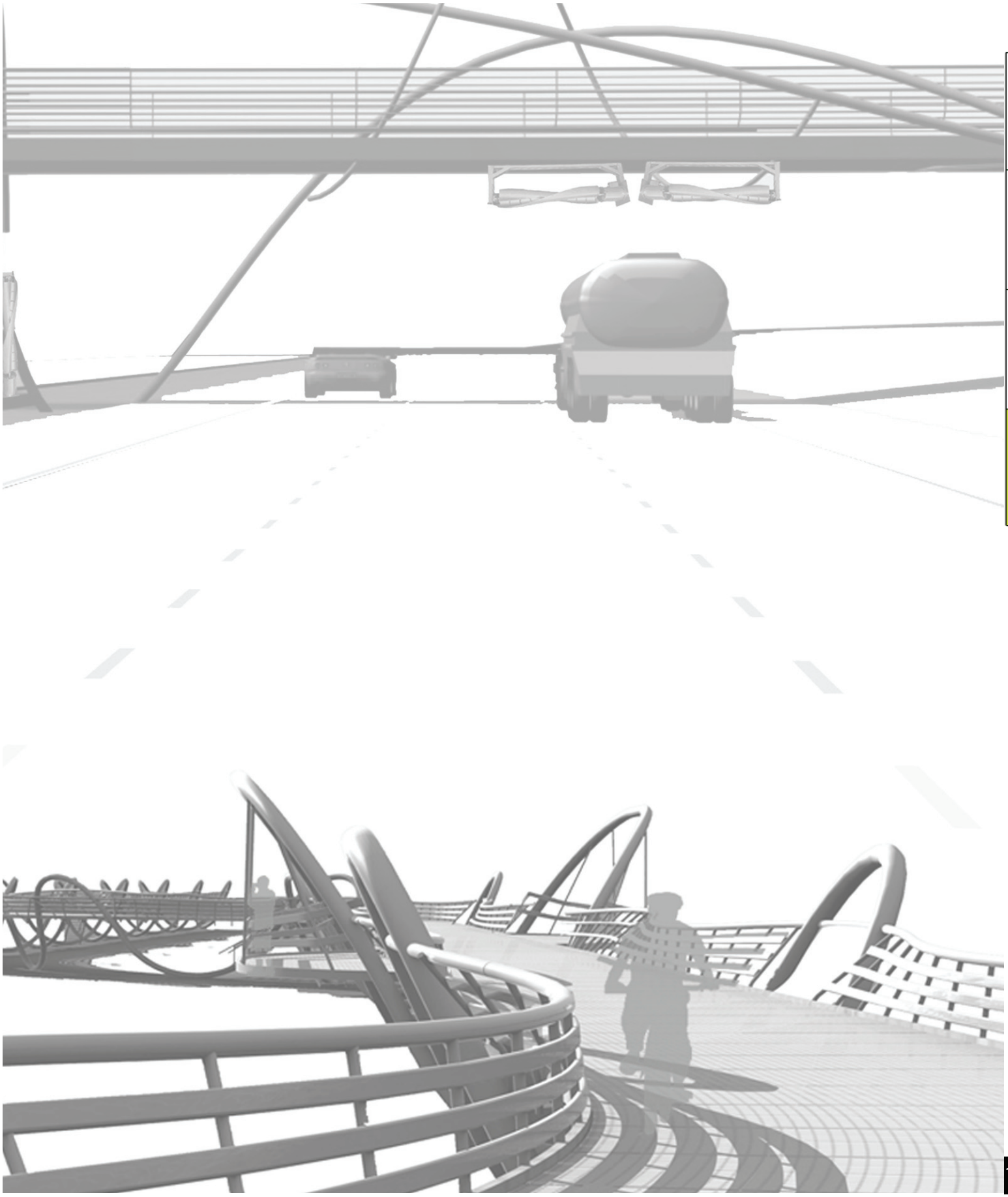
Section

Intersection of paths leading to Storage Pavillion

Highlighting the different ways to store cycles

Showing the, "breathing," spaces formed as a result of tangencies of bike boxes


Linkages



Linkages

Archer Braid links neighborhoods to nature and community. Physical bridge structures spanning natural and man-made barriers link users between high proximity, low connectivity areas and destinations. Bridge proposals are suggested for Interstate 75, SW 34th Street at Hull Road and an elevated platform is recommended to cross the Kanapaha at the Hogtown Creek. Civic linkage program elements socially connect neighbors. These include a cinema lawn (Forest Park), a bath facility (UF campus), observation tower (Kanapaha), restroom (Veteran's Park), skate park (Forest Park) and cycle rental (adjacent to Hilton Hotel).

