



## **DOWNTOWN GREAT STREETS MASTER PLAN**



### **PROJECT NOTEBOOK**

**NOVEMBER 2001**

Prepared by  
**Black & Vernooy + Kinney & Associates,**  
Joint Venture

**CIP PROJECT NO 8760 - 607 - 2107**

## Downtown Great Streets Master Plan

Prepared by

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*The drawings contained in this notebook are not for construction. Licensed design professionals should be retained for specific projects undertaken to implement concepts presented herein.*

*All existing conditions within the Project Study Area depicted herein reflect the author's understanding of conditions as of November 30, 2001, and will change.*

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## What are Great Streets?

Great Streets are the most important ingredient in creating a Great City. A city's downtown comprises the heart of that city, and its streets form the primary public arena for interchange and commerce. Downtown Austin belongs to all Austin residents, and it has always represented the community culturally, economically, and politically. Currently, downtown Austin lacks the numerous vibrant, pedestrian-dominant, multi-functional, commercial corridors that define other cities. For Austin to create great streets and public spaces, we must set forth a vision about our downtown and design a public right-of-way network to support that vision.

The Downtown Great Streets Master Plan articulates this vision for the growth of downtown Austin. The City of Austin has selected Black & Vernooy + Kinney, a joint venture, to develop the Master Plan, synthesizing issues of street design and transportation into an integrated and harmonious system. With the tremendous growth and change Austin is experiencing, this Master Plan presents a timely opportunity to affect the livability, safety, and aesthetics of Austin's downtown streets.

*Planning for the transportation as a component of the development of an active and vibrant downtown must begin with the premise that "Streets are for people."*

*...Streets in downtown should be designed to slow down and to integrate vehicle traffic better with pedestrian traffic. A network of streets should be changed to accommodate two-way traffic. Sixth Street should be immediately converted to two-way traffic...*

*(Austin, R/UDAT, 1991)*

The goal of the Great Streets program is to provide a master plan as an instrument to pursue this vision of *streets for people*. This vision stems from the Downtown Austin Design Guidelines, adopted by City Council in 2000. The Design Guidelines established a set of values for downtown development, including authenticity, history, safety, diversity, density, and economic vitality. This document pursues the indoctrination of these values according to the following user hierarchy:

- Pedestrians
- Transit
- Bicycles
- Automobiles

In addition to the values presented by the Downtown Austin Design Guidelines, the Second Street Retail District Plan (prepared by the ROMA Design Group and Black & Vernooy Architects) includes the following six guiding design principles:

- Streets as Places: the Great Streets Program envisions downtown as a vital focus of city life, and as a primary destination. Our downtown streets encompass our most important and inclusive public space and common ground.



# INTRODUCTION



- Interactive Streets: urban streets are the stages on which the public life of the community is acted out.
- Managed Congestion: congestion is a fact of life in successful urban places. By definition, a place that supports a great concentration of economic and social activities within a pedestrian-scaled environment is going to be congested.
- Downtown is a destination for all modes of traffic. Driving *to* downtown is welcome--driving *through* downtown is not.
- Balanced Usage: downtown streets must balance the needs of pedestrians, transit, bicycles, and the automobile in creating an attractive and viable urban core.
- Pride of Character: visible care and upkeep are critical to the vitality of urban street life.
- Public Art: art in the public environment can help to establish a stronger sense of place and continuity between the past, present and future.

*...consider what makes a city center magnetic, what can inject the gaiety, the wonder, the cheerful hurly-burly that makes people want to come into the city and linger there. .magnetism is the crux of the problem. All downtown's values are its by-products. To create in it an atmosphere of urbanity and exuberance is not a frivolous aim.*

*Jane Jacobs, Downtown is for People*

The Great Streets Master Plan consists of a few simple but profound objectives:

- Change the space and scale of the street to create a sense of place for the individual.
- Create an environment that is safe, generous enough for multi-purpose use, and sheltered from the elements, including the Texas sun.
- Find a thousand ways to calm traffic movement in downtown through symbols of pedestrian dominance, traffic management in a two-way street system, and rigorous enforcement of traffic lanes to promote and protect pedestrian safety.
- Create an equitable balance of space usage between sidewalks and streets in the public right-of-way. The ideal objective would be a 50/50 allocation between pedestrians and vehicles, though such an allocation would be difficult to achieve. Currently a typical downtown Austin street has an 80 foot right-of-way with 60 feet (75 percent) dedicated to automobiles, leaving the remaining 20 feet (25 percent) for pedestrians. The typical Great Street of Austin's future would have 44 feet dedicated to the auto (or 55 percent), giving 45 percent of the right-of-way over to pedestrian facilities and travel. For more detailed information regarding the public right-of-way and allocation, refer to the Great Street typologies in Chapter Four.
- Occupy the wider sidewalk zone with an array of well-designed, functional objects such as street trees, broad eighteen-foot canopies, lights, benches, waste receptacles, and other amenities. Refer to Streetscape Elements and Standards in Chapter Five for more information regarding other enhancements of the pedestrian surroundings.

- Allow space for private sector initiatives to occupy and animate the street scene with sidewalk cafes, kiosks, and newsstands.
- Accommodate automobile traffic *to* downtown and discourage traffic *through* downtown.
- Recognize the primacy of the grid in the downtown and optimize its use.
- Recognize the inherent need for balance and finite limits of the street grid and the corridors that feed into it.





## PUBLIC INVOLVEMENT

Throughout this study period, the Great Streets consultant team made every effort to ensure that the public had sufficient information about the Great Streets Master Plan study. The Public Involvement Plan, from the outset, called for an advisory group that would meet through the process and review and comment on the direction of the study. That group, the Community Advisory Group (CAG) was convened and met five times from February to July 2001. Two presentations were made to City Boards and Commissions. Briefings were conducted for a variety of community groups, primarily those affiliated with downtown. The consultant team developed and maintained a web site (<http://www.ci.austin.tx.us/greatstreets>) on the City server that was updated through the process as new information became available. Finally, a presentation at the conclusion of the process was made to the City Council.

Even before the first meeting of the Community Advisory Group, in December 2000, the downtown community conducted another symposium on downtown featuring two of the original Downtown Austin R/UDAT members. Returning were Mr. Chuck Davis, Chair and Mr. Tom Gougeon, member. The symposium identified two urgent challenges for downtown. The first was that the quality of downtown's pedestrian experience should be improved via the implementation of the Great Streets Program. The second was that downtown's traffic and parking problems should be solved through *alternative means* of getting people into and out of downtown. The conclusions of this latest R/UDAT symposium gave impetus for the Great Streets Master Plan work that was just beginning.

### Organization of the Community Advisory Group (CAG)

The City, with the assistance of the consultant team, organized the Community Advisory Group to serve as the advisory group for the Great Streets study. It included representatives of downtown property owners and tenants, downtown-related organizations and groups, as well as interested community groups. The members and their affiliations are listed below:

- Downtown Austin Alliance
- Building Owners Managers Association
- East Sixth Street Merchants Association
- Warehouse & Entertainment District
- Downtown Austin Neighborhood Association
- Old West Austin Neighborhood Association
- West End Austin Alliance
- University Area Partners
- Design Commission
- Downtown Commission
- AIA Austin
- R/UDAT
- Austin Parks Foundation
- Parks and Recreation Department
- Art in Public Places
- Bicycle Advocacy Council
- Friends of the Crosstown Bikeway

- Austin Community College
- Austin Convention Center
- Austin Museum of Art
- ADAPT
- AMLI
- Bonner Carrington Corporation
- Computer Science Corporation
- City Grill Restaurant
- Intel
- Vignette Corporation
- Austin Revitalization Authority
- Austin Hotel and Motel Association
- Greater Austin Chamber of Commerce
- Real Estate Council of Austin
- Congress for New Urbanism
- Urban Land Institute
- Urban Transportation Commission

In addition to the CAG, a Technical Advisory Group (TAG) was also created consisting of City, Capital Metro, and Texas Department of Transportation staff members. The purpose of this group was to ensure that all aspects of the proposed streetscape improvements recommended by the Great Streets program would not conflict with any other City, Capital Metro or Texas Department of Transportation rules, regulations or initiatives. This group met immediately following the meetings of the CAG on the same days with the exception of the kick-off meeting when they met jointly. (See the Coordination section of this report for more information on this group's responsibilities.)

### **Community Advisory Group (CAG) Meetings**

The CAG met five times and covered the following topics summarized below.

#### *Meeting One: February 9, 2001*

The CAG and the TAG met jointly at this joint kick-off meeting. A summary of the background that led to the funding for this study was provided. Using a PowerPoint presentation, the Great Streets consultants illustrated the philosophy and principles of Great Streets as well as the project timeline, study area and anticipated products. Also discussed was the function and responsibilities of the Community Advisory Group (CAG) and the Technical Advisory Group (TAG).

Due to the need to coordinate with the ongoing Downtown Access and Mobility Program Study (DAMP), the consultant team presented a preliminary Great Streets 2005 plan that would be modeled by the DAMP study. The scenario presented would convert many of CBD streets to two-way and reduce the number of travel lanes in certain pedestrian dominant zones by the year 2005. In this scenario, the only downtown one-way streets remaining would be the 5<sup>th</sup> St / 6<sup>th</sup> St. and the Guadalupe/Lavaca pairs.

A "Questions and Answers" period followed during which many topics were covered by both the consultants and City staff.

### *Meeting Two: March 28, 2001*

A brief discussion on the Great Streets 2005 plan took place explaining that the Plan generally called for roadway changes that could be implemented solely by repainting land markings. The main presentation was on streetscape lighting. The goal of this task is to develop new standards yielding a unique group of fixtures of different heights, fixture sizes, and spacing to address varying pedestrian/vehicle needs. Within that group, the basic fixture would be modified to respond to each street's differing functional requirements, site constraints, and street character. Light quality, fixture, standard types, attachments to the standards, as well as traffic signal control boxes were discussed.

It was reported that the Great Streets web site web site at URL (<http://www.ci.austin.tx.us/greatstreets>) on the City server was now online.

### *Meeting Three: April 18, 2001*

The main presentation was on streetscape furnishings and elements. A variety of furnishings examples were illustrated and underscored issues, constraints, opportunities were discussed. These included: Street Trees, Cornell University (CU) Structural Soil & Root Barriers, Decorative Railing/Guards around Trees, Tree Grates, Planters, Bike Racks & Storage, Drinking fountains, Cultural & Way-finding Signs, Waste/Recycling Receptacles & Ash Urns, Public Service Amenities, Vending, Centralized Parking Meter Systems, Benches/Seating, Transit Shelters, Paving, Curbs, and Utilities and Related Sidewalk Accessories/Traps. CAG and TAG member were asked for their preferences and concerns about each of the topics presented. The Consultant Team used the results to further develop design concepts.

### *Meeting Four: May 16, 2001*

The draft 2025 Plan was presented as the long-term vision for downtown streets. Its hierarchy of design treatment was described as pedestrian first, transit second, bicycles third, and private vehicles last. It was suggested that a second phase; that is, a 2010 plan was recommended. One of its main features was a system of four- and two-lane street prototypes designed to accommodate changing needs. Over time, it was explained, lanes devoted to private vehicles would be converted to dedicated lanes for transit and bicycles. Its recommendations prioritize pedestrians first, transit second, bicycles third and private vehicles fourth. While the overall goal is to make all streets 2-way, some streets may have to remain as one-way to move more traffic, but these would still provide a generous pedestrian zone.

