V. TRANSPORTATION PLAN

The objective of the *Center City Transportation Plan* is to help fulfill the vision for Center City Charlotte (reflected in adopted plans and policies) as it grows and changes over the next 20 years. The plan for the future is necessarily shaped by how the existing system functions. It is also influenced by development trends and by employment and population forecasts. The previous chapters have summarized these factors. Now, the plan itself is presented. The underlying strategic approach used in developing the plan is first described, followed by recommendations for each transportation system component:

Strategic Overview

Viewed from a three-dimensional perspective, the key structural features of Center City Charlotte's transportation system might be visualized as a series of layers:

Trade and Tryon are Center City's two major axial streets and their intersection, the **Square,** is Uptown's historic and geographic center.

- *Tryon Street* is the corporate and cultural center of Charlotte. It is the headquarters location of two of the nation's largest banks, Bank of America and Wachovia, and the prime business address in Charlotte. It is also the location of cultural facilities, most notably the Blumenthal Performing Arts Center and Discovery Place, as well as restaurants and entertainment venues.

- Trade Street is emerging as a street of equal importance as Tryon, but with its own character. It is the location of major government buildings and the new arena on the east, and Johnson & Wales University on the west. Gateway Village has made Trade Street a desirable business address, and it is also becoming a prime residential address with plans announced for several high-rise residential buildings.
- The Square – once a Native American trading crossroads, later the city's major shopping district, and now the commercial and office core of Center City – this intersection of Tryon and Trade is a major orientation point within Charlotte and the metropolitan region and the staging area for street fairs and public events.

The I-277/I-77 expressway loop is the physical boundary that marks Center City as a distinct, identifiable place. It serves to move auto traffic around the perimeter of Center City, with several access points allowing motorists to enter the Uptown area near their destination. However, it also presents a physical barrier between Center City and the surrounding neighborhoods, and an unattractive and uncomfortable entry point for pedestrians and bicyclists. The Center City 2010 Vision Plan stresses the importance of making the freeway loop less of an impediment to pedestrian circulation and neighborhood connectivity.

The street network is the grid that moves traffic to the various neighborhoods and destinations within Center City. It is not designed to move traffic through Center City (the expressway loop serves that purpose), but functions well in its primary role of distributing traffic within the area. Eventually, on their individual trips, motorists using the Uptown street system will leave their cars in parking facilities. In some cases, a wayfinding system may help motorists locate available parking close to their destination.

Rapid transit stations will soon be a new overlay on the Center City transportation system. In 2007, four stations opened on the South Corridor Light Rail Transit line (between College and Brevard) that enters Uptown Charlotte from South End. Later, the new multi-modal Gateway Station will be built on West Trade Street to serve the North Corridor commuter rail line, the Southeast and West transit corridors, and the Center City Streetcar, as well as inter-city rail and bus service.

Major pedestrian destinations are those primary generators of pedestrian activity in the Center City, such as the Uptown office towers near The Square, the new arena, the North Tryon cultural and entertainment facilities on North Tryon, the Charlotte Convention Center on South College, CATS Transportation Center on East Trade, and Johnson & Wales University and Gateway Village on West Trade. Additional venues will open in the next two to three years.

Key pedestrian streets are the streets and walkways that link the major pedestrian destinations. The key streets are Tryon, Trade, and Brevard, which are supported by College (between Trade and Seventh), Fourth Street (between Poplar and Davidson) and Fifth and Sixth Streets (between College and Church). While all link the major pedestrian destinations, they have varying degrees of quality in their pedestrian accommodation and amenities.

Against this structural backdrop are the moving pieces, the major transportation modes – vehicular, pedestrian, transit and bicycle. This plan focuses on how these modes interact with the streets, stations, and destinations to assure an efficient transportation system. There are several important concepts that guide this plan.

1. Everyone is a pedestrian.

The key theme in this plan, building specifically on the 2010 Vision Plan, is the recognition that every motorist and every transit user becomes a pedestrian when they leave the transit station or the parking deck. A system of efficient, attractive, pedestrian-friendly streets can encourage all Center City employees, residents and visitors to take advantage of a walkable Uptown, with little need to drive between Center City destinations.

This pedestrian-friendly core will encourage more use of transit, because the Uptown will be highly walkable and convenient upon arrival. It will also encourage those who do drive to park once, and walk or use transit between Center City destinations, for the same

reasons. Their "park once" characteristic with Center City apart from other major centers in the region with attendant benefits to air quality.

2. Major destinations will be a five-minute walk from a transit station.

The new CATS rapid transit system will provide unprecedented walking accessibility in Center City. When the system is fully complete, most of Center City's business, entertainment and educational venues will be within a five-minute walk from a transit station. This convenience will reinforce Center City as a uniquely accessible destination; in fact, nowhere else in the metropolitan region can so many people walk to so many different destinations.

3. The key pedestrian streets will provide a direct walk from transit.

The overlay of the new transit stations on Center City's street system presents an opportunity to expand the key pedestrian streets. Each of the transit stations will or can be located on one of the grid streets that serve the core axial streets of Trade and Tryon. A five-minute walk along these streets from the transit stations will include all of the existing and potential business, cultural, entertainment and government destinations in Center City – all of the destinations that bring employees and visitors to Uptown Charlotte.

4. The key pedestrian streets will also link neighborhoods and open space.

The pedestrian network links the existing Uptown residential neighborhoods with each other and with the office core. By making all of these streets exemplary and attractive pedestrian streets, they will tie into the walkable residential neighborhood streets, making all of Center City a highly walkable environment. The neighborhood streets, and some parts of the streets that are within a five-minute walk from transit stations, also tie into the Center City greenway network, open space and the light rail corridor pedestrian way.

5. New office building locations should reinforce the notion of a walkable Uptown.

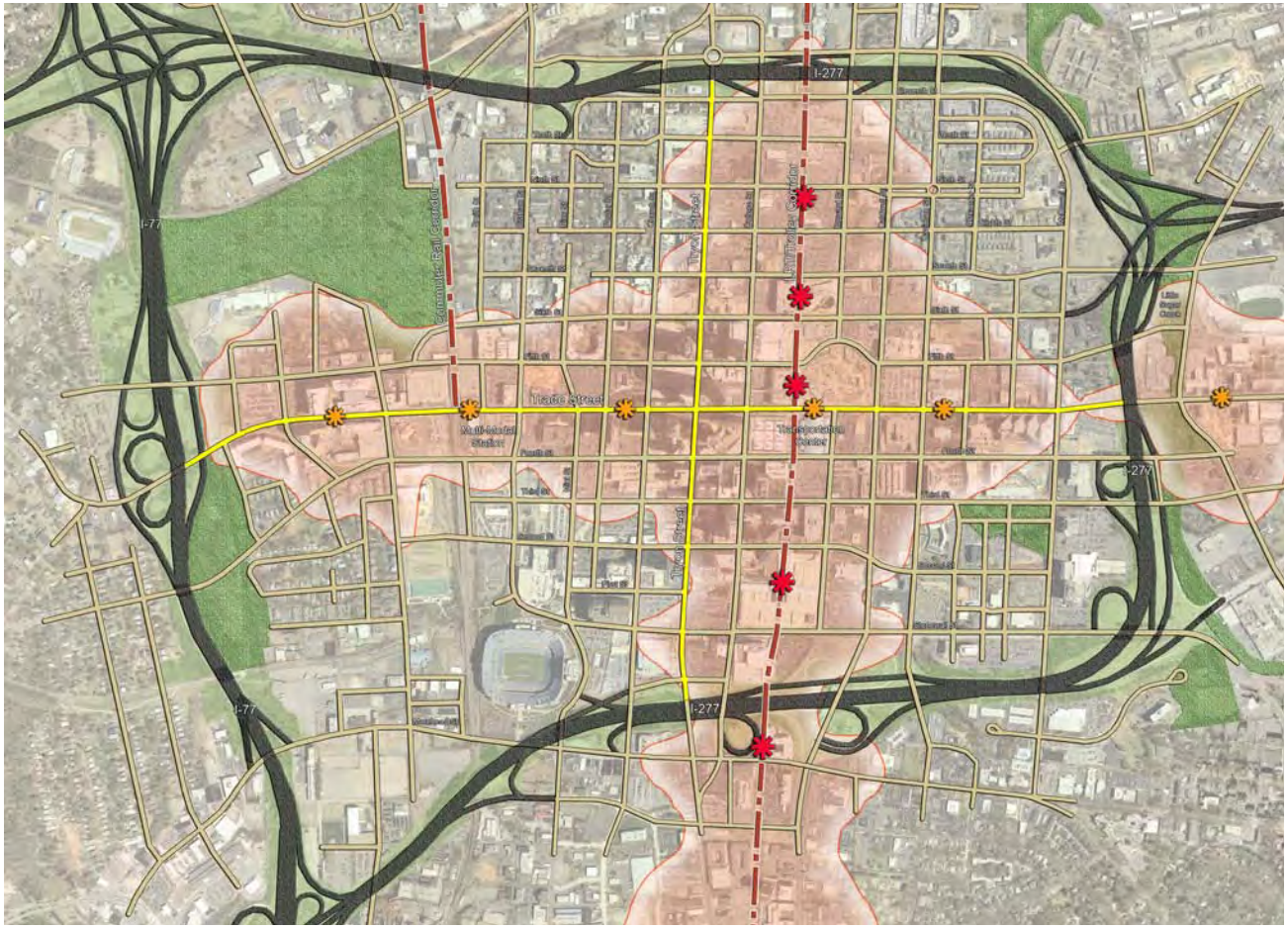
More office towers will be built Uptown in the years ahead to accommodate the projected employment growth. The office market will try to place those buildings as close to Tryon Street or Trade Street as possible, since those are the signature addresses in Center City. Even when Tryon and Trade building sites have been committed, the remaining building sites will still be within the five-minute walk from transit along the key pedestrian streets. To reinforce the notion of a walkable Center City (and regional accessibility to Uptown employment via transit), most future office buildings should be located within a five-minute walk from a transit station. This also underscores the city-wide goal of transit supportive development.

6. Center City can be a "park once" location, especially if motorists find a pleasant, walkable environment between their parking deck and destinations.

As new office buildings go up, surface parking will gradually be converted to building sites and an even greater percentage of parking in Center City will be provided in parking decks. Those new building sites, and the nearby parking structures that will be built, will be within a five-minute walk of a transit station. Since employees walk from the parking decks to their office buildings, the key pedestrian streets that serve transit users will need to be efficient, attractive walking environments for commuters who drive and park. If Center City visitors also use those decks, they will have an efficient, attractive walk to their destinations.

7. Moving traffic into Center City efficiently means getting motorists to their parking destination easily.

Even as transit use grows, the majority of employees (and visitors) will still drive to the Uptown area. Accommodating the motorist in the most efficient way remains a high priority – and that means getting motorists to their parking destination as easily as possible to minimize vehicular traffic on the streets – which also allows the streets to be more pedestrian-oriented.



Five Minute Walk from Transit Stations

The street system should emphasize efficient traffic flow into Center City – the basic commuting objective – rather than passage through the city. To facilitate efficient traffic flow, the system could be structured to encourage drivers arriving from outside Center City to use the expressway loop to circulate around Center City and then take the street into their parking space that is the shortest trip. The combination of McDowell, Stonewall, Graham and the Eleventh/Twelfth Street couplet can also aid this distribution around Center City to the shortest route to the driver's final destination.

Transportation Plan Components

The combination of these themes –

- all major destinations within a five-minute walk from transit,
- all drivers able to take a short drive on Center City streets to a convenient parking location,
- and each of them able to walk or use transit between Center City destinations rather than driving because of the pedestrian-friendly environment – is the strategic basis upon which the Center City Transportation Plan proposals are made.

While the emphasis of the plan is on pedestrian circulation (in accordance with the Center City 2010 Vision Plan), the sequence of the Plan Components builds first on the Land Use and Urban Design framework as defined in the 2010 Vision Plan, then proceeds to the Vehicular, Parking and Wayfinding elements that most significantly define the structure of the transportation system. Discussion of the Transit, Pedestrian and Bicycle modes follow in turn.

Land Use

Guiding Principles

The *Center City Transportation Plan* supports the land use pattern articulated in the *Center City 2010 Vision Plan* (pages 5-21):

- Encourage a mix of uses that maximizes land area and supports the intent of the Uptown Mixed-Use District (UMUD) ordinance.
- Identify land uses to create an appropriate ratio of residential units, office space, stores and entertainment facilities.
- Support Center City's urban form by concentrating high-rise office along Trade and Tryon Streets.
- Tryon Street should remain the primary address for Uptown business; where possible, office uses should continue on North and South Tryon.
- On Trade Street, new offices should be promoted near the proposed Gateway Station to encourage commuter ridership.

To underscore the 2010 Vision Plan's focus on concentrating employment in the Tryon and Trade corridors, that plan's "Diagram: Transportation, Street and Parking Recommendations" (page 57 of the *2010 Vision Plan*) emphasizes a street and transit network that supports these two prime employment corridors.

Since completion of the 2010 Vision Plan, two additional programs have reinforced the importance of focusing employment in these two corridors and also enlarged the breadth of the north-south corridor. First, the 2025 Transit System Plan has programmed a north-south Light Rail Transit facility along the Trolley Line identified in the 2010 Vision Plan, and this has been followed by further studies that may focus the Southeast and West Transit Corridors in the Trade Street Corridor and add Commuter Rail to the "train station" (Charlotte Gateway Station) on West Trade Street. Second, the development of the Arena greatly altered the potential functioning of Brevard and Caldwell Streets.

The analysis and recommendations of this plan recognize the opportunity and need to focus office employment (as the major use in a mixed-use strategy) along the Trade Street corridor and a Tryon Street corridor widened eastward to encompass the light rail corridor and the new potential of a pedestrian-supported entertainment and employment center along both segments of Brevard Street.

Plan Recommendations: Land Use

1. **Use transportation and parking strategies to support growth** and intensification of various land uses, with emphasis on office employment.

2. **Provide multi-modal transportation solutions to support land use recommendations** that will produce a memorable, vibrant Center City.

Urban Design

Guiding Principles

- The Center City 2010 Vision Plan establishes an urban design direction through its central Vision Statement: "To create a livable and memorable Center City of distinct neighborhoods connected by unique infrastructure."
- Additionally, the 2010 Vision Plan states that: "Internal Center City streets and parking facilities must serve dual purposes: accommodating mobility requirements and serving as a major expression of Center City's character."

The transportation system is perhaps the largest infrastructure element to which the *2010 Vision Plan's* vision of "uniqueness" can apply. The street rights-of-way, off-street pedestrianways and transit network (both with the street rights-of-way and its own exclusive rights-of-way) provide the primary connections. They also make up the most significant land area that is under public control. It is within these rights-of-way that the majority of mobility options will be

supported and in which a strong urban design statement can be made by the City and other public entities.

In order to foster a "Memorable" Center City, the 2010 Vision Plan established a series of key characteristics termed "pedestrian, mixed, balanced, designed and connected." The recommendations of this plan will play a key role in the realization of some of these key characteristics to varying degrees:

- **Pedestrian:** Implementation of the Pedestrian Street hierarchy and associated design standards will greatly enhance the pedestrian experience, link activity centers to transit and parking, and connect the residential neighborhoods.
- **Mixed:** The street network improvements, Pedestrian Street hierarchy and transit recommendations are all directed at supporting a mixture of land uses.
- **Balanced:** The street network improvements and Pedestrian Street hierarchy are intended to provide continuity in the mobility system as infill development and redevelopment occur.
- **Designed:** The recommendations of CCTP call for a high design quality for the pedes-trian realm as well as the overall streetscape. The "Gateway" treatments that are recommended for the I-77/I-277 overpasses and underpasses are specifically intended to define Center City with a consistent, high quality image statement.
- **Connected:** Development of the CCTP has responded directly to this 2010 Vision Plan recommendation for reducing the barrier that is presented by the expressway loop. This need has also been expressed by numerous stakeholders during the public involvement process. Recommendations for overcoming the barriers encompass both functional and aesthetic enhancements, including redesign of the existing overpasses and underpasses to better accommodate and attract pedestrians and bicyclists. These "Gateway" treatments are also intended to enhance the connection between Center City and surrounding neighborhoods.

This plan's urban designed recommendations are intended to support the above key urban design objectives of the 2010 Vision Plan.

Plan Recommendations: Urban Design

3. **Promote pedestrian vitality** through the design of Center City streets by enhancing human scale and street-level features.
4. **Apply Street Enhancement Standards Map** are adopted April 2006 (see Recommendation 24 on page 83 in the Pedestrian Circulation section of this plan).
5. **Apply the framework of vehicle and pedestrian/transit gateways and memorable streets** described in the Center City 2010 Vision Plan.

Vehicular Circulation

Because of its role as a regional central business district, Center City must be accessible to the commuter . . . Although it is critical that these streets deliver traffic to the central business district, they should not facilitate trips across Center City.

- Center City 2010 Vision Plan

Guiding Principles

- Center City is a destination, with I-277 serving as a primary distributor of traffic into Uptown Charlotte.
- The street network is not intended to carry traffic rapidly through Center City, but to enable motorists to reach their destinations within Center City as efficiently as possible on a circulation system shared with pedestrians, transit users and bicyclists.
- The existing circulation system functions well, but improvements are needed to handle future increases in traffic that will result from the employment and residential growth expected in

Center City as well as to accommodate changes created by new developments.

Safe and efficient *access* is the basic objective in developing transportation strategies for commuters working in Uptown offices, for motorists attending events at entertainment venues, and for all others bound for destinations in Center City. At the same time, this Center City Transportation Plan balances that objective with an emphasis on strategies that reinforce and strengthen the pedestrian environment. The objective, then, becomes "complete streets" – ones that promote efficient vehicular circulation while also creating a pleasant and safe environment for pedestrians, transit users and bicyclists.

The *Center City 2010 Vision Plan* – recognized two major types of streets: traffic-carrying "workhorse streets" and pedestrian-friendly "green streets." This plan does not carry forward the term "workhorse streets" but recognizes that paired one-way streets are needed to provide roadway capacity requirements and to serve parking facilities during peak hours as well as for special events.

Such streets, said the *2010 Vision Plan*, "emphasize high capacity from the freeway loop to the core. Although the importance of vehicular movement is stressed, a pleasant and safe pedestrian environment is essential to create comfortable paths from home and parking to office and other destinations."

Improving Vehicular Circulation

The analysis of the existing street network confirmed that there are few serious congestion or capacity problems on Center City streets inside the freeway loop. Still, improvements are needed to incorporate specific recommendations of the *2010 Vision Plan* to address conditions at specific locations, to strengthen the notion of full-service "complete streets" in Center City and, especially, to accommodate the employment growth expected to occur in the next two decades.

Furthermore, transit will be playing a greater role in Center City's future. This plan's recommended modifications to the street and pedestrian system are intended to be consistent with the *CATS Transit System Plan (2003)* as well as ongoing planning and design activities that will implement that plan. However, several initiatives are still in the planning stages that will have an impact on the vehicular capacity of Center City streets – (especially Trade, Fourth and Fifth, where they could result in changes to the proposed number of lanes or sidewalk width). It is expected that the ongoing CATS planning will take into account this plan's recommendations and coordinate with CDOT to assure that adequate future street capacity is retained.

Overall, this *Center City Transportation Plan* proposes a series of measures that are intended to maintain access to and from Center City while enhancing the pedestrian environment, making the street network easier for visitors and occasional users to navigate, and discouraging through trips across Center City. The measures in the following pages fall under the categories below.

Types of Proposed Improvements

A. Modifications to the I-77/I-277 Loop

B. Conversion of some one-way streets to two-way streets

C. Retention of some one-way streets

D. Construction of some new streets

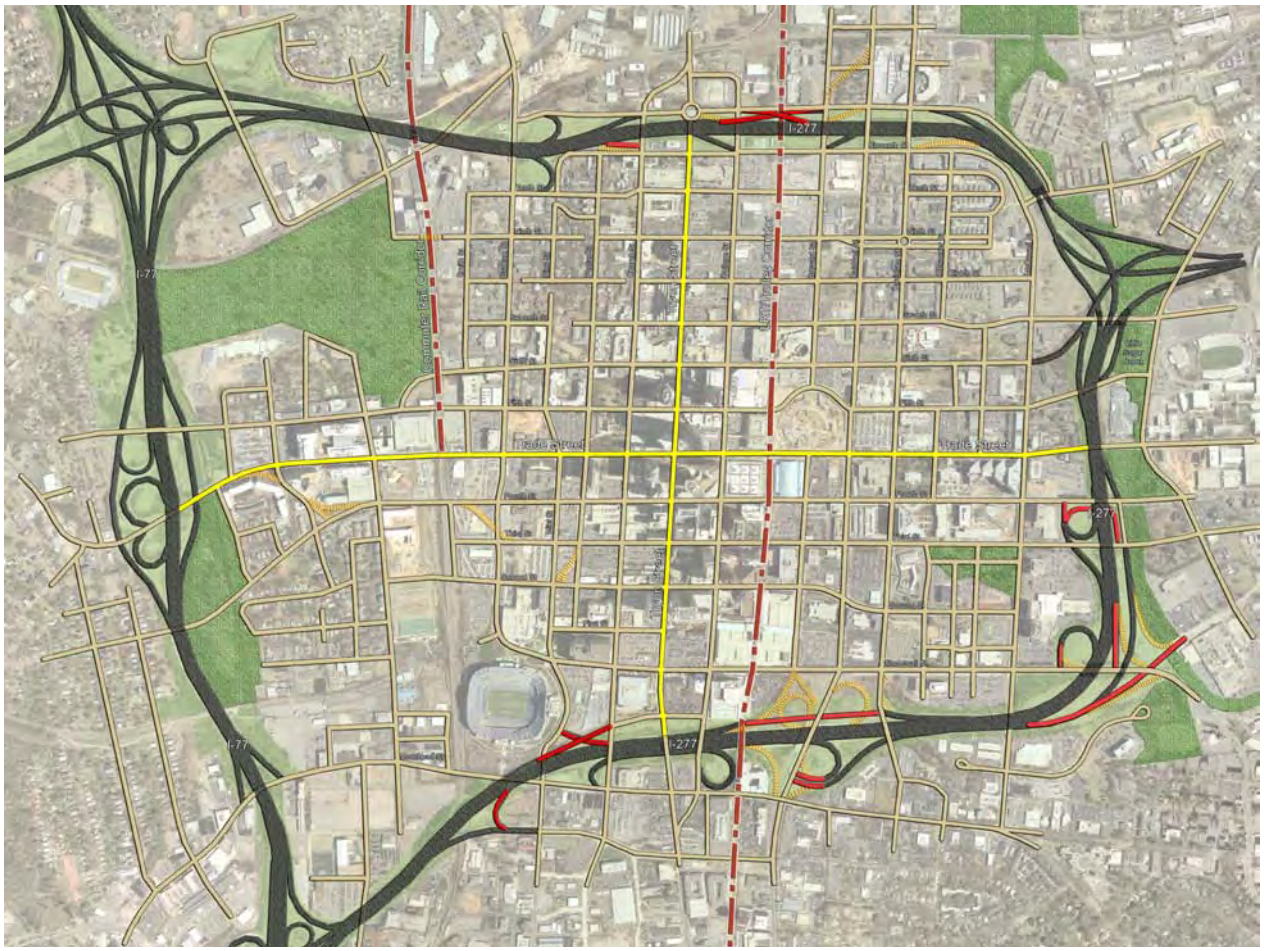
E. Conversion of traffic lanes to pedestrian space, on-street parking and/or bicycle lanes

F. Modifications of turn lanes and intersections

G. Closure and modification of grade-level railroad crossings

A. Modifications To The I-77/I-277 Loop

A goal of the *Center City Transportation Plan* is to encourage the use of the I-277/I-77 Loop for access from all four directions. However, instead of using the loop to access Center City from the exit closest to their destination, some drivers use Center City streets to avoid the confusing and sometimes dangerous short weaving sections at some exits. As traffic grows in the years ahead, this could ultimately have a



A. Modifications to I-277

negative affect on the capacity of Center City's street network.

- One key strategy for encouraging more use of the I-77/I-277 Loop is to make modifications to access ramps and interchanges to relieve current congestion and conflict points, and to channel traffic more directly into the primary access streets of Center City.
- A second key strategy is to establish an internal "Circulator Route" within the I-77/I-277 Loop – a two-way peripheral loop around Center City composed of Graham, Stonewall, and McDowell Streets, combined with the 11th and 12th Streets one-way couplet.

The internal "Circulator Route," working in tandem with I-277, would enable drivers to circulate *around* Center City instead of driving across it. In order for drivers to easily take advantage of this internal route, the streets need to be connected conveniently to the freeway loop. For example, in the case of the 11th/12th one-way couplet, modifications to the I-277 exits and entrances are necessary to make this an effective part of the surface Circulator Route.