Design concepts borrow inspiration from sources such as the sinuous form a cyclist or rollerblader carves out when moving along the path or natural grotto forms near sink holes and rocky bluffs along the path. Proposals integrate sustainable principles and practices through material selection and integrating within site conditions toward closed energy loops. Natural area design proposals touch the ground lightly minimizing their footprint and elevating users for enhanced views. Shade is captured when possible. Alternatively, shade is provided by lightweight structures such as fabrics or photovoltaic (sunlight to electricity) panels. Raised platform areas remain permeable to light and rain to provide nutrient to the natural under story. Some proposals integrate energy generation equipment such as photovoltaic panels and innovative wind turbines at the I-75 overpass to capture energy from passing autos and trucks.

In some cases, structural elegance suggests the formal strategy as in the case of a suspension bridge proposal for I-75. Parabolic arches are canted and counterposed to provide the structural span as well as the lateral bracing against wind. Also of note, is the modular metal tube structure proposed to cross the Kanapaha. This concept utilizes factory fabricated modules that can be easily shipped and assemble on-site in a variety of configurations. The serpentine form of the tube steel provides a triangulated or tripod structure to minimize ground impacts while providing optimal rigidity. The platform deck is perforated to allow light, rain and nutrient to easily pass through to the prairie floor.

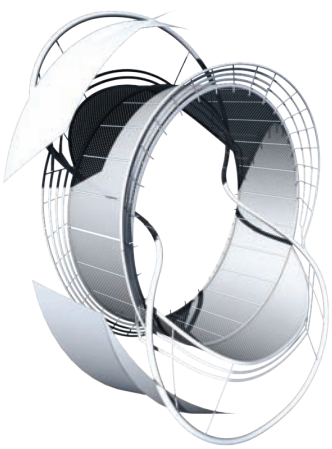
The Segmentation and Priority section of this report includes feasible cost estimates to implement similar scale and scope bridge and platform projects that are visioned in this section. Visioning is the initiation of a design process that, when funding is available, will provide a conceptual beginning point for civic debate, honing of the program and establishing expectations for design development and implementation.

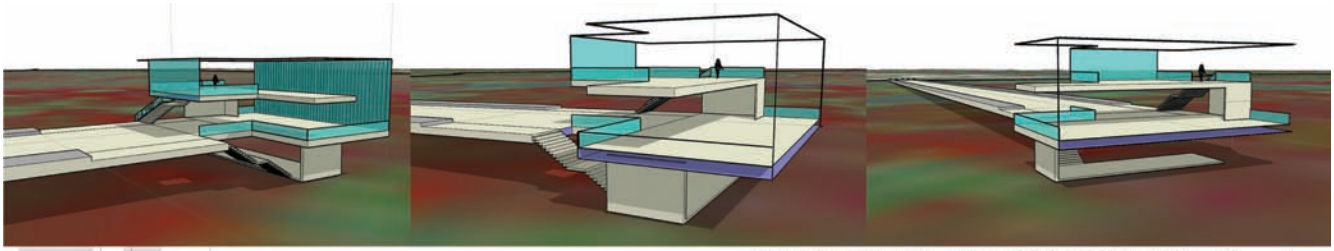
The new mobility culture considers not only transit but also health, education, housing, waste and social needs. No transportation system is an island; it must coordinate all shared systems for maximum effect (Bruce Mau, et al., Massive Change)