Draft street typologies were also presented. Prototypical draft plans and sections illustrating different concepts described the 2025 Plan. The drawings showed zones for pedestrians, transit vehicles, bicycles, and private vehicles on each type of street. Each zone would be delineated on the ground by use of color and/or texture to create a consistent vocabulary throughout downtown that would be easy to comprehend. The illustrations were new types to guide transitioning from the current street operations to the 2025 Plan vision.



## *Meeting Five: July 18, 2001*

The consultants reviewed the proposed street typologies and “kit-of-parts” that will constitute the 2025 Great Streets Master Plan first presented at the May CAG/TAG meeting. The main presentation focused on implementation of the Great Streets Master Plan. The consultant team discussed the need for the City to establish general policies concerning coordination of expenditures between departments to eliminate redundancy and maximize the benefit from street improvements, and policies on setting of spending priorities. The consultant team suggested the following criteria to set Great Street investment priorities:

- Public/private development
- Equitable geographic distribution
- Focus on a single streetscape element
- Focus on key blocks or intersections
- Coordinate with utility construction
- Focus on active areas
- Focus on stimulation of activity through investment
- Availability of funding: existing or new sources

Additional discussions included funding ideas such as additional business improvement districts, impact fees, tax increment financing, taxing of sprawl that negatively affects the inner city, Capital Metro’s Build Greater Austin, using corridors and chases assessing fees for fiber optic lines, state highway beautification funds, matching grants, increasing of the hotel, motel and rental car taxes, parking meter funds, and Enhancement Incentive Grants.

The CAG was advised that the Great Streets recommendations would be compiled in a notebook and circulated for review and comment. Some of the highlights of that information will be posted on the web site. The process to carry out the Great Streets Master Plan from the date of Council action was discussed, and this was followed by a questions and answer period.

## **Briefings for City Boards and Commissions**

### **Briefings for Diverse Community Groups**

The consultant team made several presentations to groups interested in the Great Streets Master Plan study. A concise statement on each follows:

#### *Austin Cycling Association: May 8, 2001*

The consultant team attended the May meeting of this association and presented a general overview of the Great Street program including an explanation of the philosophy and principles of Great Streets as well as the project timeline, study area and anticipated products.

#### *Mayor’s Committee for People with Disabilities: May 14, 2001*

Using the PowerPoint presentation, the consultants informed this City advisory body of the Great Street program, and in particular focused on how the remainder of the downtown streetscape could be made more

pedestrian friendly for the mobility impaired.

### **Presentation to the City Council**

#### **Great Streets Website**

The consultant team created a Great Streets website on the City's server to serve as the source of the latest status of the work program (<http://www.ci.austin.tx.us/greatstreets>). The site provides an overview of the Great Streets Program, and provides hyperlinks to other sites on the City's web page discussing other downtown area projects such as the Downtown Access and Mobility Study and the Lance Armstrong Bikeway Project. Linkages to other sites pertinent to urban design issues are also available. A graphic depicting the Great Street service area is provided. During the study period, selected draft documents and graphics were placed on the website to illustrate the work products of the Downtown Great Streets Master Plan process. A hyperlinked email connection was provided for viewers to send emails to the team. Upon completion of the study, the final recommendations will be posted on the site for public inspection.

## Project Status Reports

The Consultant Team submitted five Project Status Reports for review by the City Project Staff. The dates for the five reports were:

- February 15, 2001
- April 12, 2001
- May 14, 2001
- June 25, 2001
- August 21, 2001

Appendix C, Item 1, contains minutes from the associated project status meetings, and a list of contents for each project status report.

## Technical Advisory Group

A series of meetings were held with City Staff members of several departments and representatives from other local organizations. Departments and entities represented included the following:

- City of Austin, Transportation, Planning, and Sustainability Department
- City of Austin, Public Works Department
- City of Austin, Parks and Recreation Department
- Austin Energy
- City of Austin, Emergency Medical Services
- City of Austin, Police Department
- City of Austin, Fire Department
- Capital Metropolitan Transportation Authority
- Capital Area Metropolitan Planning Organization
- UT Campus Planning and Facilities Management
- Travis County
- State Historical Commission
- Texas Department of Transportation

The agendas and presentation materials for these meetings were coordinated with those used by the Consultant Team for the Community Advisory Group Meetings. Technical Advisory Group meetings were held directly subsequent to each Community Advisory Group meeting. The dates for these meetings were:

- February 9, 2001
- March 28, 2001
- April 18, 2001
- May 16, 2001
- July 18, 2001

Appendix C, Item 2, contains agendas and minutes for the five Technical Advisory Group Meetings.

### Coordination Meetings

Other meetings were held to focus coordination efforts between the Great Streets Consultant Team and other current city projects, including the Downtown Access and Mobility Plan, the Seaholm District Master Plan, and the Lance Armstrong Crosstown Bikeway Program. Coordination Meetings were additionally held between the Consultant Team and City Staff to address project-specific issues, such as ADA accessibility, downtown bicycle route planning and coordination, and transportation planning for the IH 35 corridor. These meetings were arranged and facilitated by the Great Streets City Project Staff.

The complete list of Project Coordination Meetings, as well as their agendas and minutes, can be found in Appendix C, Item 3.

In addition to coordination meetings, a base map of current projects underway was created and continually updated to reflect the status of the downtown study area. Development teams for the emerging projects included in the base map were provided preliminary

## GREAT STREETS TYPOLOGY

Street types are the basic building blocks of the Great Streets network, just as streetscape elements are the building blocks for the types. Each type responds to general criteria as well as specific criteria of the particular kind of street; that is, pedestrian dominance, retail activity, heavy traffic, service access, and so on.

For the purposes of clarity, each of the six types is based upon one real street, and references several other similar streets. Each street is a unique combination of factors and forces; thus each type must be adapted to the unique condition of each street to which it is applied.

It was beyond the scope of the project to adequately address several important streets. 12<sup>th</sup> and 15<sup>th</sup> Streets are very close to being Great Streets as they exist today. The difficulties of Martin Luther King Boulevard justify a separate project. Congress Avenue, adequate for now, is also in need of a completely separate design study.

The types are presented as a plan drawing with dimensions, a street section with dimensions, as well as a narrative describing the nature of the street relative to its role. In addition, similar streets of the given type are referenced.

For the six types illustrated, the plan and section are based upon a number of the following basic objectives:

- Increase the amount of sidewalk area within a given right-of-way from the typical 25 percent to a desired 45 percent of the right-of-way.
- Reduce the curb-to-curb widths from a current 60 feet to a future 44 feet. The 44-foot width provides a broad range of flexibility in the use of the street, including four net lanes without parking, two lanes with parking, and numerous combinations between the two. On rare occasions (5<sup>th</sup> and 7<sup>th</sup> Streets, for example), the 44-foot width will be required for four lanes with two-way traffic, with an additional desire for parallel parking. In this case, parking will be “cut into” the eighteen-foot sidewalks, leaving a ten-foot sidewalk at parking locations but the standard eighteen feet elsewhere, particularly at intersections.
- Convert all streets in downtown to two-way as soon as possible, in order to reduce confusion and travel distances, achieve safety and pedestrian comfort, encourage retail and street life, and generally slow and calm the traffic. This two-way rationale is further elaborated in the text accompanying the Master Plans.



# STREET TYPOLOGY AND MASTER PLAN

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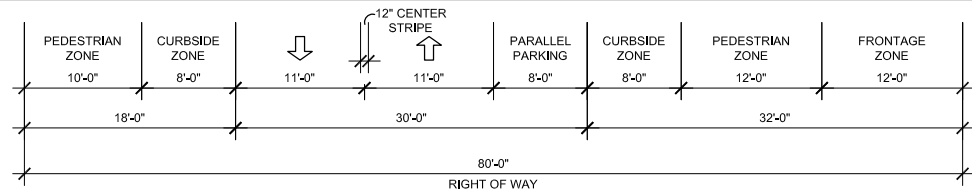
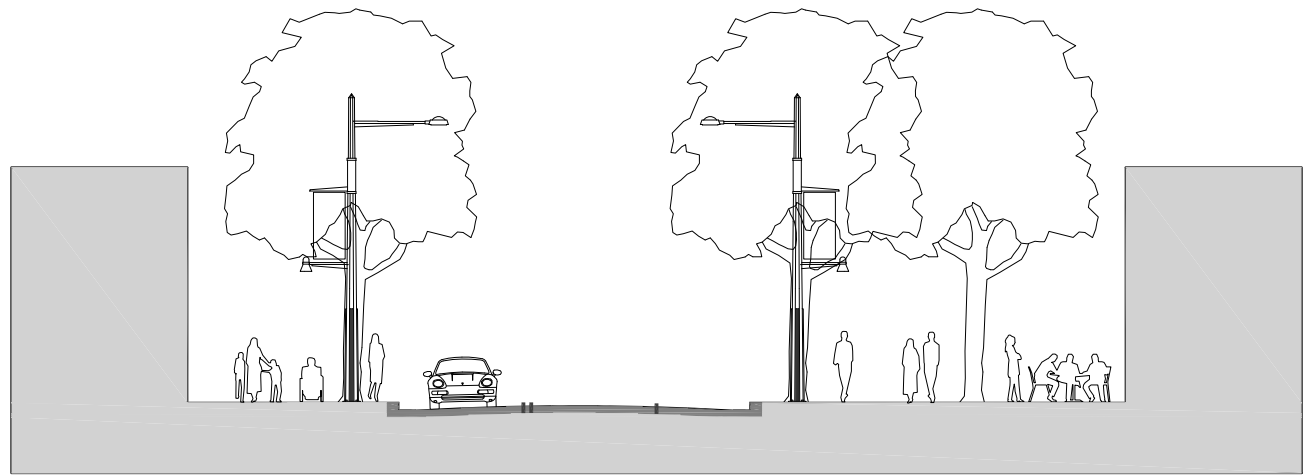
The basic patterns of each type are:

- Wider sidewalks in all cases, with eighteen feet as the baseline
- Pedestrian crossing plazas at every intersection
- 44 feet for travel lanes and/or parallel parking
- Transit-stop options at most nearside intersections
- Street trees and parking spaces at 22 feet on-center
- Sidewalks apportioned with ten feet for the path of travel next to the building property line known as the “pedestrian zone,” and the remaining eight-feet of sidewalk reserved for trees, utility access, benches, etc. known as the “curbside zone”

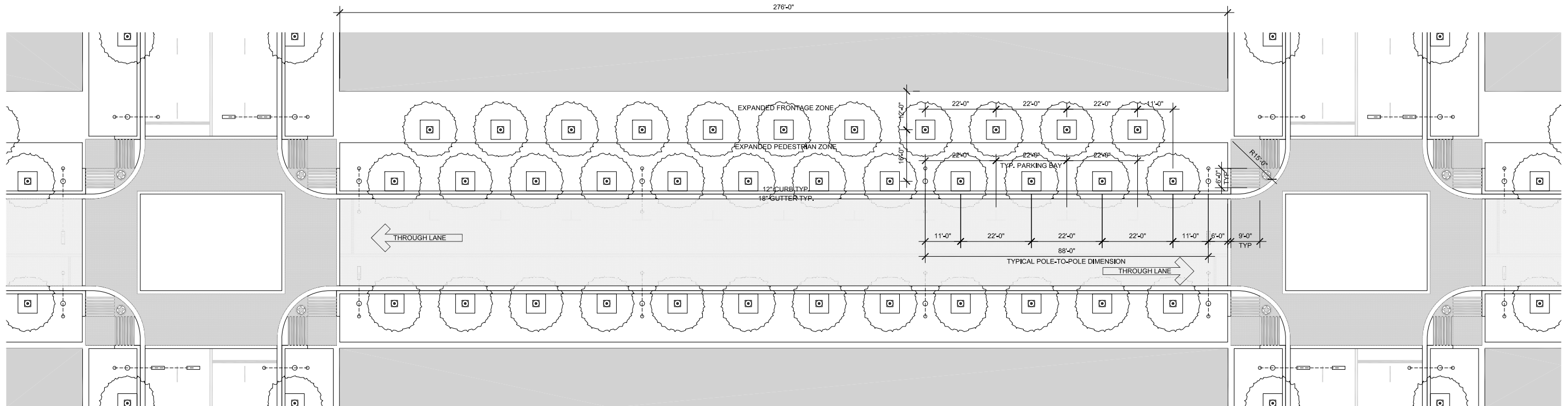
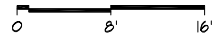
The six types are illustrated individually, as well as all together in the 2025 Great Streets Illustrative Plan. They are also illustrated in color with streetscape elements (refer to Great Streets Elements Plans in Chapter Five.)

