

Pedestrian Wayfinding

KNOXVILLE CENTRAL BUSINESS DISTRICT



A study and report of findings prepared by
The East Tennessee Community Design Center
for the City of Knoxville Department of Policy Development
Compiled by Charlotte Moellendick, May 2007

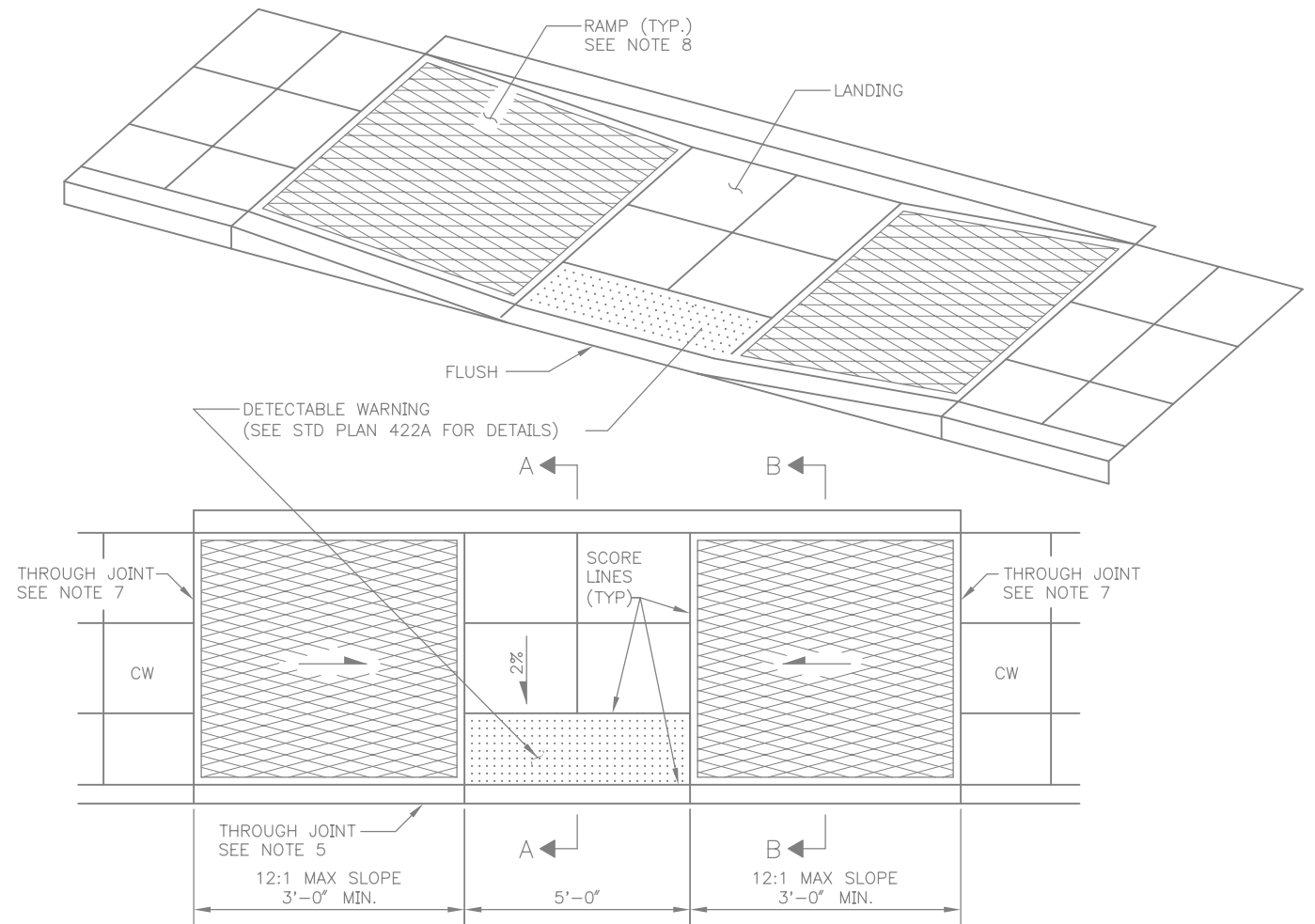
In Collaboration with



Thanks to

Our contributors, Knox County; City of Knoxville; United Way; and Tennessee Arts Commission; as well as MPC, for their continued collaboration; and KGIS, for providing the Design Center with maps for nonprofit projects and studies; and finally, to all the architects, planners, and community volunteers who are committed to the greater well-being of the people of Knoxville.

Pedestrian Wayfinding



THE LANDING PORTION OF THE TYPE 422b CURB RAMP SHALL BE WHOLLY CONTAINED WITHIN THE MARKED CROSSING

Contents

- 1 - Introduction
- 4 - Strategies and research
- 6 - Vehicular Access and Parking
- 7 - Embarkation Points
- 8 - Destination Points
- 11 - Pedestrian Networks
- 12 - Improvement Areas
- 14 - Streetscape Design
- 16 - Pedestrian Signage
- 17 - Sign Locations
- 19 - Designing a Signage System
- 22 - Making Associations
- 24 - The Problem of Market Square
- 27 - Conclusion
- 28 - Project Integration
- 29 - Sources



Project Goal:

- Increase the pedestrian navigability of Knoxville's Central Business District - especially along retail / commercial corridors - by making recommendations for the careful location and standardization of pedestrian-oriented signage and pavements, as well as other proven pedestrian wayfinding strategies.

Project Scope:

- Research successful pedestrian wayfinding initiatives implemented in other cities; analyze current conditions of pedestrian routes in Knoxville's Central Business District; propose primary pedestrian routes to encourage within the district; and suggest specific locations and strategies for improvement in the downtown area.
- Develop a workbank of files, analyses, and photographic documentation to be used during the design process (by another party) once the necessary funding has been approved.



Collective Goals

In the recently developed *Downtown Knoxville Design Guidelines* (2007), the *Public Realm* section emphasizes the enhancement of the pedestrian environment in downtown Knoxville. Among the associated priorities - such as safety, orientation, and beautification - the guidelines call for a 'comprehensive wayfinding system for pedestrians.'

The following proposal provides recommendations on how - and where - such a system might be implemented in Knoxville's Central Business District so that it can reinforce ongoing improvement efforts.

A. PUBLIC REALM

2. RESIDENT AND VISITOR ORIENTATION

People like to easily understand and remember the places they inhabit. Landmarks and views help residents and visitors orient themselves and find their destination. Additionally, signs, maps, and other way-finding tools are important.



GUIDELINES:

- 2a. Establish a comprehensive way-finding system for pedestrians.
- 2b. Create consistent parking signs and directional signs for both pedestrians and vehicular traffic.



Downtown Beautification

Greenway System

Market Square Entrance

Alleyway Design

Media Box Standardization

Bicycle Networks

Public Transit System

from *Downtown Knoxville Design Guidelines* (2007)

Under the Surface

In support of recent efforts to transform the city center, making downtown Knoxville more walkable can further revitalize its character. Not only will visitors be able to more easily navigate their way to local establishments, but also residents will be more inclined to utilize other means of transportation - such as public transit, bicycling, and of course, walking. While better for the environment, a slower pace can potentially increase public awareness, concern, and personal investment in the community.

Issues:

- Help visitors find Market Square and other downtown amenities
- Give downtown Knoxville a safe, beautiful, and pleasurable experience for the pedestrian
- Bring more pedestrians to downtown businesses, enhancing developer confidence in the downtown area
- Combat the misconception that there is not enough parking downtown
- Establish a plan that maintains a continuity among downtown's most public streetscapes



Strategies

A variety of wayfinding strategies can be thought of in terms of two types: active and passive, or objective and subjective. By considering both types, efforts will be well-rounded and successful for more people.

- **Signage, Maps, and Pamphlets:** the most active and literal devices, these can help visitors with a mission get the most out of a trip to any city
- **Visual Cues:** the most subjective of the strategies - and yet perhaps the most successful - is comfortable and appealing streetscape design

Other Considerations:

- Integrate other Knoxville improvement initiatives with the process
- Pushbuttons at traffic signals and busy intersections (i.e. Summitt + Gay/Henley; Gay + Main)
- Provide visual and tactile cues for the hearing- and visually-impaired
- Provide ample waste receptacles along major routes

For More Information:

- Portland Office of Transportation
<http://www.portlandonline.com/transportation>
- Steer Davies Gleave; University of Birmingham
<http://www.steerdaviesgleave.com>
- City of Milwaukee Public Works
Primary Pedestrian Corridor Development Project
<http://www.mpw.net/CorridorStudy/project.html>
- Seattle Streetscape Development
<http://www.seattle.gov/transportation/rowmanual>



Visual Cues:

Based on precedent research, the following strategies have been shown to help pedestrians orient themselves and navigate their ways through a city:

- Signage
- Paving
- Lighting
- Trees + planters
- Street Furniture
- Banners
- Public Art
- Sculpture
- Fountains
- Gateways
- Pausing Places

Clearly, Knoxville is already on its way to achieving these goals . . .