Kanapaha Ecosystem

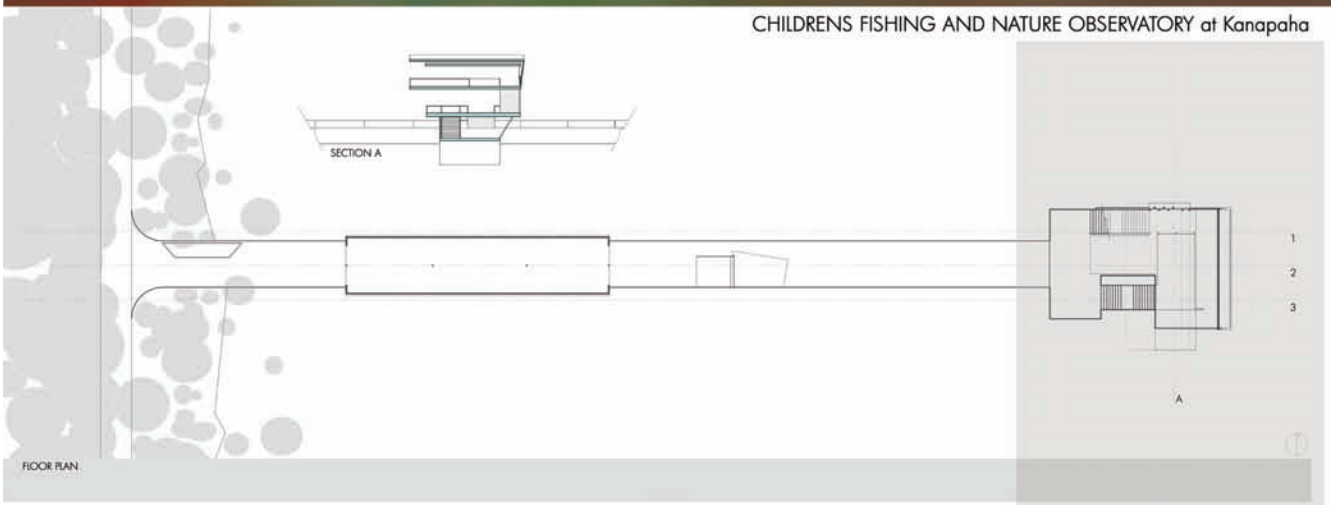
"…shared use pathways will attract more users if they are situated near areas of higher population and/or if they are situated in scenic or aesthetically pleasing environments"
(Conserve By Bicycle, 2007).

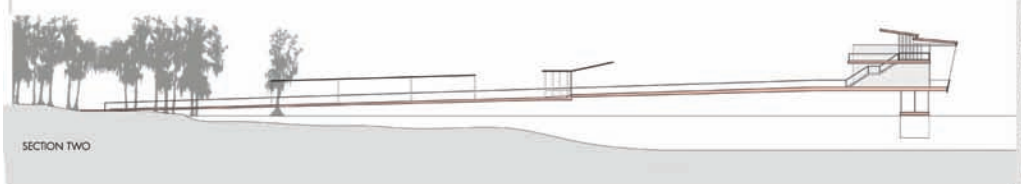
Philip Forget





CHILDRENS FISHING AND NATURE OBSERVATORY at Kanapaha





Access to Kanapaha Lake is limited from most road access, in order to take advantage of this beautiful area of the city, a multi-use path has been designed for the use of connecting the public to this special area.

Kanapaha schools are located nearby, providing many opportunities for the interaction and educational experiences of hundreds of Gainesville's younger generations. Because of its placement near these schools, a children's fishing peir and nature observatory would go hand in hand with the educational and recreational activities of families and classrooms alike.

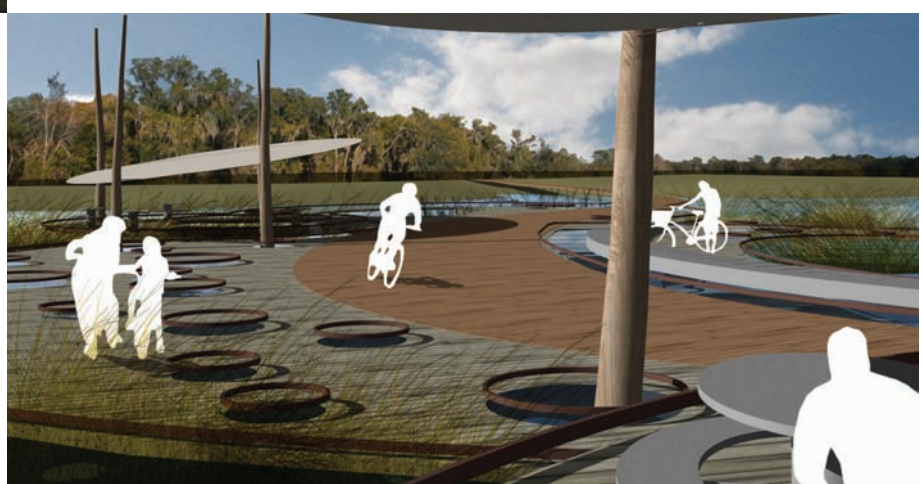
In order to fully engage the landscape and wildlife associated with Gainesville and Kanapaha, the pavilion has been placed on the western-most area of the lake, far from the noise of the interstate and the busy shopping districts nearby.