Three of the six types were additionally rendered three-dimensionally, in order to further convey the characteristics of the street typology. For each specific street selected, “before” images portray the current conditions in comparison to the ultimate Great Streets vision.

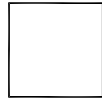
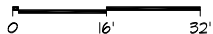




TRANSVERSE STREET SECTION  
PEDESTRIAN DOMINANT STREET



STREET PLAN  
PEDESTRIAN DOMINANT STREET



## Pedestrian Dominant Street

Pedestrian Dominant Streets serve unusually high pedestrian traffic generated by active retail uses along these streets. In addition to the standard Great Streets eighteen-foot sidewalk on one side of the street, an extra-wide sidewalk occurs on the other side, increasing the variety of pedestrian-oriented activities possible, while limiting the automobile function along the street primarily to that of local access.

### Second Street

The Second Street Retail District Plan calls for Second Street to become the new retail spine of downtown Austin. The south sidewalk reflects the standard eighteen-foot width but the north sidewalk extends to thirty-two feet wide, allowing for a double row of trees, sidewalk cafes, generous seating areas, and impromptu street life. This vision is particularly powerful when one imagines the sun-filled wide sidewalk stretching from Shoal Creek at the western end, to the door of the Austin Convention Center at the eastern end. The thirty-foot curb-to-curb dimension is composed of two-way, two-lane traffic with parking on the north side to accommodate slow moving vehicles attracted by the retail businesses featured throughout the district.

### Proposed Pedestrian-Dominant Streets include:

#### Second Street (illustrated)

No other streets of this type are contemplated in the near future, although over time several of the Mixed Mode Streets may become candidates for this type as linear retail districts emerge.

No transit service on this street type is anticipated by Capital Metropolitan Transportation Authority.

For dimensional geometrics of all other streetscape appurtenances, refer to streetscape elements and standards.

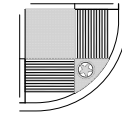
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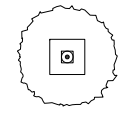
Crosswalk Paving



Specialty Paving



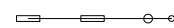
Accessible Crossing at Intersection\*



Tree and tree grate



Street light



Traffic light

\* coordinate for safety at accessible crossing  
see element plan

Not for construction. Licensed design professionals shall be retained to produce construction documents for any specific projects undertaken to implement these concepts.

All existing conditions depicted herein reflect the authors' understanding of conditions as of November 30, 2001, and will change.

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## Second Street

Street Type: Pedestrian Dominant Street

Pedestrian Dominant Streets generate high volumes of pedestrian traffic due to active retail uses at street level. City Council has demonstrated their commitment to creating Second Street as the new retail spine of downtown Austin. The north sidewalk, as depicted in this illustration, extends thirty-two feet wide, allowing for a double row of trees, sidewalk cafes, generous seating areas, and impromptu street life. The vision of a premier retail district is particularly powerful when one imagines the sun-filled wide sidewalk stretching from Shoal Creek on the west to the door of the Austin Convention Center to the east.

Coordination efforts:  
City Hall /Second Street Retail District



Before Image:  
Second Street looking West from Colorado Street



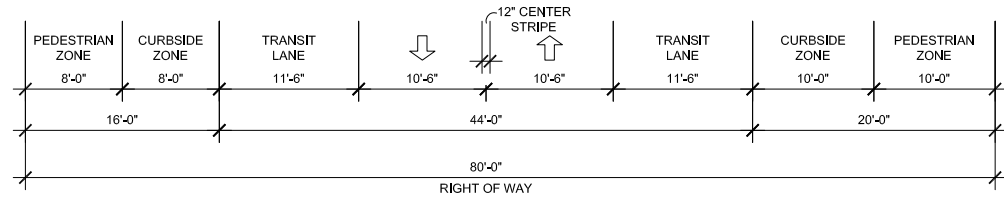
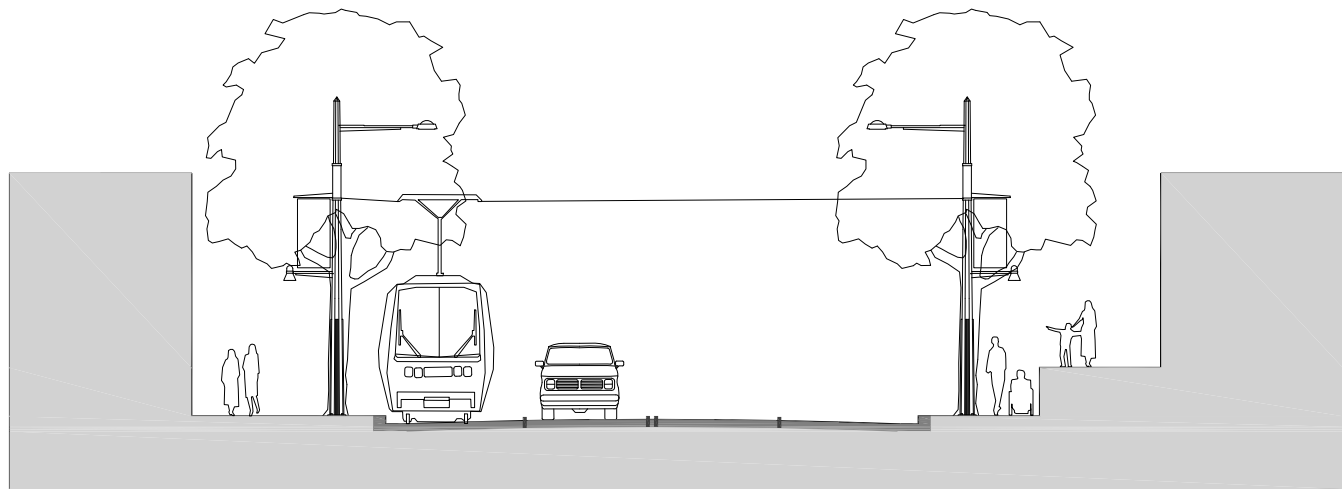
Downtown Great Streets Master Plan

**SECOND STREET: City Hall and Retail District**

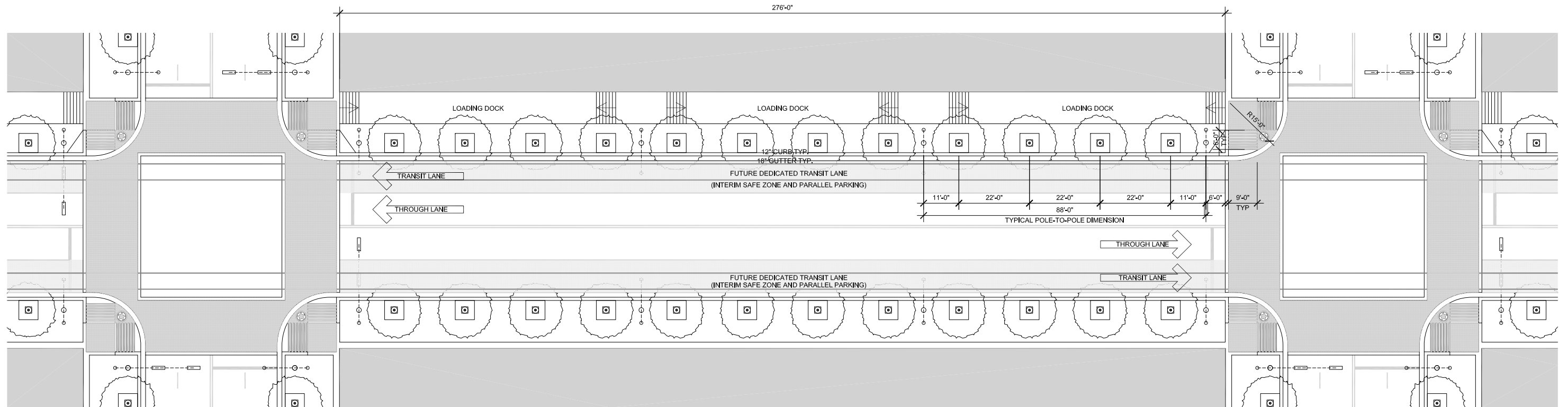
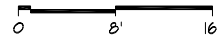
Architects:  
Black & Vernooy + Kinney & Associates



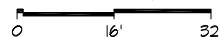




TRANSVERSE STREET SECTION  
RAPID TRANSIT STREET (FOURTH STREET)



STREET PLAN  
RAPID TRANSIT STREET (FOURTH STREET)



## Rapid Transit Street

Rapid Transit Streets are designed to accommodate dedicated, fixed-route transit service in and through downtown Austin.

### Fourth Street

Fourth Street has been officially designated by City Ordinance as the east/west corridor for passenger rail. This corridor will serve the downtown from east of IH35 to a proposed multi-modal transit center in the Seaholm District to the west. Along the way are the Austin Convention Center, the planned Convention Center Hilton Hotel, the Austin Museum of Art, the Austin City Hall, Republic Square, and numerous new mixed-use residential projects. Fourth Street itself has the unique characteristic of almost continuous north side loading docks, which causes the type to become asymmetrical with a sixteen-foot sidewalk on the south and an expanded twenty-foot sidewalk on the north. Transit lanes would be identified by a change in paving color and texture. Until passenger rail is implemented, Fourth Street would operate as a Mixed-Mode Street type.

### Proposed Rapid Transit Streets include:

#### Fourth Street (illustrated)

Lavaca Street (from Drake Bridge on the south to beyond Martin Luther King Boulevard on the north) is the Great Streets recommended north-south Rapid Transit Street. At this writing several north-south alignments are currently being studied by the Rapid Transit Project.

Additional transit service and accommodation on this street type to be coordinated with Capital Metropolitan Transportation Authority.

For dimensional geometrics of all other streetscape appurtenances, refer to streetscape elements and standards.

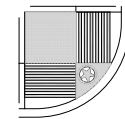
### Legend of symbols



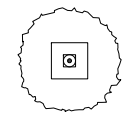
Crosswalk Paving



Transit Lane Paving



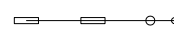
Accessible Crossing at Intersection\*



Tree and tree grate



Street light



Traffic light

\* coordinate for safety at accessible crossing  
see element plan

Not for construction. Licensed design professionals shall be retained to produce construction documents for any specific projects undertaken to implement these concepts.

