

RESOLUTION NO. 27207

A RESOLUTION TO RECOMMEND ADOPTION OF THE
GATEWAY PLAN FOR MOCCASIN BEND AND
STRINGER'S RIDGE.

WHEREAS, approximately 1,700 acres on Moccasin Bend was designated a National Archeological District by the federal government, and

WHEREAS, the City of Chattanooga recently purchased 92 acres of forested land on Stringer's Ridge for conservation and recreation; and

WHEREAS, the Chattanooga City Council requested the Chattanooga-Hamilton County Regional Planning Agency (RPA) to prepare a gateway plan for the corridor leading to these important community resources; and

WHEREAS, the RPA contracted with a design team led by Jones & Jones, Architects and Landscape Architects, to develop a gateway plan; and

WHEREAS, community input provided the basis for many of the recommendations that were developed; and

WHEREAS, this Gateway Plan recommends opportunities for high quality public spaces, multi-modal connections, and protection of our natural and cultural resources, in order to help guide future development.

NOW THEREFORE BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF CHATTANOOGA, TENNESSEE, that it is hereby recommending adoption of the Gateway Plan for Moccasin Bend and Stringer's Ridge.

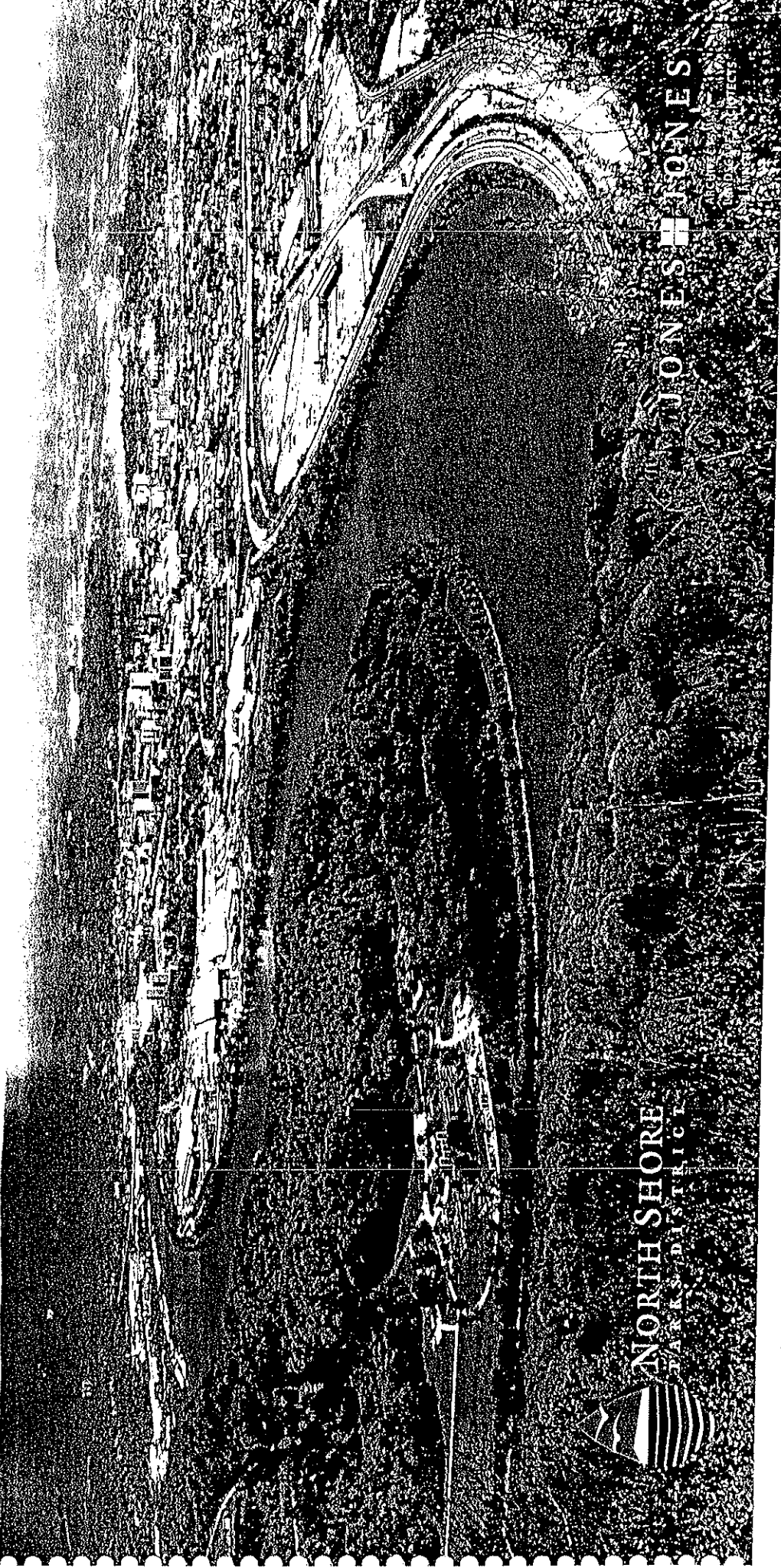
ADOPTED: August 14, 2012.

/mms

PLANNING STUDY FOR

GATEWAY TO MOCCASIN BEND & STRINGER'S RIDGE

Chattanooga, Tennessee
May, 2012



NORTH SHORE
PARK DISTRICT

JONES & JONES

LANDSCAPE ARCHITECTS

PLANNING STUDY FOR GATEWAY TO MOCCASIN BEND & STRINGER'S RIDGE

TABLE OF CONTENTS

1	Chapter One: Introduction.....	5
	Plan Purpose.....	5
	Planning Process.....	5
	Plan Goals & Objectives.....	6
2	Chapter Two: Context.....	7
	Overview.....	7
	Transportation System.....	8
	Area of Plan Focus.....	11
	Gateway Corridor Visual Quality.....	12
	Gateway Corridor Natural Areas & Resources.....	14
	Gateway Corridor Road Access.....	17
	Stringers Ridge Park Access.....	19
3	Chapter Three: Recommendations.....	21
	General Plan Components.....	21
	Connectivity & Circulation.....	22
	Travelways As Complete "Green" Streets.....	24
	Green Infrastructure.....	28
	Interpretative & Public Art Program.....	31
	Manufacturers Park.....	34
	The Wet Woods & Brown's Gap.....	38
	Stringer's Ridge Park Connections.....	40
	Stringer's Ridge Park Trails and History.....	42
	Project Prioritization.....	44
	North Chattanooga As "Parks District".....	45
	Estimate of Probable Construction Costs.....	46

PLAN PURPOSE

This planning study provides recommendations for the primary travel corridors to a proposed Visitors Center for the Moccasin Bend National Archeological District and to 92 acres of protected forest on Stringer's Ridge. The Archeological District occupies a large peninsula wrapped by the Tennessee River directly west of downtown Chattanooga. Made up of approximately 1,700 acres, the District is a cultural resource of national significance stemming from the nearly continuous occupation of the peninsula by Native Americans for over 12,000 years. The Moccasin Bend Archeological District is part of the Chickamauga and Chattanooga National Military Park administered by the National Park Service. The Park Service plans to build the Visitors Center for the District on Hamm Road roughly one mile west of the interchange of Manufacturers Road and Highway 27.

The Chattanooga-Hamilton County Regional Planning Agency (RPA), National Park Service, and Friends of Moccasin Bend commissioned this study to guide the creation of a gateway corridor along Manufacturers Road and Hamm Road to the future Visitors Center. The study focuses on visitor experience, travel mode, and visitor amenities as well as environmental quality, natural resource protection and restoration, and economic activity within the gateway corridor. The plan also addresses ways to strengthen and improve connections between the proposed Visitors Center and the larger community.

The plan is intended to ensure that improvements to the corridor come about in a cohesive and coordinated manner. These improvements can be implemented as a series of projects, including multi-use trails, street improvements, stormwater treatment facilities, interpretive elements, landscaping, creek and shoreline restoration, and recreational features. The corridor alterations and improvements recommended in this plan are considered in the context of current land uses and activities throughout the corridor, the character of nearby urban areas, and the overall physiographic setting.

This study also explores access and travel linkages to Stringer's Ridge Park, a 92-acre woodland tract stretching across a portion of Stringer's Ridge east of Highway 27 and Cherokee Boulevard. Strong visitor connections by bicycle and foot will strengthen this newly designated park's value to the community as an important recreational and

natural resource. The recommendations for access and linkages to Stringer's Ridge Park were developed in coordination with the Trust For Public Land and their consultants, Trail Dynamics.

PLANNING PROCESS

The RPA engaged Jones & Jones Architects + Landscape Architects + Planners of Seattle, WA in March 2011 to prepare this Gateway Plan. To better understand local conditions and issues, Jones & Jones relied on the support and input of the following Chattanooga area consultants:

- Arcadis, Inc. – transportation planning, natural resources and ecology
- Ron Thomas & Associates – public process and community involvement
- Barge Waggoner Sumner & Cannon, Inc. – landscape architectural support
- Alexander Archaeological Consultants, Inc. – historic resources assessment

The development of this study consisted of a three-part process of: 1) understanding the conditions and characteristics of the project area; 2) establishing the objectives, needs and overall requirements for the Gateway Corridor and Stringer's Ridge Park connections; and 3) developing recommendations for Corridor improvements and Park linkages.

To guide the plan, the RPA assembled a Steering Committee made up of representatives from the National Park Service, Friends of Moccasin Bend, various City agencies, Trust for Public Land, the Lyndhurst Foundation, Benwood Foundation and the Hill City Neighborhood Association. The Steering Committee reviewed the work of the Jones & Jones team throughout the planning process to provide comment and direction on the plan's evolution.

PLANNING PROCESS (Continued)

Creation of the plan also involved coordination with other stakeholders including the Chattanooga Regional Manufacturers Association, Tennessee Department of Transportation, individual property and business owners along the Corridor, Friends of the Festival, River City Company, and local neighborhood associations. A large Stakeholder Workshop attended by nearly 60 individuals was conducted early in the project on May 11, 2011 to help formulate plan goals and objectives and to discuss other over-arching issues. The following topics were discussed at this workshop.

- Gateway Connectivity and Linkages
- Local History and Interpretation
- Environment and Recreation
- Business, Industrial & Commercial Activity
- Visual Character & Aesthetics
- Stringer's Ridge Linkages

Two large public meetings were held in the course of the study – one on August 18, 2011 and another on November 14, 2011 – to obtain insight and suggestions from members of the larger community about the plan's development and recommendations. A voting exercise carried out during the November meeting produced the prioritization of gateway projects contained at the end of this report.

This plan thus reflects considerable input and guidance gained through an extensive public and stakeholder involvement process. Implementation of the plan will require the ongoing support of a broad constituency of public agencies, community organizations and various stakeholder groups.

PLAN GOALS AND OBJECTIVES

From the May 2011 Stakeholder Workshop, the following goals and objectives were established for the Gateway Plan:

- A. Protect and Enhance Natural Resources and Systems**
 1. Identify, protect, and improve wildlife habitat and movement corridors.
 2. Coordinate with property owners and agencies on environmental protection measures.
 3. Incorporate "green infrastructure" into corridor improvements to manage stormwater run-off and protect water resources.
 4. Protect and restore riparian corridors, wetlands, wooded slopes, & other natural areas.
 5. Provide education and interpretation about local natural resources and ecology.
- B. Maintain Viability of Corridor Businesses and Industries**
 1. Provide for a safe mix of commercial and visitor traffic.
 2. Avoid burdening local businesses with the costs of corridor improvements.
 3. Highlight the economic benefits and contributions of local businesses.
 4. Improve the aesthetics and recreational appeal of the corridor without compromising or impeding commercial and industrial activities.
 5. Foster a live-work-play approach to corridor improvements.
- C. Provide for Safe, Convenient, and Enjoyable Corridor Travel**
 1. Accommodate all users, traffic types, and travel modes; recreational, commercial, commuter – by bike, foot, boat, transit, car, or truck
 2. Address connectivity to other areas and attractions.
 3. Integrate interpretive, recreational, and way-finding elements with roadway and trails.
 4. Create a consistent character or "look" to transportation elements.
 5. Allow corridor to be accessed and experienced by foot, and bike; preferably with dedicated bike/pedestrian paths along loop routes.
- D. Tell the Stories of Important Historical Places, Events, and Activities**
 1. Convey the 10,000+ year history of human presence: pre-historic, Native American, Trail of Tears, Civil War, etc.
 2. Communicate stories in accurate, authentic ways, true to various perspectives and in various voices.
 3. Use various methods and techniques for interpretive messages and stories.



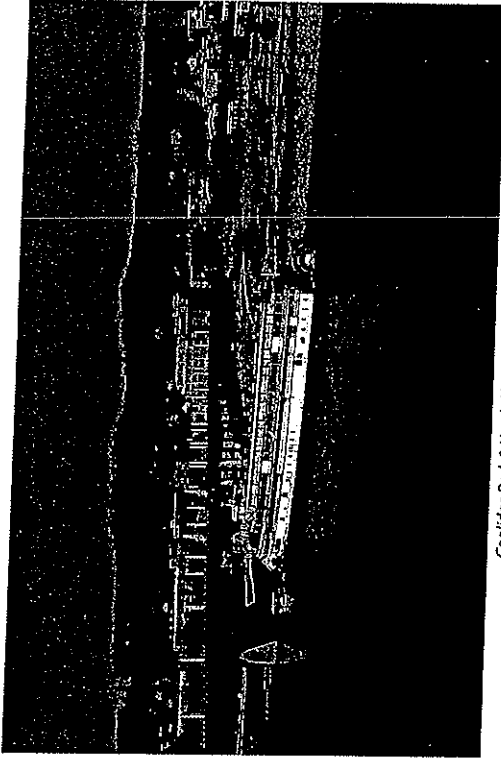
Stakeholder workshop

OVERVIEW

Chattanooga is located in southeastern Tennessee on a stretch of the Tennessee River where the Great Valley and Cumberland Plateau physiographic regions come together. High escarpments, steep ridges, and ridge-mountains characterize the Chattanooga area which boasts the renowned landmarks of Lookout Mountain, Signal Mountain and Missionary Ridge. The area's wooded ridges and broad meandering river create an incredibly varied and scenic setting for the city.

Downtown Chattanooga occupies relatively uniform terrain bordered on the north and west by the river. Across the river directly opposite the downtown, an older urban area known as the North Shore extends east to west over a wide, flat river bench and northward up the lower slopes of Stringer's Ridge. The North Shore area east of Highway 27 is experiencing a revitalization of residential and commercial activity anchored by two popular shoreline parks, Renaissance Park and Coolidge Park. West of Highway 27, the river bench is occupied by mostly light industry. Frazier Avenue and Manufacturers Road travel east and west roughly parallel to the river, serving the North Shore development.

The high, steep escarpment of Stringer's Ridge backdrops the North Shore area. Although residential development occupies large portions of Stringer's Ridge, the Trust for Public Land (TPL) recently acquired a 92-acre parcel of undeveloped land on the ridge top east of Highway 27 and Cherokee Boulevard. This parcel has been deeded to the city as a park and nature preserve. The steep terrain of Stringer's Ridge Park is mostly forested, but gaps and openings in the vegetation allow spectacular views southward toward the river and downtown. The park's south and southeast boundaries are edged by residential neighborhoods, and its north and northwest boundaries are mostly undeveloped land in private ownership. The TPL had an ecological assessment and a trail master plan prepared for the park which together provide direction for the park's future management and use. The study presented on the following pages focuses on access and connections between Stringer's Ridge Park and the North Shore/Moccasin Bend Gateway Corridor areas.



Coolidge Park & North Shore business district with Stringer's Ridge in background

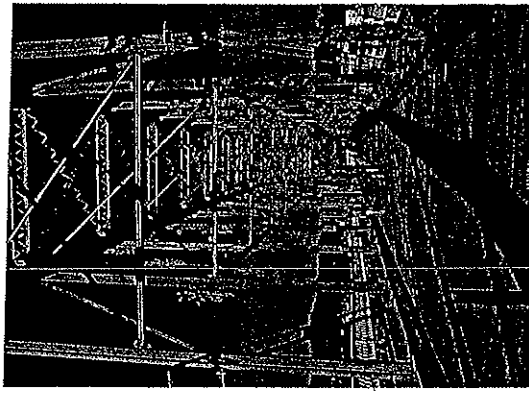
The Moccasin Bend National Archeological District (MOBE) is located across the Tennessee River to the west of downtown Chattanooga on a long peninsula defined by a series of bends in the river. Administered by the National Park Service, the district was designated an archeological resource of national significance due to evidence of Native American occupation dating back some 12,000 years, and for events associated with the Civil War. In addition to the Archeological District, the peninsula is occupied by the city's wastewater treatment plant, a golf course, and a mental health hospital. The Park Service plans to develop a Visitors Center for the district on a flat parcel of land fronting the river on the south side of Hamm Road a little east of Moccasin Bend Road. Access to the proposed Visitors Center will be via Manufacturers Road and Hamm Road. As mentioned earlier, a primary purpose of this study is to determine how the Manufacturers Road/Hamm Road corridor can be transformed into a compelling "gateway" for visitors traveling to the MOBE Visitors Center.

TRANSPORTATION SYSTEM

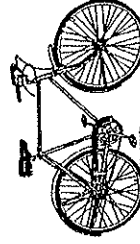
Two interstate highways, I-24 and I-75, serve the greater Chattanooga area, and a number of older US Highways (11, 27, 64, 72, 76, and 41) provide access and circulation to and through the city. Highway 27 (State Route 29) in particular is a major north-south urban expressway that travels through the downtown from its junction with I-24 and continues across the river via the Olgiate Bridge to North Chattanooga and points north. The John Ross Bridge (Market Street) and the Veterans Bridge (Barton Avenue/Georgia Avenue) are both east of the Highway 27/Olgiate Bridge and provide cross-river vehicle connections between downtown and the North Shore. The Walnut Street Bridge, just east of the Ross/Market St. Bridge, is dedicated solely to pedestrians and bicyclists traveling between the downtown and North Shore. The north ends of these four bridges touch down on the east-west collector streets of Frazier Avenue and Manufacturers Road which comprise a major east-west travel corridor that accesses North Shore commercial areas and parks, industrial areas west of Highway 27, and the proposed MOBE Visitor Center.

The city's sustainability initiatives place an emphasis on multi-modal transportation to reduce the energy consumption and pollution of auto travel. The Chattanooga Area Regional Transportation Authority (ARTA) currently operates a Downtown Electric Shuttle system which includes a route across the Ross/Market St. Bridge connecting downtown Chattanooga to the North Shore area. ARTA plans to expand the North Shore shuttle route west along Manufacturers Road and Hamm Road to serve the proposed MOBE Visitors Center. In fostering an integrated transportation system, ARTA operates the city's public parking garages including a facility on the North Shore. The Chattanooga Water Taxi and Fat Cat Ferry also provide intermittent cross-river linkages between the downtown and North Shore, with a boarding location at the City Pier near the Tennessee Aquarium on the south shoreline and another boarding point at Coolidge Park on the North Shore.