In regard to modifications to I-277, itself, the roadway's existing geometry presents several "short weaving sections" where traffic from entrance ramps conflicts with traffic heading toward an exit ramp. These sections are intimidating to the average driver, which discourages use of the freeway as a distributor into Center City. The measures listed below would improve the short weaving sections to make the loop more attractive for short trips. This would allow it to function more effectively as a distributor for Center City traffic.

These modifications need to go beyond merely functional modifications, however, to carry out the intent of the *2010 Vision Plan*. They need to create a high level of aesthetic design to reinforce Center City as the employment and entertainment center of the metropolitan region. The modifications are illustrated above.

It should be noted that I-277 is an interstate highway under the administrative jurisdiction of the North Carolina Department of Transportation, and modifications are subject to approval by the

Federal Highway Administration. Implementing the modifications would require a feasibility study (Interchange Modification Report, or "IMR") that meets NCDOT requirements, and identification of funding sources. Most of the proposed modifications are not currently on the funded Transportation Improvement Projects list of funded projects.

A-1. Mint Street Interchange

This interchange would be modified to:

Rebuild the existing westbound entrance ramp from Church Street as an overpass to enable construction of a new westbound exit to go beneath it.

Provide a new westbound exit from I-277 onto Mint Street, to encourage use of the internal Circulator Route (McDowell/Stonewall/Graham/11th-12th Street) and to provide a second exit into Center City for westbound traffic on the south (Belk Freeway) side of the freeway loop.

Provide an access from eastbound and westbound Morehead Street to the existing eastbound collector/distributor road by way of southbound Mint Street, westbound Carson Boulevard, and a new connection from Carson Boulevard to the collector/ distributor, as a flyover over Morehead Street.

Eliminate the existing entrance ramp from westbound Morehead, with westbound Morehead using the new Carson Boulevard ramp instead.

A-2. Caldwell Street/South Boulevard Interchange

This interchange modification will greatly simplify a confusing interchange, facilitate the proposed changes to Caldwell and Brevard Streets, and allow pedestrians and bicyclists to cross I-277 between Center City and South End. It will:

Consolidate all directional movements onto a two-way Caldwell Street/South Boulevard route, thus eliminating the Caldwell and Brevard fragmentation.

Eliminate the direct connection to Brevard Street so that it can become a Signature Pedestrian Street supporting an entertainment district between the Convention Center and the Arena.

As a result, this modification will:

- provide a new southbound to eastbound movement;
- make a single street connection between the two-way Caldwell Street and the two-way South Boulevard;
- facilitate the movement of traffic exiting at this interchange onto the internal Circulator Route (McDowell/Stonewall/Graham/11th-12th Street);
- provide pedestrian crossings across I-277 between Center City and the South End; and
- make possible a new connection over I-277 from Davidson Street (or, alternatively, Alexander Street) to Euclid Street, as described later in this section under "New Streets."

This modification is under construction as a major component of the City's program that resulted in the NASCAR Hall of being developed here.

A-3. Stonewall/Kenilworth/Independence Interchange

Modifications to this interchange were recently completed by the City of Charlotte at I-277, Independence Boulevard and Kings Drive. Pedestrian and bicycle movement through the intersection will be enhanced by this project. The redesigned interchange will:

Modify the westbound exit ramps from Stonewall to I-277, northbound and southbound, to enhance pedestrian and bicycle circulation under the overpasses.

Provide a direct connection between the westbound/northbound exit ramp, from I-277 to Kenilworth, to Independence Boulevard.

Eliminate the existing northbound Independence Boulevard access ramp.

A-4. Fourth Street Interchange

This interchange currently requires southbound I-277 traffic headed for eastbound Third Street to (1) exit on a partial cloverleaf, (2) make a U-turn at Fourth Street onto the street that becomes a southbound I-277 entrance ramp from Fourth Street, and (3) then turn left onto Third Street. This configuration is cumbersome and requires traffic to pass through three separate traffic signals in addition to making a confusing U-turn.

The southbound exit ramp from I-77 would be modified by tightening the radius of the ramp, directing traffic headed for Third Street under the existing I-277 bridge over Fourth Street, and south on a new lane parallel to the existing northbound frontage road to Third Street. Traffic flow from the exit ramp going to Fourth Street would remain the same as it now exists.

A-5. Elimination of Davidson Street Entrance Ramp

The existing eastbound entrance ramp from just east of Davidson would be eliminated. Closing the eastbound entrance ramp east of Davidson. The traffic exiting Center City to the north would use Brevard Street, which will become a two-way street north of Fifth Street.

This will provide motorists an alternative to the more residential Davidson Street. Elimination of the ramp will also relieve the short weave that currently exists between the Davidson entrance ramp and the exit ramp from eastbound/southbound I-277 to southbound U.S. 74 (Independence Boulevard).

It will also, enable the conversion of Eleventh Street between Davidson and Tenth Street to be converted from one-way to two-way.

A-6. Twelfth Street Braided Ramps and North Tryon Street Exit

Rebuild the current ramps in order to provide a direct access from westbound I-277 to North Tryon Street.

A conceptual study, undertaken early in response to economic development interests in the North Tryon Street Corridor, developed a proposal for modifying the exit ramps between Davidson Street and Church Street to provide a braided ramp pair of westbound exit and entrance ramps and a round-about intersection of 12th Street and North Tryon Street.

This configuration would provide a direct connection between I-277 and North Tryon Street, which does not currently exist but which is desirable. Under the design concept, the westbound entrance ramp from Twelfth to I-277 between Davidson and Caldwell, and the westbound exit ramp from I-277 to Twelfth between Brevard and Church, would be eliminated. The conceptual study provided two alternative braided ramp concepts for replacing these entrance/exit ramps.

A-7. Eleventh Street Connection at Church Street

Create an eastbound connection from Eleventh Street, which is now a two-way dead end street, to one-way eastbound Eleventh Street as part of the developing Circulator Route (McDowell/Stonewall/Graham/11th-12th Street). Expanding the existing two-way portion of Eleventh Street will be explored. Separate traffic signals would be required for the exit ramp and Eleventh Street at Church, similar to the existing configuration at the I-277 eastbound exit ramp to College Street. This modification supports development of the surface street inner loop.

A-8. Tenth Street to Eleventh Street Connection

Rebuild the existing exit ramp from eastbound I-277 to Tenth Street to tighten the radius, leaving enough room for a one-lane connection from Tenth Street to Eleventh Street. Eleventh Street between Pine and Church is now two-way, with no connection at either end.

This step will create a connection from Graham Street to one-way eastbound Eleventh Street, as part of the developing Circulator Route (McDowell/Stonewall/Graham/11th-12th Street).

A-9. Enhancement of I-77 Ramps at West Morehead Street

The ramps at West Morehead Street and I-77 are designed with high-speed curves that are not pedestrian-friendly. They need to be reconfigured to reduce vehicular speeds and minimize the length of the pedestrian crosswalk.

A-10. Enhancement of All Underpasses and Overpasses

Based on proposals in previous studies and requests from stakeholders, conceptual design studies have been prepared for the enhancement of all underpasses and overpasses on the I-77/I-277 Loop to make them more desirable for pedestrians and bicyclists.

Improvements would include cutting back the sloping retaining walls of the underpasses to provide pedestrian space behind the existing columns, providing widened sidewalks on the overpasses by either using excess pavement or employing structural outriggers, providing enhanced lighting, modifying landscape plantings to increase visibility, and incorporating quality finishes and artworks.

These concepts also include providing consistent design elements that enable the underpasses and overpasses to function as visual gateways into Center City, thus providing a significant urban design statement.

B. Conversion Of One-Way Streets To Two-Way Streets

At the start of the *Center City Transportation Plan*, several stakeholders suggested that Center City's one-way streets should be converted to two-way streets. After extensive evaluation of all one-way streets, it was determined that some could be converted while others needed to remain two-way. Those that remain two-way are described on page 43. Those that are proposed for conversion to two-way streets, to improve overall vehicular circulation in Center City, are listed below. The proposals are illustrated on page 42.

B-1. Caldwell Street: Stonewall Street to Twelfth Street

The construction of the new Charlotte Arena resulted in Caldwell Street being converted to a two-way, four-lane boulevard from Fourth Street to Fifth Street. This conversion also facilitates the conversion of Caldwell and Brevard Streets to two-way streets, potentially in two separate stages – one north of Fifth Street, the other south of Fourth Street.

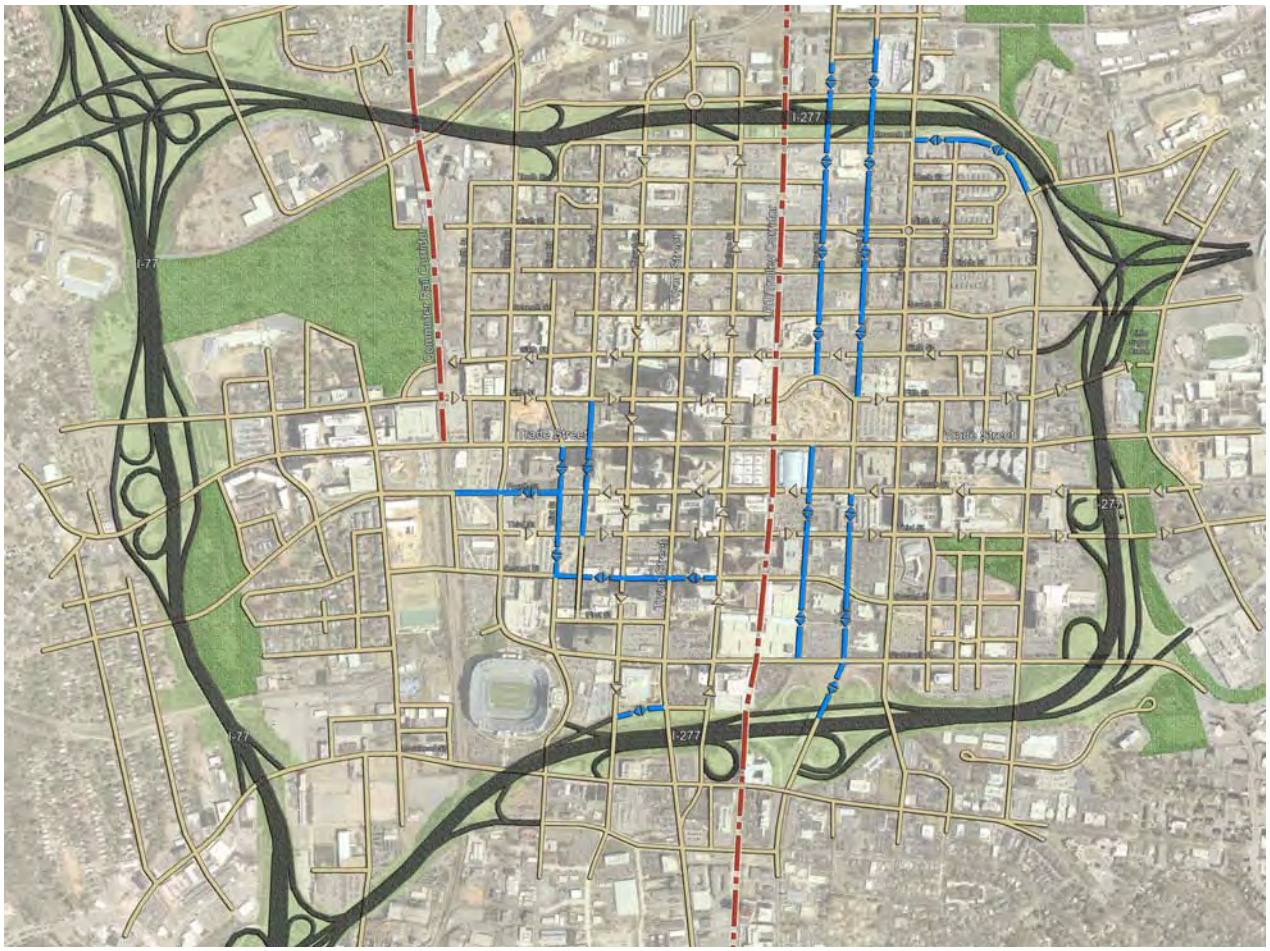
The conversion of both Caldwell and Brevard is also facilitated by the removal of the high speed connector between the two and their conversion to two-way streets north of Twelfth Street. Similarly, the modification of the I-277 interchange with South-Caldwell as described above has facilitated the conversion of Caldwell to two-way south of Fourth Street.

To replace the Caldwell-Brevard one-way couplet, **Caldwell will be converted to a two-way, four-lane street for its full length** from I-277 (Belk Freeway) on the south, to Twelfth Street on the north. In order to maintain pedestrian and landscape space north of Ninth Street and eliminate the need to rebuild the I-277 overpass, the section north of Ninth will have two northbound lanes and one southbound lane. This complements the capacity to be provided on Brevard Street as described above.

The modifications to Brevard and Caldwell Street are linked to the reconstruction of the I-277 interchange with Caldwell, Brevard and South Boulevard (previously described on page 39).

This conversion of Caldwell Street will accomplish several important objectives:

- Eliminate the awkward diversion of Brevard Street around the Arena.
- Enable Brevard to become a Signature Pedestrian Street, supporting developmentbetween the Convention Center and the new Arena, and to the north of the Arena.
- Achieve a smoother traffic flow with the reconstruction of the I-277/Caldwell/South Blvd. interchange.
- Provide a better vehicular and pedestrian connection with South Boulevard and the South End with Center City.
- Make navigation around Center City easier for visitors and occasional users by replacing two one-way streets with two two-way streets.



B. Conversion of One-Way Streets to Two-Way Streets

B-2. Brevard Street: Trade Street to Stonewall Street

As described above, the construction of the Charlotte Arena bisected Brevard Street, with a connection along Fifth Street to Caldwell, which in turn was made two-way between Fourth Street and Fifth Street. While this is an adequate short-term solution, Brevard's function as a north-to-south one-way primary commuter route was greatly diminished. This major disruption also created the opportunity for Brevard and Caldwell Streets to assume new and significantly different functions.

Brevard will be converted to a two-way, two-lane street from Trade Street to Stonewall Street, with on-street parking and wider sidewalks. The current reconstruction of the Caldwell-Brevard-South Boulevard interchange on I-277 has facilitated this conversion. With the conversion, Brevard will become a Signature Pedestrian Street linking the Arena and Convention Center visitor destinations, with the potential to become a significant retail, restaurant, employment, entertainment and hotel streets. Its adjacency to the Light Rail Transit line will further reinforce this potential.

B-3. Brevard Street: Fifth Street to I-277 Brookshire Freeway

Brevard Street will better serve vehicular circulation in Center City by **conversion to a two-way street from Fifth Street north to I-277** (Brookshire Freeway). The northern section of the street will also function as a Signature Pedestrian Street to support pro-posed redevelopment of the area north of the Arena. Brevard will be two-lanes, two-way between Fifth and Ninth. Between Ninth and I-277 it will be three lanes, with two lanes southbound and one lane northbound. (This asymmetrical configuration corresponds to a similar situation on Caldwell Street in order to avoid the reconstruction of I-277 underpasses and overpasses.)

This will supplement the conversion of Caldwell Street to two-way, as described above. It will also provide a northbound exit from Center City for drivers headed to eastbound I-277 once the Davidson Street eastbound entrance ramp has been removed.

B-4. Poplar Street: MLK Blvd. to Sixth Street

Poplar Street is now one-way northbound from the intersection of Second and Mint Street to Sixth Street, then changes to two-way north of Sixth Street. It functions partially as a shorter one-way couplet with a shorter one-way southbound Mint Street. This pairing is not necessary for the traffic volumes on either street and creates avoidable confusion for visitors and occasional users. Additionally, southbound traffic from the residential Fourth Ward, north of Sixth Street, must divert onto Sixth Street to get to southbound Mint, which adds unnecessarily to traffic to Sixth Street.

Poplar Street will be converted to a two-way, two-lane street. As described in the following "New Streets" section, the Mint/Poplar connector will be removed with the development of the Third Ward Park, Poplar will extend from Third Street to Eleventh Street. On-street parking will be provided on both sides of Poplar where the right-of-way width and future development allows. This change will create better vehicular and pedestrian circulation between Fourth Ward and Third Ward.

B-5. Mint Street: Trade Street to MLK Blvd.

Mint Street will be converted to a two-way, two-lane street (from Trade to Second), with time-restricted on-street parking on both sides of the street. The conversion of both Poplar and Mint will enhance pedestrian circulation in the area, particularly at the intersections with MLK Blvd..

The pavement cross-section of Mint Street will be retained to support time-restricted on-street parking, to support special operations of the street associated with traffic management for events at Bank of America Stadium and the new baseball stadium, and to support activities at the new Third Ward Park.

B-6. MLK Blvd.: College Street to Mint Street

MLK Blvd. is now one-way, westbound, between College and Mint Street. Converting MLK Blvd. to a two-way, two-lane street will enhance connectivity and improve traffic flow by providing a two-way connector between McDowell Street and Cedar Street. The proposed conversions of Mint, Poplar Streets and MLK Blvd. are consistent with the *Center City 2010 Vision Plan* as well as the *Third Ward Vision Plan*.

B-7. Eleventh Street: Caldwell Street to Tenth Street

Eleventh Street is now one-way, eastbound and southbound, between Caldwell and Tenth Street. At Tenth, Eleventh Street ties into McDowell Street, which is two-way. The one-way direction is necessary only because of the eastbound entrance ramp to I-277 just east of Davidson Street. Elimination of this ramp (see page 38), will remove an impediment to two-way traffic on this portion of Eleventh Street. Converting Eleventh Street to a two-way, two-lane street from Caldwell to Tenth, will provide additional connectivity for residents of First Ward as well as provide alternative routes for traffic using Tenth Street for access to Center City.

B-8. Fourth Street: Norfolk-Southern Overpass to Poplar Street

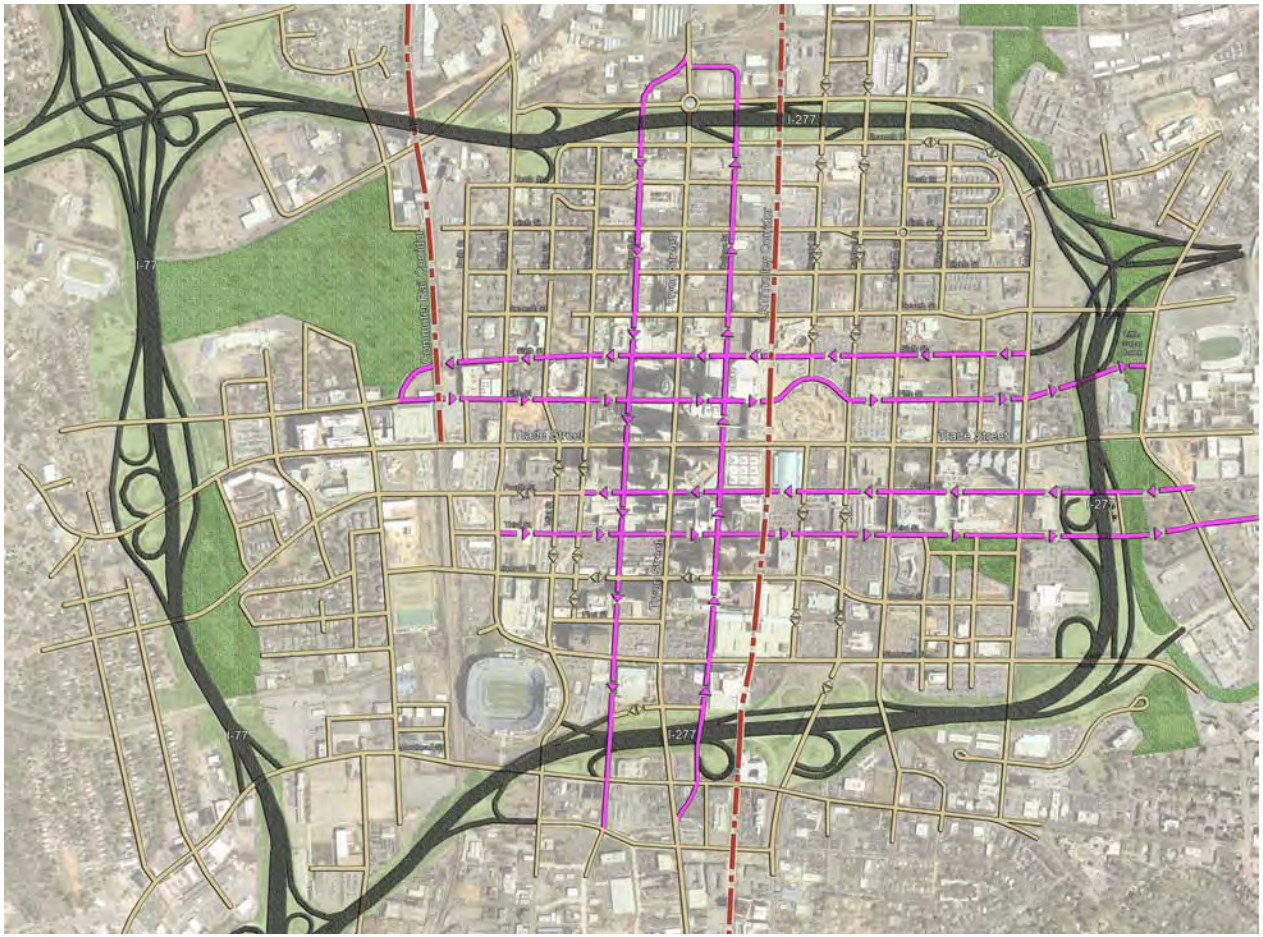
The preliminary conceptual plans for development of a new Charlotte Knights Baseball Park call for closing Third Street between Graham and Mint Streets. This *Center City Transportation Plan* also proposes closing the Fourth to Third connector (see page 38). In order to support these proposals, Fourth Street needs to become two-way from the Norfolk-Southern overpass to Poplar Street. The modification will require two eastbound lanes between the railroad and Mint Street and one lane between Mint and Poplar Streets.

2I. Hill Street: Tryon Street to Church Street

Hill Street is only two blocks long, one of which is already two-way. Conversion of the block between Tryon and Church will provide better connectivity alternatives between the two streets. It will also enhance the operation of the College/Church one-way pair.

C. One-Way Streets To Be Retained

The following one-way streets will be maintained as part of the overall Center City vehicular circulation system (Page 44). The one-way streets will



C. One-Way Streets to be Retained

continue to serve as primary commuter streets in and out of Center City during peak morning and afternoon hours.

Most importantly, one-way pairs of Church and College Streets, and Fourth and Fifth Streets, serve approximately 90 percent of the existing structured parking spaces in Center City. Some of the garages are designed to be directly dependent on this system. Additionally, conversion of these streets would greatly constrain access to many other garages.

C-1. Third Street

Third Street is one of the primary eastbound routes out of Center City, and a primary entrance route into Center City from I-77 on the west. It begins just east of the Norfolk-Southern railroad tracks as a connector away from Fourth Street. It will be retained as a one-way primary commuter street through Center City east of Mint Street.

C-2. Fourth Street

Fourth Street is also a primary route into Center City, especially from the east, and operates as a one-way couplet with Third Street. It is also a primary commuter exit route to I-77 on the west side of Center City. Fourth Street will be retained as a one-way westbound primary commuter street from Kings Drive to Poplar Street as described above.

C-3. Fifth Street

Fifth Street is a primary commuter entrance into Center City from I-77 and a primary exit route to U.S. 74 (Independence Boulevard). It will be retained as a one-way eastbound primary commuter street from just east of Cedar Street to I-277 and the connector with U.S. 74. The two-way portion of Fifth Street from I-77 to the connector with westbound Sixth Street, just east of Cedar Street, will remain two-way. As part of the proposed modifications to I-277, a new connection will be made from Fifth Street to Kings Drive, east of I-277.

A portion of Fifth Street is under consideration for fixed guideway transit services, either for light rail or bus rapid transit or as part of the Center City Streetcar.

C-4. Sixth Street

Sixth Street functions as a westbound one-way primary commuter street coupled with one-way eastbound Fifth Street. It is an important entrance route for commuters from U.S. 74 (Independence Boulevard) and I-277, though not as heavily used as westbound Fourth Street. It is also an important eastbound commuter exit to I-77 and the Beatties Ford Road corridor, transitioning to a two-way Fifth Street just east of Cedar Street near Gateway Village. It will be retained as a one-way eastbound primary commuter street from I-277 to the connector with Fifth Street.

C-5. Church Street

Church Street is a primary southbound commuter entrance route from I-277 Brookshire Freeway and a primary exit route to I-277 Belk Freeway and the South Tryon Street/South Boulevard corridor. Because of the many parking decks located on Church Street, it is especially important for commuter traffic. It will remain as a one-way southbound primary commuter street.