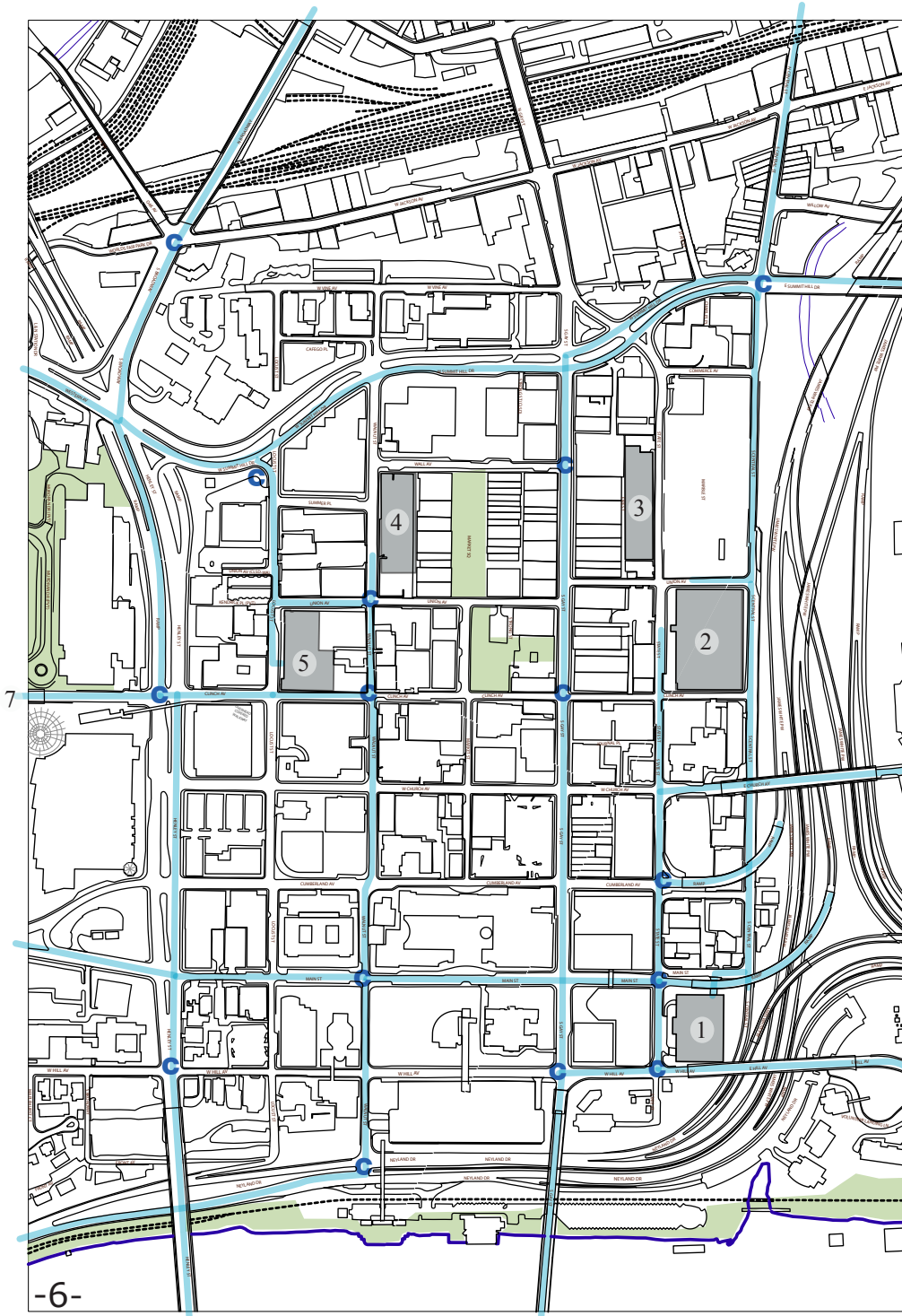
Getting Downtown

Directing Visitor Traffic:

Those visitors who are not lodging in the downtown area must find their way to public parking facilities before they can set out on foot. Shown here are major connector roads that visitors are likely to use, public garages they can use for free on nights and weekends, and recommended locations for vehicular-oriented signage to direct them to these preferred lots.

Suggestions:

- Design a uniform appearance for directive signs to help visitors find parking facilities.
- Include signage on Gay St., since many visitors are likely to drive its length before leaving their cars.
- Provide additional public facilities to the north and southwest corner of the study area (CBD).
- Extend free parking policy for visitors, identifiable by drivers license, plates, or some other established system.



Map Key

- Public Parking Garages
- Vehicular Access
- Car-Oriented Signs
- Public Parks

Public Garages, *Free on Nights and Weekends:*

1. Dwight Kessell
2. State Street
3. Promenade
4. Market Square
5. Sam's (Locust St..)

Outlying Garages

6. Civic Center
7. 13th Street



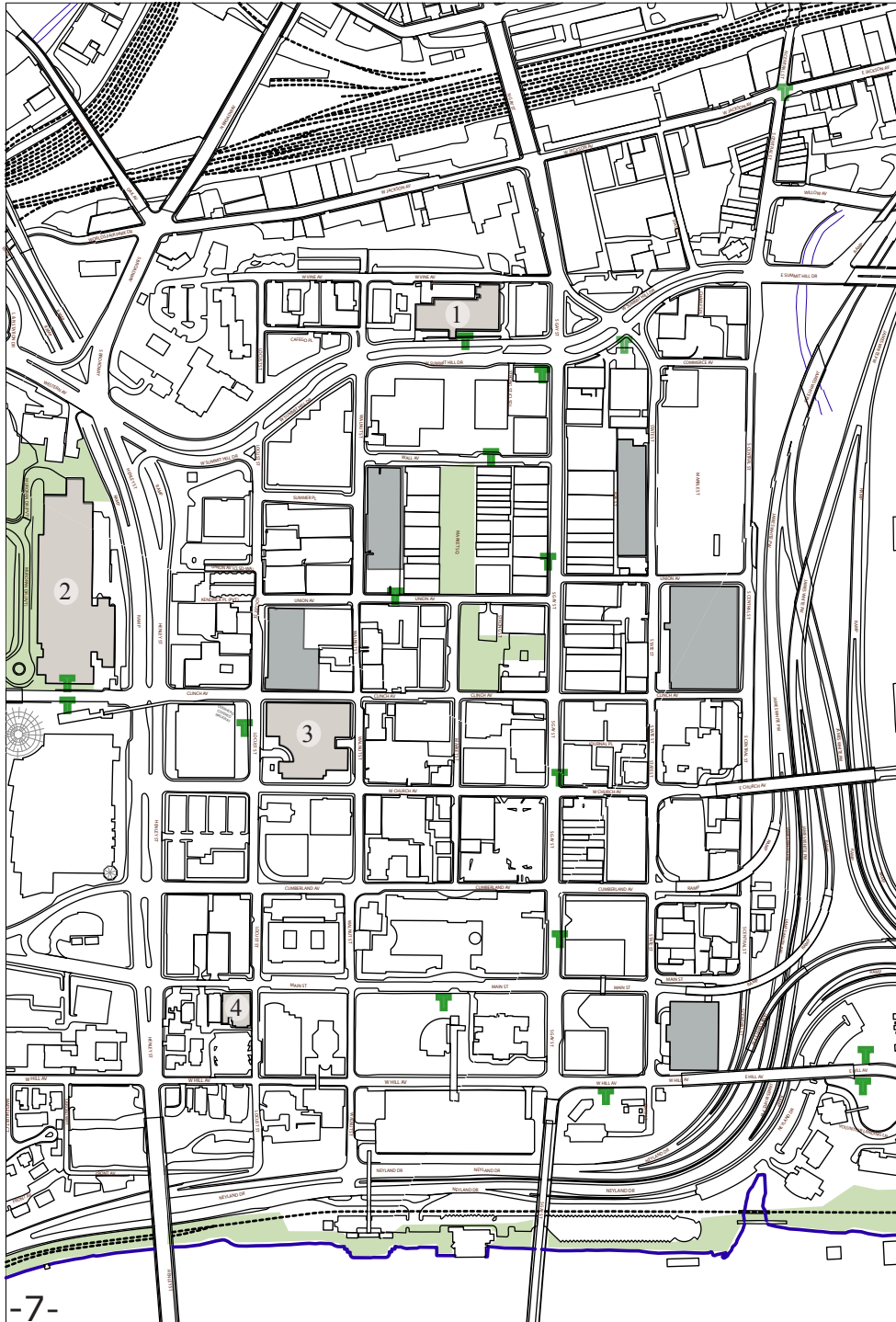
Vehicular Access and Public Parking

Establishing Main Routes





In an ideal world, the city and private developers could implement all of the wayfinding strategies at once. Yet the realities of financial feasibility and traffic congestion (for starters) call for a more reasonable implementation plan. While the specifics should be defined by city authorities and planners, a network of preferred pedestrian routes is a good place to start prioritizing where efforts would be most effective if implemented on a gradual basis. Before establishing these major routes, embarkation points and destinations must first be defined.

Setting Out on Foot:

In addition to the preferred parking garages identified, transit centers and trolley stops should be considered starting points. Also, hotels in the downtown area serve as starting points for visitors who are not commuting.



Map Key

-  Public Parking Garages
-  Downtown Area Hotels
-  Trolley Stop Locations
-  Public Parks

Downtown Hotels:

1. Crowne Plaza
2. Holiday Inn
3. Hilton Inn
4. Hampton Inn

Embarkation Points



Downtown Destinations

Old City

- Knoxville Visitors Center [1]
- *Civic Coliseum
- *Women's Basketball Hall of Fame

Gay Street

Market Square

Theatres

- Tennessee Theater [2]
- Bijou Theater [3]
- **Regal Cinema [4]

Government

- John Duncan Federal Building [5]
- Courthouse [6]
- City County Building [7]
- Public Library [8]

**Transit Center [T]

*World's Fair Park

- Sun Sphere [9]
- Convention Center [10]
- *Knoxville Museum of Art

*University of Tennessee

Historic Knoxville

- East TN History Center [11]
- Blount Mansion [12]
- James White Fort [13]

Volunteer Landing / Greenway Access [14]

*South Knoxville

*Expanded scope - These should be listed on the appropriate wayfinding signs, but do not appear on this map. If the project is expanded to include a broader scope, these locations should be featured.

**Upcoming attractions and amenities



Public Amenities

From A to B

Making Connections:

With major embarkation points and destinations defined, prioritized routes can be developed as a guide for applying wayfinding strategies. The hierarchy can then be applied in terms of a prioritized schedule, or it could represent variations on the guidelines and limitations to be defined for each.