The pavilion consists of three levels. The bottom level is specifically located hovering above the water, for less experienced fishermen and fisherwomen, and close interaction with the environment of Kanapaha Lake. The second level is the main level and connects the visitor with access to both fishing and observation; a large two-story area towards the eastern edge provides breathtaking views of the area. The third level is an educational nature observatory that includes information about plant and wildlife abundant in the area, as well as special 'endangered species' areas for the education towards keeping this species safe.

Access to the pavilion is in the form of a 300 ft long boardwalk with different points of interest, including a bike storage area, photo-voltaic shaded area, and covered seating.

Design by Jaclynn Treat, University of Florida's School of Architecture

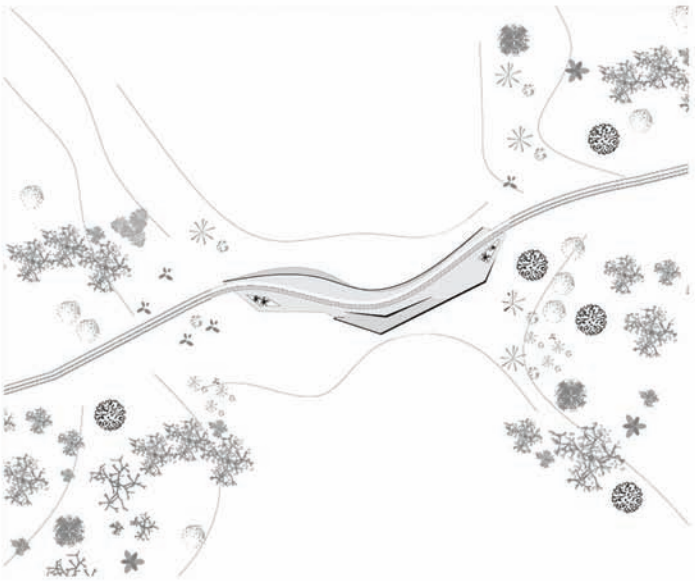
Robert Lamb

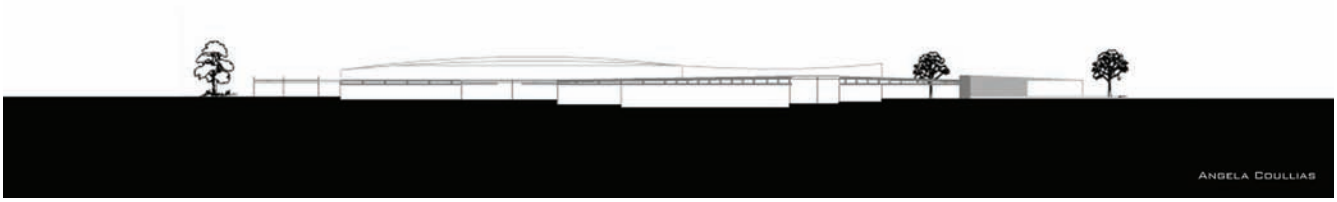


Kanapaha Elevated Pathway:

Design Concept and proposal

Given the context of the site, the challenge was to try and stay away from the typical idea of a regular boardwalk construction. The design was to bring functionality along with a simple yet appealing aesthetic. The use of organic curves in contrast to angles provide a nonstandard construct to become more challenging towards the construct. This project is to make not only the trip through the trail more appealing, but as well as more comforting.