The city's emphasis on multi-modal transportation also extends to travel by foot and bicycle. An avid and vocal cycling community in Chattanooga has helped promote and implement local bicycling programs and initiatives. The recently completed Chattanooga Area Regional Bicycle and Pedestrian Plan calls for an extensive system of bike routes and pedestrian ways on local roads and streets throughout the greater metro area. Certain city arterials are being planned and reconstructed as "complete streets" to provide safe and comfortable facilities for pedestrians, cyclists, transit users, and motorists. CARTA's buses are equipped with bike racks, and, in cooperation with the City of Chattanooga, CARTA is launching an expanding system of bicycle transit stations with existing and planned locations throughout the downtown and North Shore. Finally, an ambitious plan to build a continuous multi-use path along the Tennessee River linking neighborhoods, parks and commercial areas is fast becoming a reality. The Tennessee Riverwalk Master Plan calls for a shoreline path extending along the North and South Shores of the river from Chickamauga Dam to the Marion County line. The North Shore Riverwalk would include a new segment from Renaissance Park to the MOBE Visitors Center.

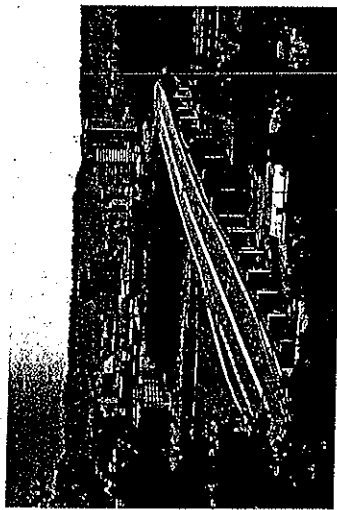


Walnut Street Bridge

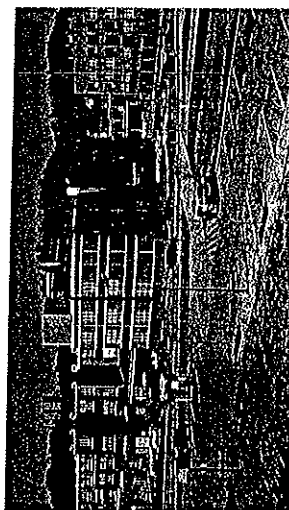




River bridges between downtown Chattanooga and the North Shore



Highway 27 / Olgiate Bridge

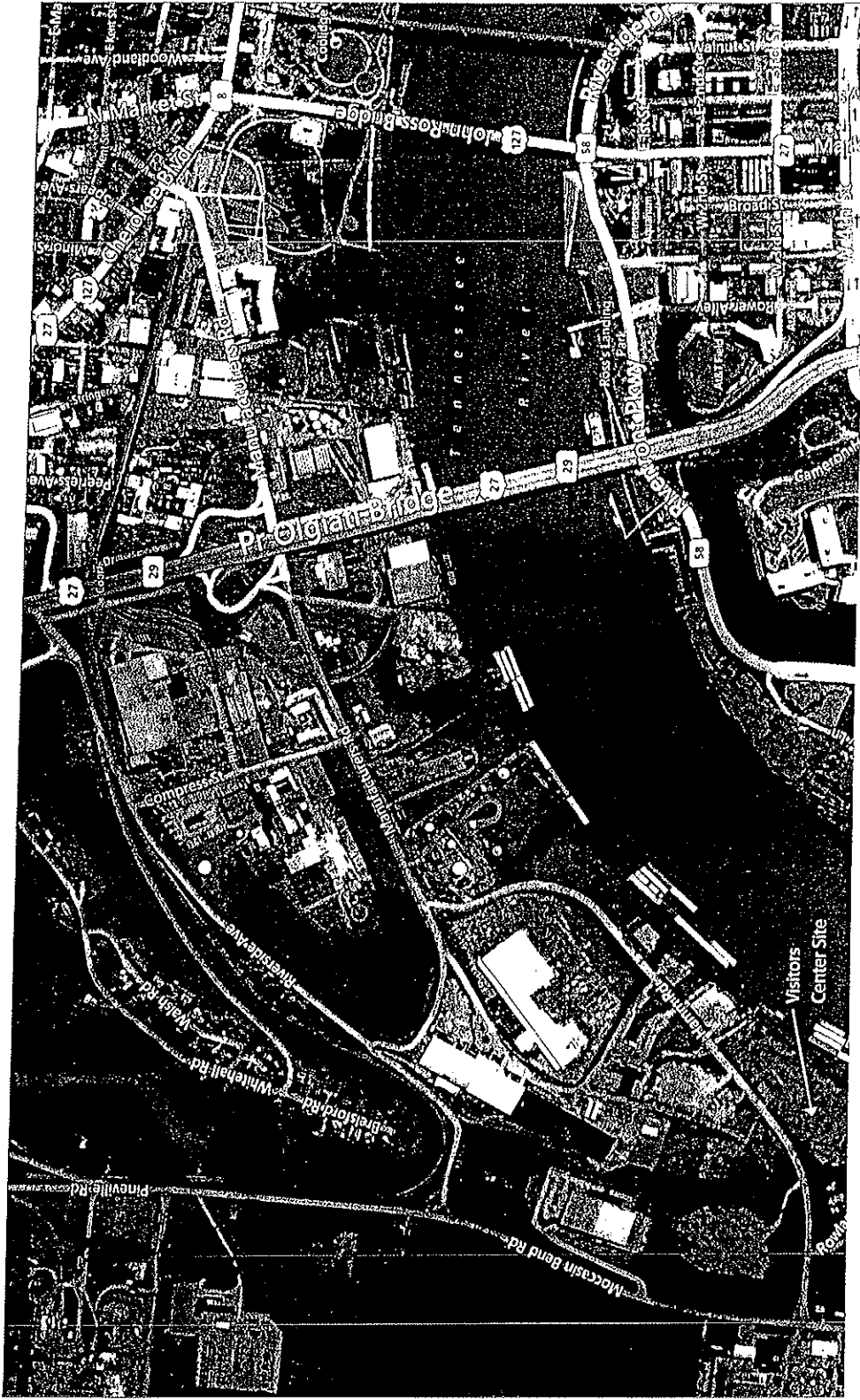


Part of North Shore business district with Stringer's Ridge in background



MAJOR ROADS AND HIGHWAYS

CHAPTER 2:
Context



Aerial View of
The Gateway
Corridor

AREA OF PLAN FOCUS

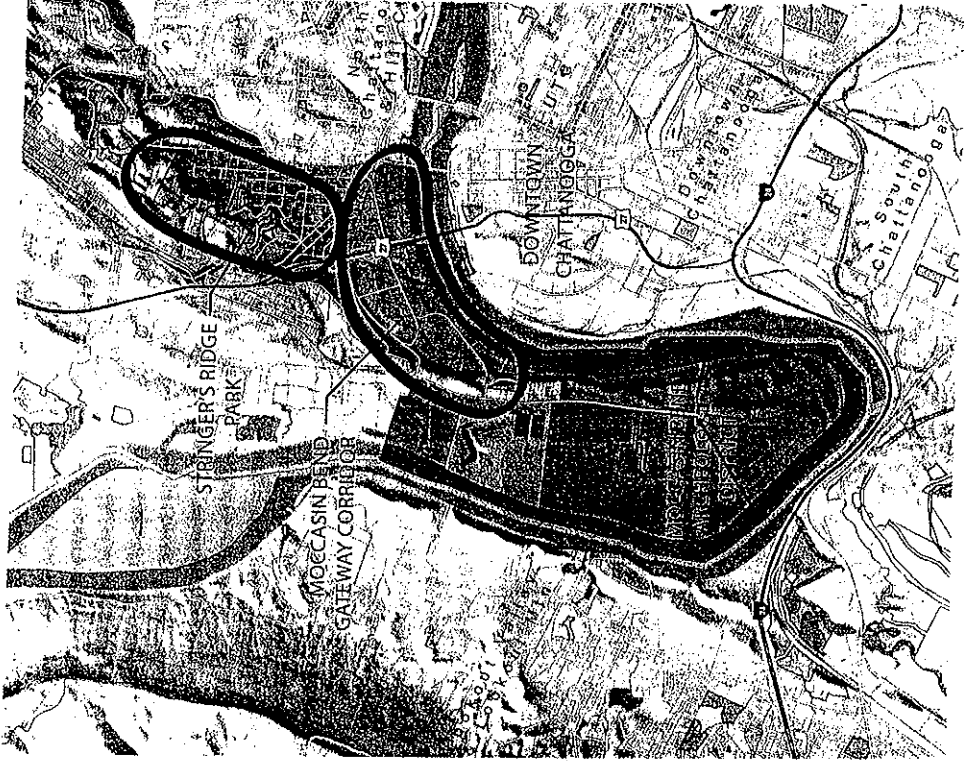
CHAPTER 2: Context

This study focuses on the area that will serve as the entry corridor for the proposed Moccasin Bend National Archeological District (MOBE) Visitors Center. The entry corridor consists of areas associated with Manufacturers Road and Hamm Road west of Highway 27, the Highway 27/Manufacturers Road interchange, and a section of Manufacturers Road east of the interchange. Taken all together, this elongated area is referred to as the Moccasin Bend Gateway or the Gateway Corridor throughout this study.

This study also addresses access and connections to the recently designated Stringer's Ridge Park. The park occupies approximately 92 acres of undeveloped woodland east of Highway 27 and north of the North Shore area.

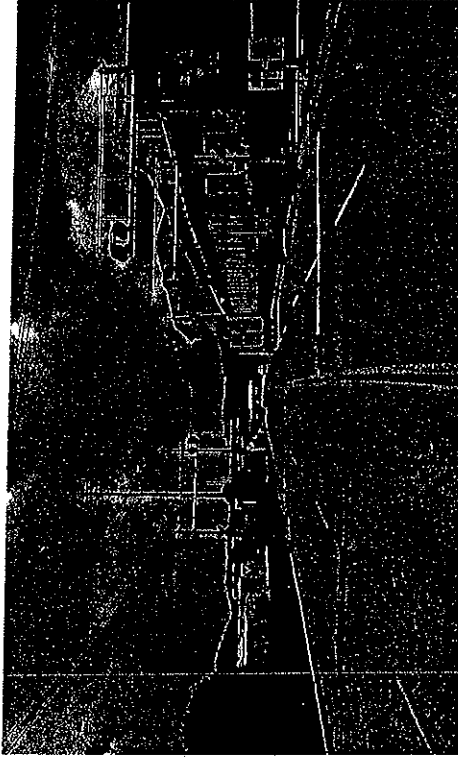
The Gateway Corridor west of Highway 27 is characterized by industries and businesses that occupy the flat river bench between the river and the base of Stringer's Ridge. Industries along and near Manufacturers Road and Hamm Road include RockTenn, Chattanooga Bakery, Roadtec, and Atlanta Terminal among others. Businesses on either side of the Oligati Bridge maintain dock facilities on the river for boat and barge access, but most other properties abutting the river do not have water access. Due to barge loading facilities located downriver, long lines of barges are occasionally moored on the north shoreline between the Oligati Bridge and the site for the proposed MOBE Visitors Center.

The Manufacturers Road corridor east of Highway 27 quickly transitions from light industry into the revitalized North Shore business district. This area consists of new and renovated retail, office and apartment/condo buildings and large waterfront parks along Manufacturers Road, Cherokee Boulevard, and Frazier Avenue. Manufacturers Road between Cherokee Boulevard and the 2 North Shore retail complex was recently reconstructed as a two-lane street with wide sidewalks, street trees, decorative lights, and way-finding signage. Consequently, this study does not provide streetscape recommendations for this eastern-most segment of Manufacturers Road, even though it is considered part of the Moccasin Bend Gateway Corridor.



GATEWAY CORRIDOR VISUAL QUALITY

The visual environment of the Gateway Corridor west of Highway 27 is composed of various one to three story industrial structures, small office buildings, drives and parking lots, outdoor equipment yards, overhead utility lines, railroad tracks, and the massive Olgiate Bridge structure. This isn't a particularly attractive landscape, but it nevertheless has some redeeming qualities. In terms of scale and land coverage, the area is fairly compact, covering only a couple of dozen city blocks. Most businesses are well kept and maintained, and some have interesting visual features such as smokestacks, elevated water tanks, attractive architectural detailing, unusual industrial devices and equipment, and masses of vegetation here and there on unused land and along drainage-ways. The visual severity of the area is also attenuated by occasional views of the river or its wooded banks and of the wooded slopes of Stringers Ridge. Fortunately, most of the corridor's businesses and industries remain open and in operation; clearly, occupied and active facilities look better than closed and empty ones. The Gateway Corridor, particularly the area between Manufacturers Road and the river, mostly suffers from too much visual openness created by a wide, straight roadway flanked by stark buildings, parking lots, and equipment yards.



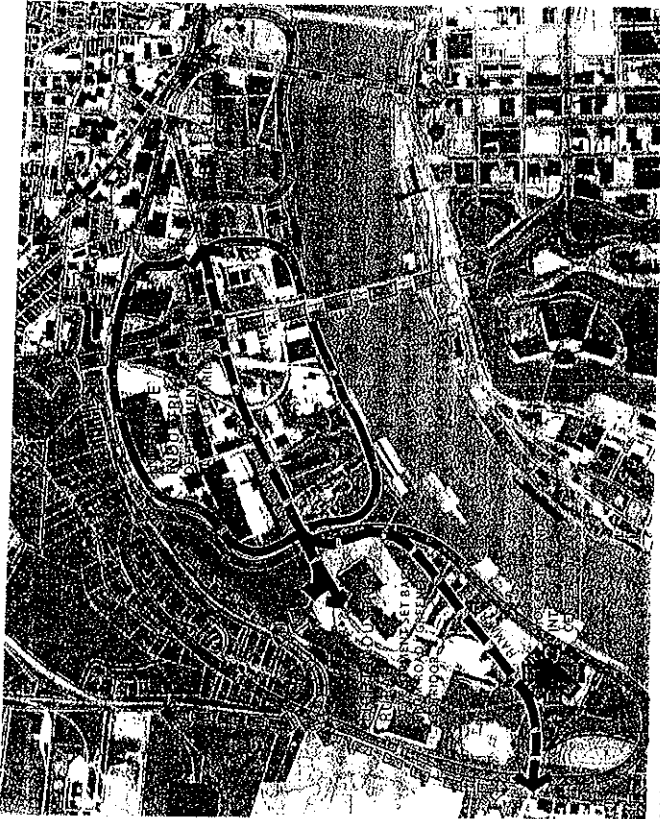
Manufacturers Road west of Highway 27, looking west

Hamm Road, on the other hand, has a slightly different visual quality due primarily to a narrower roadway section and more vegetation along or near the road. Industrial properties about the north side of Hamm Road, but they are partly obscured by a dense curtain of vegetation bordering the road. Large parcels of undeveloped open land on the south side of Hamm Road (including the MOBE Visitors Center site) lend a rural quality to the corridor. A curving roadway alignment also makes for a changing perspective and rural feel when traveling Hamm Road.

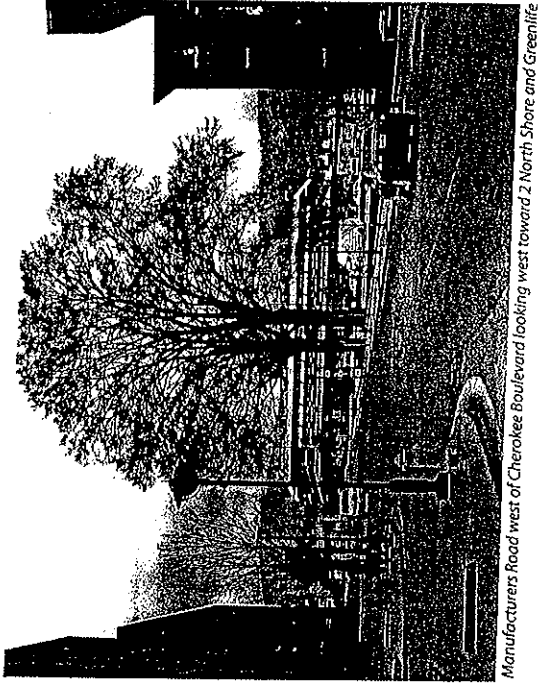
The transition in land use and visual quality in moving from east to west through the Gateway Corridor is gradual but noticeable. The east end of the corridor is decidedly urban with its compact, low-rise North Shore commercial and residential development, busy streets, and popular shoreline parks. Moving west along Manufacturers Road, the landscape "opens up" with a mix of commercial and industrial facilities before reaching the Olgiate/Highway 27 Bridge which serves as a portal to the mostly industrial landscape west of the bridge. Continuing west to Hamm Road, and eventually Moccasin Bend Road, a more rural landscape quality becomes pervasive despite the adjacent industries and businesses. In the distance of just over one mile the landscape transitions through urban, industrial, and rural settings.



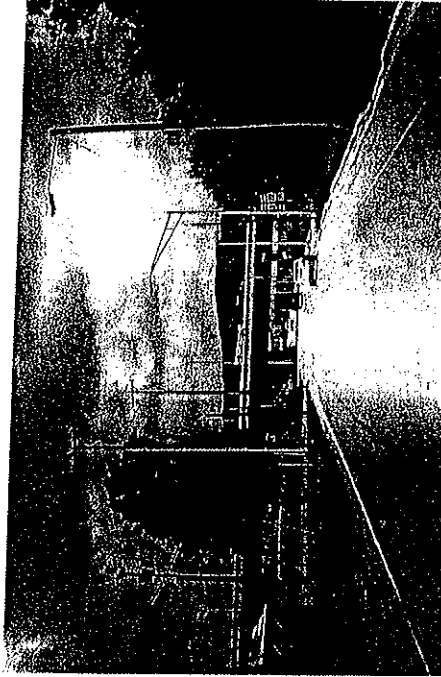
Hamm Road just west of the Manufacturers Road intersection



MOCCASIN BEND GATEWAY CORRIDOR LANDSCAPES



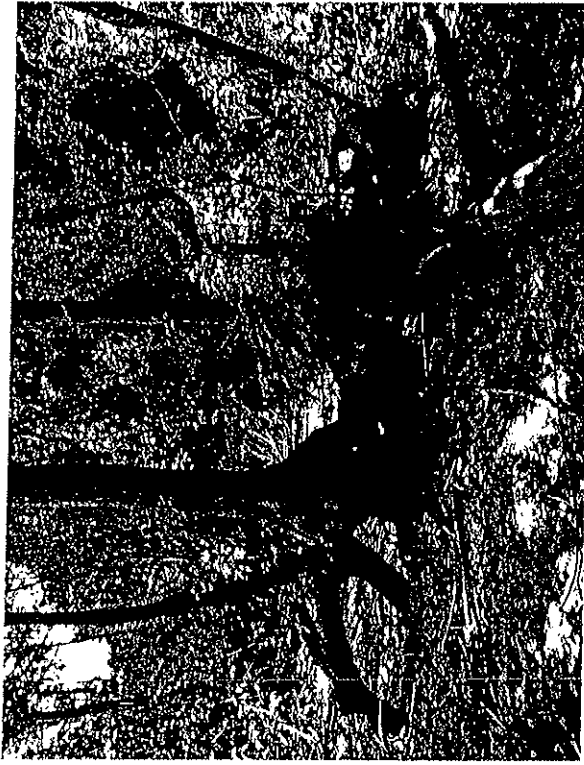
Manufacturers Road west of Cherokee Boulevard looking west toward 2 North Shore and Greenlife



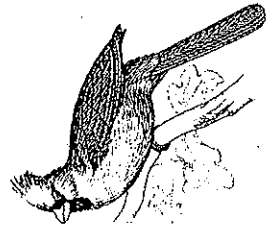
Manufacturers Road looking west toward Highway 27 Bridge

GATEWAY CORRIDOR NATURAL AREAS AND RESOURCES

Despite the prevalence of industrial activity, the Gateway corridor contains a surprising amount of undeveloped land that is naturalizing or in a semi-natural condition. These vestiges of the natural landscape provide important benefits ranging from rainwater absorption and shade to wildlife habitat and visual interest. The exhibit on page 20 shows the location and extent of these natural areas which are discussed in this section.