Considerations:

- Give priority to commercial routes to bring pedestrians by more local business.
- Make note of existent orientational devices, such as long vistas, tall buildings, pleasant experiences, concentrated development, and already well-trafficked routes.
- Include proposed transit center in the conception of pedestrian routes, as it will play a large role in the pedestrian experience to come.
- Place importance on safe pedestrian connections beyond the Central Business District, such as the Civic Coliseum, South Knoxville, and the UT campus. ▼



Map Key

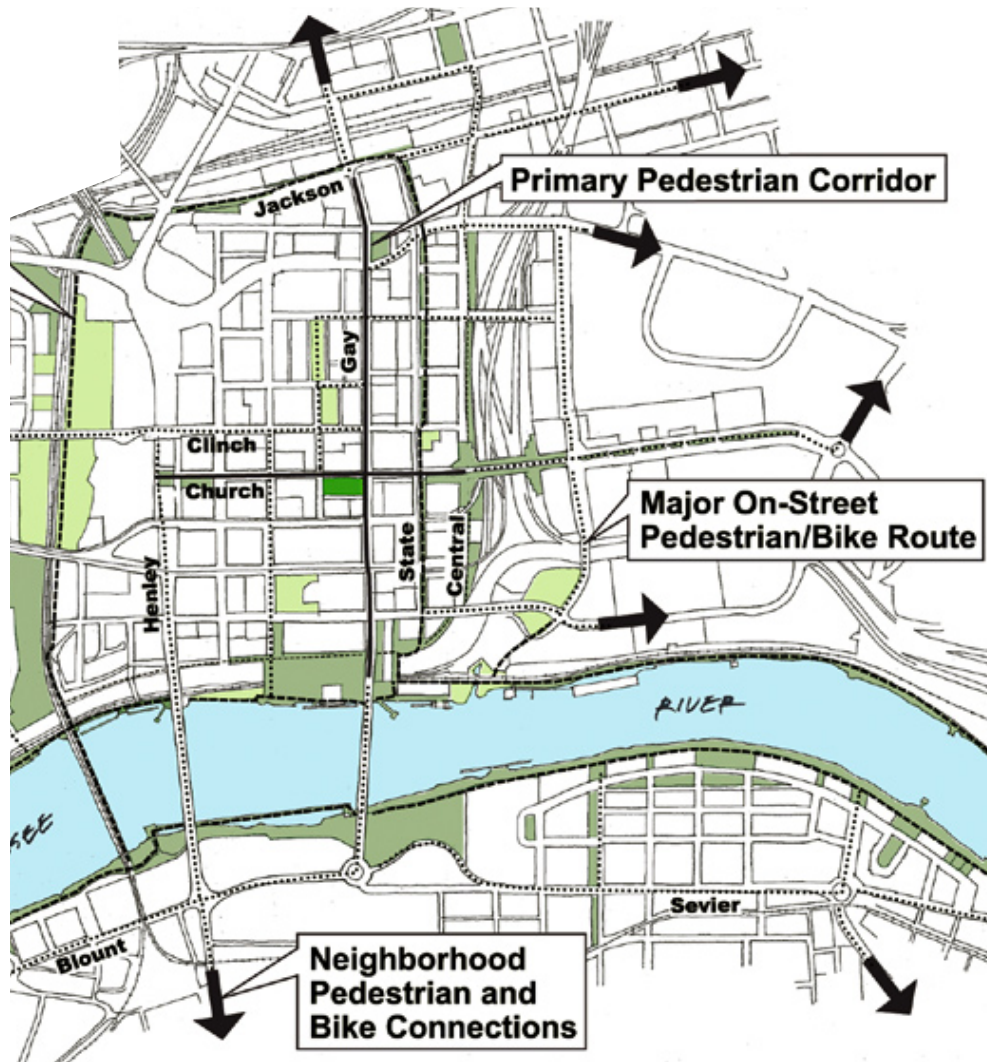
- Embarkation Points
- Destinations
- Public Parks
- Safe Connections



Embarkation Points and Destinations

Corridors Revisited

In the *9 Counties One Vision* study, Crandall Arambula identified primary pedestrian and bicycle routes around the area. Some of the assumptions informing these definitions, however, were based on major design maneuvers which may take a long time to establish, if they are ever realized at all. For instance, there was another major open space proposed in the plan located behind the John Duncan Federal Building on Gay St., which is currently occupied by an open parking lot that has no foreseeable replacement. Another factor that changes these network relationships is the different location chosen for a new transit center. Finally, the pedestrian bridge that now crosses over Henley St. would not connect to the primary route defined in that proposal.



Purpose of a Hierarchy:

- Use the paths as a guideline for prioritizing pavement and lighting improvements, as well as street furniture, plantings, and public art installations.
- Guidelines and limitations may become less stringent on the secondary and tertiary paths.
- Signage should occur at major intersections in the network and other critical points, especially those on more dominant paths.



Pedestrian Networks

Taking inspiration from the Crandall Arambula plan, with some elaboration and adjustments to reconcile the noted changes, a new hierarchy of pedestrian networks emerges. Seen here, the primary route is extended to be more inclusive to the Old City. Also, it overlaps between Gay St. and Market Square so that it can encompass two of downtown's connections to greater Knoxville. Note that this plan also relates to a transit center proposal, and may need to be updated if the Church St. location is changed again.

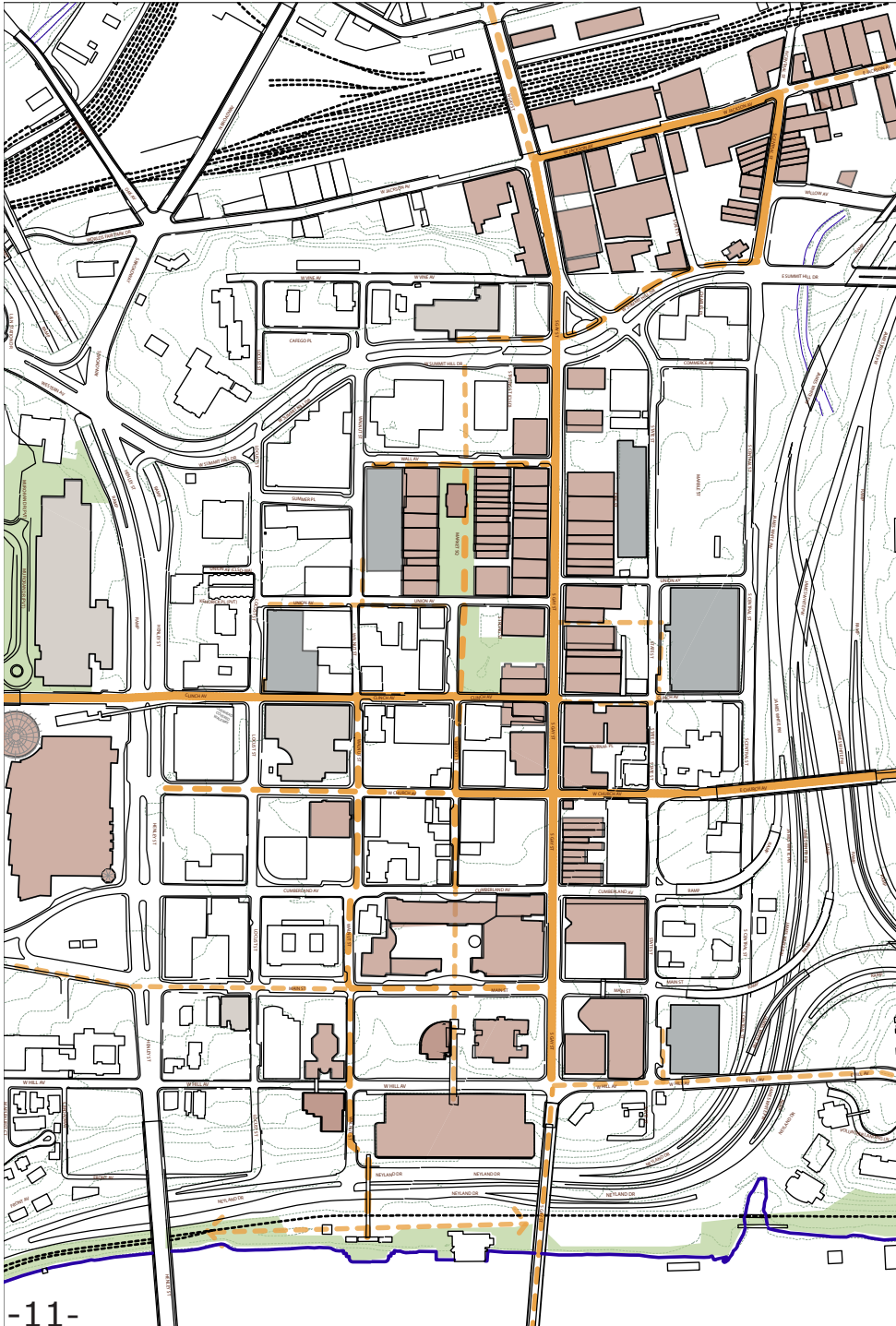
Continue the language of Knoxville's streetscapes as a visual cue for where to go