C-6. College Street

College Street is a major northbound commuter entrance route from I-277 Belk Freeway and the South Tryon Street corridor, and exit route to I-277 Brookshire Freeway and the North Tryon Street corridor. Many parking decks are also located along College Street, reinforcing its importance as a commuter street. It will be retained as a one-way northbound primary commuter route.

The blocks on College between Fifth and Stonewall have more lanes and more pavement width than necessary for vehicular traffic. This will allow reduction of the number of lanes and use of pavement for special services parking in some sections of the street (see page 44).

C-7. Eleventh Street

In order to support the operations of I-277, Eleventh Street will be retained as one-way eastbound, from Church Street to Caldwell Street.

C-8. Twelfth Street

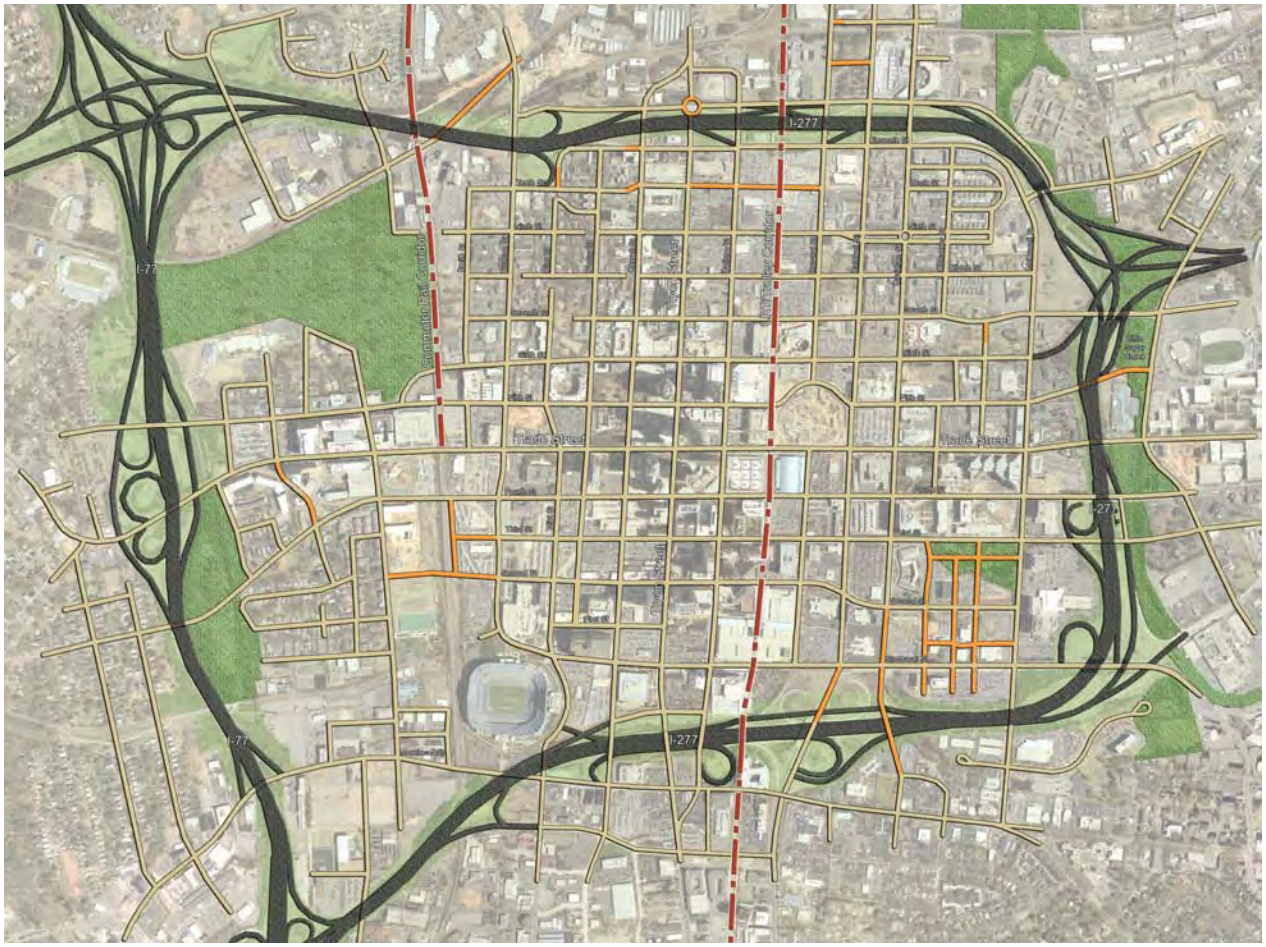
Similar to Eleventh Street, Twelfth functions as an important distributor for I-277 traffic into Center City. Twelfth Street will be retained as one-way westbound, from Tenth Street to Graham Street. Proposed modifications to I-277 (page 38) will affect Twelfth Street.

D. New Streets

The following are new streets proposed for Center City (Page 46). These new streets will create better connectivity for vehicles, pedestrians and bicycles.

D-1. New and Modified Streets near the Charlotte Gateway Station and Third Ward Park

- **New Street: Fourth Street to MLK Blvd. (as extended)**
  A new two-lane, two-way north-south street is proposed, between and paralleling the Norfolk-Southern railroad tracks and Graham Street. This new street will allow elimination of the connector from Fourth Street to one-way eastbound Third Street, helping to slow down the inbound traffic. It will also establish a better block pattern south of Fourth Street and west of Graham Street, supporting development associated with the Charlotte Gateway Station, a new Greyhound Bus Station and potential baseball stadium.
- **Third Street: New Street to Graham Street**
  A new two-lane, one-way eastbound Third Street connector will be made between the New Street (above) and Graham Street. This will allow elimination of the connector with Fourth Street, slow traffic and support development of the block pattern as part of the Gateway Station.
- **MLK Blvd.: Graham Street to Cedar Street**
  A two-lane, two-way extension of MLK Blvd. between Graham Street and Cedar Street, under the Norfolk-Southern railroad tracks, will provide an additional connection from the Third Ward neighborhood west of the railroad tracks into Center City. This connection will provide an additional alternative into and out of



D. Proposed New Streets

the city for both pedestrians, bicyclists and vehicles. It would be accomplished most appropriately and economically as part of the track reconstruction for Amtrak, North Corridor commuter rail and the Charlotte Gateway Station.

D-2. Euclid Street Connection across I-277

A new two-way, two-lane connection of Euclid Street to Alexander Street, Davidson Street or some other point is proposed to span I-277 between Stonewall Street in Center City and Morehead Street in Dilworth. This connection will provide improved vehicular and pedestrian connections across the I-277freeway between Center City and the Dilworth neighborhood, and will support the Second Ward Master Plan development. It will also support redevelopment activities in the Euclid/ Morehead area.

D-3. New Second Ward Streets

Several new two-lane, two-way streets were proposed as part of the Second Ward Master Plan for the area bounded by Third Street, Davidson Street, Stonewall Street and I-277. These streets will be constructed as implementation of the Second Ward plan proceeds.

D-4. Fifth Street Extension: McDowell Street to Kings Boulevard

This extension will provide an additional eastbound route out of Center City to Kings Drive and the Elizabeth neighborhood. Pedestrian and bicycle connections are proposed within the right-of-way on the south side of the ramp, as a connector between the Little Sugar Creek Greenway and McDowell Street. These improvements will also provide enhanced pedestrian connectivity between Center City and Central Piedmont Community College.

D-5. Myers Street Extension: Sixth Street to Seventh Street

A two-lane, two-way extension of Myers Street, between Sixth and Seventh Streets, will support ongoing First Ward development by providing enhanced vehicular and pedestrian connectivity.

D-6. Tenth Street: Tryon Street to Brevard Street

Redevelopment of the area on North Tryon now occupied in part by Mecklenburg County's Hal Marshall Government Services Center has been under discussion for some time. As this redevelopment and development of vacant land in this area proceeds, Tenth Street will be connected from Tryon Street to Brevard Street. This will provide enhanced connectivity to support redevelopment. It will also improve pedestrian connectivity between residential First Ward and the Tryon Signature Pedestrian Street, as well as pedestrian access to the future Ninth Street LRT Station. Phifer Street currently exists between Tryon and College Streets to the south of this proposed alignment of Tenth Street. Phifer should be removed when Tenth is developed in this block.

D-7. New Streets in South Cedar Street area

The street network in the area south of the Third Ward residential area and west of the Norfolk-Southern Railway embankment is somewhat fragmented. Recent private development activities in the area have presented opportunities to reconnect portions of the network to enhance a grid system. Elliot Street and McNinch Street need to be connected across the old P&N rail corridor, which is being converted to a greenway trail. These connections will create a grid south of First Street. Elliott, McNinch and Hill Streets east of Cedar and north of West Morehead need to be upgraded and connected to provide a grid network. Similarly, McNinch, Clarkson, Cedar, Eldridge, Dunbar and Elliott Streets south of West Morehead will provide a grid network to support redevelopment of that area. These improvements will provide circulation alternatives and relieve traffic on Cedar Street and Morehead Street.

E. Conversion Of Travel Lanes And Excess Pavement

Several Center City streets have either more travel lanes than are needed and/or excess pavement width for the anticipated future traffic volumes. This presents an opportunity to reuse those lanes for purposes more in keeping with the goals of this Center City Transportation Plan.

On some streets, travel lanes will be reduced in order to provide increased sidewalk widths that meet the Pedestrian Street Standards. On others, on-street parking will be added for the greater convenience of short-term visitors to Center City, or to provide bicycle lanes.

E-1. Reuse for On-Street Parking and/or Bicycle Lanes

A travel lane on each of the following streets will be reused for a variety of purposes, including on-street parking, valet parking, bus stops, loading zones, and/or bicycle lanes.

- College Street, from Stonewall Street to Fifth Street
- Davidson Street, from Stonewall Street to Third Street
- MLK Blvd., from College Street to McDowell Street
- McDowell Street, from Seventh Street to Tenth Street
- Brevard Street, from Stonewall Street to Third Street
- Poplar Street, from Fifth Street to MLK Blvd.

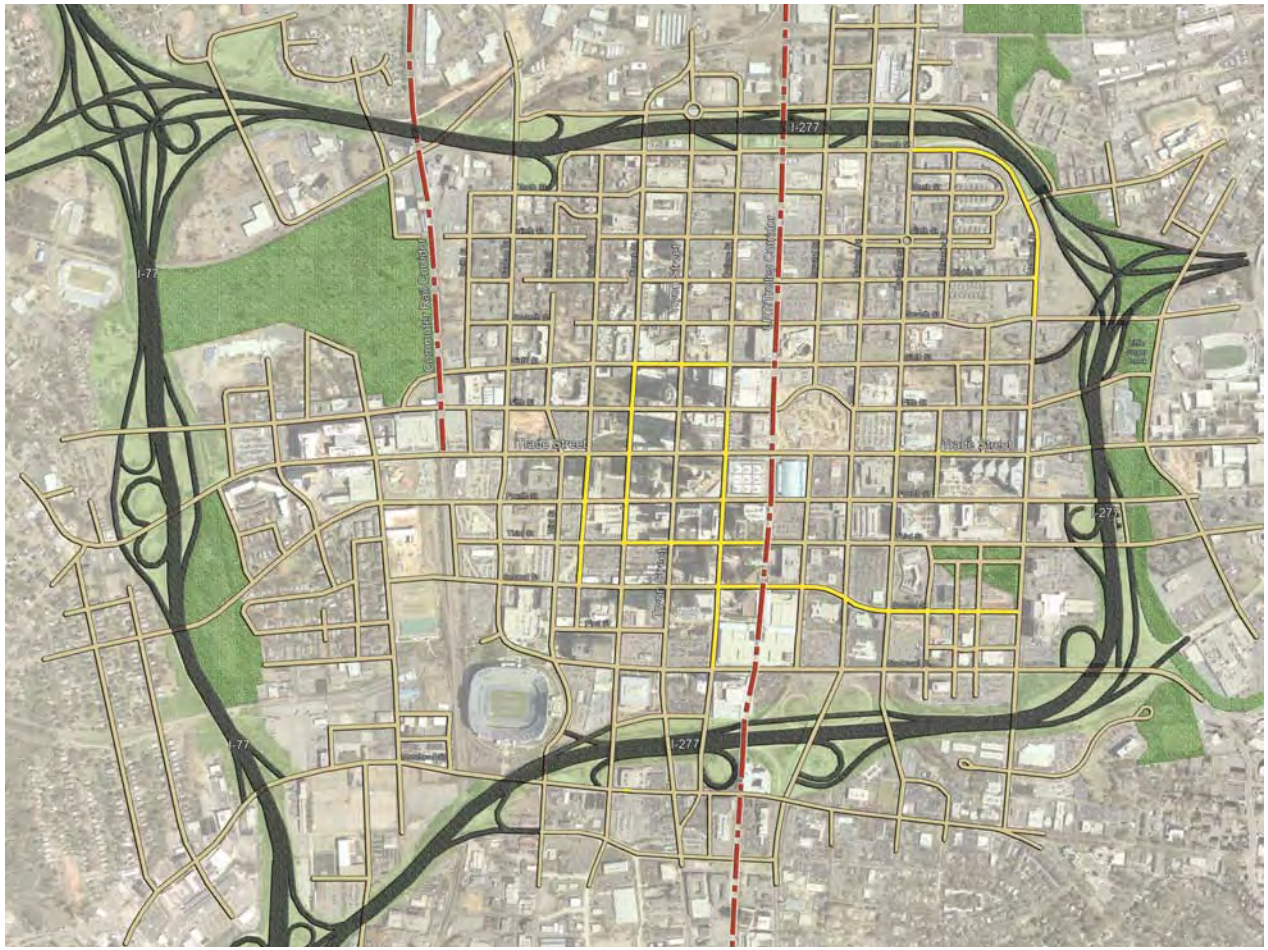
E-2. Re-Use of Pavement for Additional Sidewalk Space

On the following streets, a travel lane or existing on-street parking will be eliminated and additional sidewalk space added to more closely meet the Pedestrian Sidewalk Standards:

- Sixth Street, from the Light Rail Transit line to Church Street
- Third Street, from Church Street to College Street
- Fourth Street, from College Street to Poplar Street
- Brevard Street, from Stonewall Street to Third Street

F. Turn Lane And Intersection Modifications

There are a number of right-turn and left-turn lanes throughout Center City that are unnecessary for the estimated volume of turning traffic. These can result in higher speed turning movements than are desirable to meet the 25-mile per hour goal for Center City. They also can cause conflicts with pedestrian crossings at intersections. At some intersec-



E. Conversion of Travel Lanes

tions, the geometric configuration prevents a continuity of traffic flow that would be desirable.

Modifications of turn lanes or intersection configurations will be made at the following intersections to resolve these conditions (Page 48):

- Tenth Street at Church Street
- Sixth Street at Graham Street
- Trade Street at Johnson & Wales Way
- Fourth Street at Johnson & Wales Way
- Fourth Street at Church Street
- Fourth Street at the entrance to the Grant Thornton Building parking garage
- Fourth Street at Davidson Street
- Third Street at Church Street
- Third Street at College Street

G. Rail Grade Crossing Closures And Modifications

The North Corridor rail program will support the CATS North Corridor Commuter Rail line and the AMTRAK Inter-City rail services managed by NCDOT. Both services will use the existing Norfolk-Southern Railway embankment that runs between and parallel to Graham and Cedar within Center City. North of I-277, the NCDOT AMTRAK line will use the CSX right-of-way which parallels and is approximately two blocks north of Twelfth Street. Development of the expanded rail services on these two rights-of-way will have the following impacts on existing at-grade street crossings.

- Ninth Street – Close at-grade crossing and provide a pedestrian/bicycle bridge overpass for connectivity to Johnson Street and the Elmwood-Pinewood Cemetery
- Smith Street – Close at-grade crossing
- Church Street – Close at-grade crossing
- Brevard Street – Provide "Quad-gate" enhancements
- Davidson Street – Provide "Quad-gate" enhancements

As an additional benefit to the quality of life in Center City and the area north of I-277, these several modifications will enable the creation of a "quiet zone" within which the use of train whistles will not be required as trains approach the crossings.

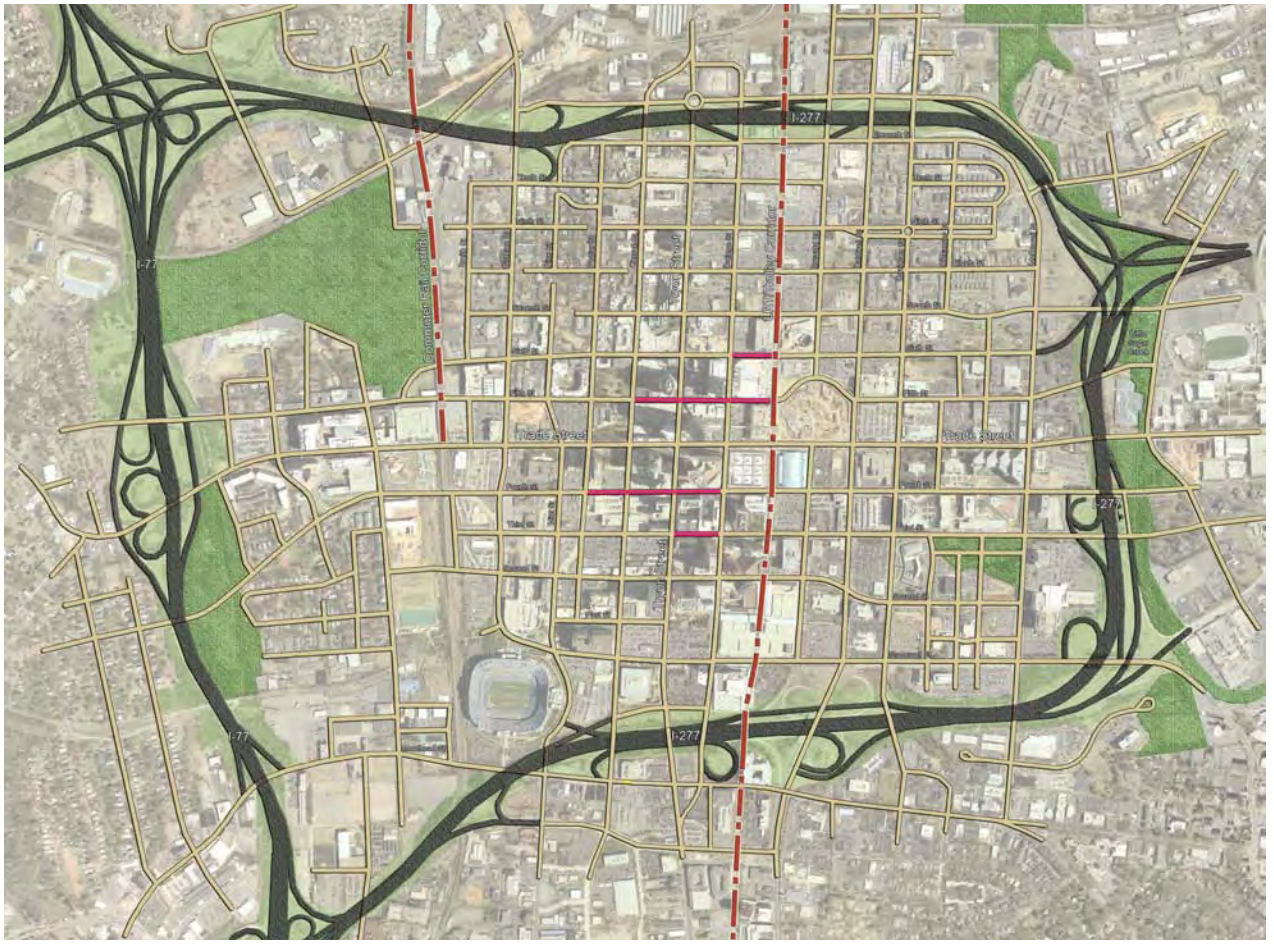
Can Center City Streets Accommodate Future Traffic Volumes?

Preparation of the *Center City Transportation Plan* included a detailed analysis to determine whether the future vehicular circulation system could accommodate traffic with the proposed changes.

The basic conclusion is that, yes, the Center City street network will be able to accommodate projected traffic volumes in the future, with the street modifications proposed in this plan.

The methodology used in this analysis, and the findings and conclusions, are described in *Appendix A* (page 91). Among the assumptions used are these:

- *In the future, the proportion of employees who work in Center City and commute by driving alone will be significantly lower than it is today*. This change will occur primarily as a result of major improvements in public transportation to and within Center City, and increases in the number of employees who both live and work in Center City.
- *In the future, more drivers will use the freeway loop and the internal circulator route* to approach their destination in Center City, rather than travel lengthy segments of Center City streets. In other words, they will follow the loop or circulator route to the point closest to their parking destination before entering the street grid system.
- *Most drivers will tend to avoid traveling from one side of Center City to the other,* given the planned pedestrian orientation of the Center City core and the Trade Street and Tryon Street axes. In other words, proposed improvements that make Center City streets more pedestrian-friendly will tend to discourage faster-moving through traffic.



E. Reduction of Pavement Width

The analysis noted that while the overall street network should perform well, there may be localized congestion points that occur and will need to be addressed. At the same time, the Center City street grid enables drivers to readily make route adjustments on their own.

F. Operational Modifications

Street Enhancement Standards Map: Taken together, these recommendations for modifications to the pattern of vehicular circulation are numerous. They are brought together in the Center City Street Enhancement Standards Map as discussed in "Part Five: Implementation." The Pedestrian Street Design Standards (page 75) provide the design requirements for the pedestrian space classifications indicated on this Map.

Plan Recommendations: Vehicular Circulation

6. Complete the proposed modifications to the I-77/I-277 Loop. These improvement projects will resolve specific problems (such as those stemming from short weave segments) and, in general, make the freeway loop more effective in distributing Center City traffic – a prerequisite to assuring smooth traffic flow within Center City.

7. Convert selected one-way streets to two-way streets to improve vehicular circulation within Center City. Nine conversions are proposed. Most notably, Caldwell and Brevard would be made two-way streets (and the interchange with I-277 Belk Freeway re-designed) to accommodate the Arena site, as well as to convert Brevard to a "Signature Pedestrian Street" with unique development opportunities between the Arena and the Convention Center.

8. Retain selected one-way streets, including the primary commuter streets in and out of Center City during peak morning and afternoon hours.

9. Construct new streets or street segments to improve connectivity and meet special needs. These new or modified streets include those in the vicinity of Gateway Station and Third Ward Park, an overpass over I-277 from Second Ward to Dilworth (Davidson to Euclid), street extensions in First Ward and neighborhood residential streets in a future, redeveloping Second Ward.

10. Convert travel lanes on streets with excess capacity to use for increased sidewalk widths, on-street parking, or bicycle lanes. These street segments are identified on page 47.

11. Modify turn lanes and intersections where turn lanes are unnecessary for the estimated volume of turning traffic or where

safety or pedestrian crossing issues are a concern. Eight intersection configurations are identified on page 47.

12. Modify or close rail grade crossings where made necessary by expanded rail service to Center City. Five crossings are identified on page 48.

Parking

Until the transit system is expanded . . . Center City will continue to need a considerable amount of parking. In the interim, public and private attention should focus on shared parking and on designing facilities with regard for aesthetics and pedestrians as well as air quality standards. At the same time, policies should be put in place to minimize the future need for spaces.

– Center City 2010 Vision Plan

Guiding Principles

Parking structures and the access system must be designed and managed to support:

- development of employment and visitor activities;
- pedestrian-oriented streets;
- efficient use of investment; and
- development objectives for transportation and transit.

The expanding CATS transit system should substantially increase the number of employees commuting to Center City by transit in the future, but the majority of employees will continue to drive to work. In addition, out-of-town and occasional visitors to Center City who drive can be expected to increase given the growth in venues and activities. These employees and visitors will continue to require parking facilities. Furthermore, lending institutions typically require developers to demonstrate an adequate supply of parking to support their developments, even when transit service is available.

To keep Center City attractive for office development, and to maintain its position as the region's employment center, it will be necessary to provide the correct amount of parking needed to support new development. The *Center City Transportation Plan* parking policies have been developed with the goal of providing the correct, but not excessive, amount of parking needed to meet these goals while balancing parking supply with increased use of transit and other modes.

Estimating Future Parking Needs

The need to *accommodate employment* is the primary determinant of the off-street, non-residential parking supply in Center City.