The Wet Woods



The Wet Woods

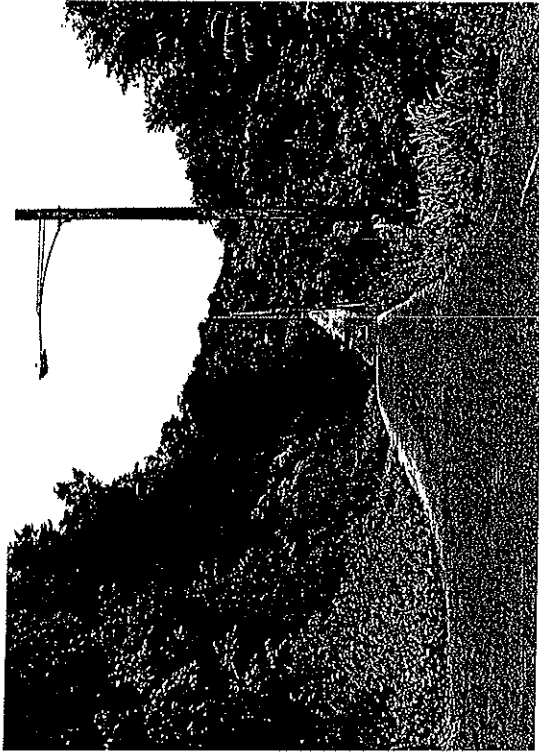
A small wooded tract located directly north of the Manufacturers Road/Hamm Road intersection represents a classic example of a forested bottomland ecosystem. Covering approximately 15 acres, this wooded wetland is dominated by sweetgum, sugarberry, green ash, box elder, red maple, silver maple, and black willow. This type of wetland has become increasingly uncommon as natural areas are converted to agricultural, commercial, residential and industrial uses. This bottomland feature is even less likely to be found within the Chattanooga city limits in close proximity to the Tennessee River and downtown.

The hydrology of this wetland forest is influenced by a combination of factors: natural runoff from surrounding upland hill-slopes drains to the wetland; a wet weather conveyance draining from east to west (beginning near a chain link fence on the east side of the wetland) flows into the wetland; and an artificial impoundment caused by roadway fills associated with Manufacturers Road prevents surface water from draining out of the wetland's shallow basin. The wetland appears to drain only when the elevation of inundated surface water exceeds the elevation of the maintained power line easement on the east side of Manufacturers Road (north of the intersection with Hamm Road). A short ditch located here conveys overflow to an existing culvert located underneath Manufacturers Road. Drainage within the culvert continues beneath paved areas associated with Chattanooga Bakery.

The Wet Woods, as it came to be called during this study, offers important habitat for a wide variety of animals and birds. It occupies land owned by RockTenn but its use for buildings, storage or parking would be difficult due to its wetland conditions. It remains a lush pocket of trees and plants and a reminder of what once may have occupied the Tennessee River floodplain and low-lying benches.

Stringer's Shoulder

Wooded areas remain along the lower slopes of Stringers Ridge just north of Riverside Avenue and, to a lesser extent, above Chattanooga Bakery as well as on the northeast side of Hamm Road where it intersects with Moccasin Bend Road. Heavily populated by invasive plants, these woodland remnants also contain native tree and shrub species found in local upland forests and provide important habitat for animal species (raccoons, rabbits, opossum, squirrels, box turtle, waterfowl, etc.) that occupy the bottomland woods and river shoreline. Although punctured by residential development, these wooded slopes provide a green backdrop to the Gateway Corridor and create visual continuity with the wooded segments of Stringers Ridge that continue along the northwest side of the river to the Archeological District.

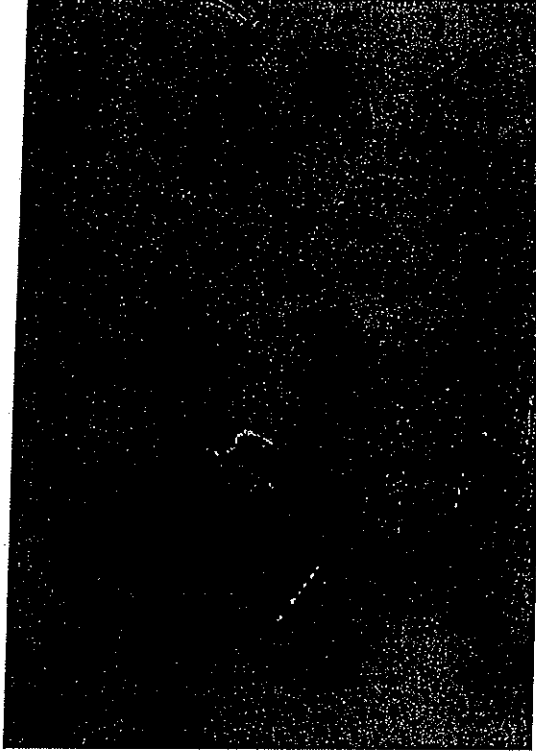


Riverside Avenue along the base of Stringer's Ridge

Forget-Me-Not Creek

A short section of open creek channel is sandwiched between industrial properties on the south side of Manufacturers Road just west of the Olgiate Bridge (See exhibit on page 20). This creek outflows to the river and carries runoff piped into it from upland urban areas. Because the creek's name could not be determined, it was christened "Forget-Me-Not Creek" during the course of this study.

The channel banks and bottom of Forget-Me-Not Creek are down-cut and degraded, but the creek's riparian vegetation represents the most intact tract of native riverbank forest between the Olgiate Bridge and the site for the proposed MOBE Visitors Center. Trees here provide roosts and perhaps nesting sites for Blue Heron, owls and other birds. The creek appears to lie on the boundary line between adjoining properties.



Herons are a common sight along the river.



Riverbank and Shoreline

Between the Olgiate Bridge and the site for the proposed MOBE Visitors Center, the existing vegetation along the riverbank is dominated by a mixture of native plant species (red maple, mulberry, cottonwood) and introduced/invasive tree species (silk tree, Albizia julibrissin; tree of heaven, *Ailanthus altissima*; etc.). Portions of the riverbank are steep and severely eroded. A mixture of native and introduced shrubs also dominates the narrow wood line situated at the top of the bank. Although the narrow band of riverbank vegetation provides limited value for resident fauna, it should be noted that numerous species continue to use these areas for habitat, fishing and foraging. Species observed along the shoreline here include great blue heron, mallard ducks, baited kingfishers, beavers, barn swallows and numerous fish. Other species observed in nearby reaches of the Tennessee River (just upstream of the Walnut Street Bridge) include river otter, mink and muskrat.

Barge mooring pylons line the north shore of the river between the Olgiate Bridge and the site for the proposed MOBE Visitors Center. Although docked barges may appear to detract from the visual experience, closer inspection reveals that they provide at least two unintended beneficial functions. First, they serve as an effective shoreline barrier to the constant wave action caused by passing watercraft. This wave action has caused considerable shoreline erosion along unprotected reaches of the river, but



Riverbank with barge and mooring

behind the docked barges erosion of the riverbank is much reduced. Second, as a result of the lee created between the barges and the shoreline, resident fauna and waterfowl are provided a significant refuge from the wave action as well.

Despite being in a predominately industrial area, the presence of heavy garbage and other debris along the riverbank and channel of Forget-Me-Not Creek is relatively minimal. Visible debris is limited to a few tires, lumber and abandoned tie-off ropes. Removal of these items from the riverbank and creek channel could be easily accomplished.

Between Hamm Road and the river, two sizeable undeveloped parcels abut the riverbank. The first parcel is the site for the proposed MOBE Visitors Center. This 10-acre piece of flat ground is mostly open meadow edged by trees and shrubs along Hamm Road and along the riverbank. The second parcel is a 4-acre undeveloped plot (currently listed for sale) at the bend in Hamm Road just across from the Roadtec facility. This property is dominated by native pioneer tree and plant species. Both of these open parcels are among the largest undeveloped tracts remaining along the Tennessee River in Chattanooga. Both provide critical wildlife habitat and a travel corridor for species moving between the river and upland areas.



MOBE Visitors Center Site



GATEWAY CORRIDOR ROAD ACCESS

Nearly all access to the MOBE Visitors Center will be from Manufacturers Road and Hamm Road. Consequently, the Manufacturers Road/Highway 27 interchange will be a major access point in the Gateway Corridor for visitors traveling by car on Highway 27 from points north and from downtown Chattanooga and points south. Many visitors to the proposed MOBE Visitors Center will also be coming from the North Shore business district east of Highway 27 via Manufacturers Road. A small number of visitors may travel Pineville Road coming in from the north.

Manufacturers Road and Hamm Road currently carry a high percentage of commercial vehicle traffic which is generated by the corridor's industries and businesses and by industrial and shipping facilities along Pineville Road. The city's sewage treatment plant also contributes some number of dump trucks to the volume of commercial vehicles. However, a recent traffic study conducted by Arcadis Inc. found that current and projected volumes of commercial traffic along Manufacturers Road and Hamm Road are not excessively high. Although Manufacturers Road is currently four lanes wide, the Arcadis study determined that a two-lane roadway section (one lane in either direction) for both Manufacturers Road and Hamm Road would be fully capable of handling the projected volumes of commercial, commuter, and visitor traffic between the Highway 27 interchange and the Hamm Road/Moccasin Bend Road intersection. The Arcadis study can be reviewed for a more thorough discussion of traffic volumes and recommended road sections. A copy of the study is available at the Chattanooga-Hamilton County Regional Planning Agency.

Because Manufacturers Road and Hamm Road comprise the primary access route to the proposed MOBE Visitors Center, some of the physical and operational characteristics of these roads are described on the following page.



Forget-Me-Not Creek



Beaver dens along merbank

CHAPTER 2:

Context

Manufacturers Road

- Manufacturers Road west of Highway 27 is currently four lanes wide with curb and gutter and a sidewalk along the north side. Stormwater runoff from the four-lane roadway is collected in curb inlets and then piped to the river.
- Two infrequently used railroad spur lines cross Manufacturers Road just west of the Highway 27 interchange; one runs along the south side of Manufacturers Road to the intersection with Hamm Road and the other serves businesses on either side of the Oligiati Bridge.
- Sight distances at the intersection of Manufacturers Road and Compress Street are compromised by the presence of a large building on the northeast corner of the intersection.
- A number of commercial driveway cuts occur along the south side of Manufacturers Road.
- Overhead utility lines along the south side of Manufacturers Road contribute to the unattractiveness and visual clutter of the corridor.
- The intersection of Manufacturers Road and Hamm Road is somewhat awkward with channelized lanes for various turning movements.
- Commercial vehicles cannot maneuver the angled intersection and abrupt switchback where Manufacturers Road meets Riverside Avenue.

Hamm Road

- About 100 meters south of its intersection with Manufacturers Road, Hamm Road transitions from a three-lane roadway with curb and gutter to a two-lane roadway with shoulders; roadway runoff flows into roadside grass ditches and swales.
- Overhead utility lines occur along a relatively short stretch of Hamm Road.
- Curves and bends in Hamm Road create a more interesting driving experience and may help slow or "calm" traffic.
- Dense vegetation lining the road screens views across adjacent industrial and business properties and imbues the corridor with a rural quality.



Hamm Road looking west

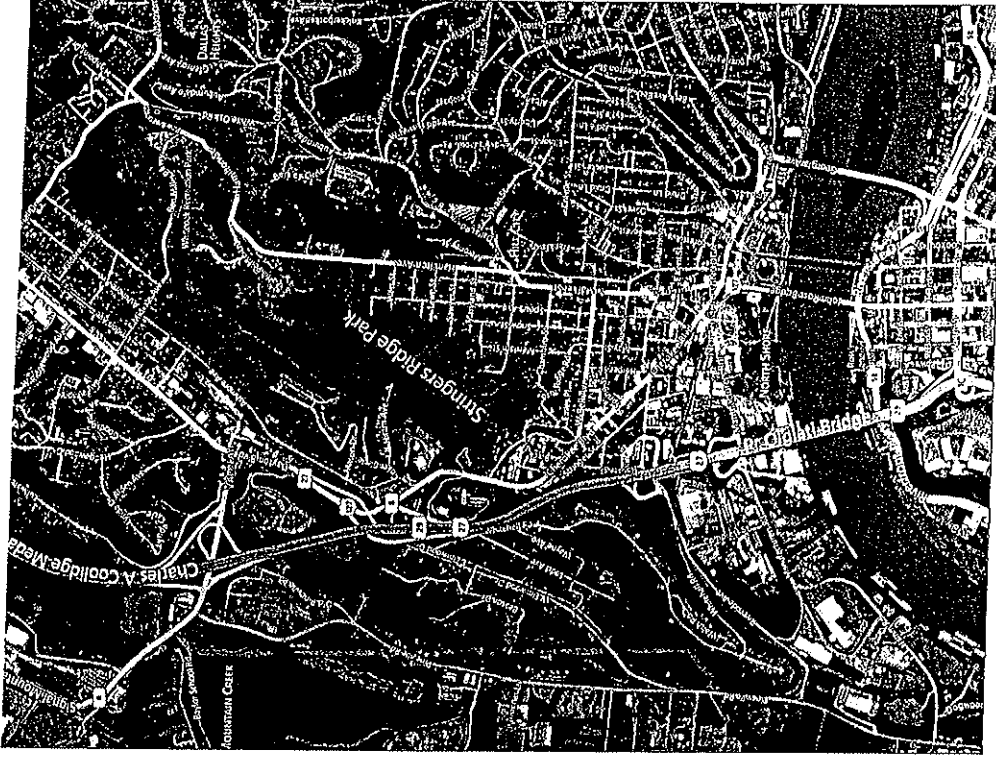
STRINGER'S RIDGE PARK ACCESS

Cherokee Boulevard travels northward out of the North Shore commercial area, providing primary access to the east side of Stringer's Ridge Park from Bell Avenue. Cherokee Boulevard is a four-lane arterial lined by intermittent low-rise, mixed-use development. The street has been designated as a primary bike route in the city's Regional Bike and Pedestrian Plan with sharrows painted in the street right-of-way to the tunnel approach. Just past the park entry, Cherokee Boulevard passes through a two-lane tunnel beneath the top of Stringer's Ridge and then emerges on the other side as Dayton Boulevard which broadens to a four-lane arterial serving the City of Red Bank. Cyclists traveling through the tunnel are advised to activate a flashing light at the tunnel portals to warn motorists of a bicyclist in the tunnel.

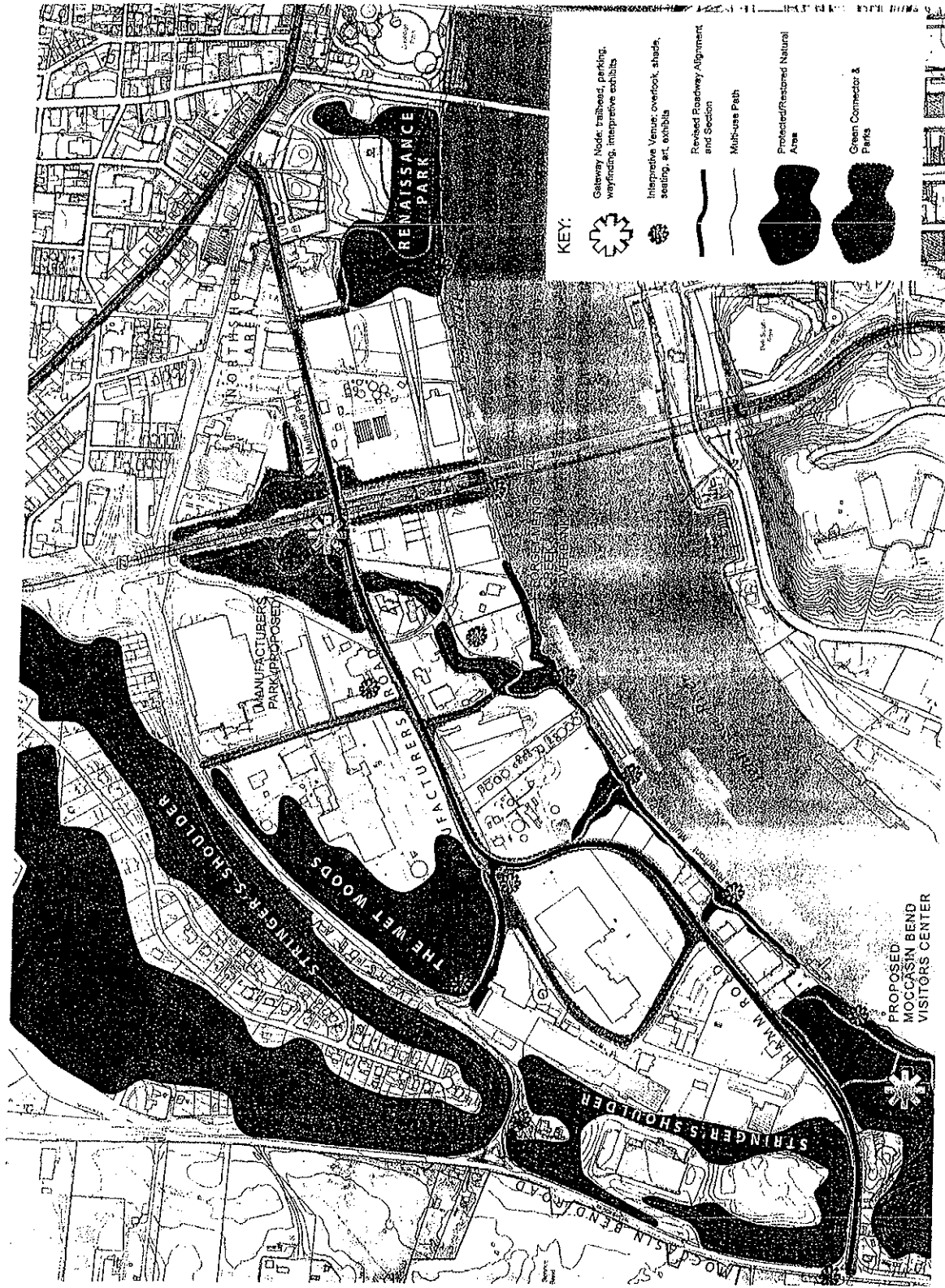
A number of narrow residential streets abut or dead end along the southeast edge of Stringer's Ridge Park. This network of local streets extends southward into the North Shore commercial area and some of these streets could potentially provide secondary access into the park. Another local collector, Manning Street, passes under Highway 27, providing one of the few east-west connections (Manufacturers Road being the other) between urban areas on either side of the controlled access freeway. Manning Street and its connection to Riverside Avenue thus enable a secondary connector route between Stringer's Ridge Park and the Moccasin Bend Gateway corridor.