Map Key

- Embarkation Pts.
- Destinations
- Public Parks
- Pedestrian Route Hierarchy



Pedestrian Route Hierarchy

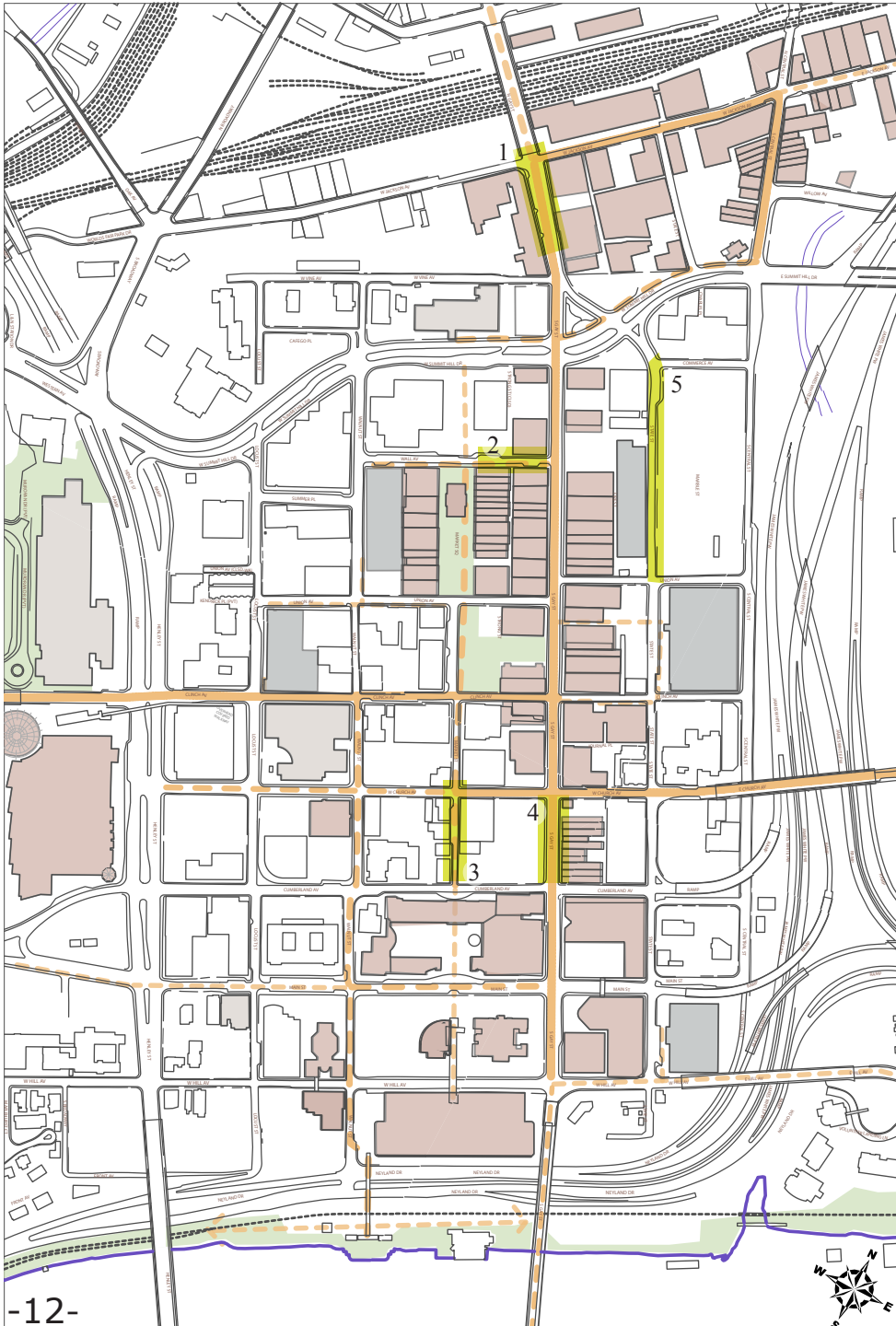


Room for Improvement

There are plenty of pleasant streetscapes in Knoxville to inform the design for the improvement of the rest. In fact, the task at hand may be more of an issue of integrating the wayfinding strategies into an existing, but incomplete system. Areas especially in need of paving and other improvements are marked on the map, though not all of them fall on the primary routes; as noted earlier, these may be dealt with according to a prioritized action plan.

Priority Areas:

1. Old City - easier to identify is the one corner at Jackson and Central that does not especially need improvement; The first place that should be dealt with in this area, however, is the transition to the Old City, at northern Gay St., where currently there are not even any street signs to be found.
2. Wall Ave. does not currently have the visual emphasis worthy of a major link between two elements such as Gay St. and Market Square.
3. The southern end of Market Street is suddenly in disrepair after crossing Church St., disrupting the strength of this important axis that leads toward the cluster of government buildings near the river.
4. Until the grandiose plaza envisioned by Crandall Arambula can be realized, the pavement and streetscape of the block of Gay between Church and Cumberland needs to be updated, to provide more connectivity to this now isolated block of small businesses.
5. The sidewalk on the other side of State St. from the Promenade Garage is currently unsafe and should be repaired; another option would be to remove this sidewalk entirely, to discourage pedestrian traffic in this car-oriented area.





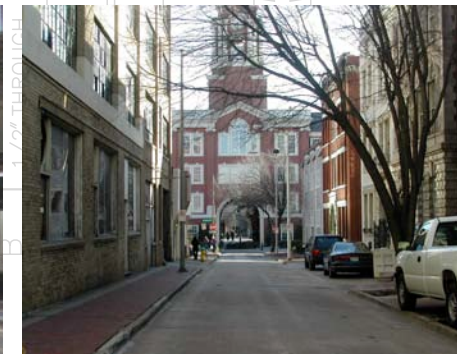
▲ Wall Ave.

▲ State St., behind promenade Garage ▲



◀ Old City threshold

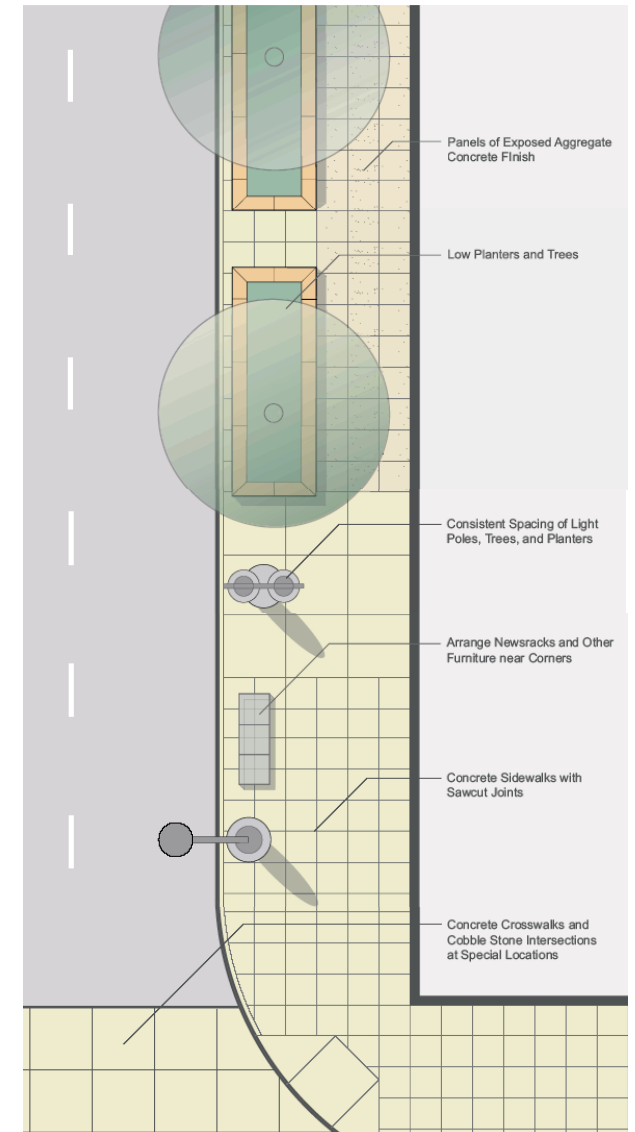
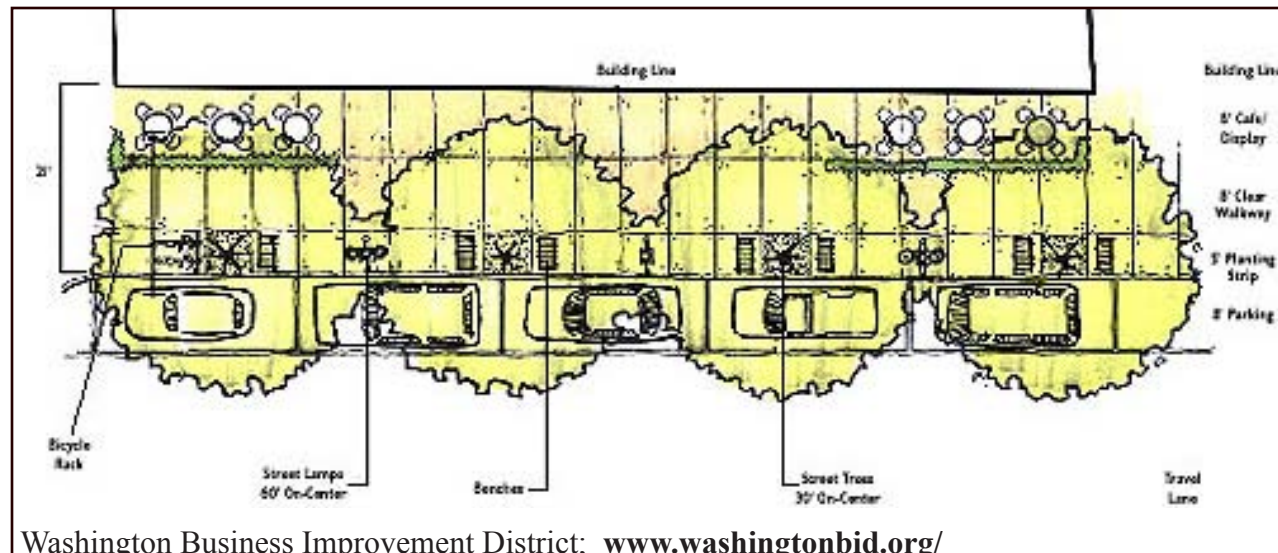
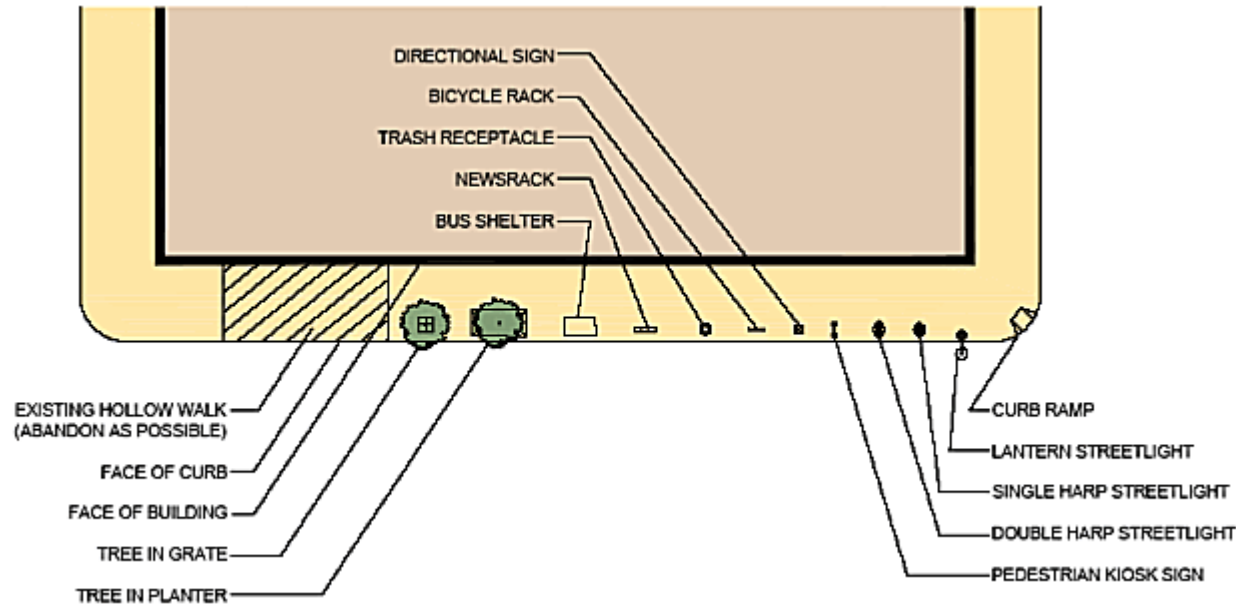
▼ Interruption in graceful treatment of Market St. axis ▼