All existing conditions depicted herein reflect the authors' understanding of conditions as of November 30, 2001, and will change.

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## Fourth Street

Street Type: Rapid Transit Street



Before Image:  
Fourth Street looking West from Colorado Street

Rapid Transit Streets are designed to accommodate dedicated, fixed route transit service in downtown Austin. Fourth Street has been officially designated by City Ordinance as the east/west corridor for passenger rail. This corridor will serve downtown from east of I-35 to a proposed multi-modal transit center in the Seaholm District to the west. Along this route is the Austin Convention Center, several planned projects such as the Convention Center Hilton Hotel, the Austin Museum of Art, the Austin City Hall, and new mixed-use residential projects, Republic Square and numerous businesses.

Coordination efforts:  
Seaholm District Master Plan  
CMTA

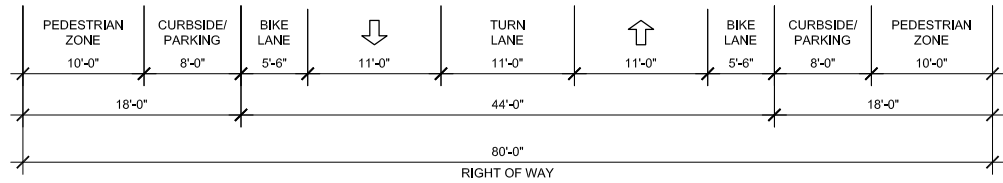
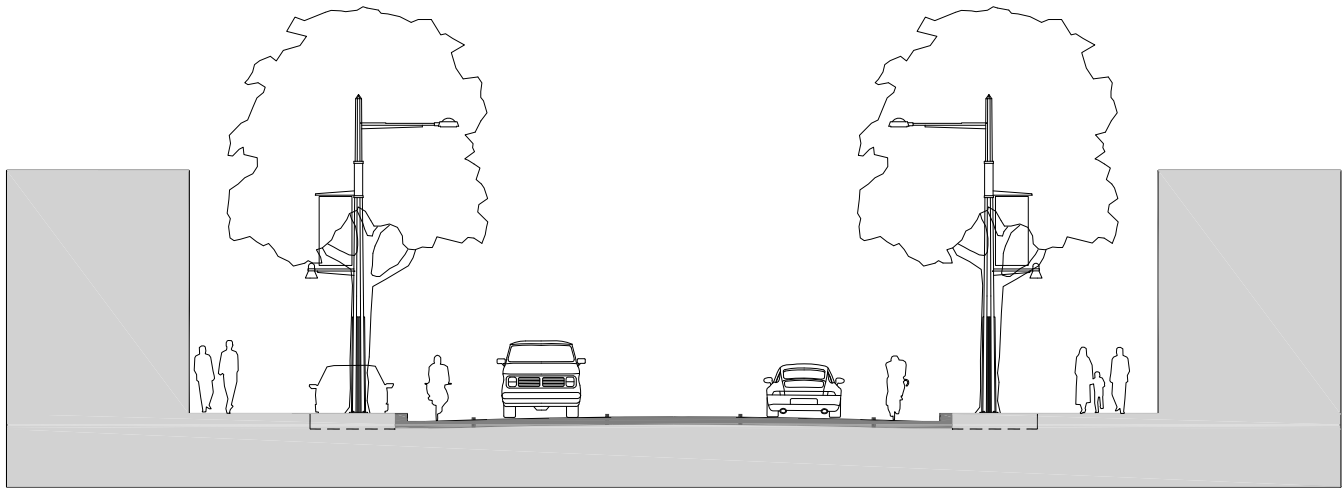


## Downtown Great Streets Master Plan

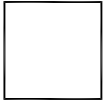
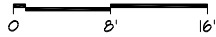
### **FOURTH STREET: Future Rapid Transit Street**

Architects:  
Black & Vernooy + Kinney & Associates





TRANSVERSE STREET SECTION  
BICYCLE AND LOCAL ACCESS STREET



## Bicycle and Local Access Street

Bicycle and Local Access Streets emphasize bicycle mobility with dedicated bicycle lanes. These bicycle lanes form the primary bicycle commuter system, connecting with other bicycle facilities for comprehensive bicycle access downtown. Additionally these three lane streets are intended to provide automobile mobility *within* downtown, rather than automobile through-traffic. As the primary bicycle routes, the center turn lane and reduced parking create an excellent environment for bicycle travel while also providing ample eighteen-foot sidewalks. The center lane in this street type may allow dedicated left turns, occasional landscaped medians and/or mid-block turns into alleys and driveways. Alternatively, they can accommodate a biased street with three travel lanes (two lanes one way; one lane the other). Parking would be restricted along Third Street (recognizing it as the alignment for the Lance Armstrong Bikeway) but could be allowed along other streets as "duck in" parking within the eight-foot curbside zone of the sidewalk.

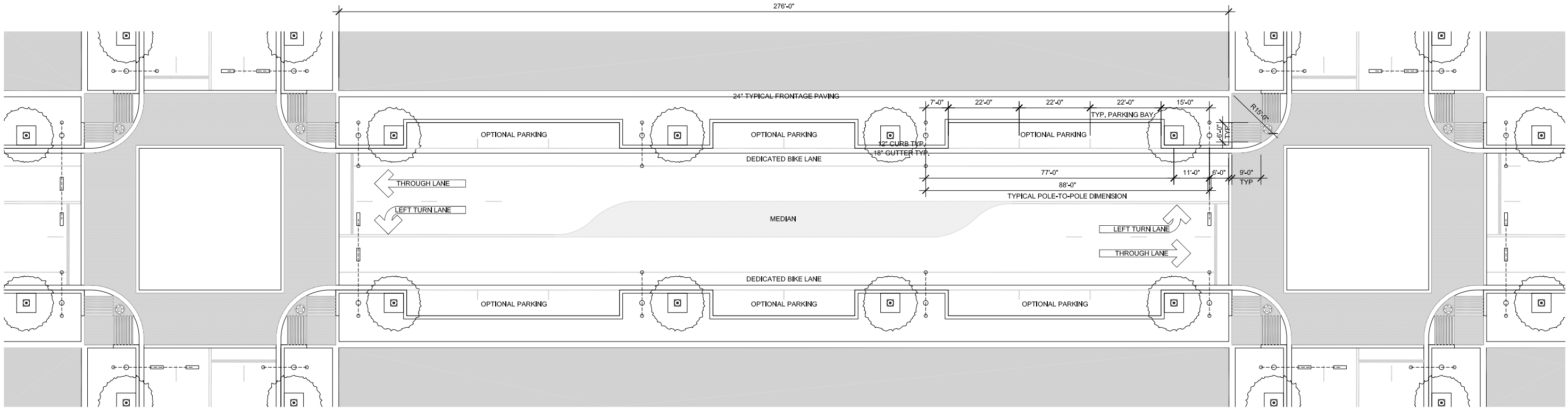
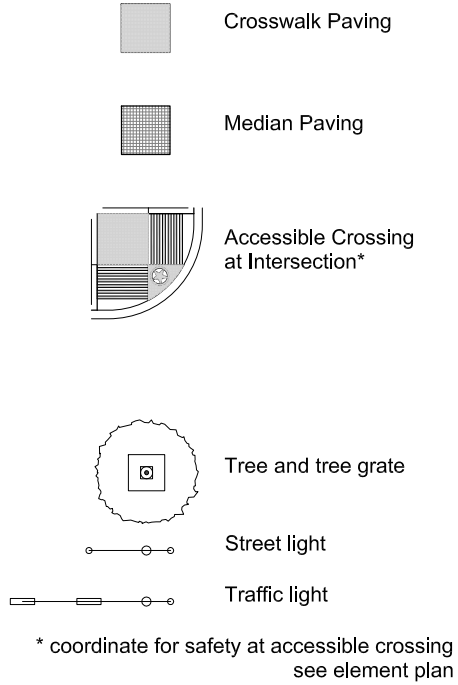
Proposed Bicycle and Local Access Streets include:

Third Street  
Sixth Street (illustrated, with optional parking)  
Eleventh Street (west of Guadalupe Street and east of San Jacinto Boulevard)  
Eighteenth Street  
River/Holly Street  
Henderson Street  
Bowie Street  
West Avenue (south from Sixth Street)  
Nueces Street (with parking)  
Trinity Street (with parking)

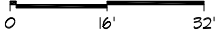
Transit service and accommodation on this street type to be coordinated with Capital Metropolitan Transportation Authority.

For dimensional geometrics of all other streetscape appurtenances, refer to streetscape elements and standards.

### Legend of symbols



STREET PLAN  
BICYCLE AND LOCAL ACCESS STREET

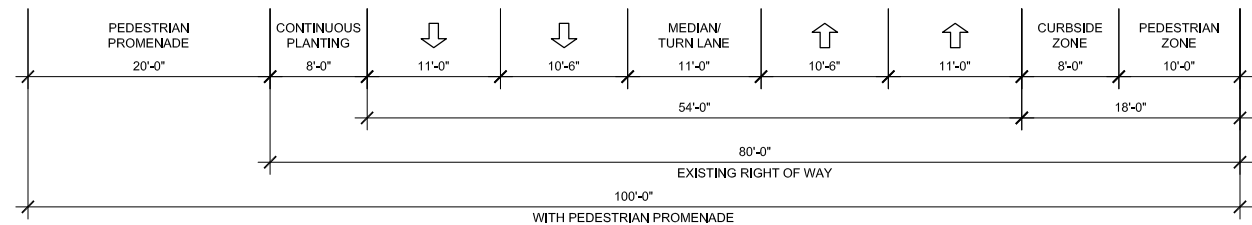
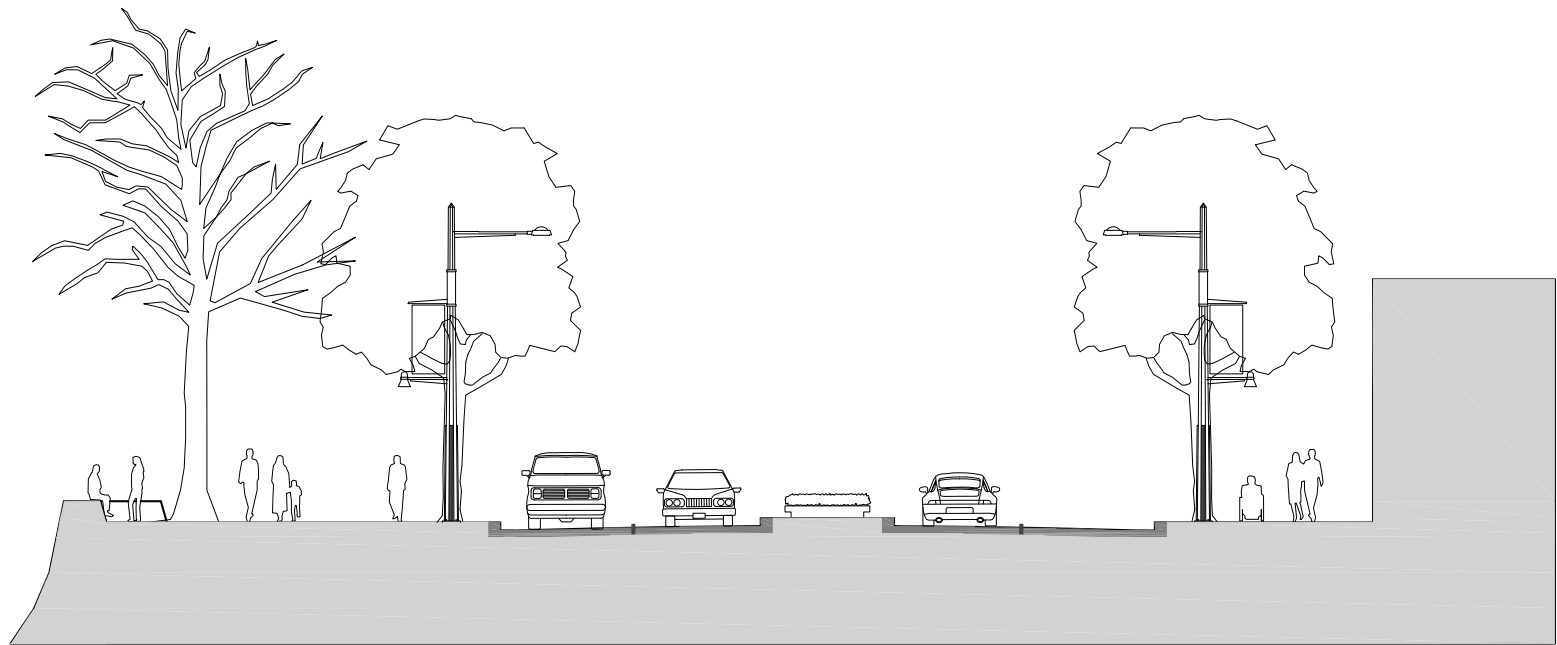