Cherokee Boulevard looking north to tunnel



CHAPTER 3:
Recommendations



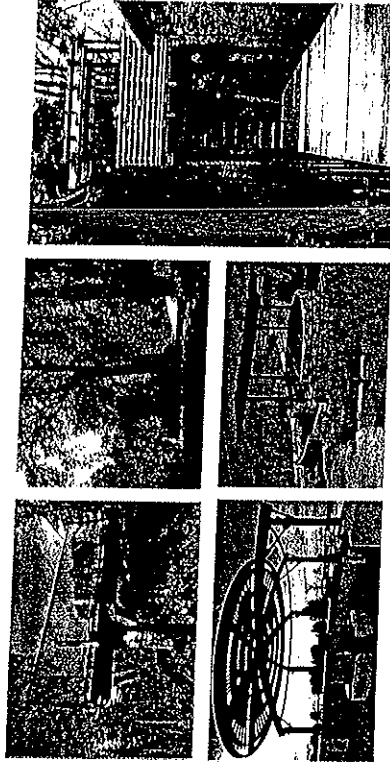
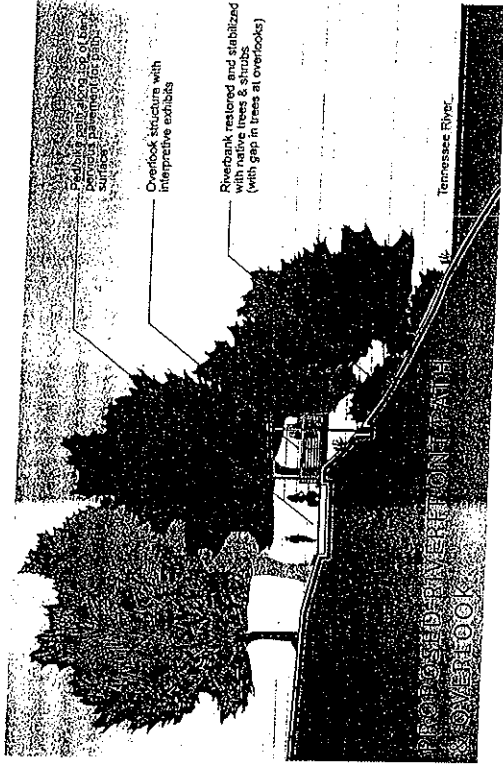
Gateway
Corridor
Concept Plan

3 Recommendations

GENERAL PLAN COMPONENTS

This chapter provides ideas and recommendations for various improvements and proposed features throughout the Gateway Corridor. Recommendations are thoroughly grounded by current conditions in and near the corridor, and they support the goals and objectives outlined in the Introduction of this report. The recommended improvements and features are intended to create a distinctive and attractive corridor and to provide a rewarding and enjoyable experience for visitors traveling to and from the Moccasin Bend Archeological District and Stringer's Ridge Park.

The exhibit on the opposite page shows general plan aspects and elements that are more fully described on subsequent pages. Basically, Manufacturers Road and Hamm Road will take on more of a parkway character in providing primary access to the Visitors Center. A multi-use path associated with the roadways, together with a new extension of the Riverwalk, will provide safe and pleasant access to and from the Visitors Center for those traveling by bicycle or on foot. A series of interpretive venues are proposed at various locations in the corridor to allow travelers a place to stop, rest, enjoy a view, and learn about the rich history and heritage of the area. Scenic and environmental benefits will be rendered by greenspace features that include protected and restored natural areas, "green" streets, and small informal parks on public land.



EXAMPLES OF OVERLOOKS & REST AREAS



View downriver in vicinity of Visitors Center site

Recommendations

- provide multi-modal transportation links between corridor destinations and other areas of the city
- provide a hierarchy of primary and secondary ped/bike routes to create a network of alternative routes to and from corridor destinations
- route the Riverwalk along the top of the riverbank where possible
- provide overlooks and rest areas along multi-use paths
- establish connections to river "Blueway" for water taxi, boaters and kayakers
- expand shuttle service to Gateway Corridor
- update wayfinding signage as destinations are added

CONNECTIVITY & CIRCULATION

The exhibit on page 23 emphasizes the importance of establishing multi-modal transportation links between the proposed Visitors Center, Stringer's Ridge Park, and other parts of the city, including the downtown, North Shore commercial area, and nearby neighborhoods. Highway 27, Manufacturers Road, Market Street, Cherokee Boulevard, and Frazier Avenue comprise the area's primary vehicle routes for visitors who will be traveling by car to and from the Visitors Center and other destinations. Both Manufacturers Road and Hamm Road should be designated a primary bike route (with roadside bike lanes) to connect the Archeological District with the bike routes currently designated along Cherokee Boulevard and Market Street. Secondary bike/pedestrian routes can occur on local access streets (Riverside, Manning, Coors, Stringer Street, etc.) to create a fine-grained network of alternative bike/pedestrian routes between the Visitors Center, area neighborhoods, North Shore commercial district and Stringer's Ridge Park.

A long-planned extension of the Tennessee Riverwalk will need to follow a somewhat winding but workable alignment between the North Shore (Renaissance Park) and the Visitors Center. Because of shoreline industrial activity, the Riverwalk will need to travel along Manufacturers Road for a short distance east and west of the Oligiati bridge. West of the bridge, it will be possible to route the Riverwalk along the restored Forget-Me-Not Creek to the riverbank where the walk should be located at the top of bank. A series of overlooks and rest areas along the Riverwalk (as depicted on page 21) will make the journey fun and relaxing. In combination with the Riverwalk, a multi-use path along Manufacturers Road and Hamm Road will create a loop route between the Visitors Center and Highway 27 that allows those on bike or foot to travel one route out and another back.

Although the Water Taxi currently runs only sporadically through the summer months, its route should be expanded to include a stop at the proposed Visitors Center. A boat dock that is planned at the Center will accommodate not only the Water Taxi but also recreational boaters, kayakers, and possibly the Tennessee Aquarium's tour boat. Another Water Taxi stop could be developed under the Oligiati Bridge on the river's north bank; if this location becomes a major trail head and public parking area as recommended in this study.

Plans are already in place to expand the downtown electric shuttle route from the North Shore to the proposed Visitors Center. Bike share stations planned for the North Shore should be expanded to include locations under the Oligiati Bridge and at the Visitors Center as depicted by the drawing on page 23.

Finally, wayfinding signs in the Gateway Corridor should eventually be modified to identify other corridor attractions and features when they're implemented, such as the Wet Woods, Brown's Gap, Manufacturers Park and the extension of the Riverwalk.

In summary, although visitors will be able to drive to the Visitors Center and then park, a variety of other travel modes to and from the Visitors Center are feasible and should be developed in the corridor. Travelers essentially should be able to jettison their cars in the downtown or the North Shore business district and then walk, bike or boat between destinations. Similarly, residents in surrounding neighborhoods and workers in businesses along Manufacturers Road will have various travel-mode options to get from place to place per the Connectivity and Circulation diagram on page 23.



Shoreline Path



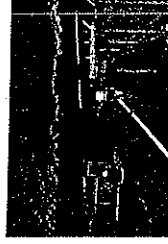
Path Thru Business Park



Boardwalk Path



Water Trail/Blueway



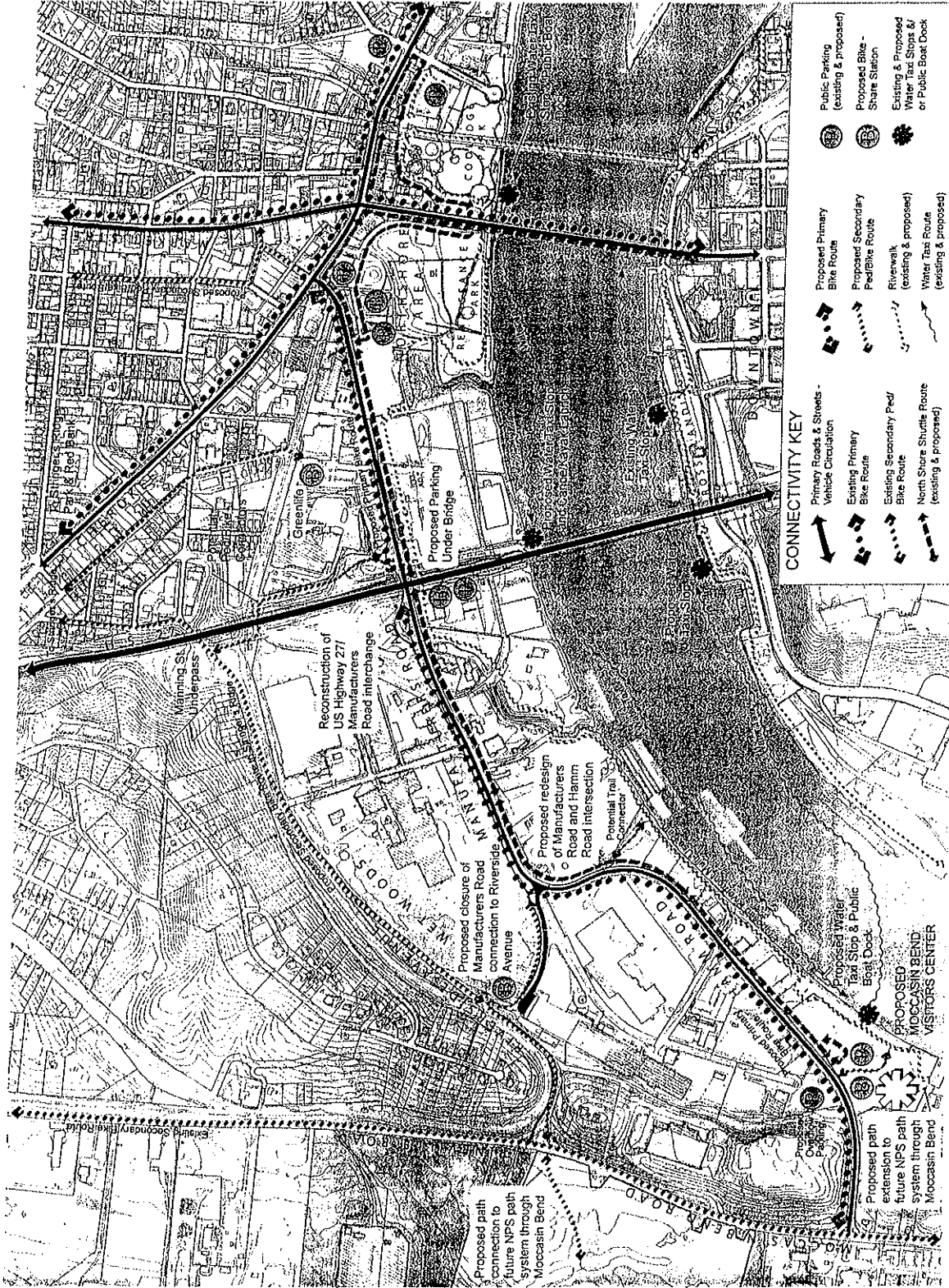
Path Abutting Industrial Area



Separated Bike/Ped Path along Road

EXAMPLES OF VARIOUS PATH TYPES

CHAPTER 3:
Recommendations



Connectivity
& Circulation

CHAPTER 3:

Recommendations

- accommodate a range of travel options in the street right-of-way: two through lanes for traffic, designated bike lanes, and 10 foot multi-use path
- integrate stormwater treatment, bioswales, shade trees, and native plants into street right-of-way
- reinforce parkway character and foster traffic calming with curvilinear street alignment
- improve sightlines at the Compress Street intersection and close the intersection of Manufacturer's Road and Riverside Drive

TRAVELWAYS AS COMPLETE "GREEN" STREETS

Because Manufacturers Road and Hamm Road will be the primary travelways to the Visitors Center, this section provides general design parameters for the roadway and its associated elements. As shown by the drawing on page 25, the roadway should be designed and reconstructed as complete "green" street. This means the travelway should accommodate a range of travel options including vehicles, bicycles, and pedestrians as previously mentioned, and it should also incorporate green elements such as stormwater treatment, native plants and shade trees. The City's Public Works Department, the Office of Sustainability and the RPA are working cooperatively to create standards and develop models of complete "green" streets that can be used throughout the city.

Based on the current and projected traffic volumes listed in the Arcadis "Transportation Impact Study", a two-lane roadway section will comfortably handle the mix of commercial, commuter and recreational (including Visitor Center) traffic using the corridor. Roadside bike lanes will serve high speed cyclists, while a 9 to 10 foot wide multi-use path, separated from the road by a bio-swale, will serve pedestrians and casual cyclists. Locating the multi-use path along the north side of the street will entail fewer driveway crossings. Wide bio-swales will treat and slow roadway run-off and also provide space for large street trees that contribute shade, scenery and habitat connectivity. The proposed cross-section shown on page 28 will fit within existing right-of-way limits.

Manufacturers Road should be rebuilt with a slightly curving or meandering alignment that gracefully transitions into the curving alignment of Hamm Road. The current awkward intersection of Hamm Road and Manufacturers Road can be reconfigured as a T-intersection as shown in the diagram on page 23. The poor sight distance condition at the Compress Street intersection will be improved by slightly curving Manufacturers Road to the south. In addition, Manufacturers Road should be terminated at Chattanooga Bakery instead of continuing up the tight switch-back curve to its current intersection with Riverside Drive.

The alignment and cross-section elements proposed here for the Manufacturers Road/Hamm Road travelway will help to slow or "calm" traffic, provide safe passage for cyclists and pedestrians, and engender a more parkway-like character to the roadway. Greenspace areas throughout the corridor (as discussed in the following section) will further reinforce a parkway-like character.



Two-Lane Roadway with Multi-Use Path

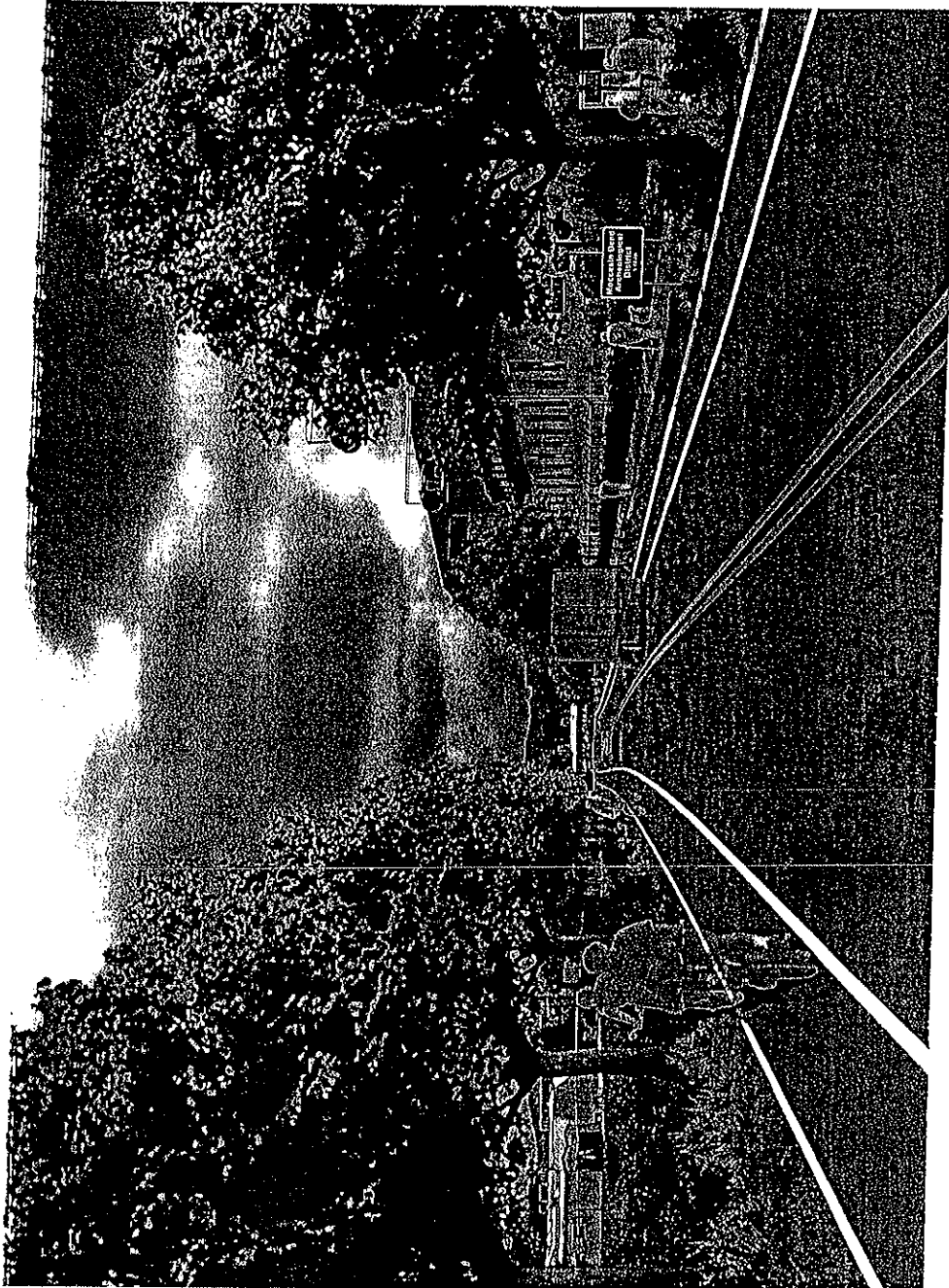


Roadway with Planter Strip, Multi-Use Path and Bike Lane



Examples of Roadways with Bio-Swales and Paths

CHAPTER 3:
Recommendations



PROPOSED MANUFACTURERS ROAD WITH MULTI-USE PATH, BIKE LANES, STORMWATER TREATMENT AND LANDSCAPING



Current View of Manufacturers Road



Tulip Tree
(*Liriodendron tulipifera*)



Swamp White Oak
(*Quercus bicolor*)



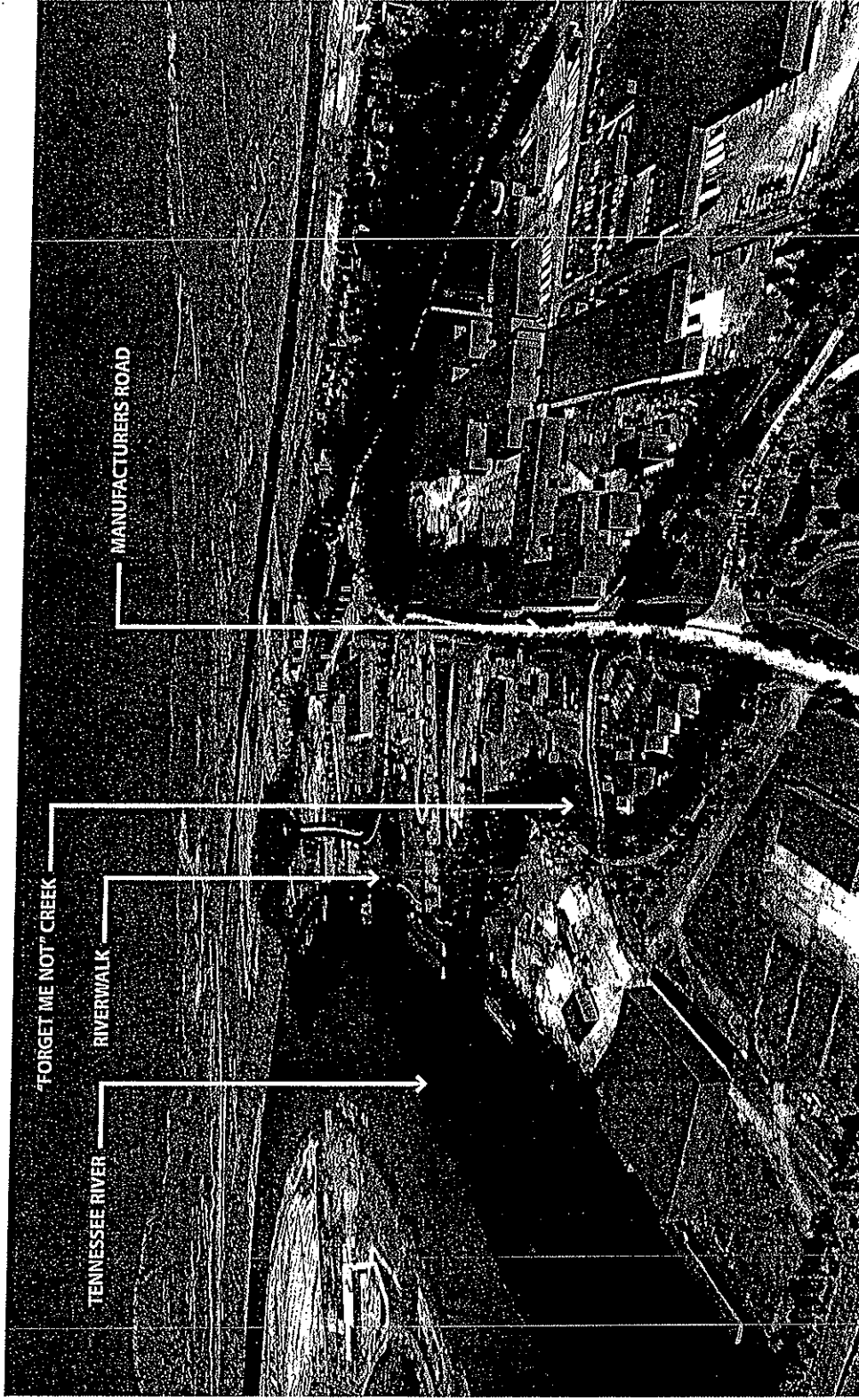
Red Oak
(*Quercus rubra*)