Suffering Streetscapes

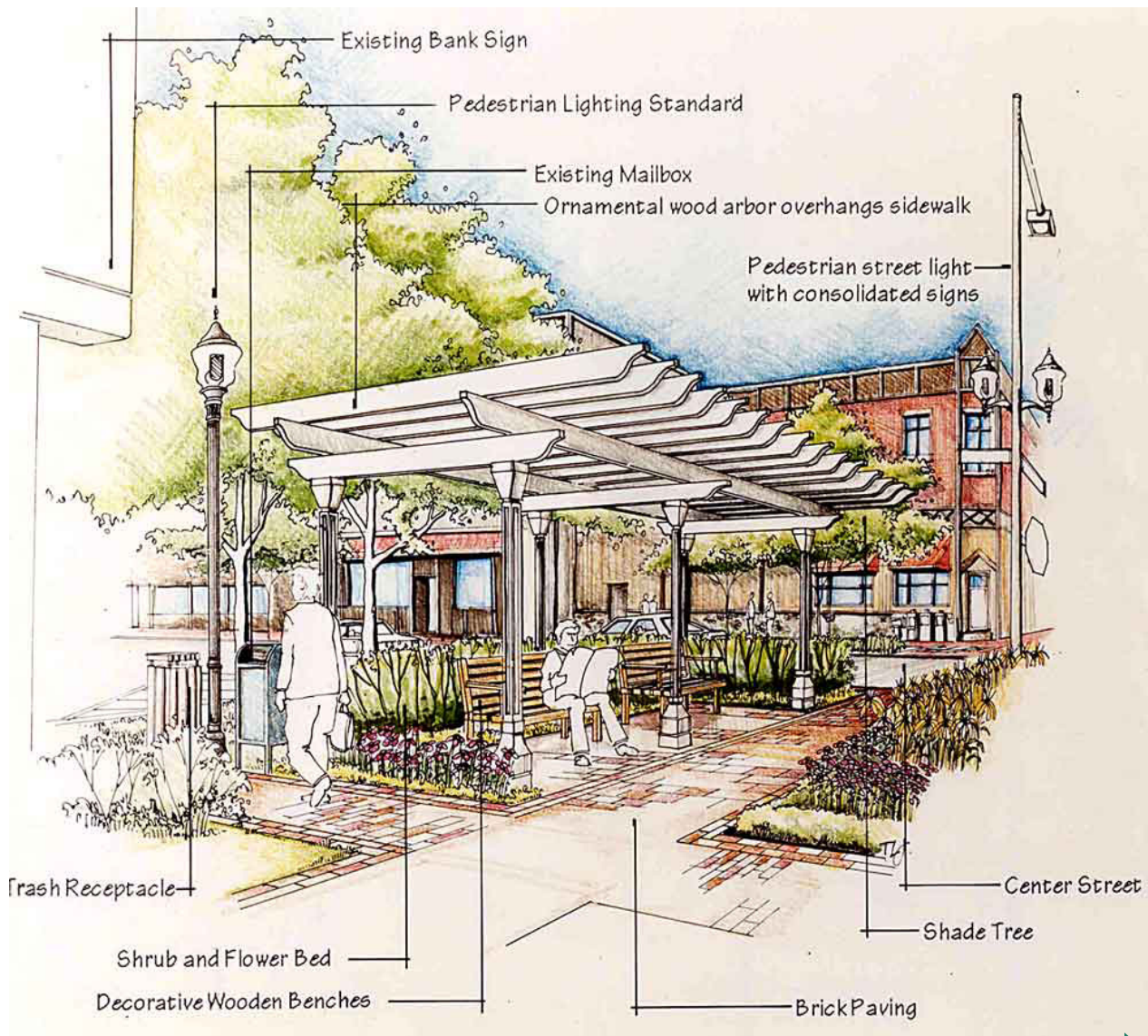
Designing Streetscapes


The following excerpts from precedent studies (see References for more information) provide a good conceptual base for zones to consider and street features to address.



City of Milwaukee Pedestrian Corridor Study
www.mpw.net

Streetscape design can be as simple as the conceptual zones illustrated to the right, or as detailed as the drawing below. In developing standards, the character and elements of each of these zones should be defined for one or several conditions in a way that is appropriate for Knoxville. This way, detailed design and development can proceed as timing, finances, and traffic levels will afford.



Camiros Ltd.: Grayslake, IL 
www.camiros.com

Seattle Dept. of Transportation 
www.seattle.gov/transportation

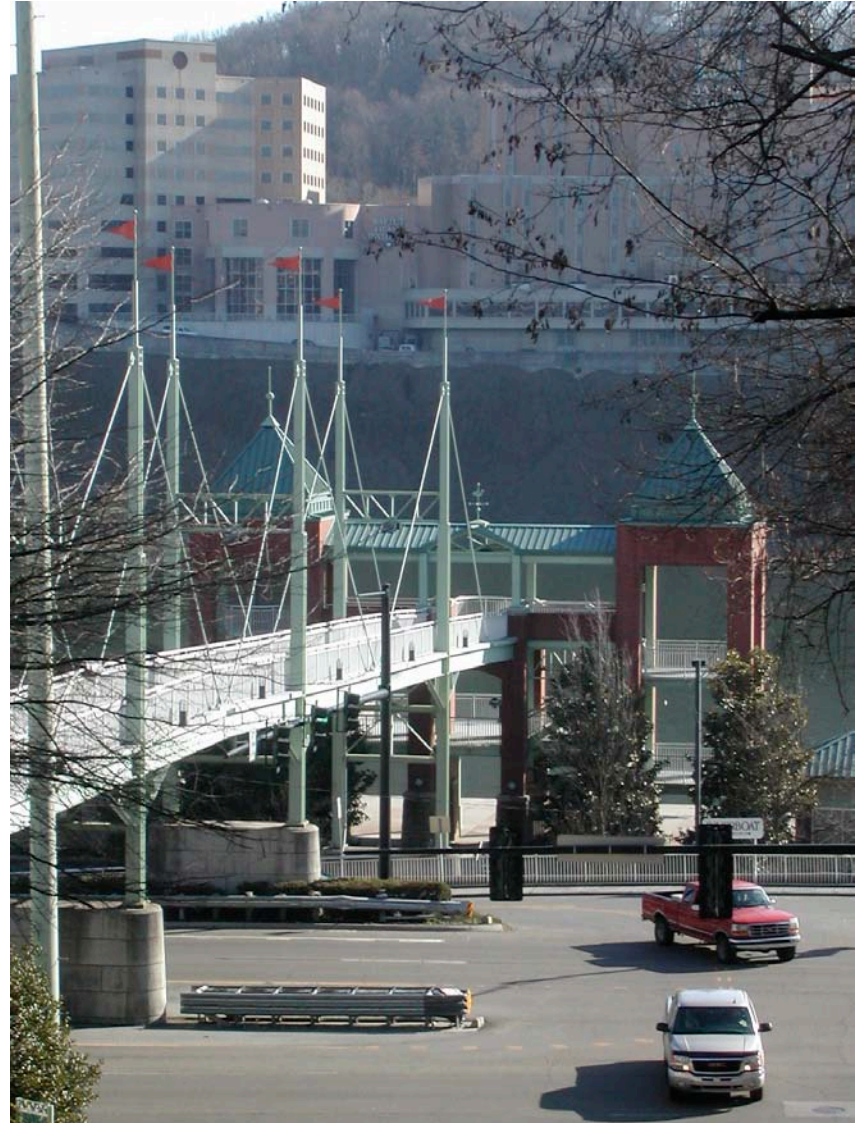


Volunteer Landing

While most of the visual cues described are quite successful at directing pedestrian traffic without much conscious effort on the part of the visitor, sometimes signage is not merely supplemental, but essential. One such case is at Volunteer Landing, where the topography is visually prohibitive. Even from a couple blocks away, many local residents often have trouble finding how to get there. While Worlds Fair Park is also sunken topographically, it has the SunSphere to serve as a beacon. Volunteer Landing, on the other hand, must rely on signage leading up to it, and especially at the top of the hill at Walnut and Main.