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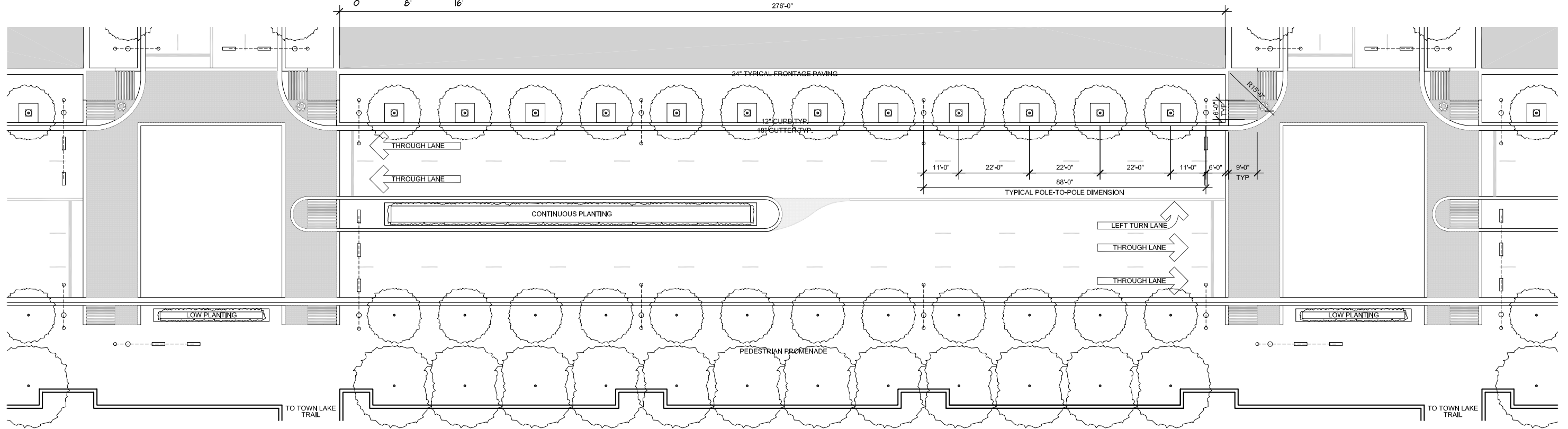
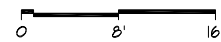
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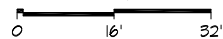




TRANSVERSE STREET SECTION  
COMMUTER BOULEVARD (WEST CESAR CHAVEZ)



STREET PLAN  
COMMUTER BOULEVARD (WEST CESAR CHAVEZ)



## Commuter Boulevard

Commuter Boulevards provide primary vehicular gateways into the downtown. These gateways differ greatly from each other, but are unified by the use of a planted median to provide dedicated left turn lanes and to provide a refuge at pedestrian crossings across the increased curb-to-curb distance. The median dimensions and rights-of-way differ for each street of this type.

West Cesar Chavez Boulevard

As the setting for the future City Hall as well as the new Computer Science Corporation headquarters and several dense residential and mixed-use developments, Cesar Chavez is envisioned as a civic-scaled, divided boulevard that enables and celebrates the connection between downtown Austin and Town Lake. An eighteen-foot sidewalk to the north would border the two-way, four-lane boulevard. The southern edge west of Congress Avenue would become a Town Lake Promenade, a twenty-five to thirty-five-foot wide, bicycle-compatible, major pedestrian way which would continue east of Congress Avenue along Town Lake.

Proposed Commuter Boulevards include:

Cesar Chavez (west from Trinity Street, West Cesar Chavez illustrated)  
Eleventh Street (between Guadalupe Street and San Jacinto Boulevard with two bicycle lanes)  
Twelfth Street (120' ROW, four lanes with parking)  
Fifteenth Street (100' ROW, six lanes)  
Martin Luther King Boulevard (100' ROW, four lanes)  
Red River (north of 12th Street, south of Cesar Chavez)  
Lamar Boulevard

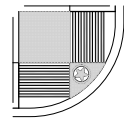
Transit service and accommodation on this street type to be coordinated with Capital Metropolitan Transportation Authority.

For dimensional geometrics of all other streetscape appurtenances, refer to streetscape elements and standards.

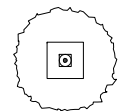
### Legend of symbols



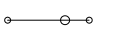
Crosswalk Paving



Accessible Crossing  
at Intersection\*



Tree and tree grate

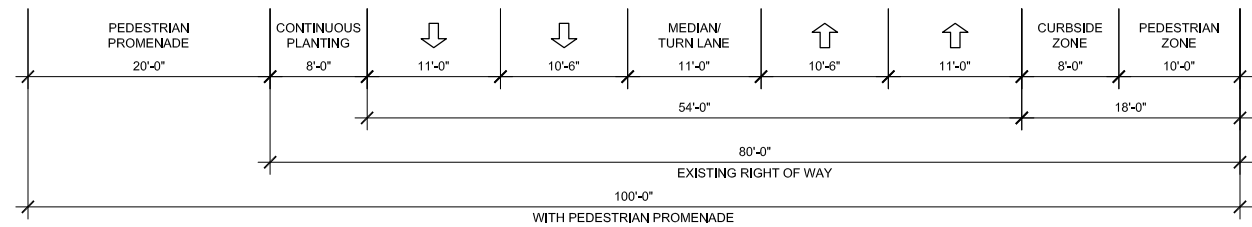


Street light

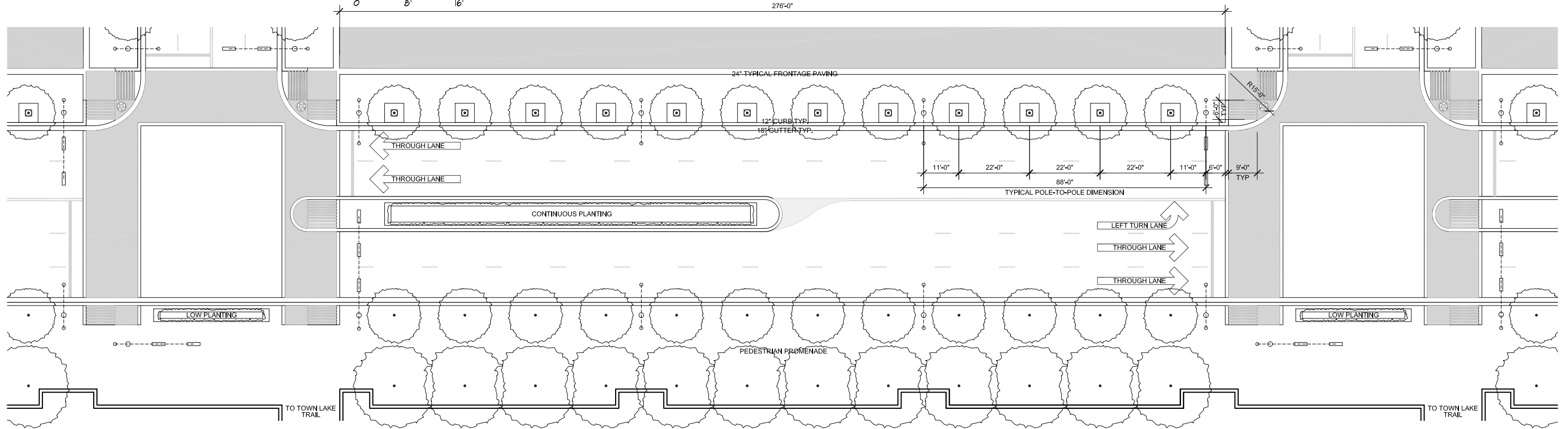


Traffic light

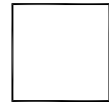
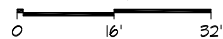
\* coordinate for safety at accessible crossing  
see element plan



TRANSVERSE STREET SECTION  
COMMUTER BOULEVARD (WEST CESAR CHAVEZ)



STREET PLAN  
COMMUTER BOULEVARD (WEST CESAR CHAVEZ)



## Commuter Boulevard

Commuter Boulevards provide primary vehicular gateways into the downtown. These gateways differ greatly from each other, but are unified by the use of a planted median to provide dedicated left turn lanes and to provide a refuge at pedestrian crossings across the increased curb-to-curb distance. The median dimensions and rights-of-way differ for each street of this type.

West Cesar Chavez Boulevard

As the setting for the future City Hall as well as the new Computer Science Corporation headquarters and several dense residential and mixed-use developments, Cesar Chavez is envisioned as a civic-scaled, divided boulevard that enables and celebrates the connection between downtown Austin and Town Lake. An eighteen-foot sidewalk to the north would border the two-way, four-lane boulevard. The southern edge west of Congress Avenue would become a Town Lake Promenade, a twenty-five to thirty-five-foot wide, bicycle-compatible, major pedestrian way which would continue east of Congress Avenue along Town Lake.

Proposed Commuter Boulevards include:

Cesar Chavez (west from Trinity Street, West Cesar Chavez illustrated)  
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Lamar Boulevard

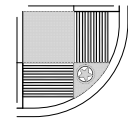
Transit service and accommodation on this street type to be coordinated with Capital Metropolitan Transportation Authority.

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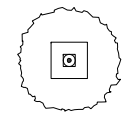
### Legend of symbols



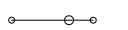
Crosswalk Paving



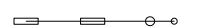
Accessible Crossing at Intersection\*



Tree and tree grate



Street light



Traffic light

\* coordinate for safety at accessible crossing  
see element plan



## Cesar Chavez

Street Type: Commuter Boulevard

Commuter Boulevards provide primary vehicular gateways into downtown Austin. West Cesar Chavez is envisioned as a civic-scaled, divided boulevard that enables and celebrates the connection between downtown Austin and Town Lake. An eighteen foot sidewalk to the north would border the two-way, four-lane boulevard with a planted median. The southern edge of Cesar Chavez, as depicted in this illustration, west of Congress Avenue would become a Town Lake Promenade, a twenty-five to thirty-five foot wide major pedestrian way. This celebrated Pedestrian Promenade is bicycle compatible and is envisioned to continue east, under Congress Avenue, along Town Lake.