POTENTIAL STREET TREES

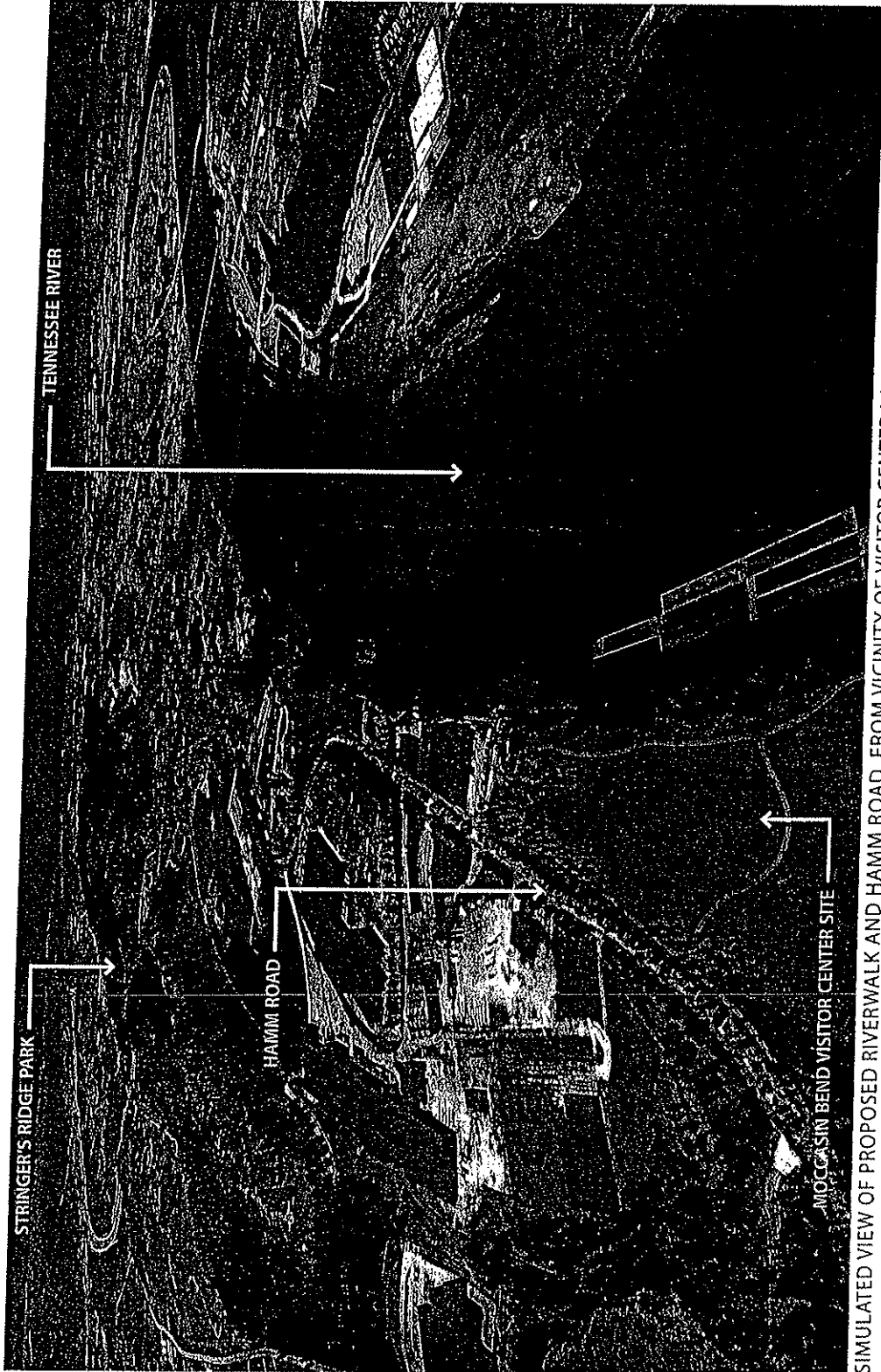
CHAPTER 3:

Recommendations

TRAVELWAYS AS COMPLETE "GREEN" STREETS



COMPUTER SIMULATED VIEW OF MANUFACTURERS ROAD AS "GREEN STREET" AND RIVERWALK FROM VICINITY OF HWY. 27
LOOKING WEST



SIMULATED VIEW OF PROPOSED RIVERWALK AND HAMM ROAD, FROM VICINITY OF VISITOR CENTER LOOKING EAST

CHAPTER 3:

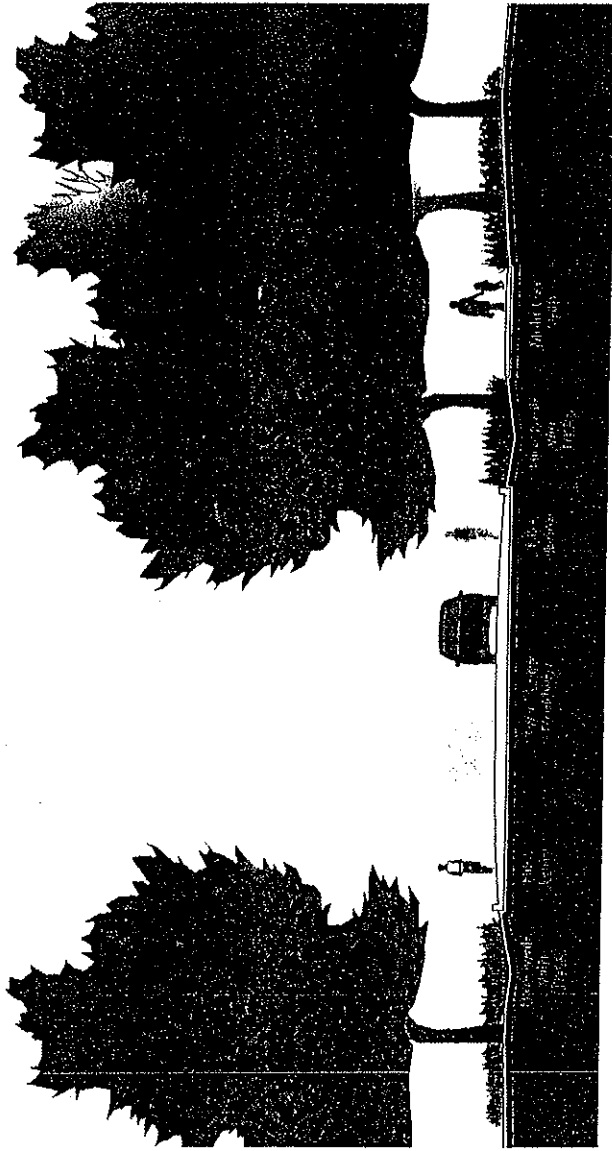
Recommendations

- *protect and restore remnant natural areas*
- *use parks and green streets to improve habitat connectivity between remnant natural areas*
- *use green connectors to daylight and treat stormwater runoff*
- *use green infrastructure to create a distinct and consistent character for the gateway corridor*

GREEN INFRASTRUCTURE

The Green Infrastructure features and elements shown on page 27 will be crucial components of the Gateway Corridor because they contribute so many benefits. The remnant natural places in the corridor, including the Wet Woods, the short segment of Forget-Me-Not-Creek west of the bridge, the riverbank, and the steep side slopes of Stringer’s Ridge, should all be protected and restored. These areas provide scenery, wildlife habitat, water quality improvement, erosion control, and a physical and visual extension of the more rural landscape of the Archeological District.

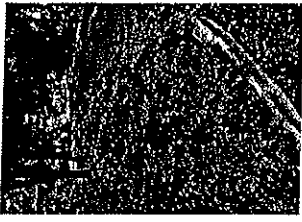
As mentioned, the rebuilding of Manufacturers Road, Hamm Road and Cherokee Boulevard as green streets will bestow run-off treatment, habitat connectivity, scenery, shade, and air quality improvement. Finally, the interchange of Manufacturers Road and Highway 27 can become a small park with interpretive exhibits; passive recreation amenities and landscaping. Altogether, the green infrastructure elements will be the glue that holds the Gateway Corridor together, providing visual cohesion, recreational enhancements, and environmental benefits.



PROPOSED COMPLETE "GREEN" STREET SECTION FOR MANUFACTURERS ROAD

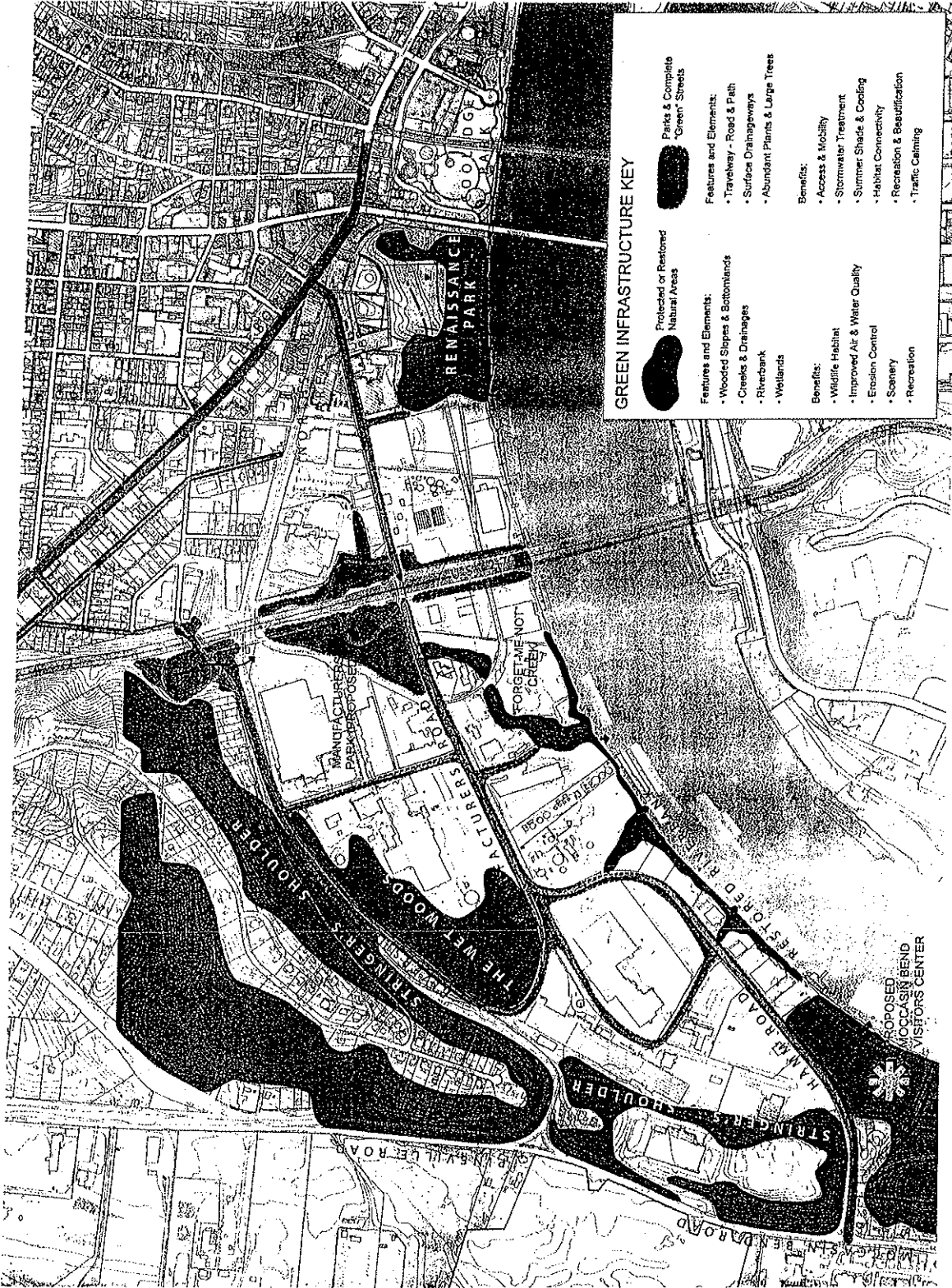


Example of Bio-Swale between lane and multi-use path





Example of Bio-Swale with street parking

CHAPTER 3:
Recommendations

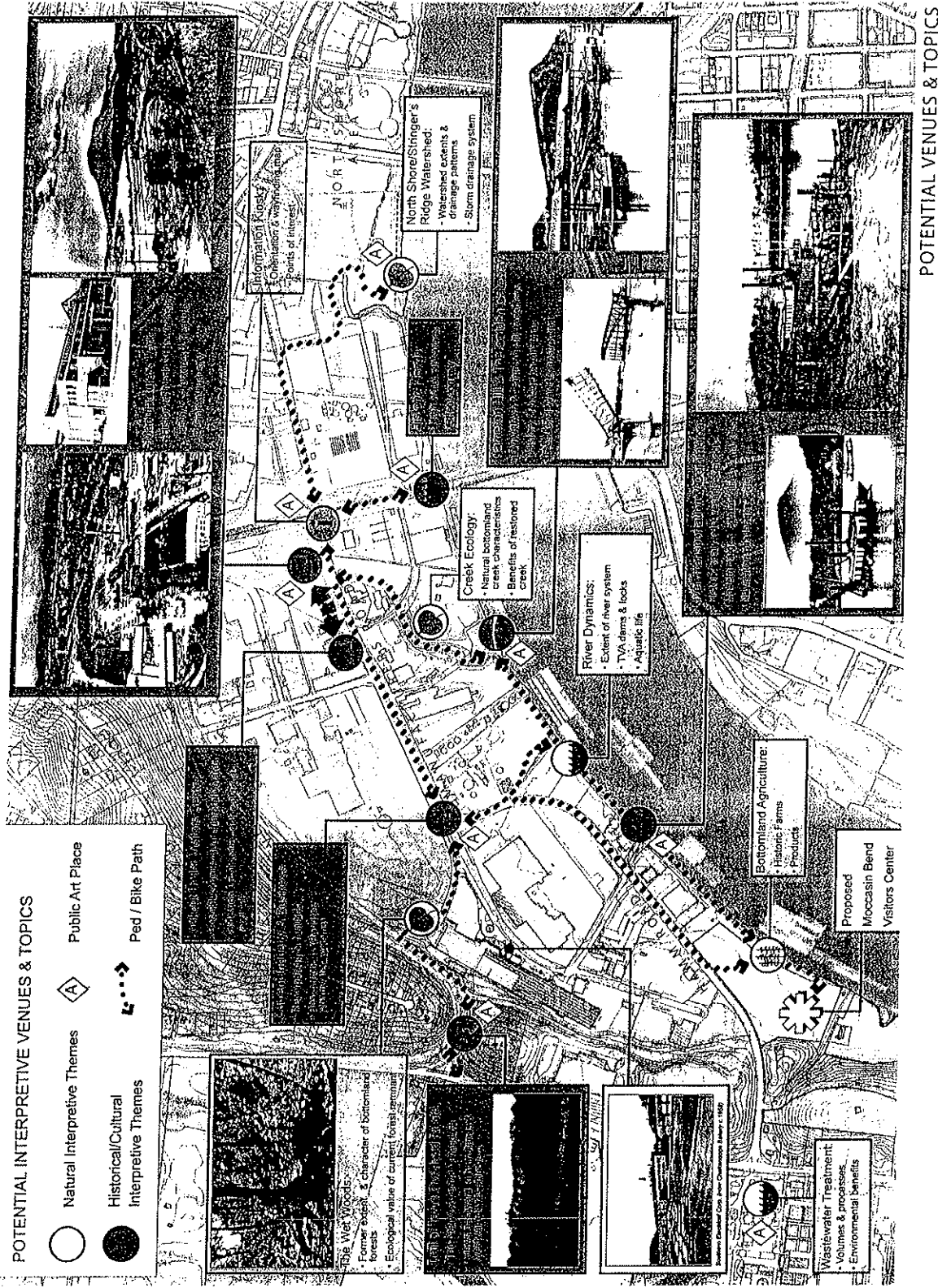


GREEN INFRASTRUCTURE KEY

- | | | | |
|---|--|---|---|
|  | Protected or Restored Natural Areas |  | Parks & Complete "Green" Streets |
| Features and Elements: | <ul style="list-style-type: none"> • Wooded Slopes & Bottomlands • Creeks & Drainages • Riverbank • Wetlands | Features and Elements: | <ul style="list-style-type: none"> • Trailway - Road & Path • Surface Drainageways • Abundant Plants & Large Trees |
| Benefits: | <ul style="list-style-type: none"> • Wildlife Habitat • Improved Air & Water Quality • Erosion Control • Scenery • Recreation | Benefits: | <ul style="list-style-type: none"> • Access & Mobility • Stormwater Treatment • Summer Shade & Cooling • Habitat Connectivity • Recreation & Beautification • Traffic Calming |

Green
Infrastructure

CHAPTER 3:
Recommendations



Interpretive
& Public Art
Program

INTERPRETIVE & PUBLIC ART PROGRAM

The Gateway Corridor possesses an interesting history tied to Chattanooga's beginnings and development. Although specific locations and places are hard to pinpoint, the corridor has some association with Native American and Civil War history. The corridor's industrial heritage is perhaps most strongly expressed by the many active industries that line Manufacturers Road and Hamm Road. Some industrial buildings and facilities here date to the late 19th or early 20th Centuries.

The following is a brief overview of interpretive topics and themes recommended by Alexander Archaeological Consultants, Inc. for the Gateway Corridor. This overview is intended to provide suggestions on important topics and venues-related cultural and historical resources within the project area and is in no way meant to present a thorough historical overview of the recommended interpretive themes and venues.