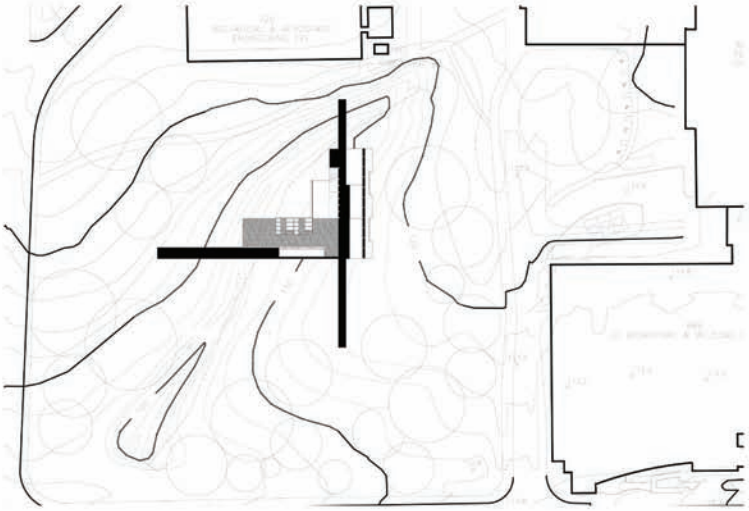
When the machine fits the mission, I believe that technologies improve the quality of our lives. The problem with this last mile – the niche distance between walking and driving – is that nobody until now had the right technology to apply to it. (Dean Kamen in *Massive Change*) writing on the Segway human transporter (HT).

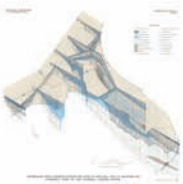
Skateway at Forest Park

Located at the intersection of 20th avenue and 43rd street, the skatepark addition to the existing Forest Park recreation field brings even more action and activities to the community. The skatepark is both skateboard, bmx, and in-line skate accessible, to provide for a multi-function range of personal interests. Most importantly, the park is situated on site in close proximity to the bicycle infrastructure which navigates through Gainesville. At two points from each direction, the path branches off to access the skatepark, where a sufficient bicycle lock station awaits.

Upon entry, the helmet rental, concession and pay station (which also has skate-up access from inside) leads you into the park through a series of ramps. The multi-leveled concrete landscape features a half-pipe, quarter-pipe, volcano ramp, grind boxes, fly-boxes, stair and railing sequences. Interspersed greenspace and partial overhead condition provide for a most enjoyable experience.

Rejuvenation Site



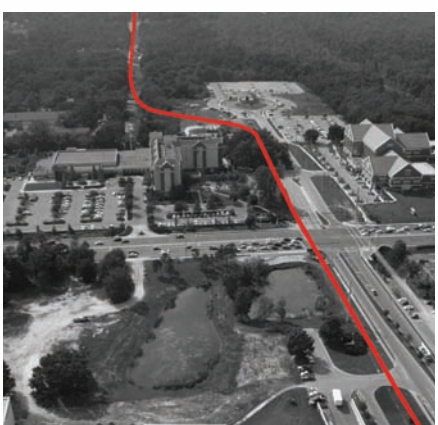


The Florida's intense and dynamic aquifer provided for the original inspiration for the design. The idea of grounding to a water source and creating spaces from passages through the ground was a very powerful idea for a bath house design.