36,000 is the current number of off-street parking spaces used on weekdays by Center City employees. This estimate is calculated as follows:

Existing employees	55,000
Minus employees that walk to work	-500
Employees commuting to Center City	= 54,500
Minus transit users (7.5%)	- 4,088
Employees who will drive to work daily	= 50,413
Minus daily absentee rate (10%)	- 5,041
Total Employees who will drive to work daily	= 45,371
Minus average vehicle occupancy (1.1)	- 4,125
Total Parking Space Usage in 2003	= 41,247
Minus parking spaces outside loop (0.3%)	- 1,207
Total Parking Spaces inside loop	= 40,010
Total Weekday Parking Space Usage (85%)	= 36,000

For operational efficiency, parking decks and lots generally accommodate a maximum of 85 percent of their total capacity. Thus, accommodating 36,000 occupied parking spaces requires approximately 41,400 spaces – which is less than the estimated current total supply of 46,000 off-street parking spaces available for daily commuters in Center City.

How will that number change in the future? In the next 25 years – by the time the new rapid transit system is complete – an additional 40,000 employees are expected in Center City, bringing the total work force to 95,000 employees, according to growth projections (page 28). By that time a greater percentage of commuters will be using the new transit system, but the majority of Center City employees will still drive to work and will need parking.

58,000 is the approximate total number of off-street parking spaces needed to accommodate 93,000* employees working in Center City.

Forecasted future employees	93,000
Minus daily absentee rate (10%)	- 9,300
Forecasted total daily employees in Center City	= 83,700
Minus estimated transit users (25%)	- 20,925
Forecasted employees who will drive to work daily	= 62,775
Minus parking spaces outside the loop (3%)	- 1,883
Forecasted employees who will park in Center City daily	= 60,892
Minus average vehicle occupancy (1.2)	- 10,149
Total Parking Space Usage in 2003	= 50,743
Plus 15% additional spaces needed for operating efficiency	+ 7,612
Forecasted Total Off-Street Spaces needed for 93,000 employees	= 58,355

New office buildings will be built to accommodate the growth in employment. These offices and other new buildings will displace surface parking lots, so additional parking decks will need to be built. While the number, size and location of future office buildings is highly speculative, several assumptions were made in order to derive an estimated number of new parking decks that might be constructed to support the future 95,000 Center City employees.

Potential parking sites were determined by identifying available land either on site or within close proximity of potential office building sites. The number of parking spaces by site was determined by assuming various parking deck heights and spaces per floor, based on floor area ratio and deck footprint estimations.

The number of parking spaces by site was determined by dividing the area of the site (minus required setbacks) by 450 square feet per car. Parking structure size was determined by using the 450 square feet per car ratio and determining the number of floors underground or above ground. Above-ground floors were limited to avoid high rise classification. This exercise suggested that a possible total of 7,500 existing surface parking lot spaces would be displaced by new development over the next 20 to 25 years.

Using these assumptions, about 20,000 new parking deck spaces will be constructed in Center City over the next 20 to 25 years to accommodate the forecasted growth in employees.

Forecasted Total Off-Street Spaces needed for 93,000 employees	= 58,355
Minus existing off-street parking spaces	- 47,000
Plus existing off-street spaces estimated to be displaced	+ 8,257
Estimated new parking spaces needed	= 19,612

**Notes:*

- The parking analyses were based on an earlier employment forecast of 93,000, and have not been revised to match the more recent employment forecast of 95,000.
- The parking analysis is based on the supply related to employment and hotels. This is also the parking that is principally available to serve the entertainment and other predominantly off-hour needs. Residential development tends to provide its own exclusive use parking and, therefore, is not included in the analysis.
- As the CATS transit system plan is completed and service becomes available in all five corridors, commuter use of transit could be higher than 25 percent. If that is the case, the need for additional Center City parking spaces would decrease proportionately.

Managing Future Parking: A Policy Approach

The analysis of parking space needs suggests the number of off-street parking spaces will increase by nearly 50 percent – from about 40,000 spaces today to 58,000 – in the next 20 to 25 years. Private facilities will meet most of that demand, but for the Center City transportation system to function effectively as a whole, and to assure the area's continued economic viability, it is important that the Uptown parking system be accessible, well-managed and user-friendly.

That is not the case today. While the current parking supply is adequate to meet today's needs in terms of the number of spaces, the accessibility of such spaces – the ease of finding convenient parking – is another matter. The large number of privately owned and managed facilities can make it difficult for visitors to find either short-term or daily parking convenient to their destination. The system is fragmented and lacks overall coordination. It is important to develop a management scheme that would result in a coordinated parking supply, welcoming to the visitor, the tourist, new businesses, employees and the general public.

In fact, a collaborative system – including a parking guidance system and a common branding program – would be a more cost-effective approach for meeting parking needs than would complete reliance on parking deck construction.

It is not necessary to build a space for each additional future employee. In part, this is because more employees will live Uptown and walk to work, and more people will be riding the rapid transit system. But another key is to efficiently use existing facilities by coordinating available parking deck spaces to meet demand as it shifts during the day. It also works on a longer-term basis; for example, if one building has an over-supply of spaces because more employees are using transit, the building management can make these spaces available for the collaborative system and gain new users. A collaborative system is a cost-effective alternative to construction.

Maximizing the efficiency of the entire public and private parking system increases the value of the parking assets, reduces development costs, stabilizes user costs, and supports efficient use of the transportation system, including transit. From the public policy standpoint, it is in the interest of an economically viable Center City to have parking facilities and access systems that are designed and managed to support pedestrian-oriented streets, transit development objectives, and efficient use of facility investment.

The transportation objective is to use the parking supply as efficiently as possible and to support it with a vehicular circulation pattern and a directional system that enables people to find parking as directly as possible.

This is the aim of a proposed policy approach – a collaborative public-private approach – for meeting the current and future parking needs of employees and visitors in Center City. It is the recommended choice among four possible options for the City of Charlotte.

- The City can stand by as the existing fragmented approach continues;
- The City can adopt parking maximums or impose a ceiling on the number of spaces;
- The City can begin constructing its own parking structures; or
- The City can facilitate a collaborative parking system.

The following description summarizes the proposed collaborative parking program, and makes recommendations about the City's role in on-street and off-street parking supply.

Managing Off-Street Parking: A Collaborative Parking System

The off-street parking system is fragmented and under numerous ownership and management models. Hours of operation, rate schedules, management of reserved and non-reserved parking, and design standards (such as lighting and security features) vary by facility. Little or no parking guidance or "wayfinding" exists – nor can one be developed in a fragmented environment – resulting in the presentation of a confused parking system to both the infrequent and frequent visitor.

This *Center City Transportation Plan* recommends a policy approach to improving management of the off-street system.

> *It should be emphasized that the objective of "changes in management of the parking system" does not refer to changes in management of specific facilities, but is aimed at unifying the parking system so that it looks, feels and is perceived as a system to users, rather than a fragmented series of parking opportunities.*

Policy Recommendation:

Create a "Collaborative Parking System" for the management of private and public parking facilities. The intent of the Collaborative Parking System (CPS) is to organize the public and private parking assets in Center City to provide parking that is perceived by the various users as a unified and coordinated system. Elements of the system include:

- common branding and advertising;
- parking guidance or "wayfinding" system;
- known pricing scheme;
- common validation process;
- possible joint billing or clearinghouse;
- consistent specialized parking (van and car pooling);
- consistent enforcement; and
- consistent design and quality standards.

A Collaborative Parking System will provide opportunities for private owners and operators to more effectively market their parking facilities based on supported provided by the collaborative. Marketing and branding, as well as dynamic wayfinding signs that direct parkers to their facilities, are key components of the collaborative system.

Benefits to owners and operators should include higher revenues from increased utilization, the potential for subsidies by the collaborative to expand operating hours (and, ultimately, generate new revenue), and financial and infrastructure support for new technology costs.

Appendix B presents examples of collaborative systems in six other cities.

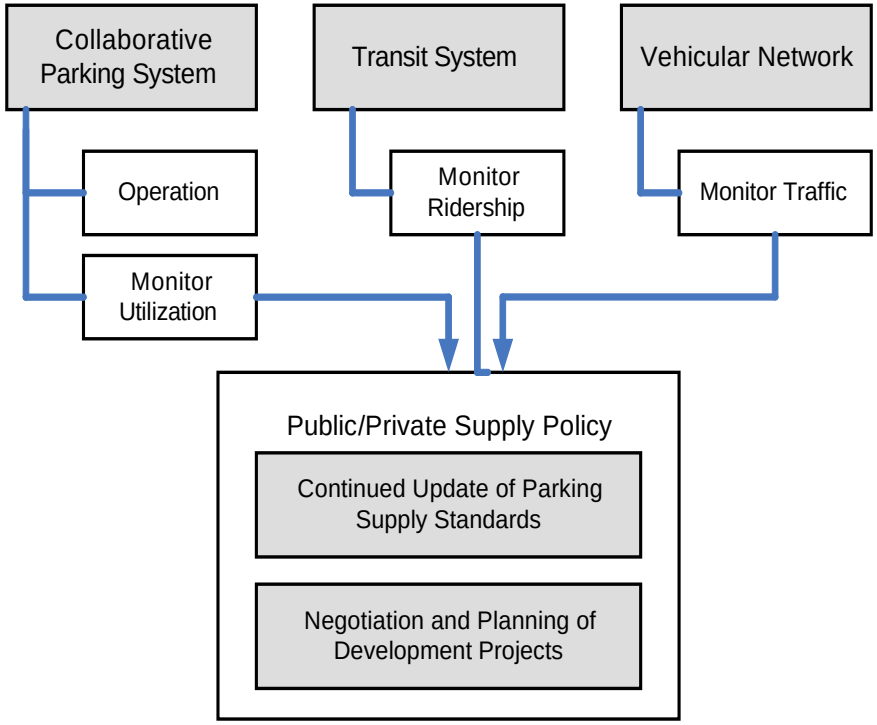
Many cities view parking as an economic development tool that can accelerate development and growth of a downtown area. Indeed, there is a growing movement by cities across the United States to leverage their parking resources to support economic development. Generally, these efforts involve public and private partnerships and, hence, the term "collaborative" parking systems. The common goal of these collaborative systems is to ensure that the right amount of parking is available to users, that all visitors can find parking, and that the public and private sectors work together for their mutual benefit.

Organizational Alternatives for CPS

The Collaborative Parking System should be organized under a single entity comprised of a board of directors that represents the ownership and stakeholders of the system. The board would hire a parking director to act on their behalf in implementing the technical aspects of the program as well as manage day-to-day coordination of the program. The board's mission would be to set policies, direct investment and implement strategies for the membership.

Membership in the collaborative would be voluntary and may or may not be beneficial to every owner or operator in the Center City. The objective is to organize as many of the parking facilities in Center City into the collaborative as possible, so that an effective, user-friendly parking system is perceived by all who come to Center City. There are three possible organizational models that could create and manage the collaborative:

1. **The City of Charlotte** could create, organize and finance the collaborative. There are advantages in that the City has resources already in place in the "Park-It" program that may be more expedient in implementation. However, the parking supply is primarily privately-owned and, as such, there may be more interest by the stakeholders in establishing an organization that reflects more closely the ownership of the parking system.



2. **Charlotte Center City Partners** (CCCP) currently has an ongoing annual contract with the City to provide services to their constituency, which is primarily the private sector community within the Center City. The benefits to organizing under CCCP are that they already have a board of directors that is representative of the private sector and they are a known and trusted entity. The CCCP has existing resources and business networks and could potentially expand their services to incorporate the CPS. The CCCP could also hire a full-time director to manage the day-to-day operation of the CPS.
3. **The creation of a new non-profit entity** to focus only on day-to-day management of the CPS provides a third option. As a non-profit organization, the goal would be to reinvest any available funds back into improving the parking system. The non-profit entity would require a board of directors that represents the Uptown parking and business interests. As a new entity, it could ensure, a singular focus on the parking system, as opposed to being one of a number of services managed by another organization such as CCCP. The board would hire a parking director to manage the CPS activities.

CCCP has recently agreed to operate the CPS under its auspices. A more detailed analysis of the above alternatives has been undertaken that led to this decision.

CPS Summary

The Collaborative Parking System has the potential of maximizing the use of existing parking assets (increasing income); reducing development costs (fewer new spaces to construct); reserving roadway capacity (improved vehicular circulation); and supporting the economic vitality of Center City (efficiently meeting work force parking needs). *Examples of collaborative parking systems in six other cities are described in Appendix B.*

Proposed City Policy For The On-Street Parking Supply

The City of Charlotte manages the Center City on-street parking system through "Park-It!" This program is contracted to an outside operator every few years through a bid selection process. The system functions well and generates significant net revenue after expenses (approximately a half million dollars per year).

On-street parking should always be oriented to the visitor or short-term parker, and should provide opportunities for easy access to destinations, and offer customer-friendly payment options. The proposed long-range improvements to the street network will expand the net number of on-street parking spaces significantly. The **Street Enhancement Standards Map**, (page 81) encompasses the siting of on-street parking throughout Center City.

A greater number of on-street parking spaces not only increases access to the Center City but also can result in increased revenue that could help support the proposed Collaborative Parking System and other parking policies described in this section.

Policy Recommendation:

Expand the on-street parking system program. Expanding the system refers to increasing

the number of spaces located on-street, increasing the hours of operation, and offering customer-friendly payment methods. Elements of this policy include:

- expanding the supply of on-street parking spaces, as reflected in the Street Enhancement Standards Map;
- expanding the availability and hours of operation, by reducing the use of time-restricted spaces and considering evening operations; and
- enhancing operations with such measures as multi-space meters, valet parking, pay stations, and fine drop boxes.

Proposed City Policy for the Off-Street Parking Supply

As parking demand increases over the next 25 years, there will be many opportunities for the City of Charlotte to partner with the private sector in providing parking solutions as part of new mixed-use development projects. Very few communities are constructing stand-alone parking structures. The recommended model is the development of mixed-use projects that serve needs for shared parking, transit accessibility and multiple trip destinations. This model – with the City as a partner in jointly addressing parking needs – can result in efficient, effective and sustainable development that has positive impacts on development as a whole in Charlotte.

Policy Recommendation:

Develop an Off-Street Parking Policy program or framework for City participation in the development of parking as a component of mixed-use projects. Elements include:

- financial participation, either directly or through other components of the development;
- building on established sustainable measures;
- managing quantity, through involvement of the Collaborative Parking System;
- establishing shared parking criteria or guidelines;
- considering options for "payment-in-lieu of building new parking;"
- supporting the transportation system through site and location criteria;
- managing access through establishment of criteria; and
- establishing and supporting design criteria.

The elements establish a framework for the City to participate financially in projects that include parking components when these components are developing in coordination with the overall parking policies. The intent is to build on sustainable measures already established for economic development activities in Center City and provide an adequate parking supply that supports transit ridership, economic development and employment growth.

An estimated 5,000 to 7,000 parking spaces are vacant during the peak hour parking demand of the day in Center City. This represents between $80 and $100 million in parking construction that is being underutilized. This policy is aimed at facilitating an adequate investment in parking based on maximizing the use of the parking supply without overbuilding.

Establishing shared parking criteria, guidelines or an ordinance, will improve the ability to share parking resources. In addition, there may be opportunities to combine the parking needs of multiple developments in a single facility as part of a larger development project, rather than constructing parking on "piece-meal" basis by individual developers.

The primary tool for implementing this approach is the Collaborative Parking System. It can also be supported by "payment-in-lieu of parking" which requires the creation of a parking fund that can collect payments and reinvest in facilities that will serve multiple users more economically. A parking fund allows developers or business owners to make a payment to a funding entity that will provide their parking needs as part of a larger project, rather than building parking themselves.

Other elements of the policy are aimed at promoting the most efficient siting of new facilities that may serve multiple destinations,

activities or businesses, where access to and from the parking facility is in line with the goals of managing the roadway system capacity. Finally, there will be opportunities through the parking policy to support design criteria that promote unique, pedestrian-friendly and accessible parking facilities.

Summary – An Integrated Parking Program

The parking policy's greatest impact is in concert with the development of a Collaborative Parking System (CPS) for unified management of the existing private off-street parking facilities in Center City.

The successful operation of CPS depends on the integration of four components, illustrated and described below:

Collaborative Parking System (CPS) Components

- **CPS** will be charged with the day-to-day operations of the parking system, including the parking guidance system, marketing, promotion, branding and related activities. CPS will also be responsible for monitoring use of the parking supply and responding to changes in demand by making adjustments in management or in coordination of planning for new construction.
- Transit ridership will also be monitored so that parking decisions can respond to increases in transit ridership by reducing the need for parking expansion.
- At the same time, operational changes, improvements or decisions on the **vehicular network** would also be communicated so that parking access, transit, parking availability and other aspects of a user-friendly system are not overlooked.
- Finally, these components are brought to bear on **public/private supply policy** and parking standards. Expansion of the public and/or private parking system would be in response either to planned changes or in support of proposed changes in land use development and economic growth within the Center City. Decreases or increases in parking requirements could be negotiated, depending on opportunities to serve needs with transit and the capacity of the roadway network.

The net benefit would be a parking system integrated with the transit system and the roadway network, so that resources are maximized, costs are reduced, and economic development is aggressively supported.

Plan Recommendations: Parking

13. Create a "Collaborative Parking System" for the management of private and public parking facilities. The intent is to organize and unify private and public parking assets in Center City through an entity that provides such services as a parking guidance or "wayfinding" system. (Page 54)

14. Expand the On-Street Parking system managed by the City, increasing the number of on-street spaces, expanding hours of operation, and offering payment options. (Page 56)

15. Develop an Off-Street Parking Policy framework for City participation in the parking component of mixed-use projects. This policy would establish conditions for financial participation by the City in providing joint parking solutions for appropriate mixed use development, and consider such measures as "payment-in-lieu" of building new parking. (Page 56)

Wayfinding

Guiding Principles

- Improve access, identification and connectivity to Center City.
- Enhance the image of Center City Charlotte by creating a user-friendly feel that reduces misdirected travel and disorientation among visitors, are both drivers and pedestrians
- Enable drivers to select parking close to their destination.
- Promote a sense of community and help create the perception of Center City as a safe and friendly environment.

What is "Wayfinding?"

Wayfinding is essentially a succession of directional clues comprising, primarily, visual elements. It exists in many scales and environments. It navigates people through a city street network, hospital corridors, airport or parking garage, calls attention to a storefront or provides information about an event. The term "wayfinding" was first used by Kevin Lynch, in his seminal 1960 book, *The Image of the City*, where he referred to maps, street numbers, directional signs and other elements as "way-finding" devices.

How Wayfinding Works

Good wayfinding systems help users experience an environment in a positive way and facilitates getting from point A to point B. When executed successfully, the system can reassure users and create a welcoming environment, as well as answer questions before users even ask them.

However, too much information can be as ineffective as too little. Developing a hierarchy of information is a critical part of wayfinding. The primary consideration is the user's perspective. The speed, visual environment and distance from which the information will be viewed are key considerations. In short, "more" is not necessarily better; even a well-designed program can get lost in visual clutter.

The effectiveness of a wayfinding system also depends on typeface, font, size and spacing between letters and words. For example, a combination of uppercase and lowercase letters is easier to read than only uppercase. Color contrast is also essential for optimum readability. Similarly, elements of the system must be well-maintained. A strategy and plan for maintenance and updating is as important to success as the original design.

Wayfinding Objectives in Center City

In Center City Charlotte, vehicular and pedestrian wayfinding systems are proposed that will work together to direct motorists into Center city and to the most easily accessible parking, and orient pedestrians around the city's core.

The proposed system would provide information to assist visitors, employees, residents and others to find their way to desired destinations in Center City and back to transportation or parking. Signage will direct pedestrians to areas that are particularly remote from central areas. Furthermore, the wayfinding system will:

- provide navigational aids that consider first time and infrequent visitors,
- are accessible to visitors with impairments and considerate of seniors,
- are consistent in presentation and language,
- are compliant with city and state traffic and safety regulations, and
- can be realistically implemented, maintained and managed.

A family of signs will serve both vehicular and pedestrian navigation, and will provide clear directions to and from the I-277/I-77 freeway loop and major Center City streets. The "logic of concentric destinations" will be established for the system, starting with the regional highway network, to a Center City parking loop, then to parking, then to specific destinations.

A unique identity or "brand" will be developed for the system. The design vernacular must be easy to recognize and in keeping with Center City streetscape design standards. It should clearly communicate a positive image of Charlotte.

Vehicular Wayfinding

Employees who work in Center City, who travel in and out daily, are familiar with the area and many have regular parking spaces. On the other hand, many occasional and first-time visitors to Center City can become disoriented without some level of positive guidance either to their destination or to a nearby parking area.

- The **Vehicular Wayfinding System** will help people approach Center City from the regional highway network and then navi-

gate the Center City grid system and one-way streets to find their most convenient parking spot.

The system will improve circulation by eliminating visual clutter, providing useful and clear information, and incorporating a consistent and recognizable design theme. This vehicular system will be coordinated visually with the **Pedestrian Wayfinding System** to help market Center City, evoke a sense of pride, help create a distinct identity and improve the streetscape.

The vehicular and pedestrian wayfinding systems need to be fully coordinated, both functionally and graphically, to implement the basic intent of the *Center City Transportation Plan*: the creation of a pedestrian-friendly core, the idea that every motorist and every transit user becomes a pedestrian, and the effort to facilitate a "park once" approach to Center City circulation.

How the Vehicular System Works

To guide traffic from surrounding highways and streets to Center City parking destinations, the proposed Vehicular Wayfinding System has identified four parking loops that presently serve and will continue to serve the majority of existing and anticipated future Center City parking garages. The loops are based on the street system and freeway loop modifications envisioned in the Center City Transportation Plan.

Four Parking Loops

1. **South Tryon** – northbound College, westbound Fourth, southbound Church
2. **East Trade** – westbound Fourth, northbound College and eastbound Fifth
3. **North Tryon** – southbound Church, eastbound Fifth, and northbound College
4. **West Trade**– eastbound Fifth, southbound Church, and westbound Fourth

These four loops would direct visitors to within one block of a large majority of existing parking garages in Center City, and within two blocks of virtually all anticipated future parking garage locations. The four loops can also interlock, since they direct motorists to common streets (Church, Fifth, College and Fourth) within one block of the Square.

The proposed vehicular wayfinding system actually consists of two coordinated sub-systems:

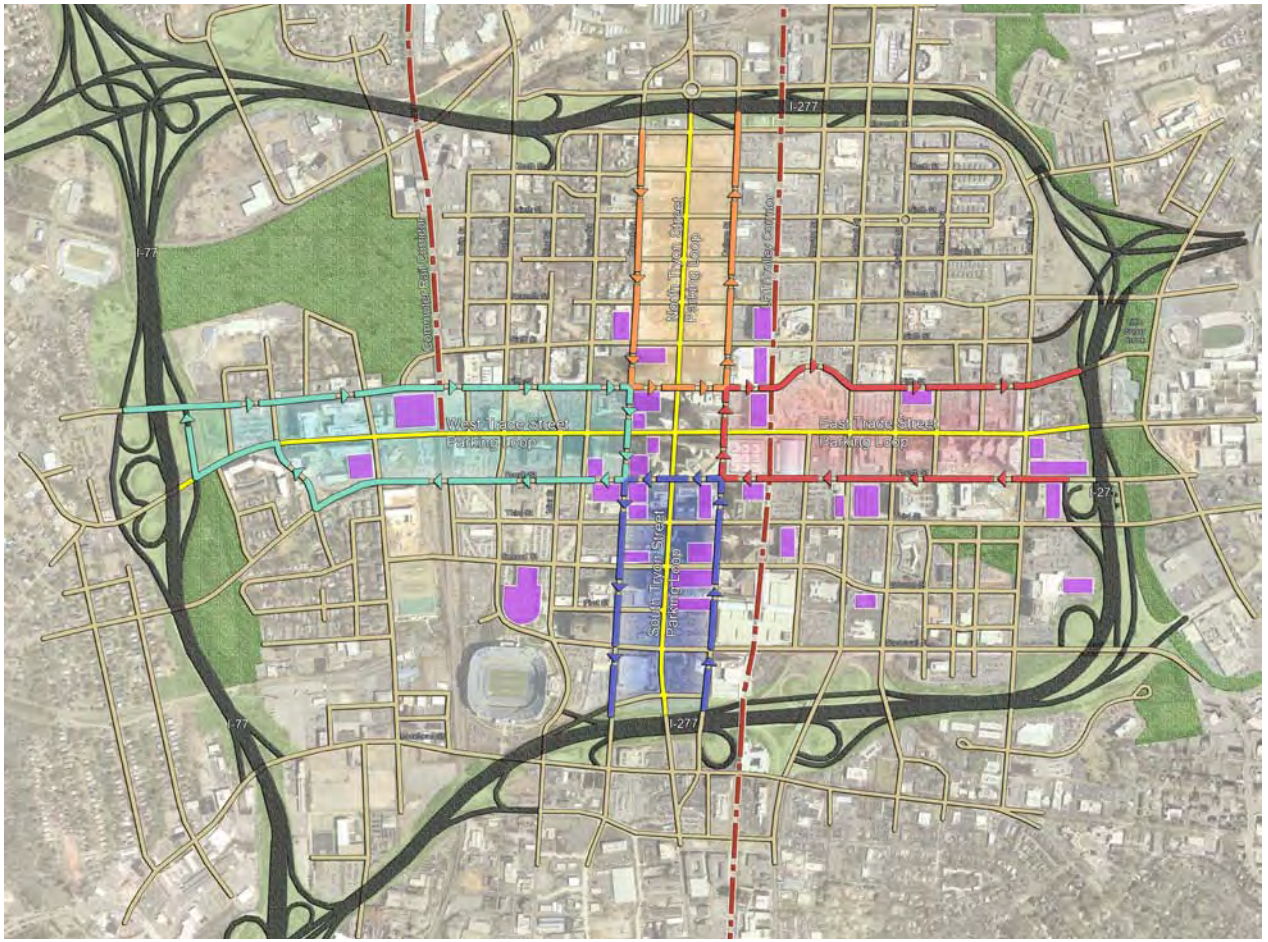
1. a **wayfinding sign system** that uses both static and dynamic messaging to provide directions to and from the regional highway network and Center City; and
2. a dynamic, **real-time parking information system**, as well as static identification signs, to direct motorists to parking facilities with available spaces in Center City.