Another Possibility

Serving as a pedestrian bridge connecting downtown to the riverfront park and greenway system, the structure also marks the only vehicular access point to downtown from Neyland Dr., and could thus be treated much like a gateway. By calling attention to this connection point to downtown - as well as Walnut's street name - prominent signage here could provide a visual association that makes this landmark's relationship to downtown more memorable.



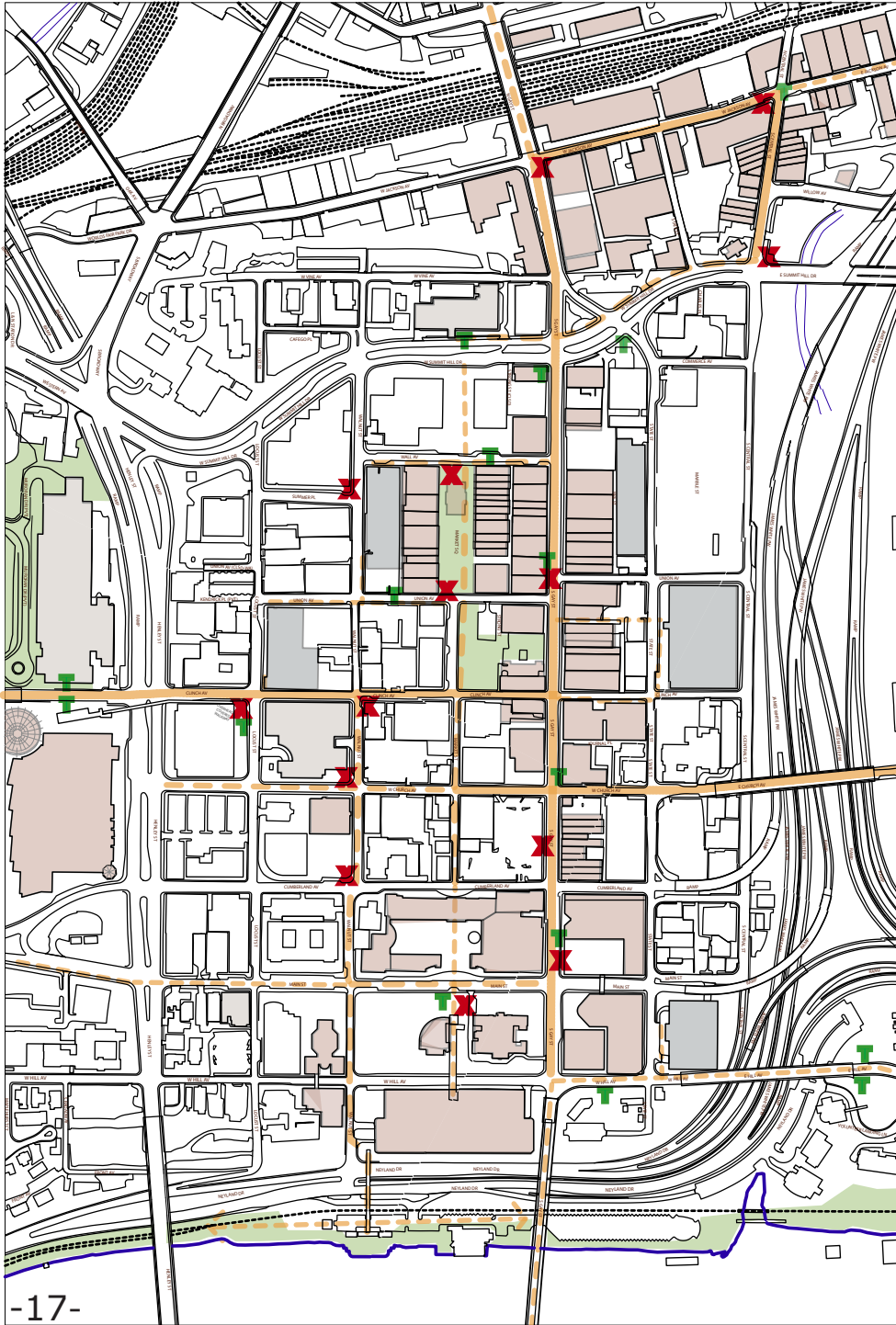
A Direct Approach

Pedestrian Signs

The downtown area already has some pedestrian signage in periodic locations, but they could stand to be supplemented; in some cases, they would even be more useful and/or visible if moved to different sites. The map to the left illustrates their existing locations.

Suggestions:

- Take cues from places where media boxes occur; these are intentionally placed where they are most visible and convenient to passersby.
- Placing signs in relation to trolley stops is also a good idea, as these are individual 'embarkation points' for visitors and residents alike.



Existing Sign Locations

Filling in the Blanks

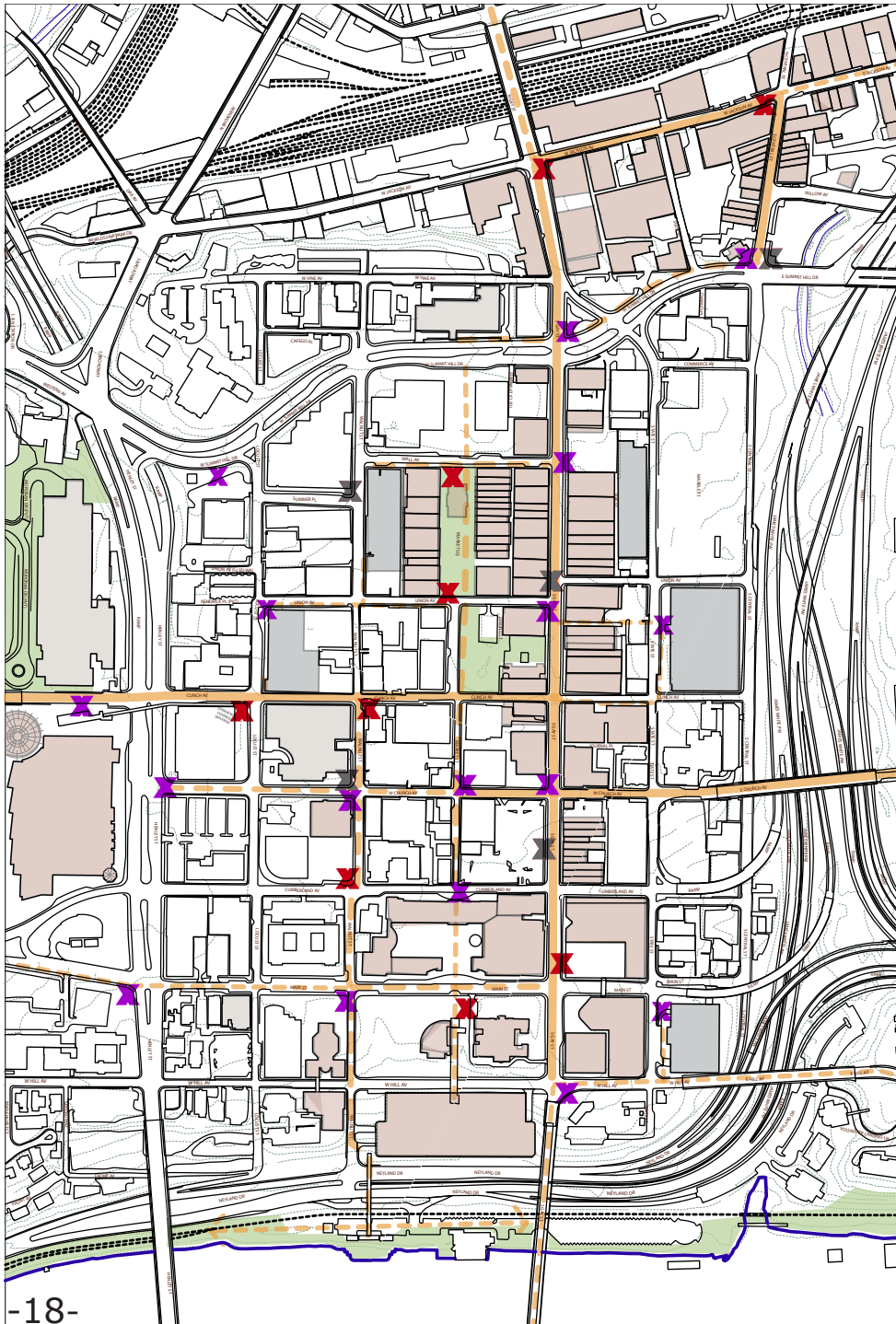
Additional pedestrian signs at the points indicated would help visitors find their way to Knoxville's major attractions from nearly any direction.

Eventual studies of financial feasibility may require that this number be trimmed down, but this map can be used as a starting point for prioritizing which locations are most essential.




Notice that pedestrian signage is largely missing in vehicular-oriented areas, due to the assumption that pedestrians intuitively understand to go elsewhere to find the action.

Grey X's denote existing locations that should be moved - either because nearby conditions have changed (Summer Pl.), signs are hard to see where they are (Union & Gay), or in some cases, pedestrian traffic is significantly greater on the other side of the street.

For example, at Union Ave. and Gay, the new recommended site is by the crosswalk on Gay, near a line of media boxes. Two more examples of higher traffic across the street occur at the public library and Central Ave. in the Old City.



Map Key

-  Existing Pedestrian Signs
-  Proposed additional locations
-  Relocate existing signposts elsewhere

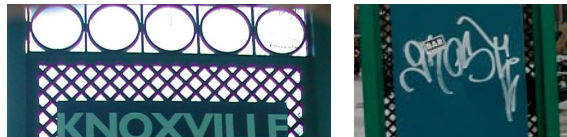
Proposed Sign Locations

Designing a New Signage System

Beyond specific siting issues, the existing signs need to be updated in regard to the content of their displays. Many of them are outdated or lacking in important landmarks, in some cases due to recent revitalization efforts.