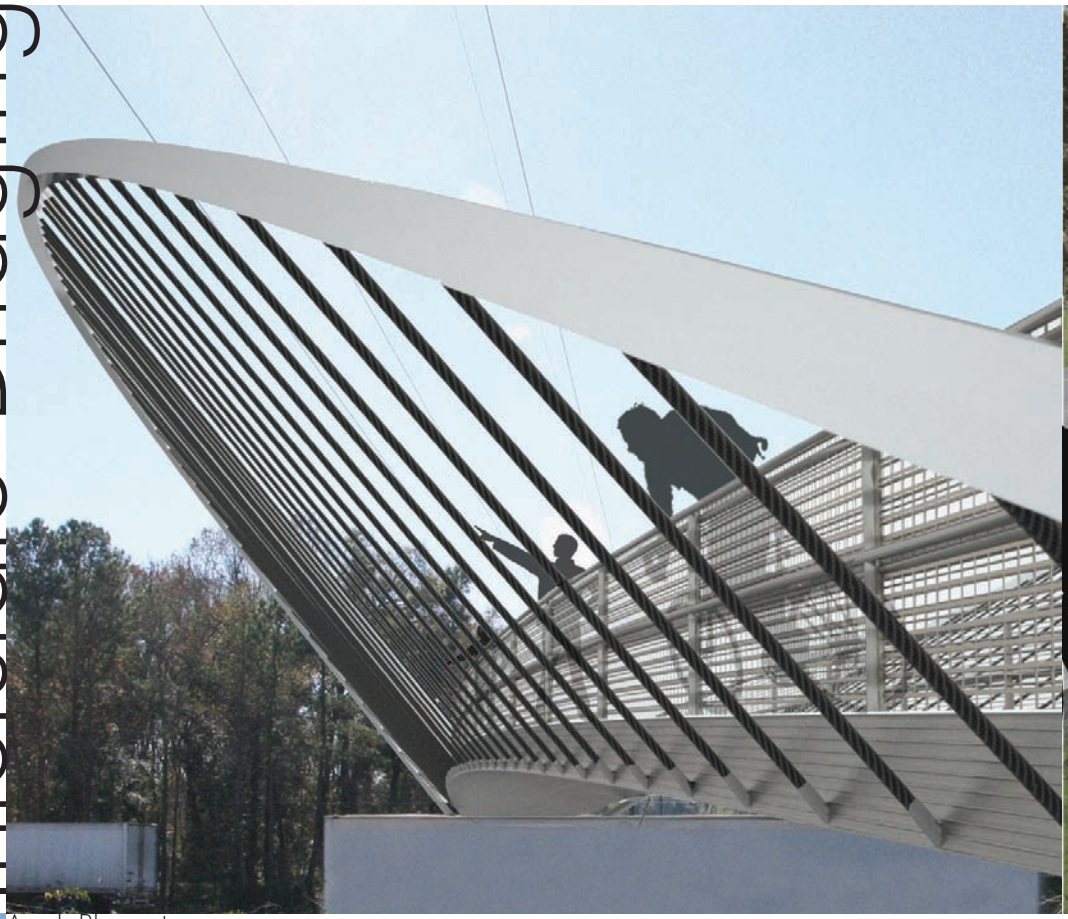
The project deals with the linkage between the end of the bike path and the university campus needs. The bath house allows for people to quickly wash up before class or relax and spend a long time in a secluded cleansing environment. The bath house also serves as a possible linkage system to promote conversation between the different fields of study at the school.

The site was chosen because of the programs inherent need to be placed carefully between the campus and the path so that the maximum number of people can take advatage of the bath house. The site is also well secluded inside of a wooded area and has a creek that runs through the middle so that the bath house can be well grounded and connected to a natural water source. The building offers different types of cleansing areas which can be used for different types of relaxation and as recreational spots. The underground pool is the most secluded and has a unique atmosphere with its natural lighting provided by filtered light. The roof is designed to collect water at filter it down to the baths on the bottom levels. This is accomplished with a filtration system in the structures eastern wall. The programmable infrastructure on the south western part of the building is an open design created to accomodate many different types of uses from a street vendor selling coffee to a bike repair station for students.