Typical wayfinding systems are limited to static signs but Center City's system requires a higher level of technology, in addition to low technology items such as static signs or banners. A system of dynamic and static directional signs along expressways and thoroughfares approaching Center City, as well as the parking loop streets within Center City, will show the way to existing parking facilities (with the flexibility to evolve as new facilities are added). This system will be an integrated parking guidance system. It will provide direction to individual participating parking decks and, by means of electronically controlled displays, guide the motorist to facilities with available parking spaces.

Dynamic parking guidance systems offer an effective and rapid means of locating available parking. Permanent signs offer only a limited degree of effectiveness.

Dynamic systems, coordinated by a control center, track the available parking slots in parking decks and surface lots through the use of differential counters that monitor traffic going in and out of each facility. This real-time information is displayed electronically so that the motorist can drive directly to a parking facility that is conveniently located and has available parking.

The proposed system for Center city is similar to standard "dynamic messaging systems" used in other cities, except the manner in which it is used and the messages displayed. Ideally, all signs would be procured



Acommodating the Motorist – Parking Access Loops

from the same vendor who would also furnish a central computer control system and software designed to operate the signs. The computer system would be co-located with the City of Charlotte's traffic signal control system and share communications facilities, assuming spare conductors and/or fibers are available. Signs located along the regional highway network or away from existing traffic signal communication cables could be accessed by standard dial-up telephone lines.

Similar systems are currently in operation in St. Paul, Minnesota, and several European cities. St. Paul installed a parking directional system over ten years ago to provide clear directions to ten parking facilities serving their entertainment district. The system includes ten dynamic message signs (some of which display multiple parking sites with the respective number of spaces) and sixty or more static (fixed information) street and facility signs. A computer interface at each facility feeds data to a central system at the city's traffic signalization control room, where it is compiled and sent out to the dynamic signs. The "wiring" for the traffic signal management system also supports the message system.

Each participating Center City parking facility would have loop detectors for counting vehicles, and computer processing equipment to calculate the number of available parking spaces and communicate the information to the central computer – from where the information is sent to the electronic signs.

Induction loops can be installed along the entries and exits of the parking facility, which would then be connected to differential counters located near that parking facility. When the available spaces in the facility are empty, the counter would be set to the number of the available parking spaces. By counting the incoming and departing cars, the differential counter would compute the spaces currently available. From time to time the actual occupancy would be checked and the counter adjusted, if necessary. The number of available parking spaces would be reported continuously to the central computer by differential counters so that the dynamic parking signs may be updated with correct information.

The City of Charlotte is evaluating the possibility of replacing the twisted-pair copper communications cable technology used in its traffic signal system with newer alternatives. The central computer for the dynamic parking information system would be co-located with the City's traffic signal system. It would be possible for the software applications controlling the wayfinding system and the parking information system to run on the same computer system.

Static signing will also have a role in the Vehicular Wayfinding System. Signs will be required at intersections to direct motorists to parking facilities that may be off the primary route. This type of static signing might also provide an intermediate vehicular wayfinding system until the arrangements for the dynamic wayfinding system can be implemented.

Design and implementation of the vehicular wayfinding system must also take into consideration the existing directional signs to I-277, I-77, SR-74, etc., that already exist in center City. Assisting motorists in leaving is as important and helping them enter. All vehicular directional signs need to be part of the coherent system.

Existing Pedestrian Wayfinding System

Implementation of the Vehicular Wayfinding System – whose primary purpose is to direct motorists simply and efficiently to a parking space in a garage, is dependent on the participation of parking garage owners and operators; thus,

- It will be necessary to first implement the proposed "Collaborative Parking System" (page54) before beginning implementation of the Vehicular Wayfinding System.

Pedestrian Wayfinding

As a result of the short-range need and the need to implement the Collaborative Parking System in order to support the South Corridor Light Rail Transit line, the pedestrian system preceded the vehicular system. However, design concepts for both the vehicular and pedestrian systems will be developed as an integrated system. A wayfinding program is most effective when supported by the whole community on many levels. Therefore, the fundamental premise of the design was to use nomen-

Typical Small Dynamic Vehicular Wayfinding Sign

Existing NCDOT Dynamic Message Sign (message added)

Existing Pedestrian Wayfinding System

clature, vernacular, maps and general logic for both systems. A significant design element in the pedestrian system was the use of the four Parking Loops that will be central to the vehicular system.

The pedestrian wayfinding system will use wayfinding maps along signature streets and within popular visitor areas, at transit centers and stations, and near major venues. Pedestrian directional signs to public transportation and major venues will be provided within a five-minute walk.

Public destinations will be prioritized in two types: (a) major destinations which receive 200,000 visitors or more each year, and (b) standard destinations, with yearly visitation of less than 200,000 visitors.

These signs will provide directions to "standard" destinations within a ten-minute walk, and directions to "major" destinations within a five-minute walk or for selected remote destinations. They will reinforce the area where the sign is located, and reinforce the vernacular of the wayfinding system.

Plan Recommendations: Wayfinding

16. Continue to expand the Pedestrian Wayfinding System, as developed for the light rail transit line, and expand it throughout Center City to provide kiosks and directional signs that orient and inform pedestrians. (Page 62)

17. Develop a Vehicular Wayfinding System, in conjunction with the Collaborative Parking System, to direct motorists into Center City, guide visitors in navigating the street network, and help all locate the most readily accessible parking closest to their destination. The vehicular system will utilize dynamic signs to provide real-time information on available spaces in parking facilities, and will be coordinated with the pedestrian wayfinding system that will orient pedestrians once they have parked their car. (Page 59)

Transit

Guiding Principles

- Offer people a choice in meeting their mobility needs.
- Enhance the area's quality of life by attracting new employment and housing options and mixed-use development to the transit corridors.
- Reduce dependence on the automobile and ease future air pollution.

The *2025 Transit System Plan* charts the course for developing rapid transit service in five corridors, as well as making specific improvements in Center City Charlotte. It is in Center City that the five corridors converge and then radiate out to the rest of the system. The Center City improvements will enable these individual corridors to function as an integrated system.

These improvements will also provide services for the Uptown area and connectivity with surrounding neighborhoods; specifically,

- **Two major transit nodes** – the Charlotte Transportation Center and the multi-modal Charlotte Gateway Station – are designed to complement each other even though they are located several blocks apart.
- **A north corridor spine** will add commuter rail and inter-city rail services to the existing Norfolk-Southern Railway embankment that runs between and parallel to Graham and Cedar Streets.
- **A north-south transit spine** will provide light rail transit service along the trolley and former railroad corridor between Brevard and College Streets.
- **A new east-west transit corridor** will have a pedestrian/transit way along Trade Street that connects Johnson C. Smith University on the west, with Presbyterian Hospital on the east. Ongoing route studies may result in locating part of the east-west transit service on Fourth and/or Fifth Streets.
- **Circulation services**, including a Center City streetcar line, will connect Center City residential and commercial districts with each other and with areas just outside the I-277/I-77 expressway loop.

Major Transit Nodes

The Charlotte Transportation Center is the bus transfer hub for the Charlotte Area Transit System. In addition to local bus service, the center also provides access to the South Corridor Light Rail Transit (LRT) station. The LRT passenger platforms enable riders who wish to transfer between rail and bus modes to do so along East Trade Street adjacent to the north side of the Transportation Center.

CATS Transit System Plan

LRT riders can also become pedestrians on Trade Street, of course, or have direct access to the main entrance of the new Arena. The Transportation Center will also serve the Streetcar route, as well as service on the Southeast and West corridors. The details of these services are being studied by CATS.

The Charlotte Gateway Station is a planned multi-modal center that is expected to spur additional development in the West Trade corridor. The Gateway Station is the terminus on the North Commuter Rail Transit Corridor. It is also being designed to connect CATS passengers with AMTRAK and Greyhound inter-city rail and bus services.

Pedestrians will be able to transfer between commuter rail and bus services and to the inter-city rail and bus services. Automobile drop-off and taxi operations will be separated from the other modes for pedestrian safety reasons.

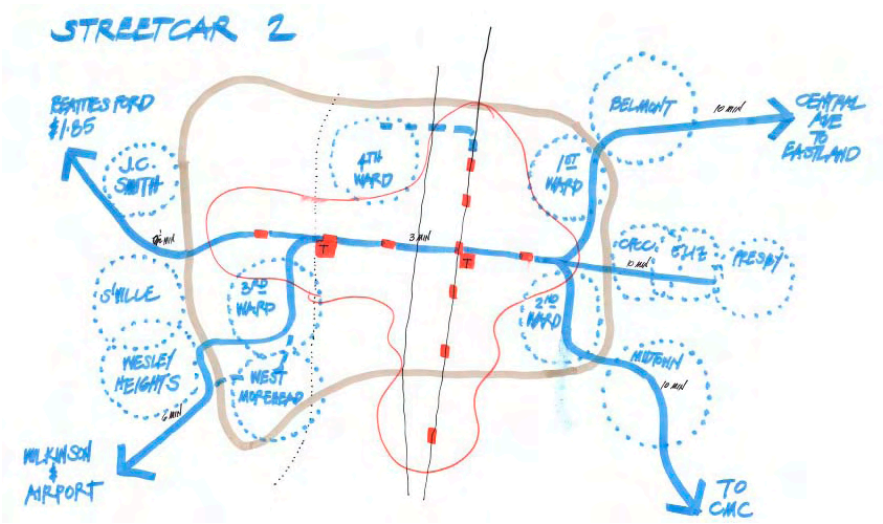
CATS expects to provide approximately 12 bus bays inside the Gateway Station, and buses will circulate in both directions through the station. CATS is studying the use of "dynamic bus allocation" to serve the two nodes, assigning buses on a flexible basis which would reduce the need to increase the capacity of the Charlotte Transportation Center. Express bus services serving east and south Charlotte will serve both transportation centers.

North-South and East-West Transit

A North-South Transit Spine is created by light rail transit (LRT) service along the South and Northeast Corridors. The South Corridor enters Center City at the Westin Hotel and terminates at the Charlotte Transportation Center; from that point, the Northeast Corridor begins with the Seventh Street Station. This latter station opened when the South Corridor began operations in 2007.

Eventually, a Ninth Street Station will be added as the Northeast Corridor is constructed and extends past Brookshire Freeway. The pedestrian, bicycle and urban design elements now included in the South Corridor will be extended through the Center City in conjunction with the Northeast LRT implementation.

A North Corridor Spine along the existing Norfolk-Southern Railway (N-S) embankment that runs between and parallel to Graham and Cedar Streets will support the North Corridor Commuter Rail program of CATS and the AMTRAK Inter-City rail services supported by NCDOT. Both services will utilize the Charlotte Gateway Station. Modifications to the associated N-S and CSX rail facilities will include closing the at-grade crossings at Ninth, Smith and Church Streets, and the installation of "quad-gate" crossing facilities on the at-grade crossing at Brevard and Davidson Streets. While the Church, Brevard and Davidson crossings are north of the I-277 Loop, the closing and modifications will affect traffic operations in Center City.



CATS Center City Transit Plan

These several modifications, taken together, will also enable the creation of a "quiet zone" that many Center City residents see as a benefit. The studies related to these overall rail modifications are also incorporating consideration and preliminary design of the extension of MLK Blvd. westward to Cedar Street and a pedestrian/bicycle overpass at Ninth Street.

An East-West Transit Corridor on Trade Street will consist of several elements: (1) bus rapid transit (BRT) services along the Southeast and West corridors will use Trade Street (and potentially Fourth or Fifth Streets) as a transit way; (2) through-routing BRT or LRT services on these two corridors would provide connections between the Charlotte Transportation Center and Charlotte Gateway Station; (3) CATS local routes would operate along the transit way; and (4) the proposed Center City Streetcar, described below, would provide a mobility option suitable for short trips or the casual pedestrian.

In fact, the pedestrian ambience of Trade Street will be markedly improved by planned streetscape improvements comparable to those now in place on Tryon Street. The new Trade Street amenities will include shaded and protected passenger waiting areas, transit information and wayfinding, and street furniture and landscape.

Circulation Services

Streetcar Service is another form of transit circulation being planned for Center City. Streetcar service would run along Trade Street and eventually connect West and East Charlotte. Additional routes will provide linkage between Center City and nearby neighborhoods.

The primary streetcar service will begin along the Trade Street transit way. In a second phase, service will extend eastward along Elizabeth Avenue (East Trade) to Presbyterian Hospital and then along Hawthorne Lane and Central Avenue to Plaza-Midwood and Eastland Mall.

The expansion of streetcar operations westward along Trade Street and Beatties Ford Road is also being planned for the second phase. Extensions to Johnson C. Smith University and north to the proposed Beatties Ford Road transit hub would connect the Seversville, Biddleville, and University Park neighborhoods to Center City Charlotte.

The 2025 Transit System Plan also contained a recommendation for development of a streetcar loop that would follow a route along or near to Ninth, Davidson, Second and Poplar Streets. As further study of this concept was undertaken in the Preliminary Engineering phase, it was determined that the loop was not large enough to effectively augment pedestrian access to the Tryon and Trade corridors. As the study proceeded it was determined that a "spiderweb" network of routes that focused on Trade Street and extended through Center City residential areas into neighborhoods immediately outside the I-277 Loop would provide a more effective service than a streetcar within Center City. This concept will be refined as the streetcar studies proceed.

CATS Bus Operations within Center City will need to be reviewed in light of the anticipated growth in bus volumes and as local and express services are expanded. CATS is already studying the "dynamic scheduling" of buses and planning to increase the capacity of the existing bays at the Charlotte Transportation Center.

A more comprehensive review should identify opportunities for the multi-modal Charlotte Gateway Station to serve as an additional

primary destination for routes in Center City. Furthermore, the review should identify and clarify the future capital improvements that will be needed to accommodate increasing bus volumes at the Transportation Center and Gateway Station.

The Center City Transportation Plan's traffic analyses show that the network has capacity to accommodate significant transit service in the east-west Fourth, Trade and Fifth Street corridor. Depending on the routes and technology finally selected, these recommendations may have to be revisited and revised after completion of the Charlotte Area Transit System's transit corridor studies.

Gold Rush, a free shuttle bus service using vehicles designed with a trolley appearance, has been in operation in Center City for several years. During the stakeholder interviews and other CCTP public contacts, considerable support for and interest in the continuation of the Gold Rush service was voiced. It is anticipated that this service will continue until the streetcar and other transit services come into operation. As this occurs, it is recommended that CATS consider appropriate modifications to the Gold Rush service as demand may suggest. Since the streetcar and other transit services are not planned in the Tryon Street corridor, and the Gold Rush route along Tryon is quite popular, some variation of that route may merit longer term operation.

Plan Recommendations: Transit

18. Capitalize on the synergies created by the new Charlotte Gateway Station which serves as a multi-modal transit center, a pedestrian focal point, and a generator of redevelopment on West Trade Street.

19. Complete the North Corridor commuter rail and AMTRAK spine along with the associated closing of the at-grade crossings at Ninth, Smith and Church Streets, modifications of the at-grade crossings at Brevard and Davidson Streets, extension of MLK Blvd. and construction of a pedestrian/bicycle overpass at Ninth Street.

20. Complete the north-south transit spine by extending the South LRT Corridor (and its related pedestrian and bicycle amenities) through Center City to become the Northeast LRT Corridor.

21. Establish an east-west transit way along Trade Street that a) includes pedestrian-friendly streetscape improvements; b) carries Bus Rapid Transit services from the West and Southeast Corridors; c) connects West and East Charlotte via streetcar service; d) provides local bus stops; and e) links the two major transit notes – the Charlotte Gateway Station and the Charlotte Transportation Center

22. Introduce east-west streetcar service, first in Center City along the Trade Street transitway and, later, connecting with neighborhoods in East and West Charlotte; a Center City Streetcar should also circulate within Center City, connecting residential areas and key Center City destinations.

Pedestrian Circulation

Think of Center City as a series of walkable communities . . .create comfortable and interesting environments at the human scale

– Center City 2010 Vision Plan

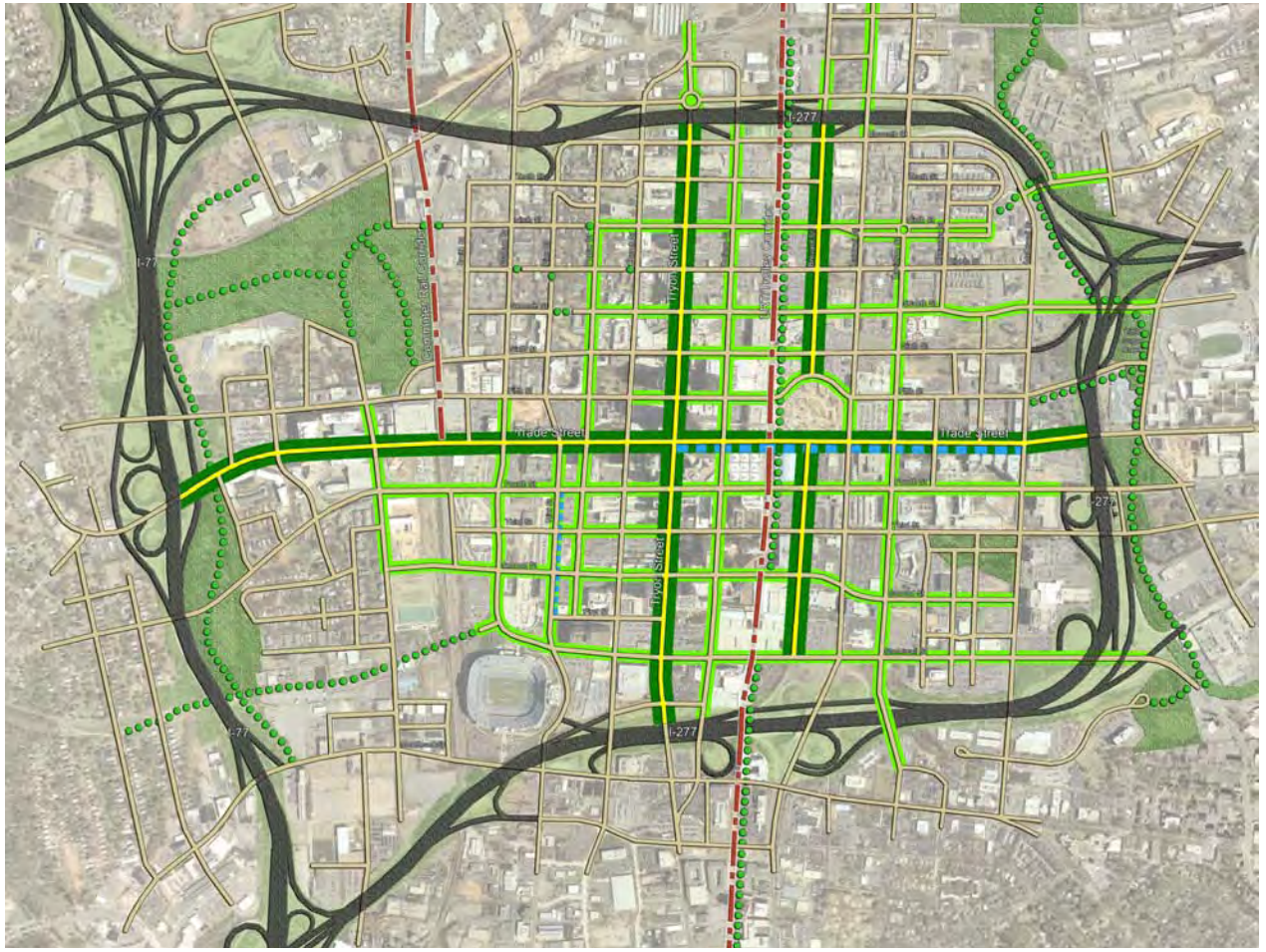
Guiding Principles

- Pedestrians are the most important travelers in Center City.
- Everyone who comes to Center City is a pedestrian for some portion of their trip.
- With its high-density, high employment base, Center City has the potential for more pedestrian trips than any other location in the region.

The importance of a pedestrian-friendly core to the Center City transportation system cannot be over-emphasized. The complete pedestrian environment – referred to here as the pedestrian realm – should be a pleasant, positive experience to encourage Uptown

employees, residents and visitors to rely on sidewalks whenever possible once they have reached the Center City parking deck of transit station.

The importance of the pedestrian realm and a network of pedestrian streets as the basis for building a successful city center is underscored by urban designers. An attractive system of pedestrian connections will encourage pedestrian movement through the central core and attract "a diverse and concentrated mix of uses and foster economic interaction among these uses." In the Urban Land Institute's *Creating a Vibrant City Center* (2004), Cy Paumier stresses that "a successful central area should have more than one pedestrian-oriented "spine" or major street; Needed is a system of pedestrian connectors linking major activity anchors to the spine and to one another." *Charlotte's 2010 Vision Plan* further emphasizes "street-level development that enhances the pedestrian experience."



Pedestrian Circulation

Defining the Pedestrian Realm

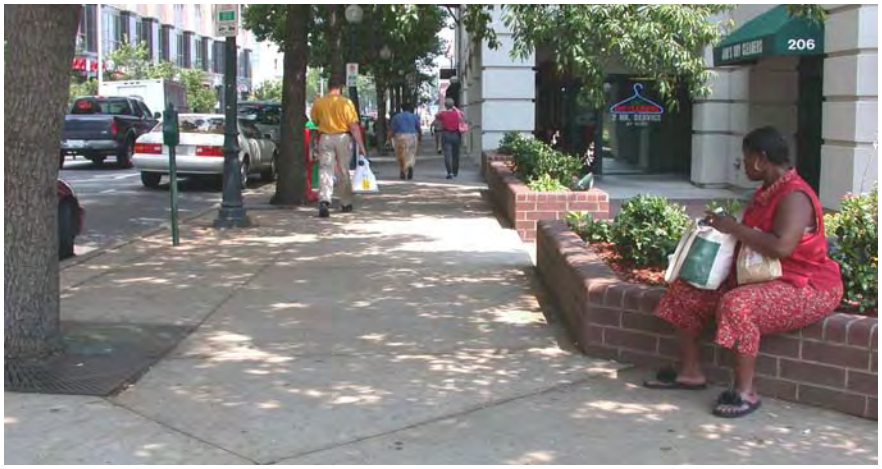
This *Center City Transportation Plan* defines a network of pedestrian spaces which link the "spine" streets and connect activity centers and the expanding transit system. Specifically, this plan uses professionally defined and locally adopted precepts to construct a *hierarchy of pedestrian streets*. The primary determinant of each class of street is the width of the pedestrian space. The proposed Center City pedestrian system includes a hierarchy of four classes of pedestrian streets (illustrated by accompanying photographs), and a variety of off-street pedestrian-ways:

Overview of the Pedestrian System

On-Street Pedestrian Circulation

Class 1: Signature Pedestrian Streets (Page 70) the streets that form the spine of the system and support major activity corridors. The basic characteristic is a pedestrian realm that is 22 feet or more in width. Tryon Street was used as the model or benchmark for Class 1. (Refer to page 88 for more detail.)