Before Image:  
Cesar Chavez looking East from San Antonio Street



## Downtown Great Streets Master Plan

**CESAR CHAVEZ:** Gateway Boulevard with  
Pedestrian Promenade

Architects:  
Black & Vernooy + Kinney & Associates



This Master Plan includes six types based on particular selection criteria, such as the need to study due to timing, or the need to study as a prototype for several other streets. While all streets in the study area, not just the types selected, have been mentioned by the Master Plan, not all are fully addressed. The nature of numerous streets is so unique as to deserve individual “types.” The following elaborations on select streets within the study area focuses attention on opportunities for further consideration beyond the fundamental information contained in the given six types.

### **Martin Luther King Boulevard**

MLK Boulevard is one of central Austin’s most important streets and was selected as the northern boundary of the Great Streets Master Plan. This street connects East Austin into central Austin, serves as a major distributor of traffic from IH 35. MLK is also the southern edge of the University of Texas and the northern edge of the State Government zone. For these reasons, it is a very important symbolic as well as very functional street.

Additionally, the grid of the downtown area stops at MLK and either disappears or shifts to re-connect to the grid of the University area. Historically, this shift has created traffic problems. The complex and difficult vehicle movements in turn have created a very hostile pedestrian environment, particularly at the intersection of MLK and Guadalupe.

The 100-foot right-of-way allows some flexibility in seeking Great Street status. The pervasive feeling of chaos could be eliminated with a planted median with protected left turns. The pavement area can be rationalized, narrowed, and defined to “civilize” the traffic movement, which is the only way to re-introduce an environment that will accommodate pedestrians. The objective of a redesign of MLK should be to eliminate the barrier that the street represents presently.

### **15<sup>th</sup> Street**

15<sup>th</sup> Street/Enfield Road serves as the major connection from the west into central Austin. MLK dead-ends at Lamar on its western end, and 15<sup>th</sup> dead-ends at IH 35 on its east end.

15<sup>th</sup> Street is probably the best Great Street we have under the existing conditions within the Master Plan area. It does its difficult job well, providing a huge capacity for traffic that behaves in a very civilized manner due to the appropriate design of the right-of-way.

15<sup>th</sup> is a “manifold” street, distributing traffic into the rational grid at every intersection with protected left turns and a third lane to accommodate pregnant right turns.

Improvements to 15<sup>th</sup> Street would seem to be in the areas of: better planting and maintenance of the existing median, improvements to the sidewalk along its length, provision of clear crosswalks for pedestrian movements at every intersection. The latter should be accomplished with pavers to create a change of texture and material.

### **Congress Avenue**

Congress Avenue is, and must remain, the most important and most symbolic street in Austin (even in Texas for that matter.) It is the primary pedestrian territory and also serves as a linear transit interchange for the Capitol Metro bus system.

Changes to the street should wait until the larger questions surrounding the

# STREET TYPOLOGY AND MASTER PLAN

## OTHER STREET TYPES

regional transportation systems are clear. Will Congress Avenue continue to be the Capitol Metro transit exchange street? Will the buses move to other streets or will the transit center role be shifted to a place rather than a linear street? If and when light rail is built, where will the corridors be and how will those divisions affect traffic, bus operations, etc? And finally, how would all that impact the potential of Congress Avenue?

No modifications should be undertaken that would inhibit its role for public parades. Previous sidewalk improvements have created a pretty good street that needs little to become what it should be as the Main Street of Texas.

### **Congress Avenue Bridge and South Congress Avenue**

South Congress Avenue became an early strip development as automobiles allowed businesses to leave downtown starting in the 1930s. Today, the remaining buildings are being adapted to current uses and creating a new vitality as well as significant traffic and parking problems.

In the long term, South Congress Avenue should be considered a re-development corridor that encourages mixed-use medium density housing, retail vitality, all served by structural parking and eventually by light rail.

The South Congress Avenue Bridge is a significant gateway into downtown. The experience of moving across Town Lake with long distance views up and down the lake and arriving instantly in an increasingly dense central city is dramatic and memorable. The bridge, however, is a barren, wide, open, undefined non-experience in a car and much worse for the poor pedestrian. Preliminary plans have been developed to widen the sidewalks, create shaded balconies, periodically introduce more pedestrian scaled lighting and planting, all of which is intended to civilize the pedestrian experience of the bridge.

### **Lamar Boulevard**

Lamar Boulevard is the western boundary of the area defined as downtown, the eastern boundary of central Austin neighborhoods, and the limit of the Great Streets Master Plan area. Lamar carries more north/south traffic than any other non-freeway. It is also the focus of considerable new commercial and dense residential development.

Historically, the building and parking pattern on the street from Town Lake to 12<sup>th</sup> Street can be characterized as small, stand alone, auto-dependent, service retail, in the form of early strip development. This pattern is changing (as witnessed by recent and planned projects from 5<sup>th</sup> to 9<sup>th</sup> streets), clearly indicating the need for a separate study.

Enhancing the pedestrian/retail environment will ultimately require the elimination of curb cuts and universal left turns. These changes will also require a new “corridor development” pattern, that is mixed-use, dense, with street retail and structured parking.

5<sup>th</sup> and 6<sup>th</sup> Streets at Lamar create what is arguably the most difficult traffic management problem in central Austin. The area has been the subject of numerous traffic studies, some recommending tunnels, some underpasses, and some re-locating the traffic to others streets, as in 3<sup>rd</sup> and 4<sup>th</sup> Streets and/or Cesar Chavez. The construction solutions have probably been eliminated by development projects in the area and the shifting of traffic to someone else’s backyard is probably politically unrealistic. Making what we have on the ground function is probably the only realistic strategy

open at this time.

The Great Streets team envisions 5<sup>th</sup> and 6<sup>th</sup> Streets as two-way streets with 5<sup>th</sup> carrying two-thirds of the traffic presently carried by both streets in the AM and the PM. In other words, and eastbound 6<sup>th</sup> Street would carry one-third of current AM traffic on 5<sup>th</sup> Street, and a westbound 5<sup>th</sup> Street would carry two-thirds of the current PM traffic on 6<sup>th</sup> Street.

### **North Lakeshore Boulevard**

Austin is blessed with many things: UT, climate, hills, treecover, the capitol, etc. But the most powerful physical asset is the Colorado River, and for downtown, the portion known as Town Lake. The 6.2 mile-long lake has 12.5 miles of shoreline, most of which is mostly visually and physically inaccessible to Austinites as we move around the city on a daily basis. The lake presents itself from vehicular bridges (four bridges, or ½ mile) that cross north/south, from Cesar Chavez west of Congress Avenue, from the Pfluger Pedestrian/Bicycle Bridge, from Riverside Drive occasionally, and from South Lake Shore Boulevard at the extreme eastern end of the lake. Therefore, only a small percentage of the 12.5 miles is visually accessible from our public street system.

Great Cities of the world reveal their lakes and parks to through public edges. This is usually done with riverside drives, lakeshore drives, the streets that define, reveal, and provide access to the amenity such as Central Park in New York City, etc. The Great Street team feels that Red River Street should be extended south of Cesar Chavez to Town Lake and east to Pleasant Valley Road at Longhorn Dam. Such a public space, or “North Lakeshore Drive”, would more than double current access to Town Lake. The first element of this new edge is within the Great Streets Master Plan area, from Cesar Chavez to IH 35.

Such a Lakeshore Boulevard would provide access to Town Lake, security that comes with “eyes on the street,” an important address for the new Mexican-American Cultural Center, another reason to remove Holly Street Power Plant, and finally a scenic drive to and from the new airport.

### **The Guadalupe/Lavaca connection to South First Street Bridge**

The recommendation to connect Guadalupe and Lavaca to two-way streets will require a special study of the “Y” at the north end of the South First (Drake) Bridge. Until the “Y” can be reconfigured as a traffic circle, Guadalupe and Lavaca cannot be converted to two-way operations. The compelling vision of a traffic circle at this location includes pedestrian crosswalks leading to the grand pedestrian promenade envisioned for the north edge of Town Lake (see West Cesar Chavez commuter boulevard type.)

### **Pedestrian/Bicycle Bridges at 11<sup>th</sup> across Shoal Creek, and 18<sup>th</sup> across Waller Creek**

The Great Streets Consultant Team recommends 18<sup>th</sup> Street be designated an east-west bike route since traffic is so heavy on MLK Boulevard. Utilizing the existing pedestrian bridge (originally a vehicular bridge) across Waller Creek would provide a safe and graceful connection to the bike routes contemplated for Red River, as well as a connection directly to the trail on Waller Creek.

It is recommended that the existing bike lanes on 11<sup>th</sup> Street be extended east into East Austin, and west to Lamar Boulevard. A new bridge at Shoal



# STREET TYPOLOGY AND MASTER PLAN

## OTHER STREET TYPES

Creek would also connect to the Shoal Creek Hike and Bike Corridor.

### **The Drag and West Campus Streets (outside the Master Plan study area)**

The “Guadalupe Street Streetscape Improvements” project will reinvent the Drag as a Great Street between 21<sup>st</sup> and 24<sup>th</sup> Streets at the very doorstep of the University of Texas. A new project, 23<sup>rd</sup> Street from the Drag west to Rio Grande Street, creates a significant new linkage system. The west campus area should be considered for a separate Great Streets Master Plan.

A number of new proposed developments in west campus create the opportunity for public/private cooperation to implement Great Street throughout the neighborhood. Stakeholders in West Campus have for many years contemplated the return to two-way streets and now downtown can serve as a positive model.

As with the Great Streets plan downtown, the timely completion of a master plan to guide the investments will be critical to the ultimate accomplishment of Great Streets.

### **Palm Park and Sabine Street**

Once the Palm School was lost and the park cut off from East Austin by IH 35, Palm Park has deteriorated into an underutilized and sometimes dangerous place. Sabine Street has been compromised by changes to increase parking to the point where it has become a liability to rather than a catalyst for the revitalization of the Waller Creek corridor. The Great Streets team recommends that Sabine Street be opened up as a two-lane, two-way street from 7<sup>th</sup> Street south to Cesar Chavez, with potential connection south across Cesar Chavez to Rainey Street. Additionally, 2<sup>nd</sup> and 3<sup>rd</sup> Street should be built over IH 35 and through Palm Park to provide access to the east side of the Convention Center. This improved access to the Center will keep service/delivery truck traffic off of Cesar Chavez, 4<sup>th</sup>, 5<sup>th</sup>, and 6<sup>th</sup> Streets.

The re-allocation of Palm Park land should be looked at as part of the future development of the Waller Creek corridor.

### **Interstate Highway 35**

The vision for IH 35 developed by the Downtown Austin Alliance has been embraced by nearly everyone as a way of eliminating the barrier that IH 35 has become between East Austin and the rest of Downtown Austin. Two of the critical aspects of the concept are to build back the missing bridges over the depressed main lanes, and to consider the “access roads” as urban boulevards that take a key role in the street grid system. They collect and distribute the traffic from the freeway into the city and from the grid back onto the freeway.

The urban boulevard system is envisioned by the Great Streets team as one-way north on the east side and one-way south on the west. Each boulevard would be heavily landscaped on the freeway edge with wide, tree-shaded sidewalks where the boulevard meets the city. This vision is intended to support dense mixed-use development along the corridor by reducing noise, and calming the traffic as it enters the city street system. A viable urban boulevard system would encourage the usage of the existing grid systems of downtown.