Storage/Retail mixed use facility



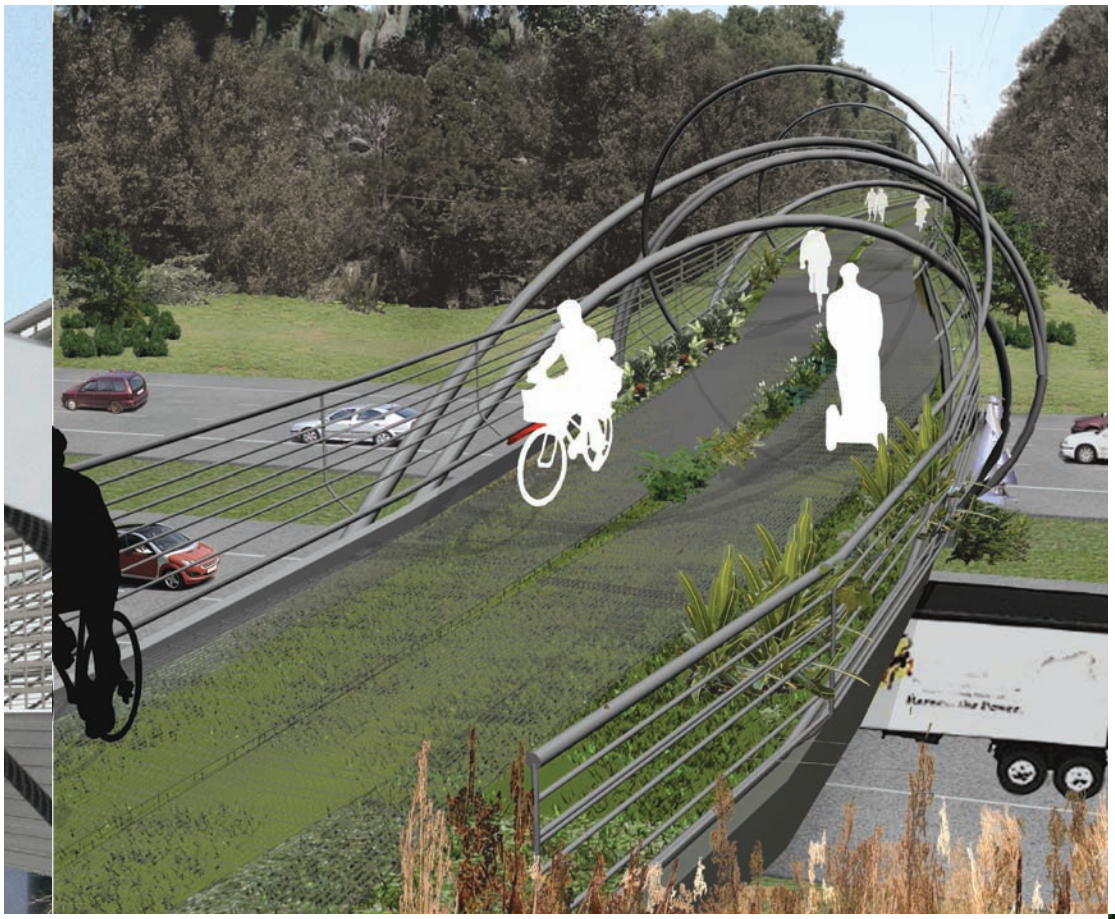
Interstate Bridging

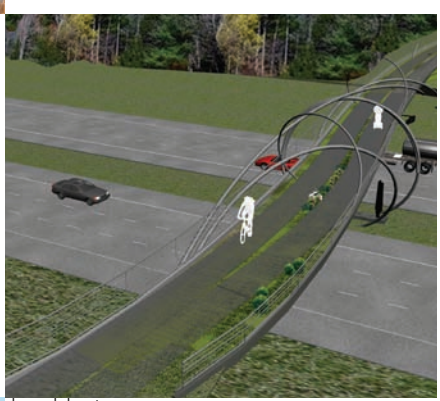


Ayesh Bhagvat

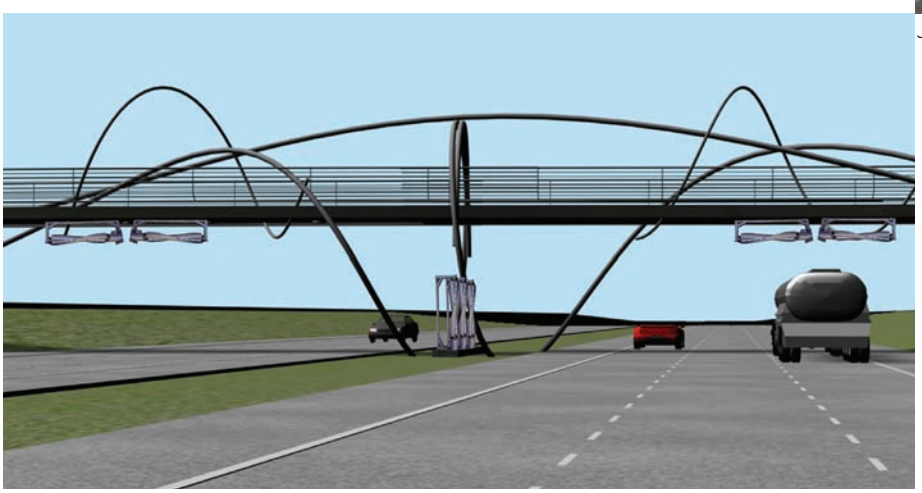
Mustafa Hussein

Multiple studies show that urban areas which are designed so that people are car-dependent reduce social interaction within a neighbourhood, and therefore social cohesion (University of Central Florida, 2004).





Joe Hart



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