Class 1: Tryon Street provides the model for SIGNATURE Pedestrian Streets



Class3: College Street north of Fifth Street provides as example of the 14' to 16' as defined for the SECONDARY Pedestrian Street

Class 2: West Trade Street in the Gateway Village Area provides an example of the 16' to 22' as defined for the PRIMARY Pedestrian Street

Class 2: Primary Pedestrian Streets (Page 71) connect sub-areas, activity centers and transit stations or transit stops to the Signature streets. The basic characteristic is a pedestrian realm that is 16 to 22 feet in width. (Refer to page 89)

Class 3: Secondary Pedestrian Streets (Page 71) are all other streets (except for the "special conditions" defined below) which serve the sub-areas of Center City and provide pedestrian linkage to the Primary and Signature streets. The basic characteristic is a pedestrian realm that is 14 to 16 feet in width. (Refer to page 74.)

Class 4: Linear Parks (Page 71) is a sub-category of Pedestrian Streets, with a pedestrian realm greater than 22 feet in width, that applies to only three specific locations that were established by earlier actions. (Refer to page 74)

Special Treatment Conditions (Page 72) provide for enhancements on Classes 1, 2, and 3 streets where the minimum width of the pedestrian realm cannot be achieved, as described on page 74.

Off-Street Pedestrian Circulation

Complementing the on-street system are important off-street opportunities for pedestrians, including **multi-purpose** trails that accommodate bicyclists as well as pedestrians, **urban open spaces** such as parks and plazas, and **enclosed pedestrianways,** such as Overstreet Mall and Latta Arcade. (Refer to page 83 for more detail.)

However, in moving ahead to develop a plan for future pedestrian circulation, this plan now establishes Uptown Streetscape Standards that further define the street furnishing and landscape elements that are applicable to the pedestrian realm in each pedestrian street class.

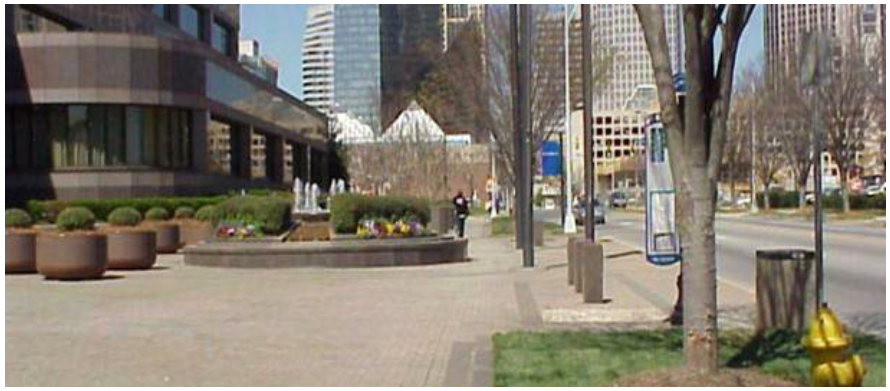
The composite of these standards is illustrated by the Pedestrian Street Standards Table which identifies the specific classification for each block face in the pedestrian street system. First, however, the pedestrian street classes are described in more detail.

Proposed Pedestrian Circulation System

The recommended pedestrian circulation system includes two components. The first, and most extensive, involves the "pedestrian realm" within the street rights-of-way. Development of this component builds directly upon the preceding analyses. The second, the "off-street" component, utilizes the transit routes, open spaces and greenways in Center City to provide important pedestrian linkages. Both components are illustrated on the *Pedestrian Circulation Map* (Page 67).

Pedestrian Circulation in Street Rights-of-Way

The proposed system was developed through a series of workshops involving City of Charlotte staff, the HNTB consulting team and public stakeholders. Preliminary analysis by the staff and consultants had examined the existing system (page 25) and led to the hierarchy of pedestrian streets summarized above (page 67).



Class 4: The South side of Trade Street is designated as a Visual Corridor as represented by the block between Caldwell and Davidson Streets with the setback of the Federal Reserve Bank

Special Treatment: The south face of Seventh Street west of Tryon Street, with Saint Peters Episcopal Church abutting the sidewalk, provides an example of a block face where expansion of the sidewalk width is probably not possible in the long term.

The supporting analysis and a preliminary pedestrian street hierarchy were presented at a Stakeholders Workshop. Participants prepared a series of maps expressing their interests in enhancing the pedestrian realm. The participants clearly supported the recognition of walking as the key mode of travel in Center City and the need to greatly enhance the quality of the pedestrian realm.

In a second workshop of staff and consultants, the application of the hierarchy of pedestrian streets was further refined. After review by the *Center City Transportation Plan* Steering Committee and other senior staff, the system was further refined and is represented on page 66, Pedestrian Circulation. Each of the pedestrian street classifications is described in more detail.

The basic characteristic of the recommended hierarchy of pedestrian streets is the width of the overall pedestrian realm – the distance from the back of the curb to the building line. This dimension also serves to define the "building setback" standard for each class of street.

In the following materials, the purposes and applications of the hierarchy are further described by text, cross section and plan graphics, and photographic examples. In the cross sections and plan graphics, the pedestrian realm is further articulated to define use or activity zones. The characteristics of the pedestrian area and the zones are further defined in the Pedestrian Street Standards Table (Page 75). The function of each activity zone is defined as follows:

- **Vehicle Zone:** While not a part of the "pedestrian realm", the activity of the street pavement lane adjacent to the curb has a direct bearing on the activity on the sidewalk and is defined in the Center City Street Enhancement Guideline Map. Where the curbside lane is used for parking, valet parking, loading zones and other non-traffic activities, it provides an additional buffer between traffic and the pedestrian.
- **Amenity Zone:** This zone is located immediately behind the curb and is an area that accom-modates a variety of street furnishings, landscaping and signage. Service to the curb lane also occurs in this zone. The amenity zone also provides a buffer between the pedestrian zone and moving traffic.
- **Pedestrian Zone:** This zone supports the uninterrupted circulation of pedestrians.
- **Pedestrian or Sidewalk Active Use Zone:** In cases where the width is adequate, a zone adjacent to the building setback line can accommodate a variety of sidewalk related uses. The most common use of this zone is for outdoor dining associated with the street frontage of restaurants.
- **Optional Outdoor Active Use Zone:** In order to provide either additional outdoor activity (dining, etc.) or sidewalk-related activity where the width of the pedestrian realm will not accommodate such use, the area immediately adjacent to the sidewalk may be used for such activities.

Class 1: Signature Pedestrian Street

The pedestrian street system identifies three Signature Pedestrian Streets. These streets build upon the experience with Tryon Street which is broadly recognized as the most significant statement of Center City's primary address and its "image;" or, in the terms of the *2010 Vision Plan*, a "Memorable" element.

The three Signature Pedestrian Streets are depicted graphically on the Pedestrian Circulation Map as a yellow street flanked by deep green bands.

Tryon Street is well established as Charlotte's primary business address and, more recently, as the region's cultural and entertainment address. Tryon is the model for the Signature Pedestrian Street concept. Tryon Street's pre-eminence should be retained and built upon as the most significant of Center City's "signature" streets.

- The streetscape design that now extends from Stonewall Street to Ninth Street will be extended northward under the I-277/ Brookshire underpass to Twelfth Street, and southward across the I-227/Belk overpass to Morehead Street.

- The existing section will be upgraded to replace the older concrete square pavers that still exist in a few areas with the herringbone concrete brick paver pattern, to remove driveways as redevelopment opportunities permit, and to remove drop-off locations, such as the one at the Mint Museum of Craft + Design.

Trade Street is designated as the second Signature Pedestrian Street in Center City. This designation recognizes the street's historical importance as the perpendicular trade route to Tryon that formed "The Square" – the intersection around which Charlotte was founded and grew. While development has not matched that of Tryon, recent planning initiatives and development trends support the designation as a Signature street. Furthermore, when the Tryon Street streetscape was constructed, it included the same quality of improvement for the 100 blocks of East and West Trade Street.

- A streetscape design for the length of Trade Street – from I-77 on the west to Kings Drive, across I-277, on the east – was to be prepared as part of the design work for the Center City Streetcar by the CATS. As part of that project, CATS prepared an urban design plan called the Trade Street Vision Plan for a high quality pedestrian street on Trade Street.

Brevard Street is designated as the third Signature Pedestrian Street as a result of the major changes – and new opportunities – occurring along that street. A one-block segment of Brevard was closed to accommodate the large Arena site. As discussed in the Vehicular Circulation section, the re-routing of traffic around the Arena provided an opportunity to change the transportation emphasis on Caldwell and Brevard Streets.

At least three factors support Brevard Street's designation as a Signature Pedestrian Street: the Arena itself is a major activity center; the light rail transit stations will attract development to the corridor; and much of the land along Brevard itself is vacant and in large ownerships, making further development very likely.

- The *north* segment of Brevard, from the Arena to Eleventh Street (except for the block faces adjacent to First Ward School) is conceived to be a "main street" for the mixed-use development that has been proposed in development plans for the area.
- The *south* segment of Brevard, from the Arena to Stonewall Street, will support similar development of vacant properties on both sides of the street. It would also provide a linkage between three major activity centers – the Arena, the Convention Center and the NASCAR Hall of Fame.

Class 2: Primary Pedestrian Street

The Primary Pedestrian Streets are intended to provide an enhanced width and quality of pedestrian realm to support pedestrian circulation to the Signature Pedestrian Streets, transit and other destinations.

This class of street is depicted on the *Pedestrian Circulation Map* (Page 67) as a gray street flanked by light green bands. The designation of a primary pedestrian street network is based on the following concepts.

- **Provide enhanced east-west pedestrian connectivity** between the established Tryon Street spine and future corridor activity that will develop along the LRT line and Brevard Street, as well as around the Arena and CATS Transportation Center.
- **Provide enhanced north-south pedestrian connectivity** to support the development of the Trade Street corridor by linking it to development opportunities on vacant land and redevelopment sites to the north and south. These linkages will also support the development of the Center City Streetcar and, potentially, other transit routes along the Trade Street corridor and the proposed multi-modal Charlotte Gateway Station.

Class 3: Secondary Pedestrian Street

The "Secondary Pedestrian Street" designation is applied to *all* Center City streets that are not designated as Signature streets, part of the Primary pedestrian street network,

or an established residential street in one of the four wards. All such streets will be enhanced to function as Secondary pedestrian streets.

These Secondary streets are shown on the *Pedestrian Circulation Map* (Page 67) as a gray street.

Class 4: Linear Park

This category is comparable to or a special part of Signature Pedestrian Streets and the same pedestrian street standards apply. It applies only to three specific locations, designated in prior actions of the City.

- **East Trade Street Visual Corridor** is an established setback of 50 feet on the south side of Trade Street, from College Street east to I-277.
- **Third Ward Park Pedestrian Corridor** is a 28-foot wide setback on the east side of Mint Street, from Trade Street to Fourth Street, to be developed to enhance pedestrian access to the proposed Third Ward Park. The setback, which would provide an enhanced pedestrian corridor to the park, was proposed in the Third Ward Vision Plan for Poplar Street, but due to a later change in the park site, it has been shifted to Mint Street. Negotiations on setback conditions for private development of the property fronting on Trade Street secured a commitment for construction of a large portion of the pedestrian space.
- **Third Street Pedestrian Corridor** is a __-foot wide setback on the south side of Third Street between Tryon Street and Church Street. The owner/developer of that block has agreed to the enhanced setback and pedestrian space to provide a pedestrian link between Tryon Street and the proposed Third Ward Park.

Special Treatment Conditions

In some cases, it may be unlikely that a block face can be improved to its designated classification, in either the short or long term, because of established conditions. In situations where the desired sidewalk width cannot be achieved, the aim would be to enhance the pedestrian realm at that location through design features that convey the importance of the sidewalk to pedestrian flow and provide some additional measure of separation between the pedestrian and street traffic.

As a second type of "special treatment," the pedestrian street classification has not been applied to the streets within the core areas of the older, established residential districts in the Third and Fourth Wards. Many of the streets in the Garden District of the First Ward will also continue to function in their current configuration. The pedestrian realm in those areas is appropriate to the scale of development and the generally low level of vehicular traffic in those areas.

Special Concern: Overcoming the I-277 Loop Pedestrian Barrier

The expressway loop is a clear boundary encircling Center City and giving it a distinct identity. But it also presents a physical barrier between Center City and surrounding neighborhoods. If the goal for Center City is a pedestrian-friendly, transit-oriented employment and entertainment center, improvements are needed to make it physically and functionally attractive for pedestrians and bicyclists.

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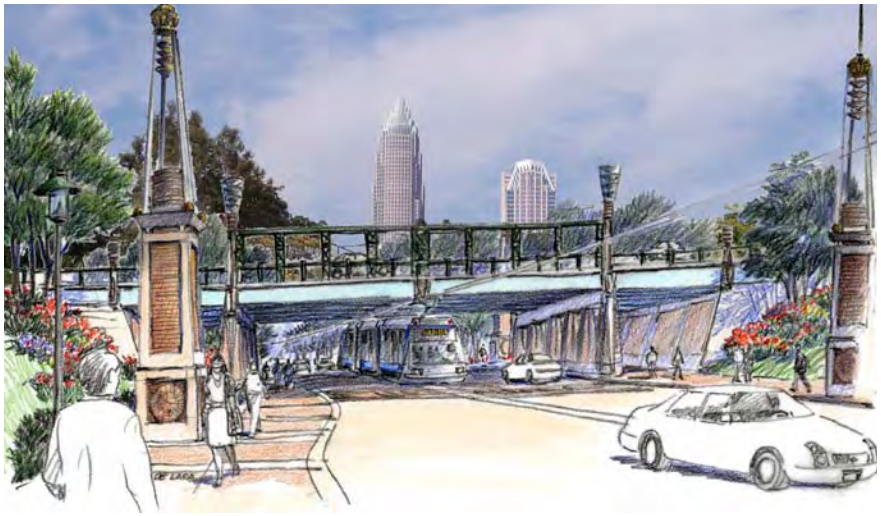
The *2010 Vision Plan* gave special emphasis to reducing this barrier: "Each bridge and overpass should be individually assessed to determine a series of measures to improve their physical conditions, specifically to attract pedestrian traffic. These efforts might include widening sidewalks, incorporating public art projects and improving pedestrian lighting under bridges." The plan saw great possibilities:

"Rather than serve as a concrete and asphalt entrance to the city, the freeway's overpasses could serve as canvasses for the city's fin-

South Tryon Street/I-277 Bridge Urban Design Concept



East Trade Street/I-277 Urban Design Concept

Pedestrian Underpass

Fourth Street/I-277 Urban Design Concept

Brevard Street/I-277 Urban Design Concept

West Trade Street/I-77 Urban Design Concept

est art. Through their structure, pedestrian walkways, landscaping and murals, these bridges should make a positive statement about Charlotte's commitment to its downtown and its architecture."

During the preparation of this Plan the overpasses and underpasses were examined to determine where physical changes could be made to create safe, efficient and attractive pedestrian and bicycle crossings. The underpasses can be structurally modified to accommodate wider, more attractive pedestrian walkways.

- The heavily-traveled Fourth Street entrance could be modified in a way that also eliminates the awkward U-turn connection to Third Street. It appears possible that the I-277 bridge abutment could be modified, opening up enough space to allow for connecting the exit ramp under the bridge. This would allow a direct connection to Third Street, eliminate the U-turn for motorists, and allow wider pedestrian crossings. The sloped abutments on the bridge over Fourth Street (and most of the I-277 bridges) allows less space but there would still be ample room for improved pedestrian walkways at these locations as well.
- Several Center City streets cross over I-277 on bridges. The sidewalks on these bridges could be widened on the bridge deck, provided that traffic volumes will allow a decrease in the travel lane width or in the number of lanes. If not, a pedestrian sidewalk could be built as a width extension of the existing bridge.
- On the whole, a high quality of urban design treatments of these expressway crossings not only would improve pedestrian connectivity but would further distinguish Center City. The accompanying sketch concepts for "gateway" monumentation are examples of possible urban design treatments.

Pedestrian Street Design Standards

This *Center City Transportation Plan* proposes detailed standards for each category in the Pedestrian Street hierarchy – Signature, Primary, Secondary, Linear Park and Special Treatment Conditions. The recommended design standards consist of two key parts: The Street Enhancement Standards Map and the Standards Table. The legend and a portion of the Map are provided on page 81. The full

map is available on the City Website at www.charmeck.org, or a printed form can be obtained from CDOT.

These standards apply to a variety of elements that together define what is desirable for the pedestrian realm. The standards differ, of course, according to the type of street. A Signature street, which has the widest pedestrian space, must meet the highest standards. The photographs (pages 68-69) illustrate this basic intent. An illustrative cross-section and plan for each of the categories is also shown provides further illustration of the intent.

The standards are comprehensive. By way of illustration, they specify the type of amenities such as street trees, street furnishings (ranging from benches to drinking fountains to public art), and wayfinding signage. They further define such treatments as the kind of curb and the type of parking. They apply to all sorts of sidewalk activities, including vendors and cafes, and activities "at the building wall" such as ATM machines and banners.

When taken together, these recommendations for the creation of a hierarchy of pedestrian streets are numerous, similar to the scope of recommended modifications to the vehicular circulation network (page 36). **Both pedestrian and vehicular circulation, as well as on-street parking recommendations, are brought together in the composite Center City Street Enhancement Standards Map**.

The **Pedestrian Street Design Standards** in the following pages (75-81) provide the design requirements for the pedestrian space classifications indicated on that map.

STREET CLASS STANDARDS	1. Signature and 4. Linear Parks	2. Primary	3. Secondary	Special Treatment (With Inadequate Pedestrian Width)
DESIGN STANDARDS OF THE PEDESTRIAN REALM				
DIMENSIONAL				
Overall Width – Back of Curb to Face of Building Please refer to cross section provided above	Minimum of 22 feet Linear Parks Minimums as follows: Trade Street = 50' Mint Street = 28' Third Street = 22' Ninth Street – Median Park	Minimum of 16 feet	Minimum of 14 feet	Will vary; 6 feet minimum desired.
Amenity Zone Width (Landscape and street furniture) – Located at back of curb	Minimum of 9.5 feet	Minimum of 5.5 feet	Minimum of 5.5 feet	1.5 foot
Pedestrian Zone Width	Minimum of 10 feet Minimum 8 feet clear at all times	Minimum of 8 feet Minimum of 6' clear at all times	Minimum 8 feet	Varies – pedestrian zone to remain clear
Pedestrian and/or Sidewalk Active Zone Width – Located between Amenity Zone and building face or right-of-way line	Maximum of 4 feet at 22 feet width. Any width beyond 22 feet may be used for sidewalk activities	Maximum of 2 feet at 16 feet width; maximum increases 0.5 feet for each 1.0' increase in overall width	None	None
ELEMENTS IN AMENITY ZONE				
Landscape Plantings				
Street Trees – Requirements and Spacing Notes: 1. Standards for spacing may vary from Tree Ordinance requirements for specific site plans approved by City Council and for specific site conditions; 2. See Exhibit 2, "Street Tree Types", for maps of tree species required in each block face).	- Tryon St. = 30' feet (27' feet to 33' adjustment for site conditions) - Others = Per Tree Ordinance - Linear Parks = By specific plan	Per Tree Ordinance	Per Tree Ordinance	Required where total width exceeds 10 feet. Per Tree Ordinance
- Trees in wells with curbs	Required. Permanent groundcover required in wells. Removable planter containers for seasonal plantings strongly encouraged.	Optional for amenity zone at minimum of 9.5 feet If used, Permanent groundcover required in wells. Removable planter containers for seasonal plantings strongly encouraged.	No.	No.
- Trees in wells with grates	Optional depending on specific pedestrian circulation conditions	Required	Required	Required where width exceeds 10'
Planter beds with curbs	Required	No	No	No
Flowerpots / Containers	Encouraged, especially where existing underground utility lines and utility vaults restrict in-ground plantings. Irrigation is required.	Optional; encouraged where existing underground utility lines and utility vaults restrict in-ground plantings. Irrigation is required.	Optional; encouraged where existing underground utility lines and utility vaults restrict in-ground plantings. Irrigation is required.	Optional where width exceeds 10'; encouraged where existing underground utility lines and utility vaults restrict in-ground plantings. Irrigation is required.
Grass in Planter Strip	Prohibited on Tryon Street. Optional on others based on level of activity and design review.	Permitted where predominant use is residential, and elsewhere based on level of activity and design review.	Permitted where predominant use is residential, and elsewhere based on level of activity and design review.	Prohibited
Irrigation and Underdrain Systems	Required	Required	Required	Required where width permits street trees and other street furniture
Utilities				
Utility Chase to Support Irrigation, Electrical and Other Streetscape Amenities	Required	Required	Required	Required if width permits planting
Utility Vaults and Vents See also: City Code, Chapter 19: Streets, Sidewalks and Other Public Spaces; Article XII, Utility Right-of-way Use	No vaults are permitted within the minimum setback area. The covers of any that are included in additional setback shall be finished with pavement to match the adjoining sidewalk or with grates that have openings a maximum of ¼ inch wide.	No vaults are permitted within the minimum setback area. The covers of any that are included in additional setback shall be finished with pavement to match the adjoining sidewalk or with grates that have openings a maximum of ¼ inch wide.	No vaults are permitted within the minimum setback area. The covers of any that are included in additional setback shall be finished with pavement to match the adjoining sidewalk or with grates that have openings a maximum of ¼ inch wide.	No vaults are permitted.