The Master Plans for Great Streets consist of two 2025 Plans and an interim 2005 Plan. Conceptually, this 2005 Plan was considered the low-cost, achievable, first step toward the 2025 Plan, or ultimate build-out. The 2025 Plans are intended to display the ultimate accomplishment of the Downtown Great Streets Master Plan. Two versions of this final plan develop the Great Streets scenario throughout the study area.

### **2025 Diagrammatic Plan**

The 2025 Diagrammatic Plan that color-codes the streets by type. The six basic types and the numerous variations of them are applied to nearly every street within the boundaries of the study. Consideration is also given to the impact of the plan on the boundary streets of the study area and to those major streets that continue beyond the study area.

### **2025 Great Streets Illustrative Plan**

The second 2025 Plan, the 2025 Great Streets Illustrative Plan, provides a visual image of the ultimate build-out. It displays streets, sidewalks, trees new streets, street parking in the context of the existing grid and buildings. This drawing, along with the three perspective drawings of proposed streetscapes, is intended to create and carry forward the Great Streets vision. The sample included here shows a portion of the overall plan, focusing on Second Street and the City Hall District, currently under development.

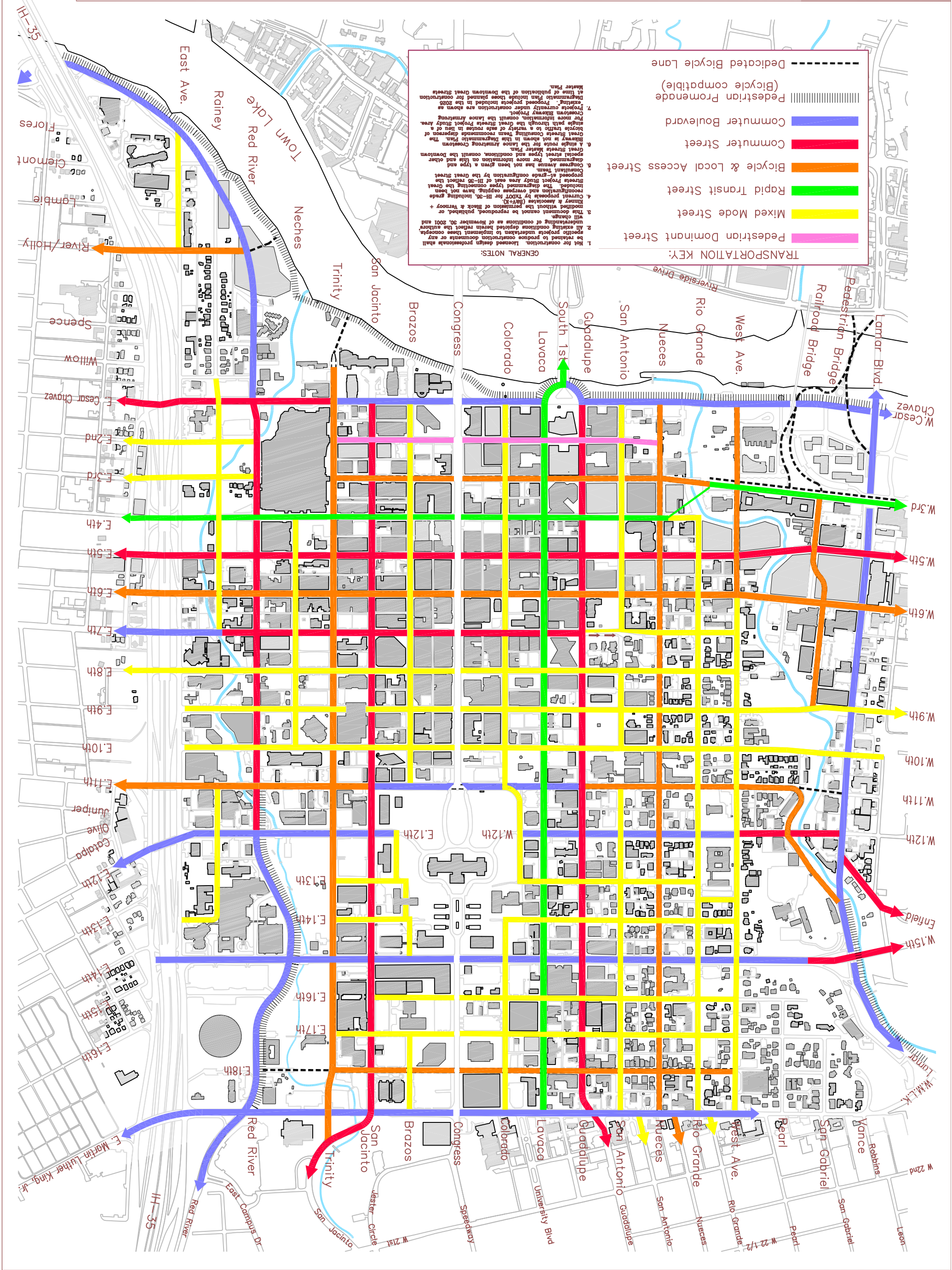
### **2005 Interim Diagrammatic Plan**

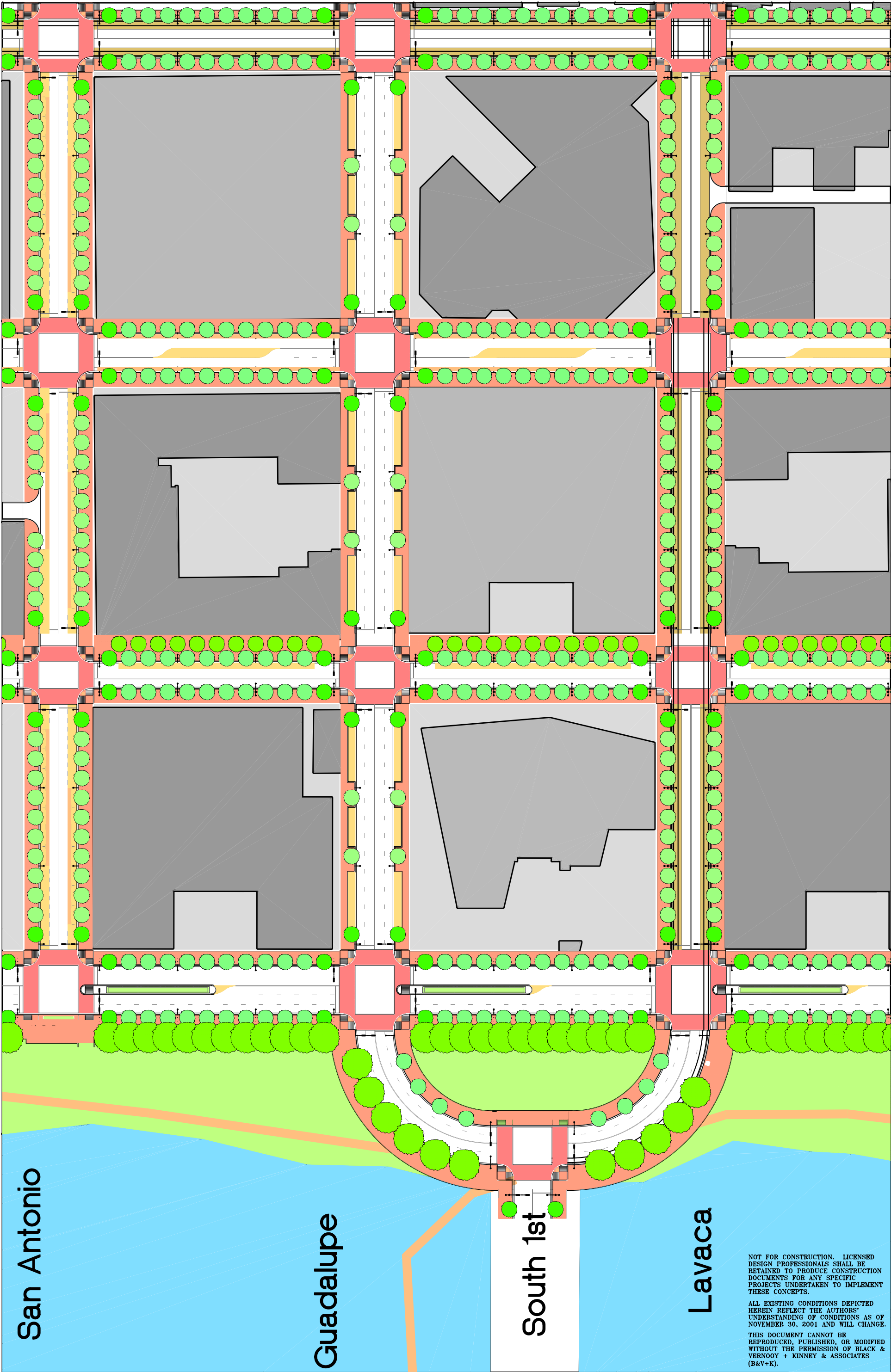
With very few exceptions or changes motivated by other issues and other projects, the changes indicated by the 2005 Diagrammatic Plan are limited to altering traffic signals, signs, and the painted lanes on the street itself. This will allow for significant difference at a minimum capital cost by 2005, while setting the stage for full implementation thereafter. The 2005 Plan is to be used as the basis for the computer modeling of future downtown traffic. This plan was used to set the template for vehicular traffic within the boundaries of the study area. The intent was to display preliminary changes to traffic that would be required in order to accomplish the other goals of Great Streets. This plan then became the basis of the Great Streets Scenario for traffic modeling conducted as a part of the Downtown Access and Mobility Plan carried out by Wilbur Smith & Associates.

The 2005 Plan shows all streets in downtown as two-way streets with certain notable exceptions: 5<sup>th</sup> /6<sup>th</sup> Streets and Guadalupe/Lavaca Streets (each pair considered “one-way couples”), the IH 35 Frontage Roads, and one short section of 7<sup>th</sup> Street between Guadalupe and San Antonio. The long-term goal for the “one-way couples” to also become two-way streets was considered too difficult to achieve in the five-year time frame.