North Shore Factories: Manufacturing in the Twentieth Century

Historically, the majority of the project area contained industrial and retail manufacturing properties, comprised of multiple buildings and structures. Many of these historical structures on the north side of the Tennessee River began in the 1920s and 1930s. After the bridge was completed in 1927, and the Chattanooga tractor company and its main plant, transportation options for both people and goods.

Historic Industries in the General Area with Standings

The local history of the Gateway Corridor Company, constructed in 1920, many factories and structures of both types have since been demolished, purchased and renamed during the late 1960s. The first industrial system, the 1985, located in 2000.

The Gateway Corridor Company, constructed in 1920, many factories and structures of both types have since been demolished, purchased and renamed during the late 1960s. The first industrial system, the 1985, located in 2000.

Chattanooga Stamping and Enameling (constructed c. 1915)—first industry constructed in the general area; produced enameled sheet and cast iron parts for refrigerators, ovens, and other equipment in the 1920s and 1930s, until it received valuable federal contracts to produce items for the war effort during World War II. After the war, Chattanooga Stamping and Enameling Company decided to move their operations. In the 1950s, the complex was called the Southern Electrical Corporation and manufactured electrical wire. The Chattanooga Bakery, Inc., maker of the famous Moon Pie, began its operations at the complex in the 1980s. Historic buildings are hidden by modern additions/venues.

Demolished Major Industry

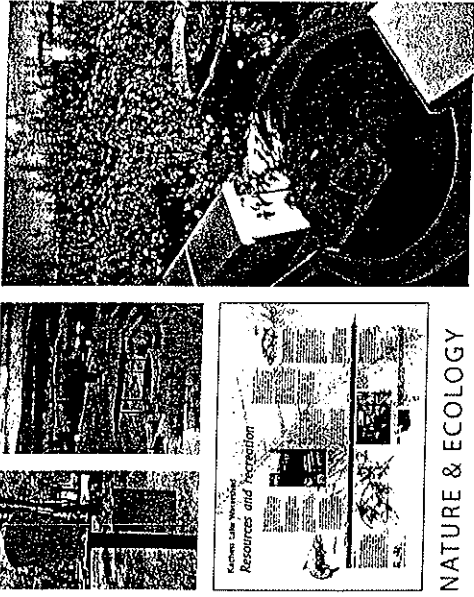
Somerville Iron Works (constructed c. 1920)—was located directly south of the Chattanooga Bakery; manufactured iron pipes and fittings.

Cameron Hill and the Golden Gateway

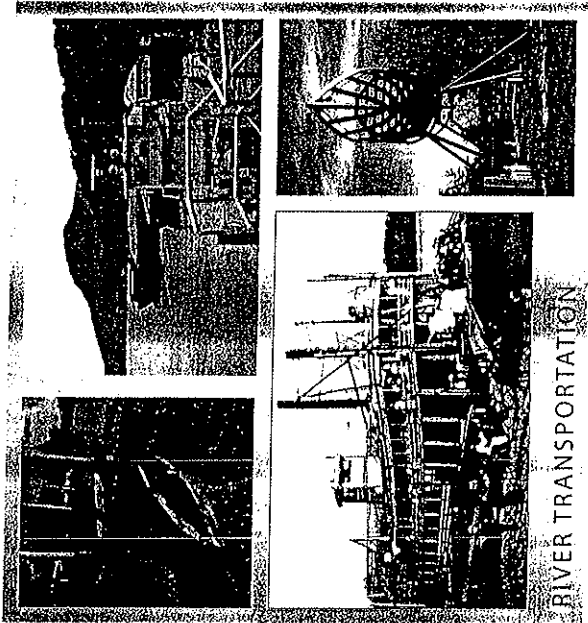
The 1950s witnessed the beginnings of a major urban renewal project in the downtown and Cameron Hill area. Construction of what was called the Cedar Street Bridge was begun early in 1955. The finished structure was opened in November 1959 and was officially named the Olgiate Bridge in honor of former mayor, Rudi P. Olgiate. Blue Goose Hollow, the home ground of blues singer Bessie Smith, disappeared under the south approach to the bridge. An offshoot of construction of the span was the Golden Gateway project, part of the urban renewal effort that affected the entire west side of downtown Chattanooga, including Cameron Hill and the area west of it. In the late 1950s and 1960s thousands of homes, some of considerable age and architectural merit, were demolished. Cameron Hill was lowered and terraced. The fill was used to create embankments for construction of the interstate highway system through Chattanooga. A spur of I-24 connected with the Olgiate Bridge. The Olgiate Bridge was heralded as a "link in the city's chain of progress," at its dedication and bears a modern aesthetic devoid of decorative detailing. Photographs from the Civil War period into the 1960s illustrate the dramatic changes carried out in this area, forever changing the appearance and character of Chattanooga's riverfront.

CHAPTER 3:
Recommendations

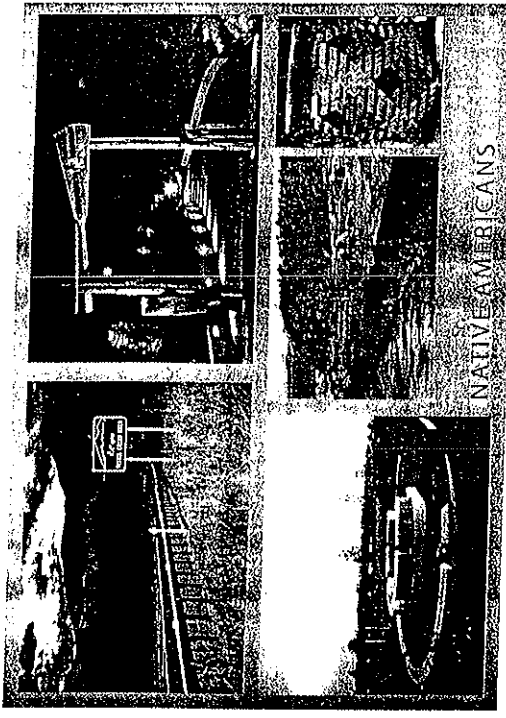
- Ways to Tell History & Stories:
- Signs & Photos
 - Art & Artifacts
 - Trails & Overlooks
 - Web Kiosks
 - Cell Phone Apps



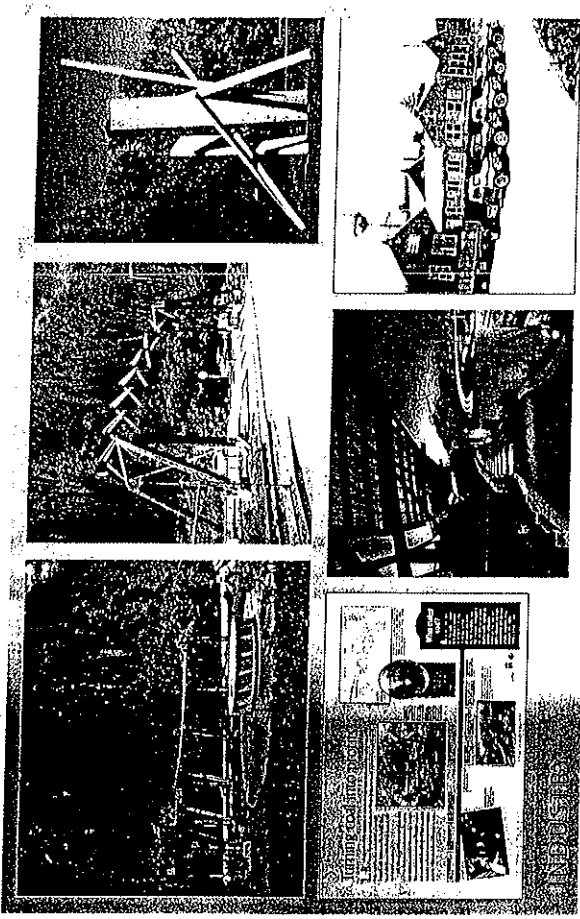
NATURE & ECOLOGY



RIVER TRANSPORTATION



NATIVE AMERICANS



POTENTIAL TOPICS & WAYS TO TELL STORIES

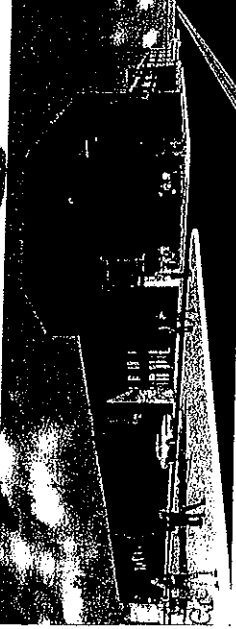
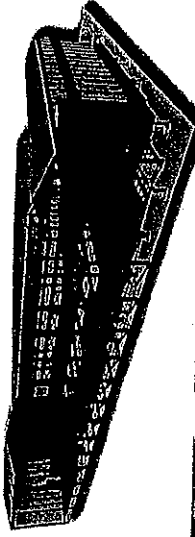
Interpretive
& Public Art
Program

Interpretive & Public Art Program

voice and musical recordings transmitted by short range radio, and real-time interactive virtual tours.

An interpretive master plan should ultimately be done for the corridor to better define interpretive messages and stories, interpretive venues, and communication methods. Interpretation strengthens the connection between people and place. By broadening visitors' perceptions of the places they visit for recreation and learning, interpretation expands the capacity for people to understand and care for a place. Basically, communication about the importance of natural and cultural resources and the effects of collective and individual actions is a direct reflection of our society's attitudes towards our environment.

Lending further momentum to the Gateway Corridor, the Integrated Design & Construction Studio at Auburn University explored opportunities to highlight the manufacturing heritage of the North Shore area. Architecture students proposed to repurpose part of the Applied Thermal Coatings building at 200 Compress Street into the Harley Grant Industrial Heritage Museum. Their concepts include maintaining the existing manufacturing use while integrating a museum into the remainder of the facility.



AUBURN UNIVERSITY STUDIO CONCEPTS

Tennessee River Transportation: Moving People and Goods On and Over the Tennessee River

Transportation on and over the Tennessee River is a topic of vital importance to Chattanooga both past and present. This topic could be interpreted broadly to include the National Register listed Walnut Street Bridge and Market Street Bridge as well as the Civil War era pontoon bridges, military bridge, and flying ferry, or it could be interpreted more narrowly to include only transportation on the river via flatboats, steamboats and barges and the associated boardwalk once located at the base of Cameron Hill. Most of the river's existing navigation obstacles could also be included to highlight the challenges of Tennessee River commerce and transportation.

Trail of Tears: An Overland Route

Multiple studies have tried to identify the various routes followed during the Trail of Tears of 1838-39. Archaeologist Benjamin Nance suggests that a contingent of more than 1,000 Cherokee was sent overland in wagons, crossing the Tennessee River by ferry, then passing over Moccasin Bend to cross the river again at Brown's Ferry and a third time at Kelly's Ferry. Nance argues that another contingent of approximately 650 Cherokee party members also crossed the river from Ross's Landing to then travel south across Moccasin Bend to Brown's Ferry. While their routes were not the same, both contingents appear to have followed a similar path from Ross's Landing across Moccasin Bend. An interpretive area in the Gateway Corridor might offer an opportunity to tell the story of those who were forced to travel the overland routes to the West.

The experience of traveling the corridor can definitely be heightened by providing interpretive elements that convey the area's history. The exhibit on page 30 suggests venues and topics for interpretive exhibits and elements along the corridor's proposed multi-use pedestrian/bike paths. In addition to human history, interpretation should address the natural features and dynamics that are still present in the corridor. As shown by the photos on the opposite page, interpretation can take many forms, ranging from interpretive signs and markers, to art and artifacts. Other interpretive technologies include digital media accessed at a web-kiosk or through cell phone apps,



CHAPTER 3:

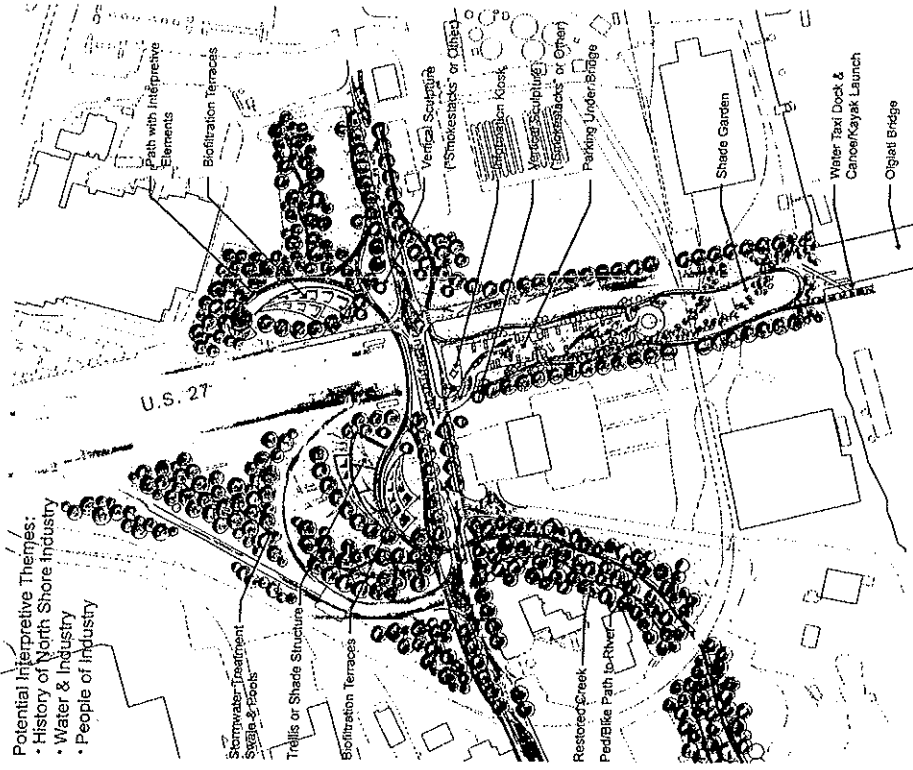
Recommendations

- *turn the interchange area into a park amenity*
 - *theme the park to the corridor's industrial heritage*
 - *integrate stormwater treatment, interpretation, paths, landscaping into park*
- At the time of this writing, the interchange of Manufacturers Road and Highway 27 is being reconstructed as part of a larger highway widening project by the Tennessee Department of Transportation (TDOT). The interchange is a major transportation junction for visitors who will be traveling to and from the Moccasin Bend Visitors Center. Essentially, the crossing can be seen as a mini-gateway or portal within the larger Moccasin Bend Gateway Corridor. As such, the interchange needs to be experienced as a informal park and visual amenity instead of as merely an unadorned interchange area.
- The new interchange will contain a fair amount of open ground that is not occupied by highway ramps, roads, or structures. As shown by the initial concept plan on this page, open land in the interchange could readily be adapted to park space with paths, landscaping, interpretation and art. Stormwater treatment facilities could also be incorporated into the park to treat and slow the heavy volumes of run-off coming from the highway roadways and ramps. Land under the bridge lends itself to a small parking area for visitors who might prefer to park and continue their journey to the Visitors Center or Stringer's Ridge by bike or on foot.

MANUFACTURERS PARK

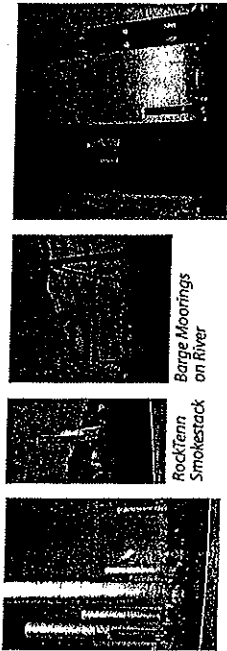
The design of the park can be themed to the industrial activity and heritage of the Manufacturers Road corridor. Interpretive elements could speak to the history of North Shore industry, the role of water in industry, the people who work in local industries, industrial processes and products, or any number of other related topics. Manufacturers Park can basically become a passive recreational feature that contributes to the corridor experience through a unified design tied to the larger setting.

The refined Schematic Design Plan on page 36 shows the full extent of the park from the edge of the river to the former Manning Street interchange. The schematic plan provides further detail on various park elements including a stormwater treatment system for highway runoff, pathways and walks, and landscaping.