STREET CLASS STANDARDS	1. Signature and 4. Linear Parks	2. Primary	3. Secondary	Special Treatment (With Inadequate Pedestrian Width)
Manhole and Valve Covers	Paint with color to complement paving materials	Paint with color to complement paving materials	Paint with color to complement paving materials	Paint with color to complement paving materials
Slot Drains	Permitted and encouraged were required for sidewalk widening that might otherwise result in inadequate curb height.	Permitted and encouraged were required for sidewalk widening that might otherwise result in inadequate curb height.	Permitted and encouraged were required for sidewalk widening that might otherwise result in inadequate curb height.	Permitted and encouraged were required for sidewalk widening that might otherwise result in inadequate curb height.
Overhead, pole-mounted power lines, other cables and other fixtures	Prohibited	Prohibited	Prohibited	Prohibited
Lighting				
General Ambient / Vehicular	Required On Tryon St. to match existing standard On other signature streets, Shoe Box of special consistent design throughout	Shoe Box standard as provided by Duke Power is Required. Special fixtures my be used if selected as the standard for special districts	Shoe Box standard as provided by Duke Power is Required	Shoe Box standard as provided by Duke Power is Required
Pedestrian	Required On Tryon St. to match existing standard On other signature streets, consistent design throughout	Deluxe Acorn as provided by Duke Power is Required. Special fixtures my be used if selected as the standard for special districts	Optional Where used, Deluxe Acorn is required - Special fixtures my be used if selected as the standard for special districts	Optional - Encouraged in conjunction with Bollards where on-street parking is not provided. Where used, Deluxe Acorn is required - Special fixtures my be used if selected as the standard for special districts
Electrical Service for Special Lighting	Required at trees and in planter beds	Required at trees and in planter beds	Optional	Optional
Electrical Service for Special Events	Recommended. Service to be sized based on anticipated usage.	Optional – Recommended in blocks adjoining Signature Streets. Service to be sized based on anticipated usage.	Optional – Recommended in blocks adjoining Signature Streets. Service to be sized based on anticipated usage.	Optional – Recommended in blocks adjoining Signature Streets where width will support other street furniture.
Signage and Signalization				
Signal Poles and Arms	Required. On Tryon St. to match existing standard; On other signature streets, consistent design throughout. Cable-hung and wood poles prohibited)	Required (Cable-hung and wood poles Prohibited)	Required (Cable-hung and wood poles Prohibited)	Required (Cable-hung and wood poles Prohibited)
Regulatory Signs.	As installed by the City.	As installed by the City.	As installed by the City.	As installed by the City.
Pedestrian Wayfinding	To be installed through City's program.	To be installed through City's program.	To be installed through City's program.	To be installed through City's program.
Vehicular Wayfinding – Emphasis on Parking	To be installed through City's program.	To be installed through City's program.	To be installed through City's program	To be installed through City's program. May be used in conjunction with bollards and light fixtures as additional space defining element
Parking Meters and Pay Stations	To be installed at City's option	To be installed at City's option	To be installed at City's option	To be installed at City's option
Street Furnishings				
Benches	Required – three per block face On Tryon St. to match existing standard On other signature streets, consistent design throughout	Required – two per block face	Required – two per block face. Optional in block faces that are predominantly residential	No
Bicycle racks	Three Required per block face Inverted-U type preferred. Special design encouraged as part of consistent furnishings system. Designs for integration with security elements encouraged where security elements are used.	Two Required per block face Inverted-U type preferred. Special design encouraged as part of consistent furnishings system. Designs for integration with security elements encouraged where security elements are used.	One Required per block face Inverted-U type preferred. Special design encouraged as part of consistent furnishings system. Designs for integration with security elements encouraged where security elements are used.	No

STREET CLASS STANDARDS	1. Signature and 4. Linear Parks	2. Primary	3. Secondary	Special Treatment (With Inadequate Pedestrian Width)
Bollards	Optional; to be of consistent design throughout each Pedestrian Street.	Optional	Optional	Optional – Encouraged where on-street parking is not provided.
Fencing adjacent to curb	Prohibited	Prohibited	Prohibited	Optional – Encouraged where on-street parking is not provided, and where used in conjunction with bollards, lighting and other pedestrian safety elements. Where used, shall be decorative metal designed to be consistent with other elements. Height shall be 42 inches and in segments not to exceed 8 feet.
Fountains – Drinking	One Required per block face	One Required per block face	Optional	Optional
Kiosks	Encouraged. On Tryon St. to match existing standard On other signature streets, consistent design throughout	Optional	Optional	Optional
Newsracks (See City Newsrack Ordinance for further details)	Must be located within the amenity zone and so as to not impede ADA circulation standards. Placement at building wall is preferable location where additional space outside the pedestrian realm exists and property owner will permit.	Must be located within the amenity zone and so as to not impede ADA circulation standards. Placement at building wall is preferable location where additional space outside the pedestrian realm exists and property owner will permit.	Must be located within the amenity zone and so as to not impede ADA circulation standards. Placement at building wall is preferable location where additional space outside the pedestrian realm exists and property owner will permit.	Prohibited where ADA circulation standards are impeded. Placement at building wall is permitted location where additional space outside the pedestrian realm exists and property owner will permit.
Public Art	Strongly encouraged	Strongly encouraged	Strongly encouraged	Strongly encouraged
Public Telephones	Optional. Where used, design and color are to be consistent with other elements	Optional. Where used, design and color are to be consistent with other elements	Optional. Where used, design and color are to be consistent with other elements	Optional. Where used, design and color are to be consistent with other elements
Security Barrier Elements	Where desired or required, security barrier elements are to be designed into standard street furnishing elements to the greatest extent possible and provide minimal obstruction to pedestrian circulation	Where desired or required, security barrier elements are to be designed into standard street furnishing elements to the greatest extent possible and provide minimal obstruction to pedestrian circulation	Where desired or required, security barrier elements are to be designed into standard street furnishing elements to the greatest extent possible and provide minimal obstruction to pedestrian circulation	Where desired or required, security barrier elements are to be designed into standard street furnishing elements to the greatest extent possible and provide minimal obstruction to pedestrian circulation
Transit stop signage	As determined by CATS. Signage to be coordinated with other streetscape elements	As determined by CATS. Signage to be coordinated with other streetscape elements	As determined by CATS. Signage to be coordinated with other streetscape elements	As determined by CATS. Signage to be coordinated with other streetscape elements
Transit shelters	Permitted On Tryon St. to match existing standard On other signature streets, consistent design throughout	Permitted – Design and installation shall not impede pedestrian circulation and must meet all ADA standards	Permitted – Design and installation shall not impede pedestrian circulation and must meet all ADA standards	Permitted where space is available – Design and installation shall not impede pedestrian circulation and must meet all ADA standards
Trash containers	Required – three per block face On Tryon St. to match existing standard. On other signature streets, consistent design throughout	Required – two per block face	Required – two per block face	Required where space is available
Water Features	Encouraged	Encouraged	Encouraged where space is available	Encouraged where space is available
Color of Street Furnishings	Mall Green on Tryon Street. The predominant color for all Lighting, Signage and Signalization fixtures as well as for all Street Furnishings On Trade and Brevard Streets may be black or as established by special design programs.			
SURFACE TREATMENT				
Curbing	Tryon Street: - Granite; Other Signature Streets per special design.	Concrete (Granite Optional)	Concrete (Granite Optional)	Concrete (Granite Optional)

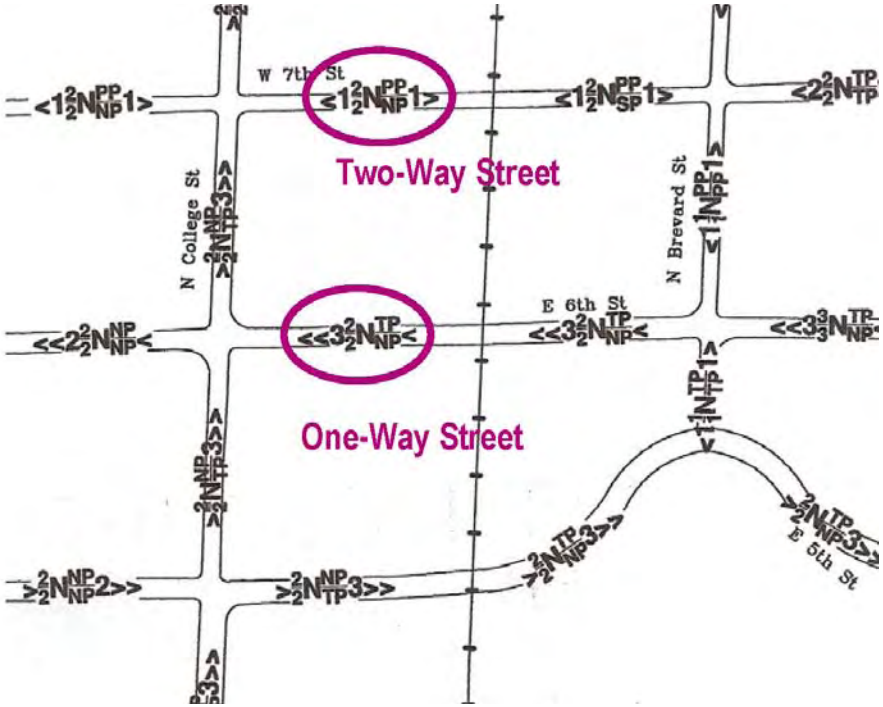
STREET CLASS STANDARDS	1. Signature and 4. Linear Parks	2. Primary	3. Secondary	Special Treatment (With Inadequate Pedestrian Width)
Banding	Tryon Street: - 2' Wide Granite band at back of curb and along building edge of sidewalk; 2' wide Granite around tree wells and planter beds. Other Signature Streets per special design.	Optional	Optional	Optional
Pavement	Tryon Street: - Pre-cast concrete pavers to match Tryon Street blend. Other Signature Streets - Pre-cast concrete pavers to match Tryon Street blend or other based on special design.	Optional; Pre-cast concrete pavers encouraged except where brick are the established material in an established residential district.	Optional; Pre-cast concrete pavers encouraged except where brick are the established material in an established residential district.	Optional; Pre-cast concrete pavers encouraged except where brick are the established material in an established residential district.
Special Treatments – Insets for art, plaques, etc.	Strongly Encouraged	Encouraged	Encouraged	Encouraged
ACTIVITIES				
Street Closures				
Closure for Events	**Tryon** – Strongly encouraged for temporary and special events **Brevard** – Strongly encouraged for temporary and special events **Trade** – Closure for temporary and special events dependent upon streetcar and transit service to principal transit stations	Permitted to support activities on Signature Streets or for localized special events.	Permitted to support activities on Signature Streets or for localized special events.	Permitted to support activities on Signature Streets or for localized special events.
Activities on Sidewalk				
Closure for Events and Construction	Only where and as needed to support street closure for temporary and special events. Clear pedestrian circulation to meet ADA standards is to be maintained throughout length of block on at least one side of street	Only where and as needed to support street closure for temporary and special events. Clear pedestrian circulation to meet ADA standards is to be maintained throughout length of block on at least one side of street	Only where and as needed to support street closure for temporary and special events. Clear pedestrian circulation to meet ADA standards is to be maintained throughout length of block on at least one side of street	Only where and as needed to support street closure for temporary and special events. Clear pedestrian circulation to meet ADA standards is to be maintained throughout length of block on at least one side of street
Temporary Signage / Sandwich Board Signs	Permitted but only within Building Zone and Amenity Zone – must not obstruct pedestrian zone	Permitted but only within Building Zone and Amenity Zone – must not obstruct pedestrian zone	Permitted but only within Amenity Zone – must not obstruct pedestrian zone	Permitted but only where Amenity Zone provides adequate width – must not obstruct pedestrian zone
Sidewalk Displays	Permitted but only within Building Zone and Amenity Zone – must not obstruct pedestrian zone	Permitted but only within Building Zone and Amenity Zone – must not obstruct pedestrian zone	Permitted but only within Building Zone and Amenity Zone – must not obstruct pedestrian zone	Permitted but only within Building Zone and Amenity Zone – must not obstruct pedestrian zone
Sidewalk Cafes / Seating	1. Encouraged subject to maintenance of a minimum clear pedestrianway of 8 feet. 2. Strongly encouraged in connection with additional seating in additional setback area, arcades, etc.	Strongly encouraged in connection with additional seating located in additional setback area, arcades, etc., and subject to maintenance of a minimum clear pedestrianway of 6 feet.	Permitted only in connection with additional seating located in additional setback area, arcades, etc., and subject to maintenance of a minimum clear pedestrianway of 6 feet.	Permitted only in connection with additional seating located in additional setback area, arcades, etc., and subject to maintenance of a minimum clear pedestrianway of 6 feet.
Street Artists / Buskers	Permitted and encouraged subject to management by CCCP and subject to maintenance of a minimum clear pedestrianway of 8 feet.	Permitted and encouraged in connection with additional public space located in additional setback area, arcades, etc., subject to management by CCCP, and subject to maintenance of a minimum clear pedestrianway of 8 feet.	Permitted and encouraged in connection with additional public space located in additional setback area, arcades, etc., subject to management by CCCP, and subject to maintenance of a minimum clear pedestrianway of 6 feet.	Permitted only by special exception granted by CCCP.
Vender Carts and Stands	Permitted and encouraged subject to management by CCCP and subject to maintenance of a minimum clear pedestrianway of 8 feet.	Permitted and encouraged in connection with additional public space located in additional setback area, arcades, etc., subject to management by CCCP, and subject to maintenance of a minimum clear pedestrianway of 6 feet.	Permitted and encouraged in connection with additional public space located in additional setback area, arcades, etc., subject to management by CCCP, and subject to maintenance of a minimum clear pedestrianway of 6 feet.	Permitted only by special exception granted by CCCP.

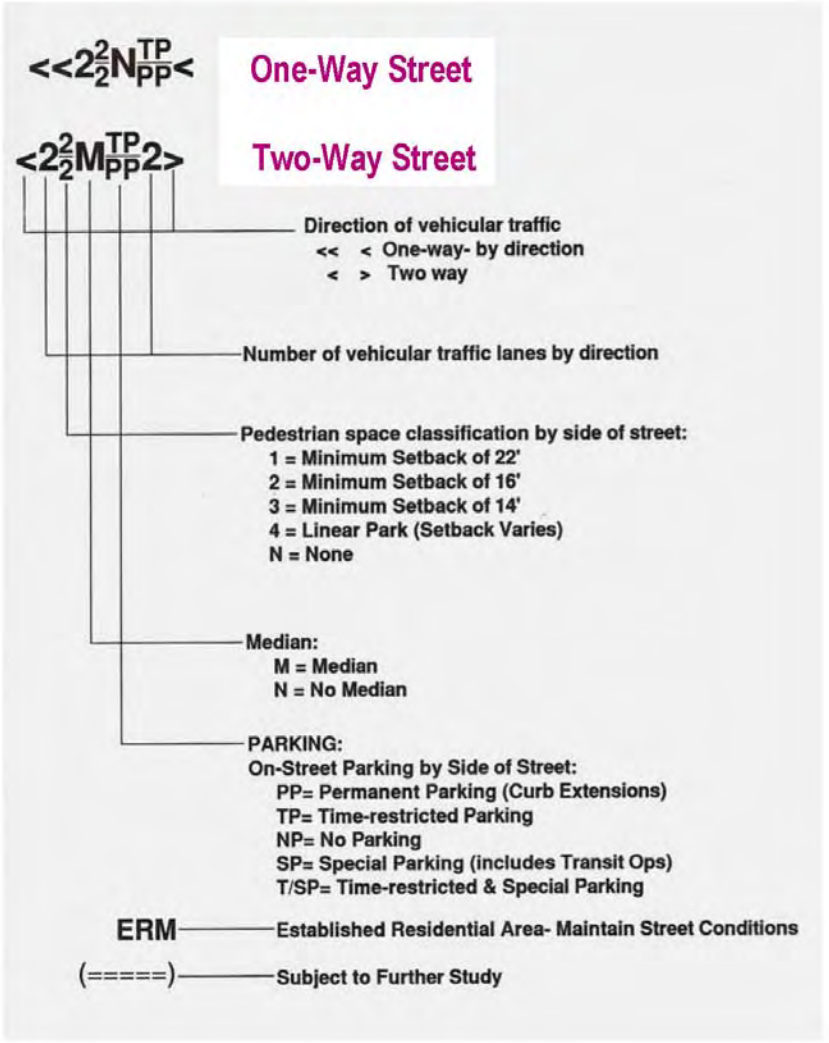
STREET CLASS STANDARDS	1. Signature and 4. Linear Parks	2. Primary	3. Secondary	Special Treatment (With Inadequate Pedestrian Width)
Vehicular Activities Back of Curb				
Driveways / Curb Cuts	No new driveway crossings of sidewalks permitted; Modify existing with pedestrian safety elements; Eliminate existing if and as redevelopment permits.	New driveway crossings of sidewalks are discouraged; Existing to be modified with pedestrian safety elements	New driveway permitted; Pedestrian safety elements required; Existing to be modified with pedestrian safety elements	New driveway permitted; Pedestrian safety elements required; Existing to be modified with pedestrian safety elements
Driveways – Pedestrian Safety Elements	1. Sidewalk paving patters and materials to cross driveway clearly defining pedestrian right-of-way. 2. Stop signs and stop bars to be provided at inside edge of all exits.	1. Sidewalk paving patters and materials to cross driveway clearly defining pedestrian right-of-way. 2. Stop signs and stop bars to be provided at inside edge of all exits.	1. Sidewalk paving patters and materials to cross driveway clearly defining pedestrian right-of-way. 2. Stop signs and stop bars to be provided at inside edge of all exits.	1. Sidewalk paving patters and materials to cross driveway clearly defining pedestrian right-of-way. 2. Stop signs and stop bars to be provided at inside edge of all exits.
Inset Drop-off Lanes	Prohibited – Including for valet parking	Prohibited – Including for valet parking	Prohibited – Including for valet parking	Prohibited – Including for valet parking
Vehicular Activities at Curb				
Automobile Parking	As provided on Street Enhancement Standards Map	As provided on Street Enhancement Standards Map	As provided on Street Enhancement Standards Map	As provided on Street Enhancement Standards Map
Transit Stops	Permitted	Permitted	Permitted	Permitted
Loading Zones	Only where and as designated	Only where and as designated	Only where and as designated	Only where and as designated
Valet Parking (See Section 19-3321 of the Parking Ordinance for further details)	Allowed by permit As provided on Street Enhancement Guideline Map by "Special Parking " designation and subject to special conditions as may be established	Allowed by permit As provided on Street Enhancement Guideline Map by "Special Parking " designation and subject to special conditions as may be established	Allowed by permit As provided on Street Enhancement Guideline Map by "Special Parking " designation and subject to special conditions as may be established	Allowed by permit Permitted only where amenity zone is at least four feet wide and subject to special conditions as may be established.
Special Vehicle parking (motor scooters, etc.)	As may be provided in dedicated parking spaces	As may be provided in dedicated parking spaces	As may be provided in dedicated parking spaces	As may be provided in dedicated parking spaces
Activities at Building Wall				
ATM Machines	Permitted subject to right-of-way encroachment permit and sited so as to maintain minimum 8 foot wide pedestrianway; Preferred to be associated with recessed entrance or other feature.	Permitted subject to right-of-way encroachment permit and sited so as to maintain minimum 6 foot wide pedestrianway; Shall be associated with recessed entrance or other feature.	Permitted only where associated with recessed entrance or other feature that maintains clear pedestrianway	Permitted only where associated with recessed entrance or other feature that maintains clear pedestrianway
Arcades	Building arcades are encouraged to support sidewalk activities and supplement pedestrian flow, but shall not be permitted as a substitute for minimum setback standards set forth herein.	Building arcades are encouraged to support sidewalk activities and supplement pedestrian flow, but shall not be permitted as a substitute for minimum setback standards set forth herein.	Building arcades are encouraged to support sidewalk activities and supplement pedestrian flow, but shall not be permitted as a substitute for minimum setback standards set forth herein.	Building arcades are encouraged to support sidewalk activities and supplement pedestrian flow, but shall not be permitted as a substitute for minimum setback standards set forth herein.
Awnings	Encouraged subject to right-of-way encroachment permit and sited so as to maintain minimum 8 foot wide pedestrianway	Encouraged subject to right-of-way encroachment permit and sited so as to maintain minimum 6 foot wide pedestrianway	Permitted subject to right-of-way encroachment permit and sited so as to maintain minimum 6 foot wide pedestrianway	Permitted subject to right-of-way encroachment permit and sited so as to maintain minimum 6 foot wide pedestrianway
Banners / Art	Encouraged subject to right-of-way encroachment permit and sited so as to maintain minimum 8 foot wide pedestrianway	Encouraged subject to right-of-way encroachment permit and sited so as to maintain minimum 6 foot wide pedestrianway	Permitted subject to right-of-way encroachment permit and sited so as to maintain minimum 6 foot wide pedestrianway	Permitted subject to right-of-way encroachment permit and sited so as to maintain minimum 6 foot wide pedestrianway
Flowerpots / Containers	Permitted subject to right-of-way encroachment permit and sited so as to maintain minimum 8 foot wide pedestrianway	Permitted subject to right-of-way encroachment permit and sited so as to maintain minimum 6 foot wide pedestrianway	Permitted subject to right-of-way encroachment permit and sited so as to maintain minimum 6 foot wide pedestrianway	Permitted subject to right-of-way encroachment permit and sited so as to maintain minimum 6 foot wide pedestrianway
News Stands/Boxes	See standards in the "Street Furnishings" Section above.	See standards in the "Street Furnishings" Section above.	See standards in the "Street Furnishings" Section above.	See standards in the "Street Furnishings" Section above.
Pedestrian Lighting	Building lighting that supplements lighting of the pedestrian realm is encouraged	Building lighting that supplements lighting of the pedestrian realm is encouraged	Building lighting that supplements lighting of the pedestrian realm is encouraged	Building lighting that supplements lighting of the pedestrian realm is encouraged

STREET CLASS STANDARDS	1. Signature and 4. Linear Parks	2. Primary	3. Secondary	Special Treatment (With Inadequate Pedestrian Width)
Seasonal or Event Displays	Encouraged subject to right-of-way encroachment permit and sited so as to maintain minimum 8 foot wide pedestrianway	Encouraged subject to right-of-way encroachment permit and sited so as to maintain minimum 6 foot wide pedestrianway	Permitted subject to right-of-way encroachment permit and sited so as to maintain minimum 6 foot wide pedestrianway	Permitted subject to right-of-way encroachment permit and sited so as to maintain minimum 6 foot wide pedestrianway
Pedestrian Service Windows	Encouraged subject to right-of-way encroachment permit and sited so as to maintain minimum 8 foot wide pedestrianway	Encouraged subject to right-of-way encroachment permit and sited so as to maintain minimum 6 foot wide pedestrianway	Permitted subject to right-of-way encroachment permit and sited so as to maintain minimum 6 foot wide pedestrianway	Permitted subject to right-of-way encroachment permit and sited so as to maintain minimum 6 foot wide pedestrianway
Signage – Permanent	Permitted subject to right-of-way encroachment permit and sited so as to maintain minimum 8 foot wide pedestrianway	Permitted subject to right-of-way encroachment permit and sited so as to maintain minimum 6 foot wide pedestrianway	Permitted subject to right-of-way encroachment permit and sited so as to maintain minimum 6 foot wide pedestrianway	Permitted subject to right-of-way encroachment permit and sited so as to maintain minimum 6 foot wide pedestrianway
Signage – Temporary	Permitted subject to right-of-way encroachment permit and sited so as to maintain minimum 8 foot wide pedestrianway	Permitted subject to right-of-way encroachment permit and sited so as to maintain minimum 6 foot wide pedestrianway	Permitted subject to right-of-way encroachment permit and sited so as to maintain minimum 6 foot wide pedestrianway	Permitted subject to right-of-way encroachment permit and sited so as to maintain minimum 6 foot wide pedestrianway
Water Features	Encouraged subject to right-of-way encroachment permit and sited so as to maintain minimum 8 foot wide pedestrianway	Encouraged subject to right-of-way encroachment permit and sited so as to maintain minimum 6 foot wide pedestrianway	Permitted subject to right-of-way encroachment permit and sited so as to maintain minimum 6 foot wide pedestrianway	Permitted subject to right-of-way encroachment permit and sited so as to maintain minimum 6 foot wide pedestrianway
CROSSWALKS				
Special Surface Markings and/or materials	Required	Required	Optional at intersections of two Secondary Pedestrian Streets	Dependent on classification of street
Pedestrian Countdown Signals	Required at all signalized intersections	Required at all signalized intersections	Required at all signalized intersections	Required at all signalized intersections
Curb Extensions	Encouraged where Permanent Parking condition is provided.	Encouraged where Permanent Parking condition is provided.	Encouraged where Permanent Parking condition is provided.	Encouraged where Permanent Parking condition is provided.
Mid-Block Crosswalks	By special permit only. See Street Enhancement Standards Map for Locations.	By special permit only. See Street Enhancement Standards Map for Locations.	By special permit only. See Street Enhancement Standards Map for Locations.	By special permit only. See Street Enhancement Standards Map for Locations.
INTERSECTIONS				
Order of Precedence of Design Standards	Design standards of Signature Pedestrian Streets shall take precedence over other classes of street treatment. At Independence Square (The Square), the established design standard of Tryon Street shall take precedence over the special design standards for Trade Street, subject to a new design of The Square being undertaken to further define its significance. At the intersection of Trade Street and Brevard, the special design of the street that is implemented first shall take precedence.	Design standards of Signature Pedestrian Streets shall take precedence over other classes of street treatment.	Design standards of Signature Pedestrian Streets shall take precedence over other classes of street treatment.	Design standards of Signature Pedestrian Streets shall take precedence over other classes of street treatment.
Use of special pavement and other design features to further define the intersection	Strongly encouraged	Encouraged	Permitted	Permitted

Applying the Design Standards

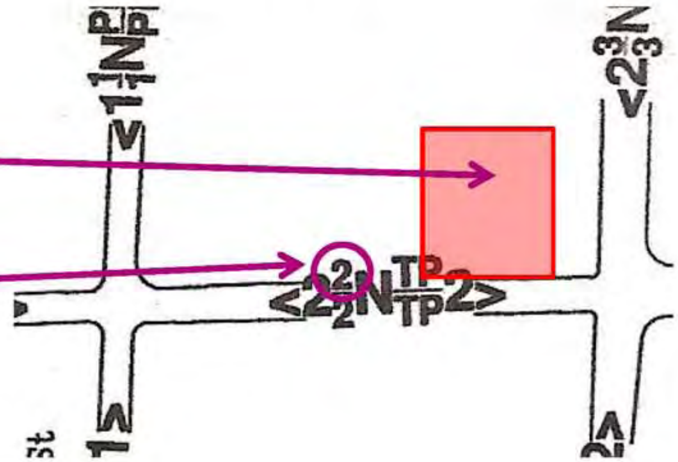
The Enhancement Standards Map and the Standards Table work together in the following manner and as illustrated on this and the following page. First, the owner of a land parcel locates the parcel on the map. Second, in the nomenclature legend the pedestrian space classification for the block face in which the parcel is located is identified. Third, the classification is identified in the appropriate column of the Standards Table and all of the standards in that column apply to the pedestrian realm for that frontage. In the example provided, the site abuts a class 2, or Primary Pedestrian Street. Thus, the standards in the "Primary" column of the Table are applicable. If the parcel is a corner site, the process must be applied on both block faces to determine the respective standards.