Suggestions:

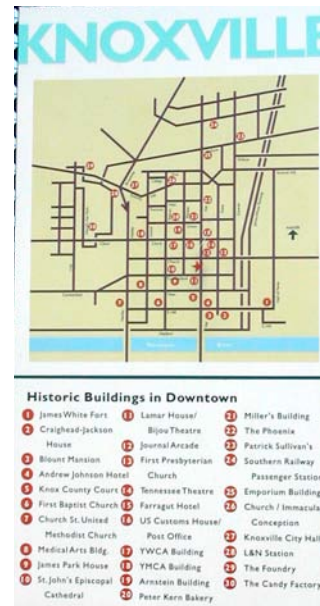
- Establish two or three types / scales for signages that somehow relate to one another. This way they can vary in the space they take up, their visual prominence, and the amount and type of information they provide.
- There are already two types of pedestrian signs around downtown: 2-dimensional, and 3-dimensional ones. To reduce expenses, consider using the same frames for sign structure, and replacing only the panels. Their visual treatment already echoes the other street furniture found in the area. Furthermore, a panel system is adaptable in the face of change or vandalism.



- One appreciable aspect of the current signs is the way the directional symbols only appear once for several featured attractions. Not only does this strategy reduce space, but it also improves visual clarity at a glance.
- Anticipate future expansion of the system to include a wider area of Knoxville. This can be done with a color-coding system, or simply by drafting some standards for future renditions and additions.
- Omit private establishments from directional cues, as those are more likely to change. For instance, many of the current signs are outdated simply because they feature maps of local restaurants.

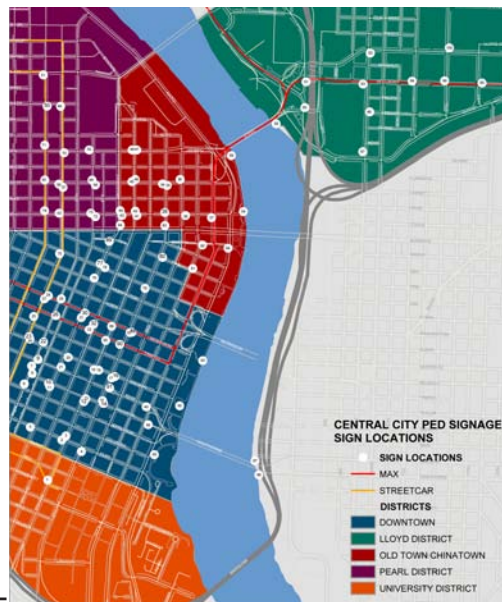
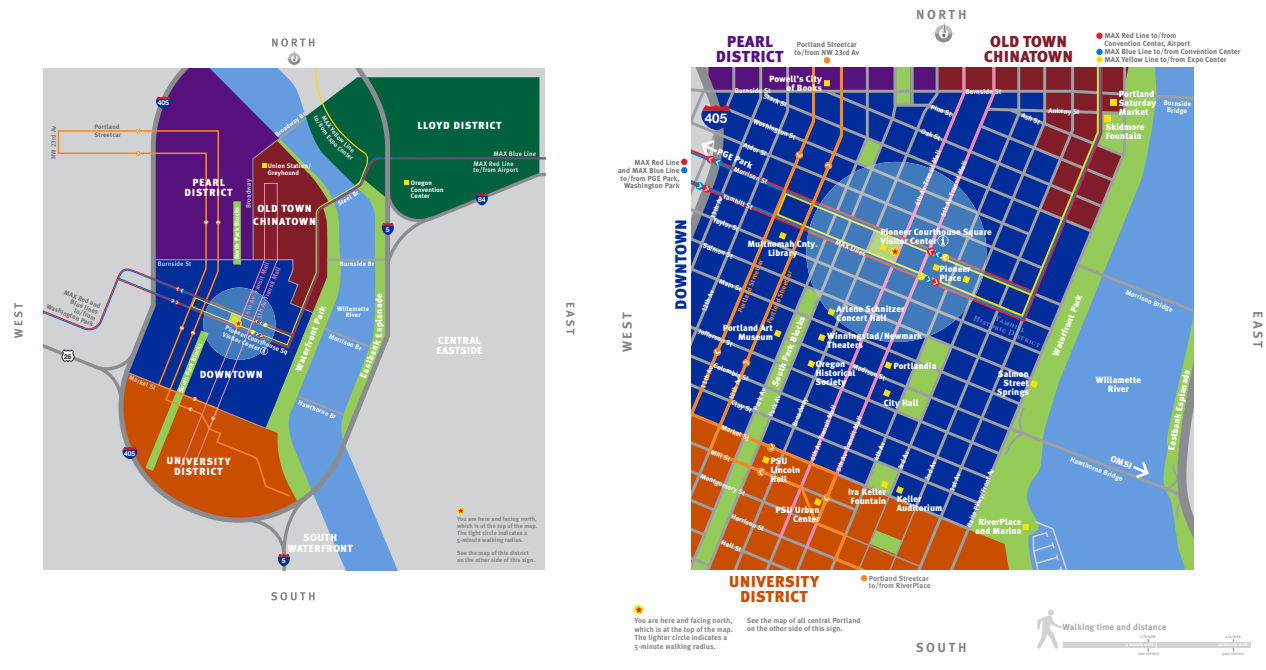


from University of Birmingham
Pedestrian Wayfinding Initiative



Sign Language

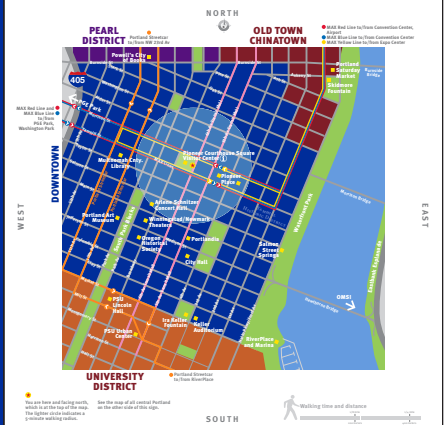
The following sign maps of Portland illustrate how color can quickly define districts or other differences, while maintaining a continuous language in the rest of the visual information provided.



South Face

This is DOWNTOWN

Visitor Center	←
Multnomah Cty. Library	←
Arlene Schnitzer Concert Hall	←
Winningstad/Newmark Theaters	←
Portland Art Museum	←
South Park Blocks	←
Pioneer Place	→
Waterfront Park	→



Transit

MAX Light Rail Lines ● ●	↑
To PGE Park, Washington Park	
Portland Streetcar ●	←
To NW 23rd Avenue, Portland State University	

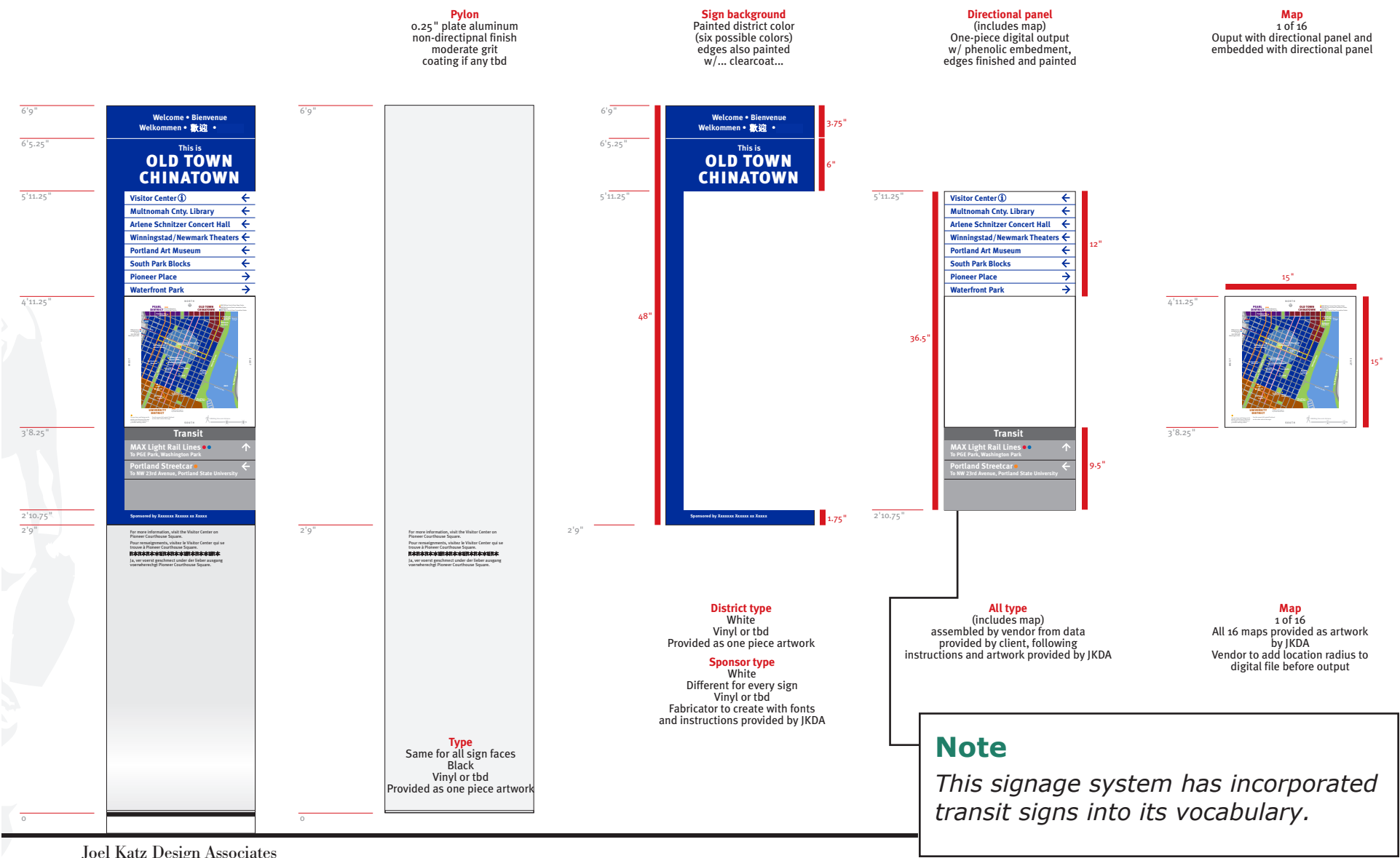
Sponsored by XXXXXXX XXXXXX XX XXXXX



Portland Dept. of Transportation

Organizing the Information

This specification drawing of an exploded sign is a good example of how to break down the types, locations, and visual treatments of information when drafting standards for a signage system.