MANUFACTURERS PARK INITIAL CONCEPT PLAN @ HIGHWAY 27 /
MANUFACTURERS ROAD INTERCHANGE

CHAPTER 3:
Recommendations



Barge Moorings
on River

Rock Tann
Smokestack



Public Art & Outdoor Sculpture



Stormwater Treatment Swales & Ponds

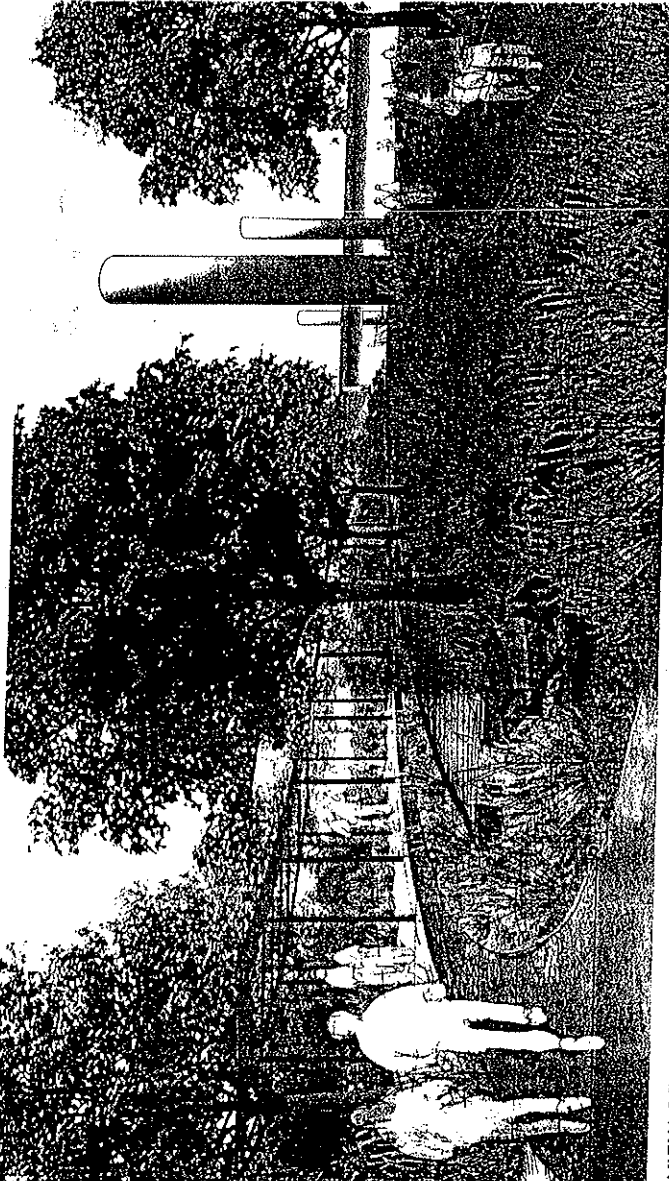


Interpretation

Informal Sitting & Gathering Areas with Trellis/Shade Structures



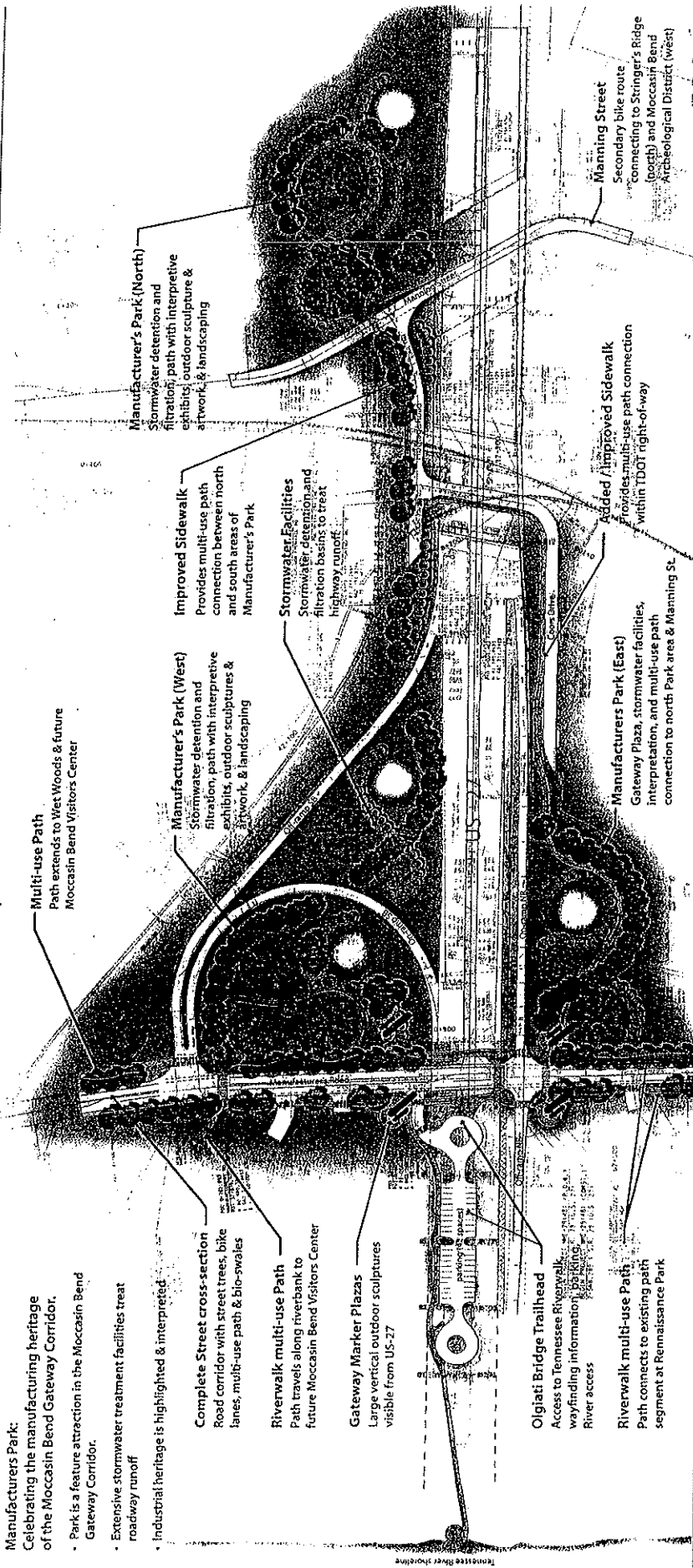
Current View of Existing Interchange



VIEW OF PROPOSED MANUFACTURERS PARK

CHAPTER 3:
Recommendations

Schematic Design Plan



MANUFACTURERS PARK

JONES + JONES

MANUFACTURERS PARK SCHEMATIC DESIGN PLAN

Park Elements Components

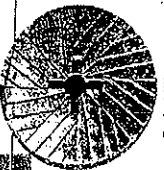
DESIGN INSPIRATION



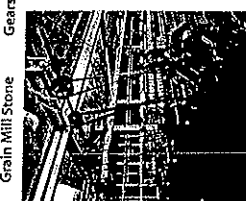
Water Wheel



Machinery



Grain Mill Stone



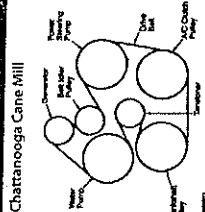
Textile Mill Belts & Pulleys



Gears & Wheels



Water/Wind Turbines



Chattanooga Cane Mill

STORMWATER TREATMENT WETLANDS



Scenery



Flora



Art

INTERPRETIVE TOPICS

"Water & Industry"

How water is used for industry & manufacturing.

- As a means for transporting and shipping raw & finished materials.
- A power source to operate machinery & equipment: waterwheels, steam, hydro-electricity.
- As a key component of the manufacturing process: chemical cleaning, cooling.
- As a place to discharge by-products.
- As an integral part of the final product.

"Plants to Products"

The industrial processes of transforming plants into products.

- The raw materials plants to clean materials: trees, cotton, wheat, soybeans.
- The machinery used to operate equipment, etc.
- The chemical processes that create mechanical and/or chemical products.
- The process by products are formed, used, recycled, or discharged.
- The finished products: paper, moon-pies, cloth, asphalt, etc.

"Clean Water Machine"

How and why urban stormwater run-off is captured and treated.

- Where run-off comes from.
- What it contains or carries.
- What kinds of problems it causes.
- How run-off is detained, treated, cleaned.
- What are the benefits of treatment.

FURNITURE & AMENITIES



Gear Form Seating

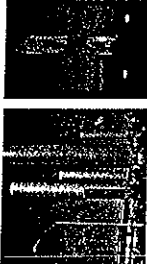


Information Kiosk



Lighting Optional

ART & INTERPRETATION



Vertical Gateway Markers/Sculpture



Interpretive Exhibits



Local Flavor

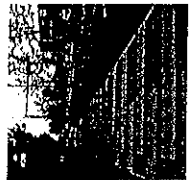


Industrial Relics

PAVEMENT PATTERNS & SURFACES



Circular Forms



"Chair" or "Belt" Paving



Spiral Forms



Bike/Ped Delineation

MANUFACTURERS PARK

MANUFACTURERS PARK SCHEMATIC DESIGN ELEMENTS

CHAPTER 3:

Recommendations

THE WET WOODS & BROWN'S GAP

• *make Brown's Gap and the Wet Woods attractions within the corridor*

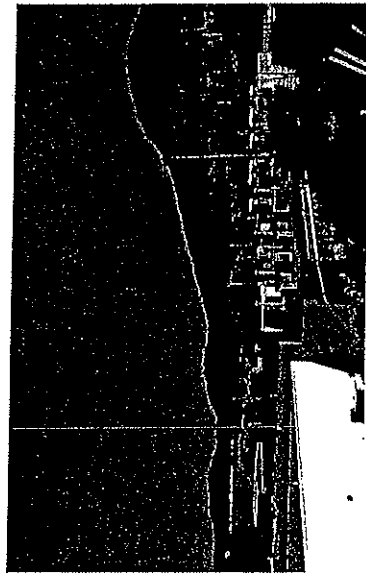
• *provide interpretation of Brown's Gap historic events and the Wet Woods ecological value*

As discussed in Chapter 2, the area referred to as the Wet Woods is a valued remnant of bottomland woods or wetland forest. The owner of this resource (RockTenn) is receptive to the idea of setting the woods aside as a nature preserve and perhaps allowing visitors to access and experience it through a nature trail. The drawing on this page shows the concept of a simple boardwalk trail and small shelter pavilion situated in the Wet Woods. A conservation easement, shared use agreement, or other mechanism should be pursued to establish the woods as a nature preserve and compelling attraction in the Gateway Corridor.

A poignant event associated with the Trail of Tears may have taken place where Riverside Avenue crosses over a saddle in Stringer's Ridge just east of Pineville Road. Apparently, a group of dispossessed Native Americans paused at this spot to gaze back

up-river toward their homelands before continuing on their journey westward to the newly established Indian Territories in Oklahoma. Also, one of the early federal roads to Brown's Ferry may have crossed over this saddle.

Because of the historic events associated with the saddle, now referred to as Brown's Gap, it would be appropriate to provide interpretive elements here. Riverside Avenue could be slightly narrowed and realigned to accommodate a multi-use path along the south side of the road. This path would tie into a trail through the Archeological District west of Pineville Road, providing visitors with an alternative route to and from the District. Interpretive elements might consist of a storywall as depicted on the opposite page. Brown's Gap and the Wet Woods can become wonderful side trips or destinations in the Moccasin Bend Gateway Corridor.



The current view looking downriver from Brown's Gap



BROWN'S GAP & WET WOODS INTERPRETIVE VENUES

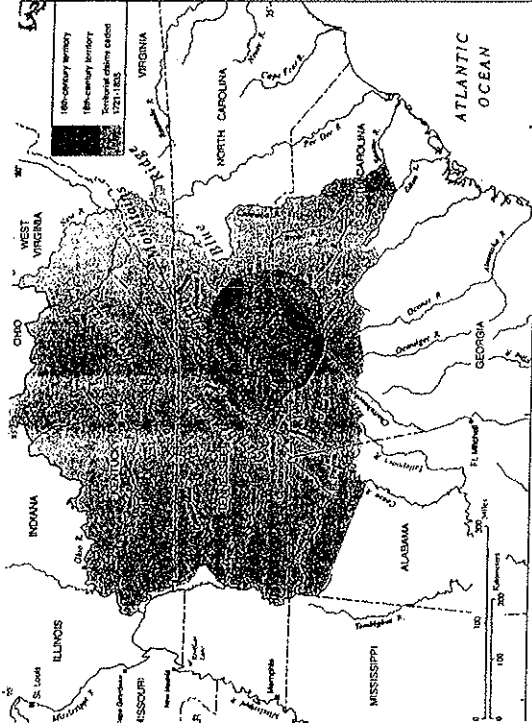
CHAPTER 3:
Recommendations



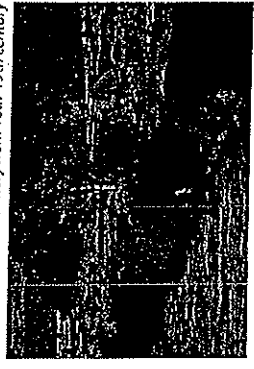
Current View of Riverside Avenue
(Brown's Gap) Looking West



PROPOSED INTERPRETIVE PATH & STORYWALL AT BROWN'S GAP



Cherokee Territory from 16th-19th century



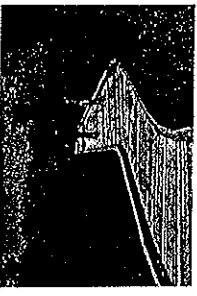
Artist's conception of a Native American Village



Interior of The Wet Woods



Example of Boardwalk Trail



'Storywall Example'

CHAPTER 3:

Recommendations

- make Cherokee Blvd. a Complete Street
- develop secondary connections to park via neighborhood streets
- integrate green infrastructure into connections network

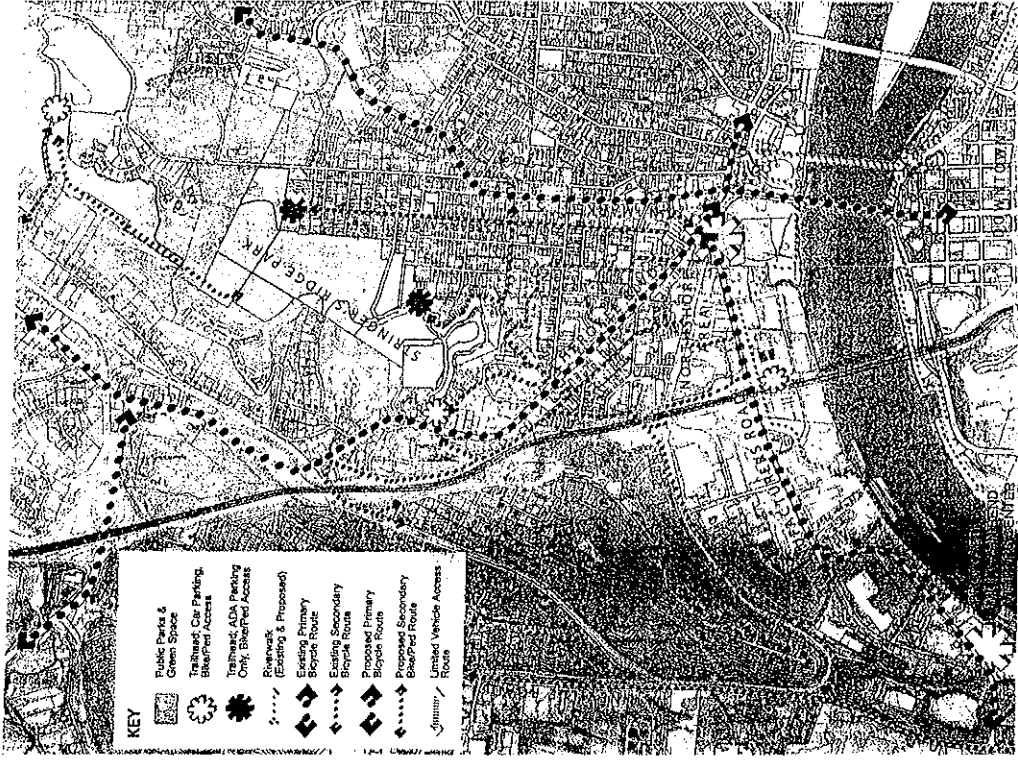
STRINGER'S RIDGE PARK CONNECTIONS

Stringer's Ridge Park is a major addition to Chattanooga's park system. Established primarily as a nature preserve, the 92-acre park will host an extensive system of hiking and mountain-bike trails across steep wooded terrain. The Trust for Public Land (TPL) recently completed a trails master plan for the park which also includes recommendations for park trailheads, scenic viewpoints, interpretive venues and access control. A separate earlier study commissioned by TPL addresses forest health and management within the park. Together, the trails plan and the forest study cover the great majority of issues regarding management and use of Stringer's Ridge Park.

The following discussion here deals primarily with pedestrian and bicycle access and connections to Stringer's Ridge Park. The park is an important recreational and natural resource, and its value to the community only stands to be enhanced by safe and convenient bike/pedestrian routes between the park and other parts of the city.

As shown by the map diagram on this page, Stringer's Ridge Park is situated close to two primary bicycle routes currently designated along Cherokee Boulevard and Market Street. These bike routes are both on major arterials and provide park linkages to and from the downtown, North Shore business district, Tennessee Riverwalk, and residential neighborhoods to the north and south. Per the map diagram, it is strongly suggested that a network of secondary bike/pedestrian routes be established on low volume residential and local access streets throughout the area. The secondary routes would provide alternative travel routes along less busy streets and offer direct and convenient connections between places south of the park including Renaissance and Coolidge Parks, the Moccasin Bend Gateway Corridor, and adjacent residential neighborhoods.

Because safe and pleasant bike and pedestrian travel is essential, the exhibits on the following page depict how Cherokee Boulevard could be reconfigured as a Complete "Green" Street to better accommodate both cyclists and pedestrians and also integrate environmental benefits such as shade trees and stormwater treatment. Similarly, neighborhood streets can be supplemented with better sidewalks and additional street trees to support their role as secondary pedestrian/bike routes. Bike route signs and bike pavement markings on these streets also would be necessary.



AREA BIKE & PEDESTRIAN CONNECTORS

CHAPTER 3:

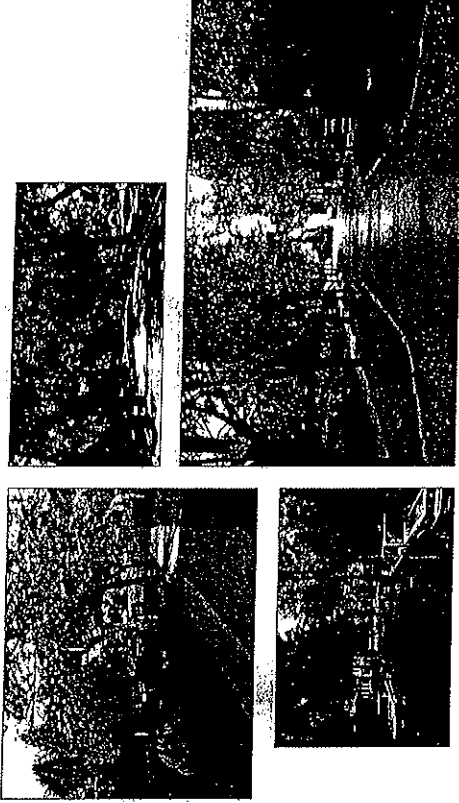
Recommendations

Redesigning Cherokee Boulevard as a Complete Green Street will require:

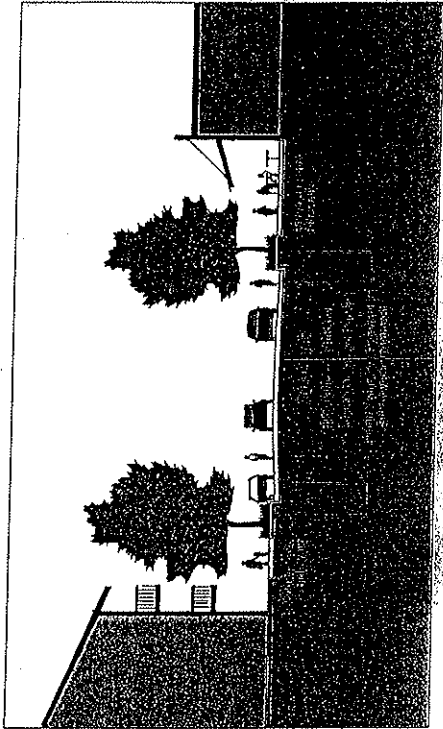
- coordination with TDOT since the arterial is a state highway
- preparation of a traffic study and coordination with adjacent property owners
- a likely reduction in the number of traffic lanes and driveway aprons
- limited on-street parking
- introduction of bike lanes, wide sidewalks and planter strips
- expansion of the North Shore Design Review District to ensure compatible new development



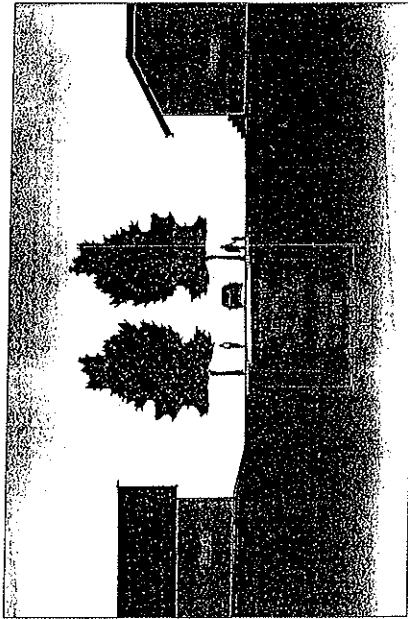
EXAMPLES OF COMPLETE "GREEN" STREETS



EXAMPLES OF "GREEN" NEIGHBORHOOD STREETS



PROPOSED CROSS-SECTION FOR CHEROKEE BLVD. AS COMPLETE "GREEN" STREET CONNECTOR



PROPOSED CROSS-SECTION FOR NEIGHBORHOOD STREETS AS SECONDARY PED/BIKE ROUTE & "GREEN" CONNECTORS

CHAPTER 3:

Recommendations



Overlook Canopy Trail Viewpoint in Stringer's Ridge Park

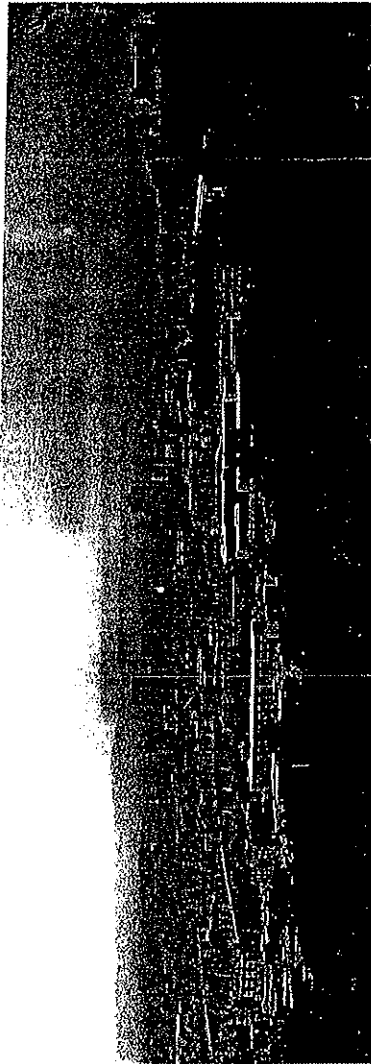
STRINGER'S RIDGE PARK TRAILS AND HISTORY

The map to the right is excerpted from the trail system master plan prepared by Trail Dynamics for Stringer's Ridge Park. The map shows the proposed extent and routing of different trail types as well as proposed trailhead locations. The complete master plan document can be obtained from the Trust for Public Land's Chattanooga office.