Applying the Street Design Standards

1. Locate site on the Enhancement Map
2. Determine Pedestrian Space Classification – In this case '2', or Primary Pedestrian Street
3. Determine applicable standards from Design Standards Table

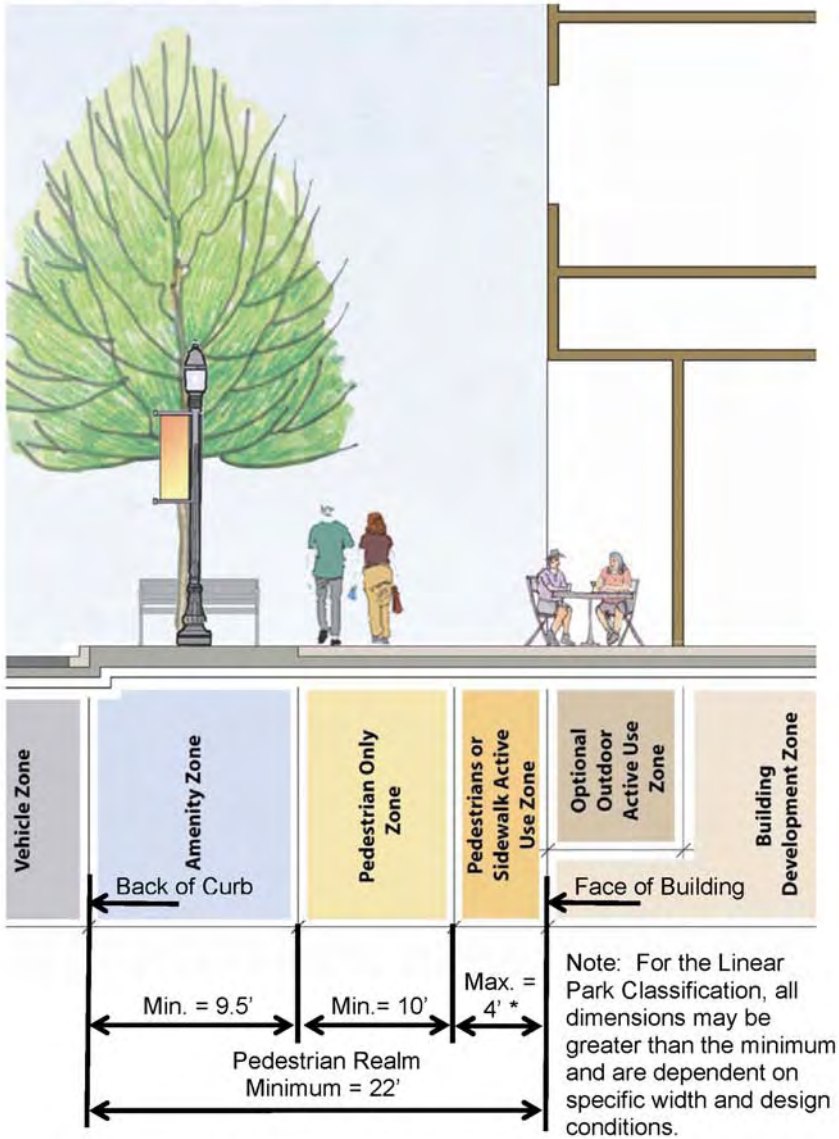


PEDESTRIAN STREET STANDARDS TABLE

STREET CLASS STANDARDS	1. Signature and 4. Linear Parks	2. Primary
DESIGN STANDARDS OF THE PEDESTRIAN REALM		
DIMENSIONAL		
Overall Width – Back of Curb to Face of Building Please refer to cross section provided above	Minimum of 22 feet Linear Parks Minimums as follows: Trade Street = 50' Mint Street = 28' Third Street = 22' Ninth Street – Median Park	Minimum of 16 feet
Amenity Zone Width (Landscape and street furniture) – Located at back of curb	Minimum of [illegible] feet	Minimum of 5.5 feet
Pedestrian Zone Width	Minimum of [illegible] feet Minimum 8 feet clear at all times	Minimum of 8 feet Minimum of 6' clear at all times
Pedestrian and/or Sidewalk Active Zone Width – Located between Amenity Zone and building face or right-of-way line	Maximum of 4 feet at 22 feet width. Any width beyond 22 feet may be used for sidewalk activities	Maximum of 2 feet at 16 feet width; maximum increases 0.5 feet for each 1.0' increase in overall width

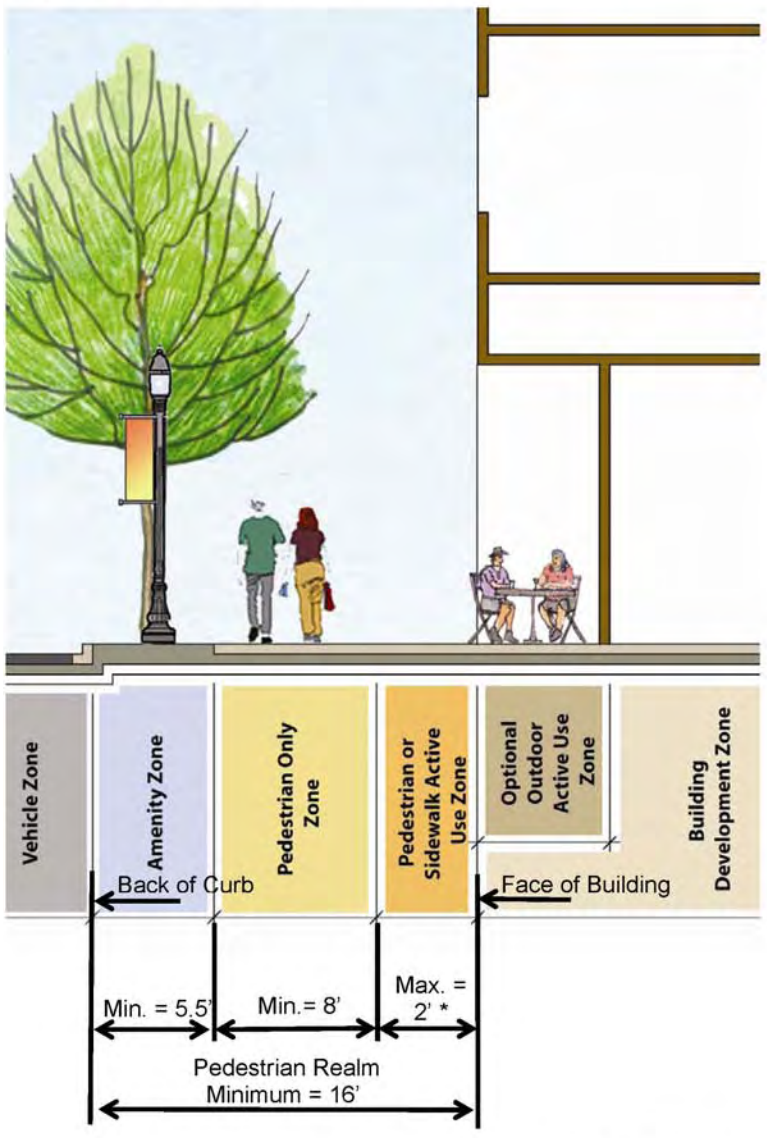
.... Etc.

Activity Relationships and Dimensional Standards:
The "**Signature Pedestrian Street**" and The "**Linear Parks**"



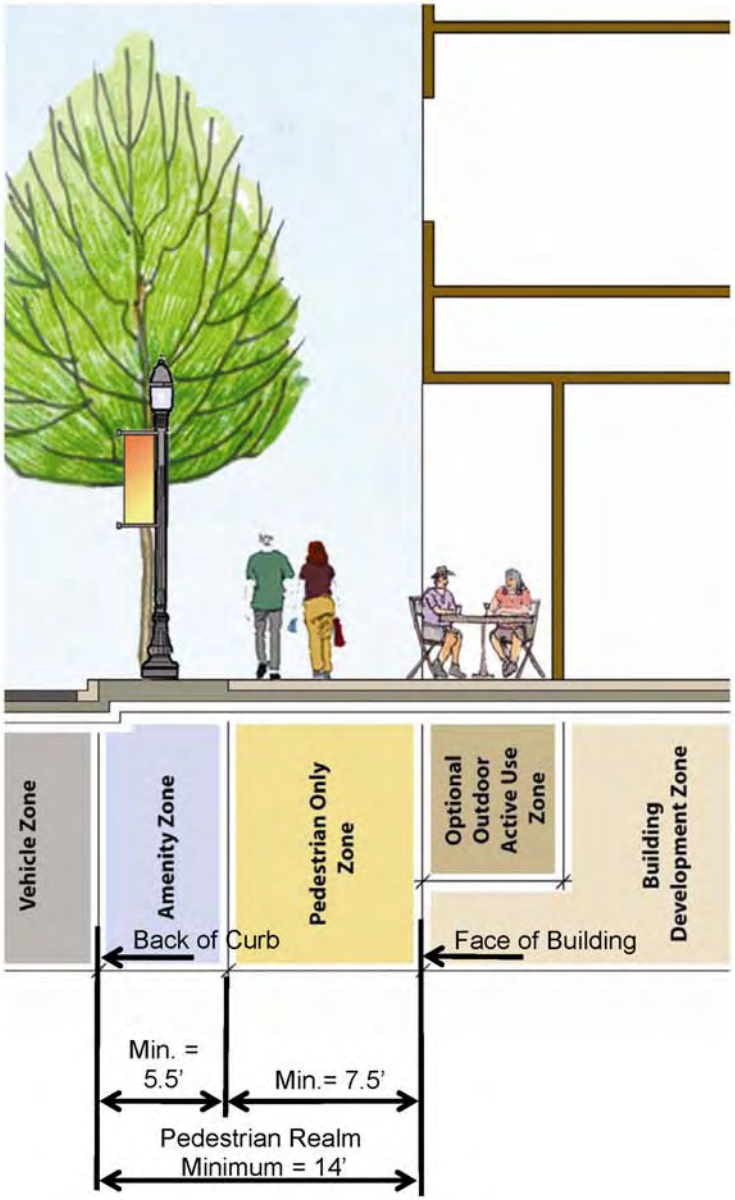
* Sidewalk Active Use Zone may be wider as long as the minimum Pedestrian Only Zone is maintained.

Activity Relationships and Dimensional Standards:
The "**Primary Pedestrian Street**"

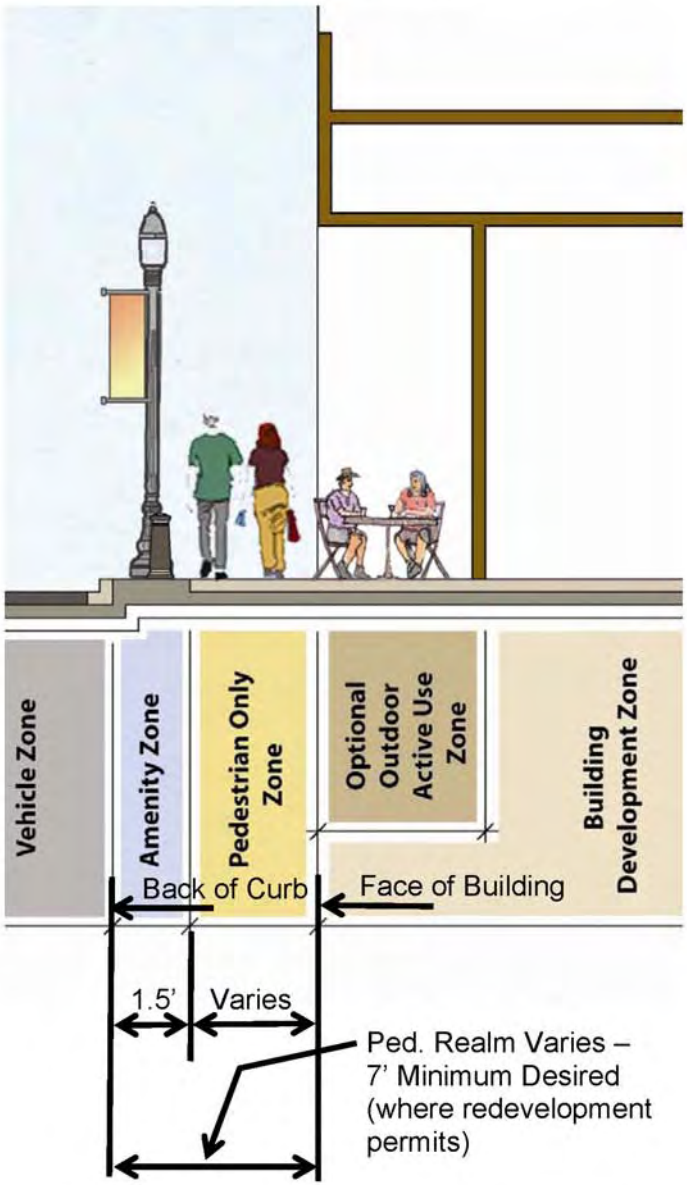


* Sidewalk Active Use Zone may be wider as long as the minimum Pedestrian Only Zone is maintained.

Activity Relationships and Dimensional Standards:
The "**Secondary Pedestrian Street**"



Activity Relationships and Dimensional Standards:
The "**Special Treatment Pedestrian Street**"



Off-Street Pedestrian Circulation

In addition to pedestrian circulation along streets, there are a variety of off-street opportunities for pedestrian use. These "off-street" pedestrianways are categorized in the following way, and shown on the Pedestrian Circulation Map (Page 67).

Multi-Purpose Trails accommodate bicyclists as well as pedestrians. This Center City Transportation Plan identifies these locations for such trails in Center City Charlotte:

- The South/Northeast Corridor Trolley and Light Rail Transit line will have pedestrian and bicycle paths flanking the corridor as it traverses Center City. This facility is intended to provide a level of service and quality approaching that which is intended for the Signature Pedestrian Streets. This system cannot go through the Convention Center with the transit line; therefore, College Street and MLK Blvd. will have to serve as a connection around the Convention Center. The proposals for both streets will result in pedestrian enhancements that will support this function.
- Irwin Creek Greenway already links Frazier Park, the Irwin Avenue School, the County's "Ray's Splash Planet" and Elmwood-Pinewood Cemetery. The trail needs to be extended southward to West Morehead Street and northward to provide linkage to the land area north of the Cemetery and the Greenville Neighborhood.
- The existing trail under the Norfolk-Southern rail embankment at Bank of America Stadium can extend into the Wesley Heights neighborhood by using the P&N Railroad right-of-way. This trail will also link the Irwin Creek Greenway with Center City.
- Little Sugar Creek Greenway penetrates the I-277 Loop between Seventh and Tenth Streets. There will be trail linkages to the greenway at the Tenth Street/I-277 underpass, the north side of the Seventh Street bridge and the south side of the Fifth Street extension to Kings Drive. Recently completed improvements to Stonewall/Kenilworth also provide enhanced bicycle and pedestrian access to the greenway.
- The existing residential wards – First, Third and Fourth – will have assorted small pedestrian linkages.

Urban Open Spaces that provide pedestrian and bicycle linkage include:

- Marshall Park (possibly reconfigured as proposed in the Second Ward Master Plan)
- The Green (on South Tryon Street)
- Fourth Ward Park
- Settlers Cemetery Park
- Elmwood/Pinewood Cemetery
- Bearden Park
- The I-277 Cap (proposed in the Second Ward Master Plan)
- numerous smaller parks and plazas

Enclosed Pedestrianways include:

- Overstreet Mall
- Latta Arcade
- Independence Square pedestrian mall (linking the Square, Iveys and Marriott)

Plan Recommendations: Pedestrian

23. Adopt the Uptown Streetscape Standards (page 75), including the categories of pedestrian streets and the standards for each street; specifically, codify these standards through these actions:
23a. Apply the Hierarchy of Pedestrian Streets based on the Uptown Streetscape Standards

23b. Update the Uptown Streetscape Design Guidelines to incorporate these standards for the Center City.

24. Update the Street Standards Map (page 81) which identifies appropriate pedestrian and vehicular enhancements and serves to regulate their implementation at the time of private redevelopment or public infrastructure improvements.

Bicycle Circulation

Creation of bikeways . . . is also critical. Once conditions are improved for biking and walking, Center City employers . . . should encourage individuals to use these facilities for commuting.

– Center City 2010 Vision Plan

Guiding Principles

- Bicyclists should have efficient and safe access to, from and within Center City.
- Bicycle facilities must be compatible with the street network while safely accommodating riders of all skills levels navigating the traffic conditions.

The *Center City Transportation Plan* subscribes to the notion of "complete streets." This inclusive view of the transportation environment gives equal consideration to all users. A complete street is one that works not only for motorists but also for bicyclists, transit riders, and pedestrians (including those with disabilities). An incomplete street is one where there are gaps or too few usable sidewalks and bikeways. Thinking in terms of a "complete street" leads to accommodating bicycles as a routine part of planning, design and construction of transportation facilities.

The City of Charlotte already has an adopted city-wide *Charlotte-Mecklenburg Bicycle Transportation Plan* (1999) that includes the Center City street system. The recommendations of that plan (a few of which have been implemented) have been refined to constitute the bicycle circulation plan for this Center City Transportation Plan. The plan addresses general access to the Uptown area and some specific measures – bicycle lanes, signed bicycle routes, off-street routes, and parking.

Access into Center City

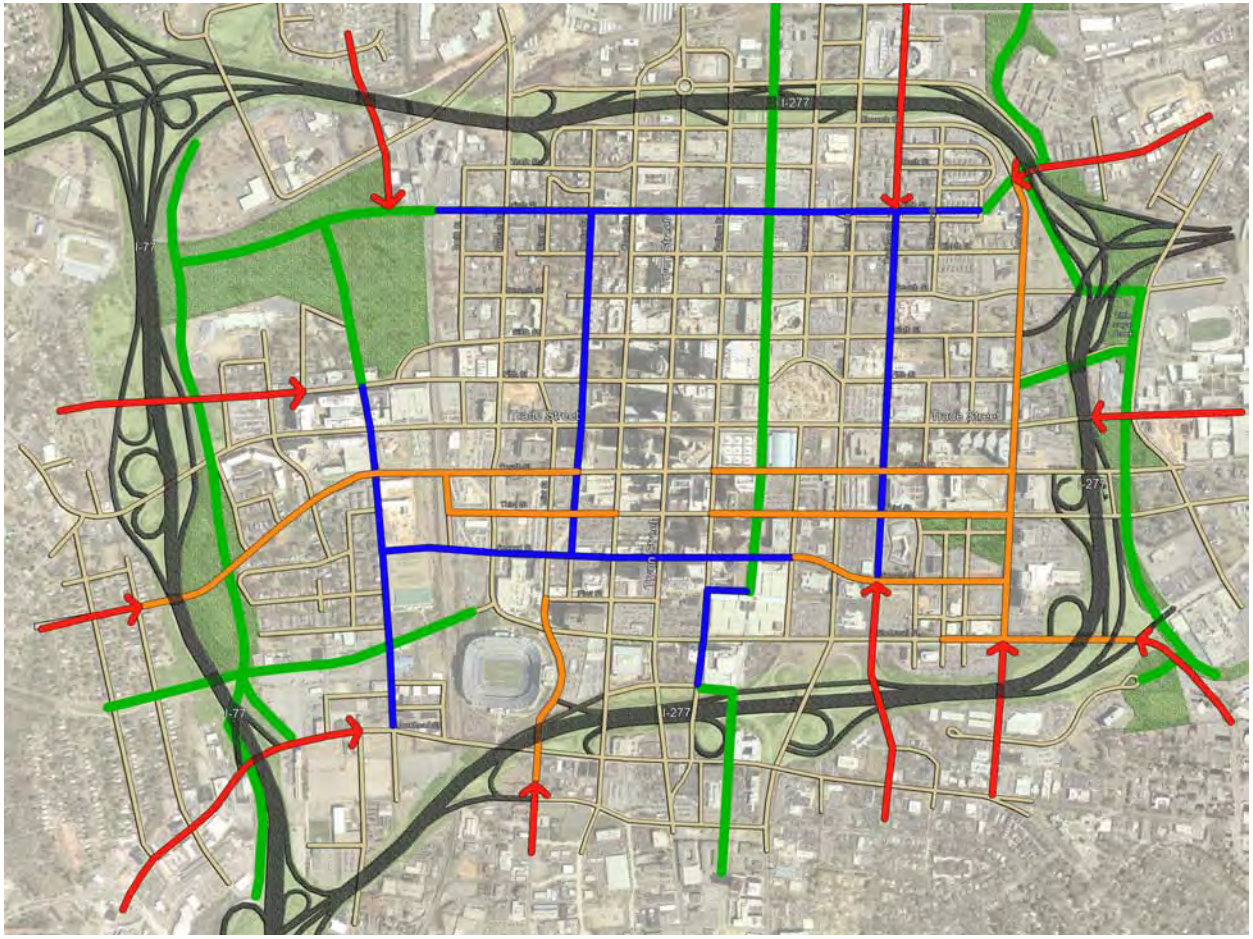
For the most part, the commuting cyclist tends to favor sharing the street with motor vehicles or using bicycle lanes at the edge of the pavement. The chief impediments to safe and convenient bicycle commuting to the Center City are associated with the I-277/I-77 expressway loop. Narrow street widths on approach streets outside the loop, constrained widths in the underpasses and overpasses, and the volume and speed of peak hour traffic on streets on both sides of the loop, were key factors in selecting bicycle routes during preparation of the *Charlotte-Mecklenburg Bicycle Transportation Plan*.

The following are the primary marked bicycle routes leading into Center City. To provide safe and convenient access into Center City for commuting cyclists, modifications to the expressway underpasses and overpasses (as described on page 37) will be necessary.

- Trade Street / Elizabeth Avenue
- West Fourth Street
- West Fifth Street
- East Tenth Street
- McDowell Street
- Kenilworth Avenue
- Mint Street
- West Morehead Street
- Johnson Street (to be connected to a proposed pedestrian/bicycle overpass when the rail crossing at Ninth Street is closed
- Proposed connection of Davidson (or Alexander) Street over I-277 to Euclid Avenue

Bicycle Lanes

Bicycle lanes are a widely recognized road treatment that provide an exclusive space for cyclists to ride on a street with other traffic. The lane is identified with signs and road markings, and separated from the other



Bicycle Circulation

travel lanes by a wide painted stripe. In Center City, these dedicated lanes will be used primarily to support peak hour circulation by commuting cyclists along some of the busier routes:

- **McDowell Street** (both directions), from Stonewall Street to Tenth Street
- **Fourth Street** (both directions), from west of I-77 to the Norfolk-Southern rail embankment
- **Fourth Street,** westbound from McDowell to Poplar Street to Graham Street (this lane is not marked on the south side of the Charlotte Transportation Center because of bus operations)
- **Third Street,** from College to McDowell
- **Mint Street,** from south of West Morehead Street to First Street

In addition, bicycle lanes have already been designed and funded for construction on **Kenilworth Avenue,** from east of I-277 to McDowell Street.

Signed Bicycle Routes

A planned system of signed routes will link residential areas of Center City Charlotte. These will be marked along routes on which vehicular traffic is "calmed" and pedestrian and bicycle traffic is supported.

- **Ninth Street,** from Smith Street to Myers Street
- **MLK Blvd.,** from Cedar Street to McDowell Street
- **Poplar Street,** from Second to Ninth Street
- **Davidson Street**, from Second to Ninth Street
- **Second and College Streets,** serving the segment of the South Transit Corridor pedestrian and bicycle path in order to go around the Convention Center.

Off-Street Routes

The Pedestrian component of this Center City Transportation Plan identified various "multi-purpose trails" that are part of the off-

street circulation system in Center City (as described on page 83). Most of these multi-purpose facilities will also support bicycle traffic.

- **The South-Northeast Corridor transit line**
- **Irwin Creek Greenway**
- **Wesley Heights** neighborhood
- **Little Sugar Creek Greenway** and associated connections.
- A bicycle and pedestrian trail along the south side of Fifth Street, from McDowell Street to Kings Drive near **Central Piedmont Community College**
- A pedestrian and bicycle bridge replacing the Ninth Street grade crossing, providing access to the **Greenville** neighborhood.

Bicycle Parking

The availability of convenient and secure bicycle parking is considered a key factor in encouraging bicycle use. These measures have already been implemented:

- "Inverted U-style" racks have been installed along Tryon Street, on the blocks of Trade Street that flank Tryon, and on MLK Blvd. between Tryon and College Street. Moderate funding is available to continue this effort.
- The City of Charlotte Zoning Ordinance was amended in 2005 to require all future parking structures to provide bicycle racks.
- Bicycle parking racks are also included as a "street furniture" element in the Pedestrian Street Design Standards (page 75).

Plan Recommendations: Bicycle Circulation

25. Implement bicycle circulation improvements and integrate bicycle system with the adopted Charlotte-Mecklenburg Bicycle Transportation Plan, as noted in this section (pages 84-86). This includes:

25a. Bicycle Lanes, Signed Bicycle Routes, and Off-Street Routes should be designated in accordance with the city-wide bicycle plan

25b. Improvements to expressway underpasses and overpasses that improve bicycle access to Center City should be done in conjunction with vehicular and pedestrian improvements outlined in this Center City Transportation Plan.

25c. Bicycle parking facilities will be expanded through the recently amended zoning code requirement for new parking structures; through the street furniture element of the Pedestrian Street Standards in this document; and through project funding as it becomes available.