Making Associations

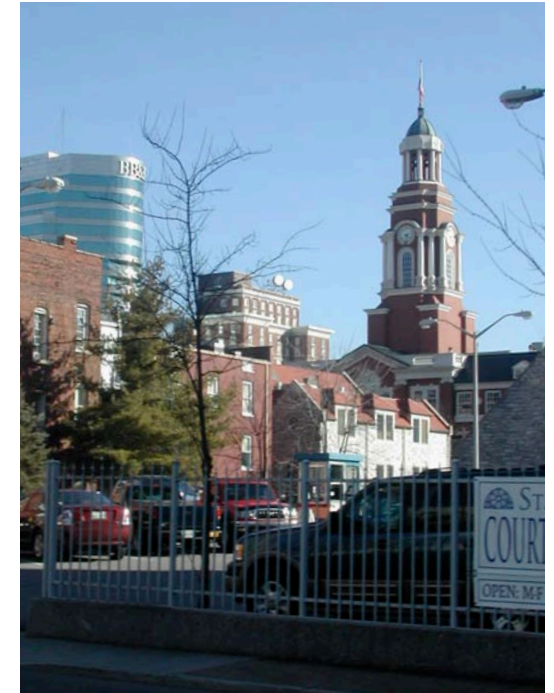
Tall buildings, especially in combination with long vistas, are great for orienting yourself in a city. In the map to the left, the X's mark tall elements in Knoxville that play a key role in locating specific places. For example, the Sun Sphere and First Tennessee Buildings both act as tall landmarks even from well outside the downtown area. This capability of tall city elements can be consciously used to help people build other associations from within the downtown area.



Tall Landmarks

Reference Points

If the occasional sign map were labelled with a select few of these landmarks that can be seen from nearly anywhere in the city, then visitors would have that many constant points of reference to navigate by. While these buildings do not always constitute visitor destinations, this strategy could potentially reduce smaller signage between major areas - such as one pointing simply to Gay Street, to Downtown, or to World's Fair Park.



Which leaves the issue of Market Square . . .

Because of the elusive nature of this popular but tucked-away open space, Market Square needs a combination of strategies to help visitors find it - so long as there is no music advertising its hideout, of course. While signage and the *reference point* concept would help somewhat, there remains one opportunity that could potentially eliminate this long standing issue completely.





Thinking Outside the 'Square'

Recent developments at Krutch Park call for changes in the way Market Square itself is conceived. In effect, Market Square has changed its shape and expanded to include the once humble park. The greatest opportunity afforded here is the new relationship these two spaces as a whole have developed with Gay Street. **No longer does the Square rely on two undistinguished, narrow streets as an entryway.** Instead, it is precluded by a lovely park and, more importantly, a large open space that calls attention to itself in the otherwise dense fabric of downtown Knoxville. Moreover, this precipatory open space is bordered on two sides by two very tall buildings; If the Krutch Park Expansion were clearly identified as an entryway to Knoxville's favorite hidden pocket, then AmSouth Bank and the Holston both could easily seal Market Square's location in the memory of pedestrians exploring other parts of the city.



Issues

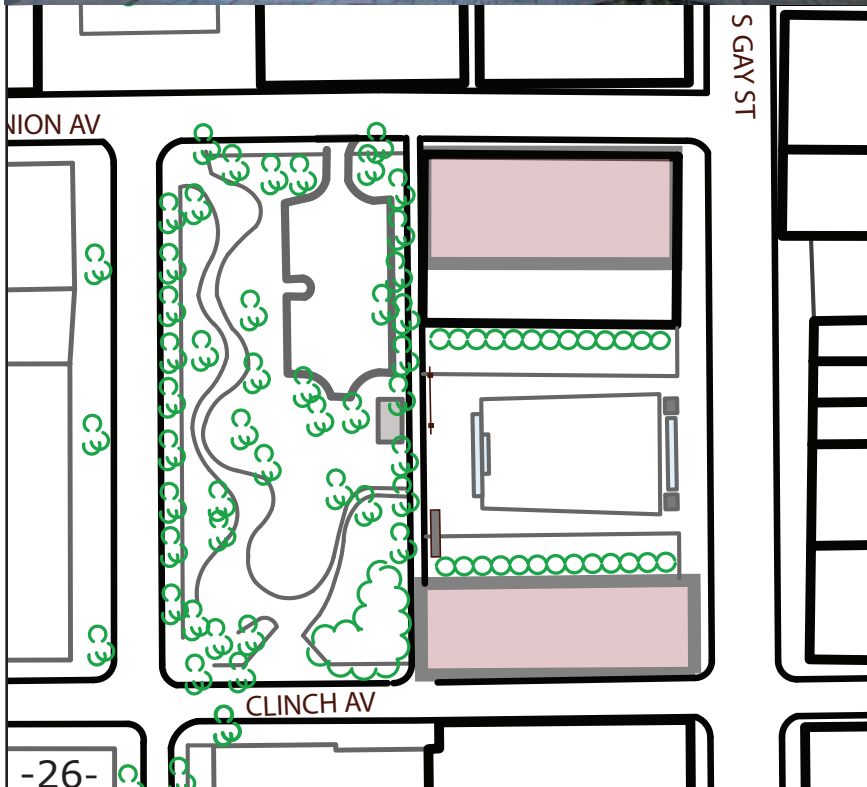
In theory, the idea works. But, true to life, other issues arise with the solution of one.

- One problem is the eyesore of a pump house directly on axis with the path. On the other hand, this challenge could pose a creative opportunity to the problem of how to advertise the new Market Square entry.
- Also, the Krutch property was donated to the city in good faith, and the name would still need to be honored. By associating Market Square with this area, designers would need to take care not to risk losing sight of the park's benefactors and their wishes to memorialize the family name.



Possibilities

- The city could open a competition to local artists, architects, or other interested parties, for the design of a large sign structure toward the rear of the property - preferably located in such a way as to conceal the pump house or otherwise minimize its impact on the visual line. This could also serve as some type of events board.
- Maintaining most of the open lawn intended for sculpture and exhibitions, a fountain or other element could be placed toward the rear to draw the eye - and traffic - inward. This could provide the opportunity to centralize and connect the two existing parallel paths, thus reconciling their currently mismatched connections to Krutch Park.



Draw the Eye

Realizing Our Goals

This document is only the first step toward making downtown Knoxville more navigable for the visitor and more walkable for everyone. None of the issues touched upon here have been completely solved, but will require more work by planners and designers to realize success. These analyses and proposals can be used to guide the process of establishing a well-rounded wayfinding system; they can also aid in the formation of appropriate committees / interest groups that can work together to accomplish and elaborate on the specific goals set forth here.

Next Steps

Planners and city officials should consult with designers to draft implementation procedures, guidelines, requirements, and limitations - as well as any requests for proposals or competition documents for specific issues that Knoxville should address.

There are already interest groups and committees working to solve several of the issues described in this document who could be consulted throughout this process; some could even work toward isolated requirements, such as the advancement of the concepts regarding Market Square's entry, and the drafting of related RFP's or competitions.

Qualified designers may need to draw up specifications for pavement-related requirements, applicable when business owners update their property or contract new constructions.

Design of the signage system should be a collaborative process between qualified designers and planners so that intentions are made clear, and efficiency can be optimized - both in terms of visual information and financial feasibility.

Knoxville can gradually realize the rewarding environment we can all envision!



Collaborative Projects



Downtown Knoxville Design Guidelines

Knoxville / Knox Co. Municipal Planning Commission, (MPC)

Knoxville CBD Alleyways Guidelines

East Tennessee Community Design Center, (ETCDC)

Market Square Entrance Feature

ETCDC, c/o Market Square Development Association

Knoxville Station

Intermodal Associated Architects
Wilbur Smith Associates

Knoxville Regional Bicycle Program

Knoxville Regional Transportation Planning Organization

Knoxville Greenways

William H. Skelton
Bass, Berry & Sims, PLC

Online Sources



Knoxville Parking and Transit

<http://www.downtownknoxville.org/play/parking.cfm>

<http://knoxparking.com/garages.htm>

http://www.ci.knoxville.tn.us/kat/web%20pages/Trolley/Trolley_Main.asp

<http://www.ci.knoxville.tn.us/kat/>

http://www.ktnpba.org/project_files/active/KCSTC.htm

Knoxville Parks and Greenways

<http://www.knoxtrans.org/plans/bikeprog/resource.htm>

<http://www.ktc.org/greenway.htm>

<http://knoxcounty.org/parks/greenwaytrails.php>

<http://www.ci.knoxville.tn.us/greenways/>

<http://www.worldsfairpark.com/WFPMMap.pdf>

Precedents

<http://www.portlandonline.com/transportation/index.cfm?c=40500>

http://www.seattle.gov/transportation/rowmanual/manual/4_11.asp

<http://www.steerdaviesgleave.com/pages/np/index.asp?NPID=317>

<http://www.mpw.net/CorridorStudy/project.html>