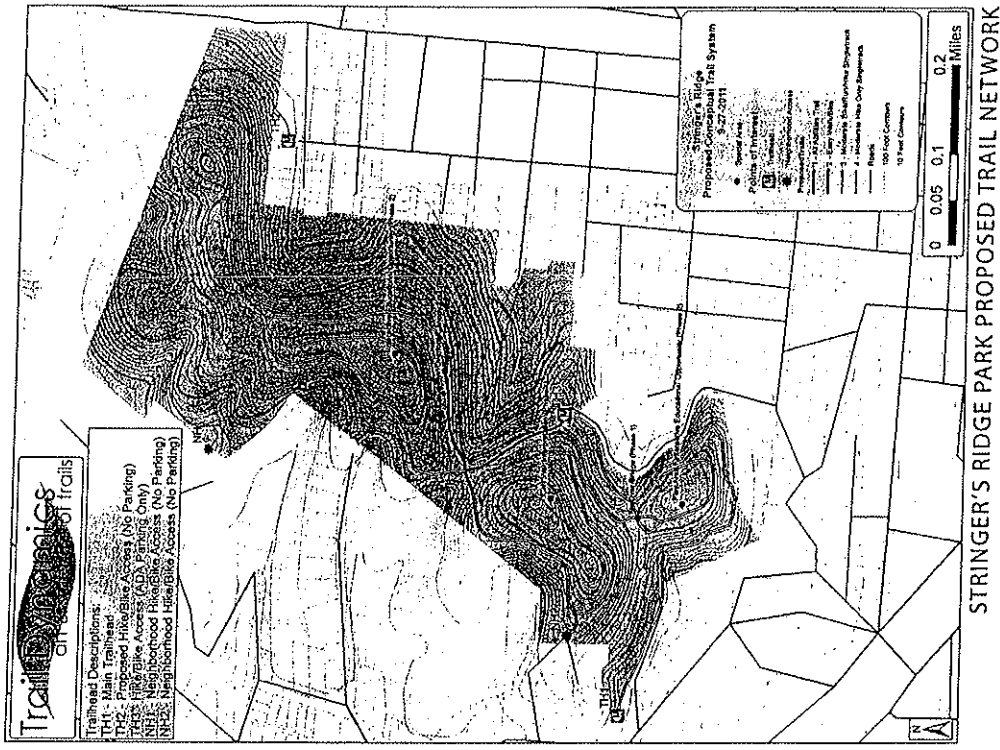
Civil War Activities on Stringer's Ridge

Many of the broad vistas currently experienced in Stringer's Ridge Park are similar to the ones that the Union Army may have had while laying siege to Chattanooga. The following is a brief overview of Civil War period topics offered by Alexander Archaeological Consultants Inc. for possible interpretation in Stringer's Ridge Park. These stories and topics could be conveyed through interpretive signage along certain park trails. This short narrative of Civil War events is not a complete historical overview. A more thorough historical assessment and interpretive master plan should be done for the park.

- Civil War period military maps indicate that the primary north-south route over Stringer's Ridge was Dayton Road, which is currently followed by the modern Cherokee Boulevard and portions of US Hwy 27. Manufacturers Road, which also crosses Stringers Ridge, is also evident on Civil War maps.



View of downtown from Stringer's Ridge Park



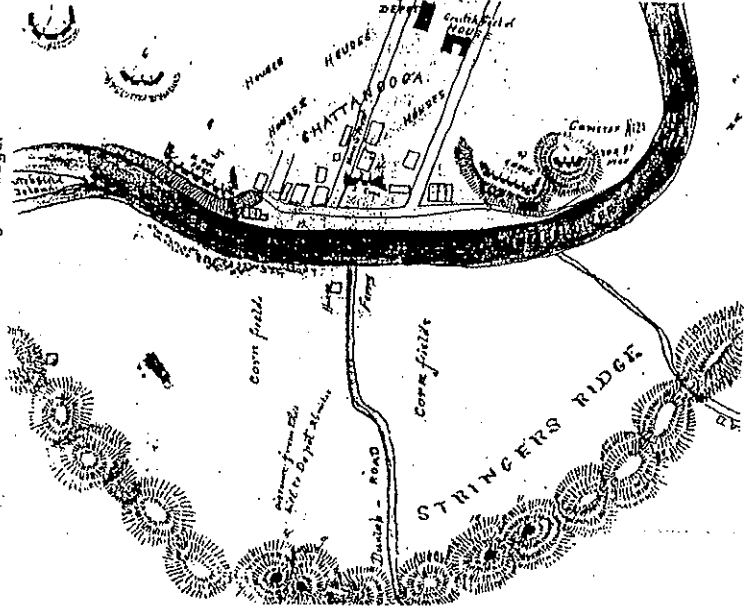
CHAPTER 3:
Recommendations

- On June 6, 1862, Union General Negley took up a position on Stringer's Ridge opposite Chattanooga. The following evening Negley began firing on Chattanooga with cannons and sharpshooters stationed on the riverbank. The Confederate troops responded with cannon fire from Cameron Hill. The exact location of Negley's cannon positions remains unknown.

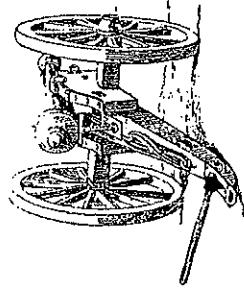
- On August 21, 1863, Union General Wilder's mounted infantry crossed Waldens Ridge and occupied the south slope of Stringer's Ridge with three regiments and four artillery pieces. The Confederates had not expected this invasion and were taken by surprise. Advance Union scouts were able to capture 40 Rebel pickets and a horse ferry boat on the north side of the river. Captain Lilly's 18th Indiana Battery, set up two sections of 3 inch Ordnance Rifle "Rodman guns" at two locations, one on each side of the road over Stringer's Ridge. These positions provided a clear view of the Tennessee River, Ross's Landing, and Confederate fortifications. Two additional sections took positions on hills to the east and west of the Dayton Road. The section located on the east hill fired on Confederate installations east of the ferry landing, while the third section fired on the Cameron Hill fortifications. Two steamboats, the Paint Rock and the Dunbar, were moored at Ross's Landing and were shelled first. The Paint Rock sank in approximately one hour. Union cannoners were able to place shells through the fort embrasures on Cameron Hill thereby disabling Confederate cannons. The two sections of the 18th Indiana Battery fired 263 shells at military targets in Chattanooga during the day of August 21.

- Confederate troops opened fire on the Union marauders with 19 different cannons, including 12 pound Howitzers and six pound rifled cannons. The Confederate shells, however, fell short and struck only the hill below Lilly's position. The Confederate shells occurred late in the afternoon, when the Rebels fired a shot from a 32 pound James rifle and cut the leg off of one corporal and killed four horses. On Saturday, August 22, the third section of the 18th Indiana Battery returned to Stringer's Ridge opposite Cameron Hill. The Union troops fired 20 shells, while only four or five Confederate replies were made with no damage reported. On August 26 and 27, Union troops dug holes in the hilltop of Stringer's Ridge and case-mated the positions for protection from the Confederate's 32 pound cannon which previously had been successful. These cannon pits were excavated so deep that only the gun muzzle would clear the hilltop.

- Following the Battles of Lookout Mountain and Missionary Ridge, in October and November of 1863, Union Troops and supplies flooded into Chattanooga and the city became a staging area for the 1864 invasion of Georgia. Stringer's Ridge was again used as a lookout and strategic position to protect Ross's Landing and the Tennessee River. Additional fortifications were built on the top of Stringer's Ridge and trenches for infantry were excavated on the slopes of Stringer's Ridge.



CIVIL WAR PERIOD MAP OF STRINGER'S RIDGE AND CHATTANOOGA











PROJECT PRIORITIZATION

During the day-long public meeting and open house on November 14, 2011, community members were invited to vote on projects that they felt should have priority in terms of implementation. The chart here shows the results of this voting. Development of the Riverwalk between Renaissance Park and the Moccasin Bend Visitors Center received by far the highest ranking, followed by reconstruction of


Manufacturers Road in 2nd place, and connections to Stringer's Ridge in 3rd. The development of Manufacturers Park ranked fourth; however, at the time of this writing it appears Manufacturers Park could be implemented first as part of TDOT's reconstruction of the Highway 27/Manufacturers Road interchange.

MOCCASIN BEND AND STRINGER'S RIDGE GATEWAY PROJECTS

	<p>Build the Riverwalk from Renaissance Park to the Moccasin Bend Visitors Center Site (including path, riverbank restoration, overlooks and interpretation).</p>	<p>VOTE 1st 259 PTS</p>
	<p>Reconstruct Manufacturers Road and Hamm Road as Complete "Green" Streets (including bike lanes, path, and landscaping).</p>	<p>VOTE 2nd 173 PTS</p>
	<p>Provide good Bike/Ped connection(s) from Manufacturers Road to Stringer's Ridge (including making Cherokee Blvd a Complete "Green" Street, improving neighborhood streets, and providing other off-road paths).</p>	<p>VOTE 3rd 156 PTS</p>
	<p>Develop Manufacturers Park at the Highway 27/Manufacturers Road Interchange (including paths and gathering areas, storm-water treatment, interpretive elements, landscaping, and parking under the bridge).</p>	<p>VOTE 4th 95 PTS</p>
	<p>Develop Brown's Gap Interpretive Trail (including path, overlooks, interpretive elements and landscaping.)</p>	<p>VOTE 5th 45 PTS</p>
	<p>Restore Creek between Manufacturers Road and River (including channel bank & bottom restoration, debris removal, storm-water treatment facilities).</p>	<p>VOTE 6th 41 PTS</p>
	<p>Develop the Wet Woods Interpretive Trail (including woodland restoration, boardwalk path, and interpretive elements).</p>	<p>VOTE 7th 34 PTS</p>



NORTH SHORE
PARK DISTRICT



COMMUNITY PLANNING COUNCIL

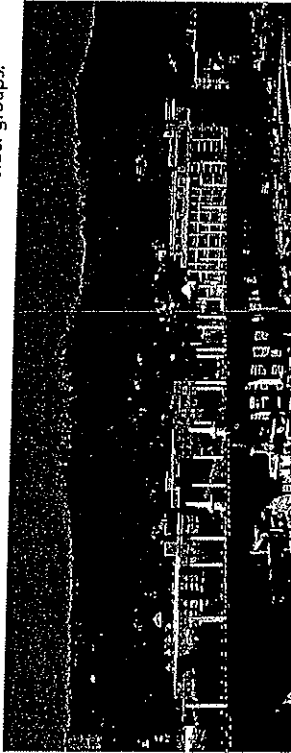
JONES

ASSISTANT COUNTY COMMISSIONER

Voting Results

NORTH CHATTANOOGA AS "PARKS DISTRICT"

Coupled with the green areas already in place, the "green" features promoted in this plan could contribute to a wonderful network of green throughout North Chattanooga. The map diagram on this page shows that the area given over to green space could well exceed 40% of total land area, and this could largely be achieved by simply protecting existing undeveloped open space. This green network is essentially an urban life-support system, one that fosters environmental and human health. If and how it is accomplished will require sustained commitment and on-going action by local government, neighborhoods, business, and various stakeholder groups.

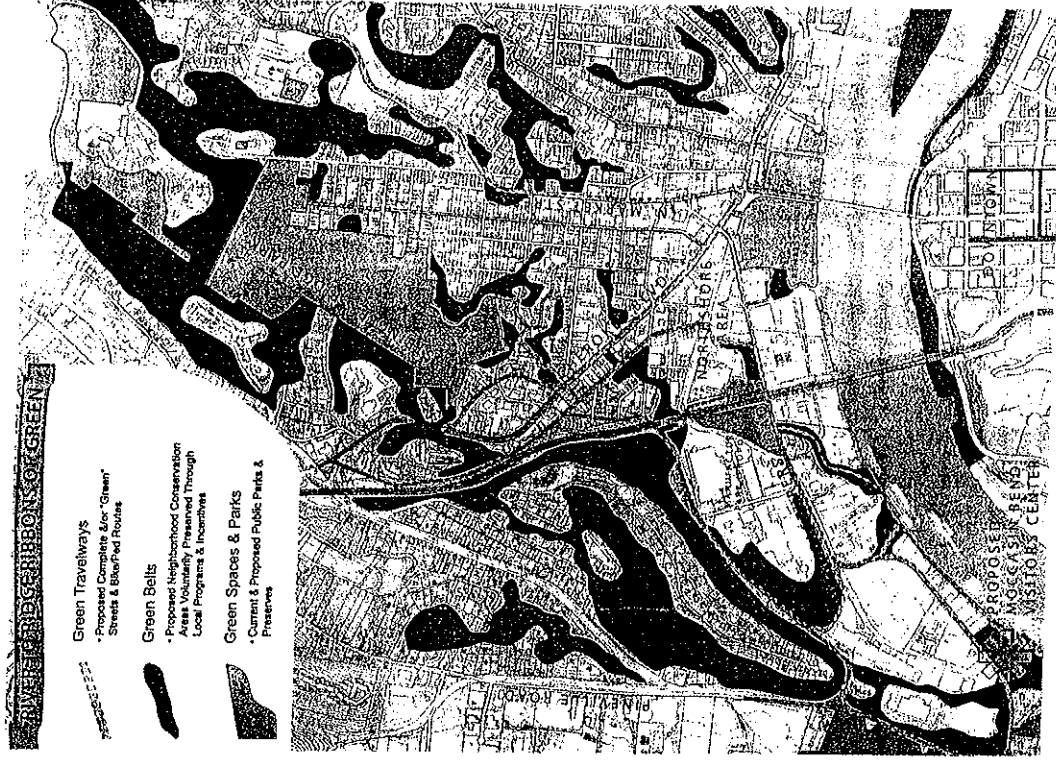


Stringer's Ridge Park from downtown



North Shore business district from Stringer's Ridge

CHAPTER 3: Recommendations



North
Chattanooga:
City As Park

CHAPTER 3:
Recommendations

ESTIMATE OF PROBABLE CONSTRUCTION COSTS

Construction costs for Gateway Corridor improvements are difficult to estimate on the basis of the concepts and recommendations provided in this study. The recommendations are general in nature and they lack many of the specifics that are needed to assign accurate costs. Nevertheless, the following "cost range" has been developed for the major corridor projects outlined on page 36.

A. Reconstruct Mammoth Road from Highway 27 to Manufacturers Road, including bike lanes, multi-use path, stormwater treatment and landscaping. \$ 700,000 - \$ 800,000

B. Build the Riverwalk from Renaissance Park to the Moccasin Bend Visitors Center (including path, riverbank restoration, overlooks and interpretation). * \$ 1,000,000 - \$ 1,150,000

C. Develop Manufacturers Park along Highway 27/Manufacturers Road. This area includes path, seating area, stormwater treatment, art & interpretive elements, and parking to make the bridge remaining for the ongoing maintenance of the riverwalks shared by the City of Chattanooga and Hamilton County Government. \$ 1,000,000 - \$ 1,500,000

D. Develop Brown's Gap Interpretive Trail (including path, road realignment, interpretive elements and landscaping). \$ 350,000 - \$ 500,000

E. Restore Forge and New Creek in the Manufacturers Park vicinity, including channel bank and bottom restoration, debris removal, stormwater treatment facilities. \$ 100,000 - \$ 250,000

F. Develop the Wet Woods Interpretive Trail (including woodland restoration, boardwalk path, and interpretive elements). \$ 200,000 - \$ 250,000

G. Provide bicycle connection from Manufacturers Road to Stringer's Ridge Park including making Green Street, Cobble Green Street, improving neighborhood streets and providing other off-road paths. \$ 100,000 - \$ 150,000

Implementation of the proposed gateway projects and improvements will require funding. The following are potential funding sources:

- City of Chattanooga General Fund: typically applied to capital projects and land acquisition, but recent budget shortfalls may make this a limited source.
- City Bond Measure: usually targeted to capital construction projects and occasionally land acquisition; receives better public reception in stronger economy.
- Community Development Block Grants: municipal and county recipients of this federal funding must apply money to certain projects meeting specific objectives.
- Land and Water Conservation Fund: this federal grant program is applied to recreation projects but is not appropriate for land acquisition; grants have been limited, but will hopefully increase.
- National Recreational Trails Program: this is another federal program providing grants specifically for trail development, maintenance, and interpretive components.
- Donations from individuals, local foundations, and business associations: usually targeted to land acquisition or a specific project.
- Federal Transportation Funds: several programs and grants provide money for multi-use trails and road corridor enhancements including trails, walks, landscaping, interpretive signage, and resource protection.

*Funding for the ongoing maintenance of the Riverwalk is shared by the City of Chattanooga and Hamilton County.



ACKNOWLEDGEMENTS

City of Chattanooga

Mayor Ron Littlefield
Councilwoman Deborah Scott

Chattanooga-Hamilton County Regional Planning Agency (RPA)

Primary Funders

The Lyndhurst Foundation
Benwood Foundation
Chattanooga Office of Sustainability

Moccasin Bend Gateway Steering Committee

Bruz Clark, Lyndurst Foundation
Cathleen Cook, National Park Service
David Crockett, Office of Sustainability
Eric Booker, Chattanooga Public Works
Jason Havron, Hill City Neighborhood Assoc.
Karna Levitt, City of Chattanooga
Melissa Taylor, RPA
Kristy Huntley, Benwood Foundation
Larry Zehnder, Chattanooga Parks & Recreation
Pamela Glaser, RPA
Rhannon Maynard, Hill City Neighborhood Assoc.
Rick Wood, Trust for Public Land
Shelley Andrews, Friends of Moccasin Bend
Karen Hundt, RPA

Tennessee Department of Transportation

Chattanooga Regional Manufacturers Association

Planning Consultant Team

Jones & Jones Architects + Landscape Architects + Planners
Arcadis, Inc.
Barge Waggoner Sumner & Cannon
Ron Thomas & Associates
Alexander Archaeological Consultants, Inc.

JONES ■ JONES

ARCHITECTS
LANDSCAPE ARCHITECTS
PLANNERS

105 SOUTH MAIN STREET
SUITE 300
SEATTLE, WASHINGTON USA
206-624-5762

www.jonesandjones.com