GREAT STREETS 2025 YEAR PLAN





# GREAT STREETS 2025 YEAR PLAN

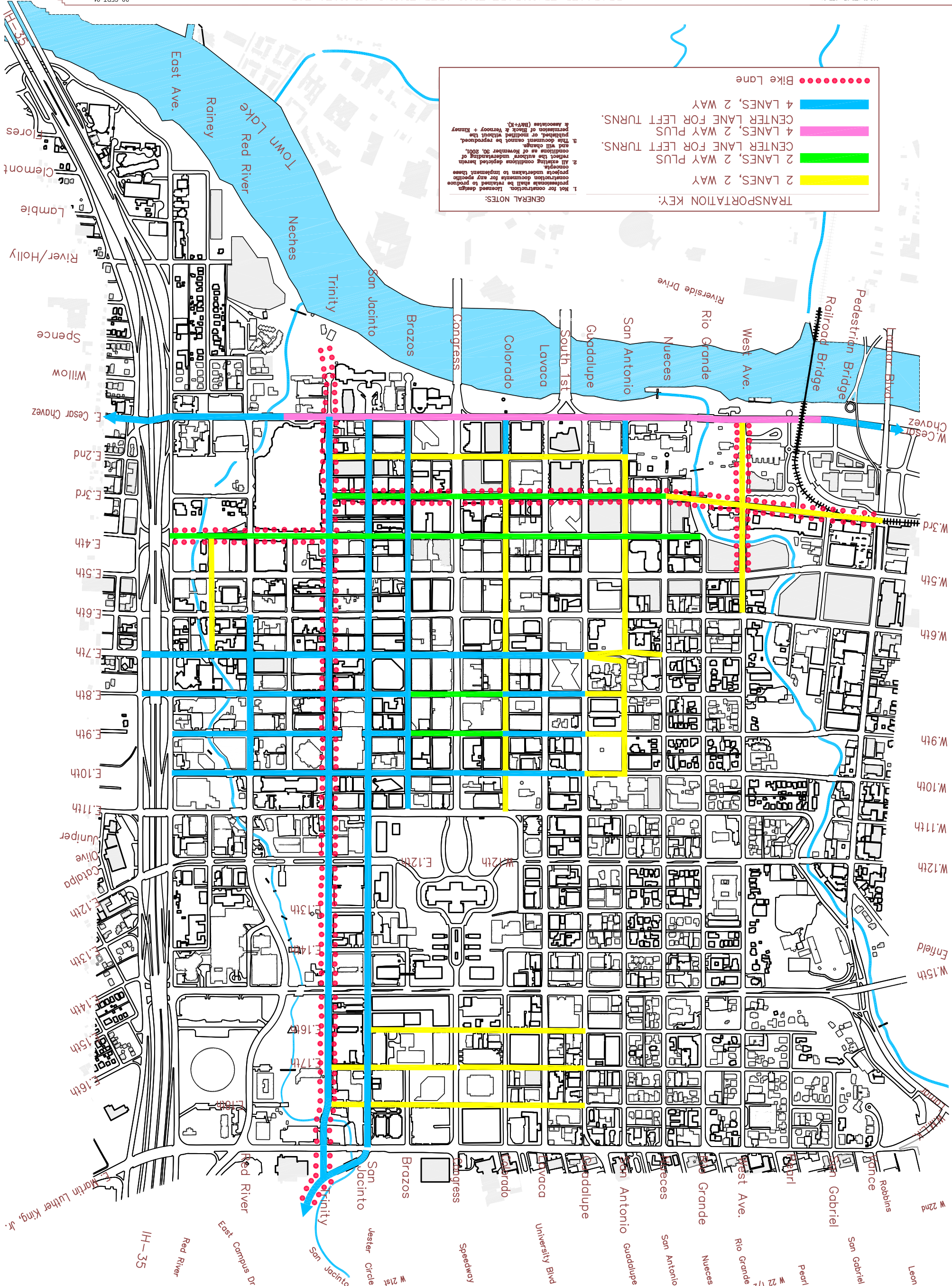
AREA DISPLAYED IS SAN ANTONIO TO LAVACA AND CESAR CHAVEZ TO FOURTH

11 JANUARY 2002  
Drawn by: MJS

KINNEY & ASSOCIATES  
1008 EAST 6th STREET  
AUSTIN, TEXAS 78702

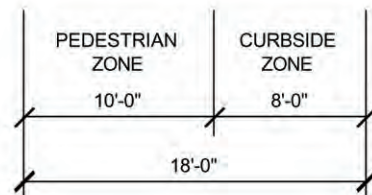
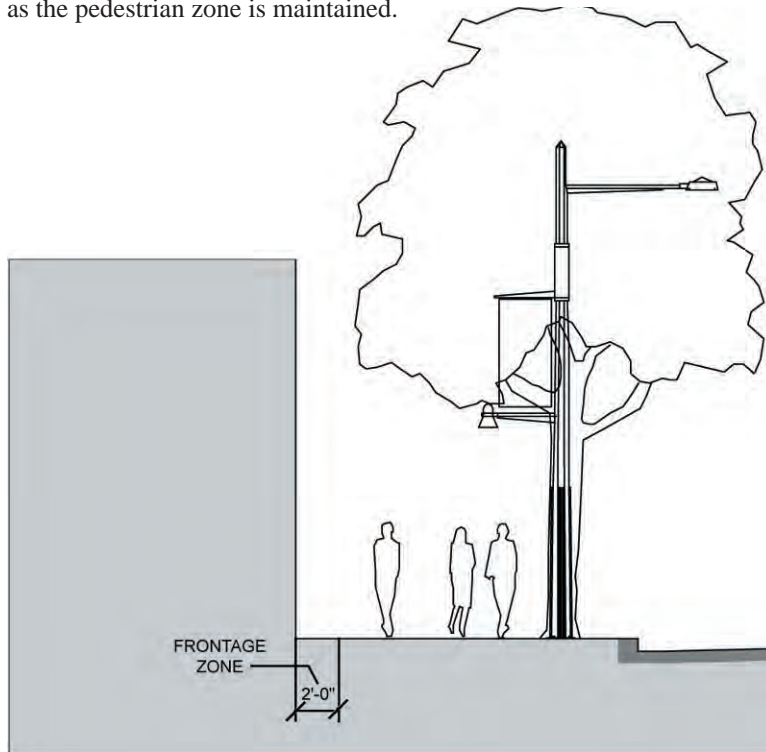


1. Not for construction professionals shall be retained to produce construction documents for any specific concept under taken to implement these
2. reflect the author's understanding of all conditions depicted herein
3. and will change. This document cannot be reproduced, published, or modified without the permission of Black & Veorny & Kinney & Associates (B&V-K).



Each object that occupies space in the street, defines the boundaries of zones within the street, or is made use of within the street, can be described as an element. While the Great Streets typology explains the variety of street types according to the intended use of each street, each type serves as host to a complement of street furnishings and appurtenances. These elements are the building blocks, the “DNA,” of the streetscape.

The Great Streets Typology creates a new and more equitable balance within the overall public right-of-way between the street and the sidewalk. Virtually all sidewalks in downtown Austin are currently a maximum of ten feet wide. A goal of the Great Streets Master Plan is to establish the new standard of an eighteen-foot wide sidewalk. The expanded square footage of the sidewalk allows for the flexible placement of most of the elements. The sidewalk corridor itself has three distinct zones: the curbside zone, the pedestrian zone, and the frontage zone (located within the pedestrian zone.) The curbside zone buffers pedestrians from the adjacent roadway, and is also the area where elements such as street trees, light poles, and street furniture are properly located. The pedestrian zone is the area intended for pedestrian travel and should be entirely free of permanent as well as temporary objects. The frontage zone within the pedestrian zone occurs adjacent to the property line. This allows pedestrians a comfortable “shy” distance from the building fronts, and also provides a place for private, temporary uses such as sidewalk cafes (where allowed by code) as long as the pedestrian zone is maintained.



Typical sidewalk section showing three “zones”



Photos: Dixon, John Morris, FAIA, ed. *Urban Spaces*. New York: Visual Reference Publications, 1999.



# STREETSCAPE ELEMENTS AND STANDARDS

## INTRODUCTION

A wide variety of streetscape elements constitute and enliven the street. The elements providing the location and dimensional relationships of integral aspects of a street, such as the through-pedestrian crosswalks and accessible ramps, can be described as building blocks, or the basic street DNA. Furnishings of the street, including benches, waste receptacles, newspaper racks, and information kiosks, can be described as pieces that are positioned on different streets in different ways.

The street DNA and furnishings described in this chapter are organized into categories of elements: streetscape planting and accessories (trees and tree-related equipment), streetscape amenities (furniture, fixtures, and other equipment), and paved surfaces. Each of these categories contains numerous families, such as a family of streetlight poles and fixtures. Each element within a family is described by purpose, relative location, installation, maintenance, and manufacturer, where applicable.

The philosophy behind each of the three streetscape elements categories relates to the presence, the use, and the permanence of each street element. Elements should be viewed as a permanent investment and should in all cases be supported by a vigorous maintenance program. This need for maintenance is especially true for the trees. Many elements are to be custom-designed, and some represent opportunities to incorporate public art.

### Streetscape Planting and Accessories

*For more information concerning Streetscape Planting and Accessories, refer to:*

Trees

5-6

Structural Soil

5-16

Irrigation System

5-18

Tree Grates

5-20

Austin's unique character is derived from its relationship with the natural environment of the Hill Country, the Highland Lakes, and the abundance of trees. In the city, trees provide a connection to nature that has the ability to uplift the human spirit. These trees grace our neighborhoods, but they are lacking on our downtown sidewalks. The Town Lake Comprehensive Plan identified the need to establish "green fingers" of trees along the streets leading into downtown. It highlighted Cesar Chavez Boulevard in particular as an opportunity to create a green promenade along the lake front.

Street trees increase the desirability of pedestrian activity, enhance the civic status of the street, and increase adjacent property values. Trees mitigate the urban heat island by reducing air temperatures. They also produce cleaner air quality by reducing smog levels. Along with the overall width of the street, trees are a primary element in providing a sense of safe separation from traffic. They define the boundary between the pedestrian realm and the vehicular realm as well as reduce the impacts of the volume and the speed of traffic. Street trees also provide tranquility to the street, slowing the pace and intensity of street activity, enhancing the well-being of pedestrians and motorists. According to a recent study, consumers respond positively to shopping environments with a healthy urban forest. American Forests, a national tree nonprofit suggests a goal of 15% tree canopy in business districts. Trees, therefore, are indispensable to the attractiveness, comfort and safety of street design. They should be considered a part of the infrastructure with high attention paid to the conditions in which they are planted and to long term maintenance. A landscape architect with experience in urban street tree design can provide valuable technical assistance.

## Streetscape Amenities

Amenities are the objects of the street beyond those associated with street trees and planting. Every item available for use within the public right-of-way can be thought of as an amenity, or a functional item which enhances the experience of the pedestrian. It is important to remember that even street elements should follow the transportation mode hierarchy adopted as public policy by the City Council giving highest priority to pedestrian travel, then transit use, bicycle use, and lastly automobile use. Important too, is the fact that all commuters, regardless of mode, become pedestrians at some point downtown.

The first family of streetscape amenities is the system of streetlight poles and fixtures. This system achieves the goal of regulating the location and distribution of light on downtown streets through the design of a pole that accommodates streetlights, pedestrian or sidewalk lights, as well as standard traffic signals. The custom pole and fixtures are a “kit-of-parts” that combine to form a complete pole and replace the current proliferation of public lighting fixtures and systems in the study area.

In addition to the lighting requirements of the light pole system, light poles are also designed to accommodate a myriad of accessories, including banners, decorations, street signs, transit signs, and other items. Well-designed banners can enliven and enrich the public environment with color and movement as well as supplying much-needed information on a day-to-day basis. Seasonal decorations, such as the Christmastime decorations on Congress Avenue, create a sense of community and a memorable common experience. The banner program should be highly coordinated with regard to design, timing, and information. Banners should be available to civic groups, non-profits, special events, and not available for routine advertising. The banner and decorations program could grow in significance over time. Ideally, a non-profit central business district management entity should administer the program.

Utilities within the public right-of-way, another family of amenities, include manholes, fire hydrants, meters, traffic control devices, and transformer vaults. While these are not integral to the experience of the pedestrian, they serve an important “behind-the-scenes” role for the use and maintenance of the street. These elements should be viewed as opportunities for public art.

While trees provide both a physical and psychological presence to the street, a family of building awnings and other shading devices attached to buildings can also help to protect the street. The integration of such awnings with street plantings is critical.

Numerous pieces of street furniture are intended specifically for pedestrian use, and act as the most significant “amenities” for the pedestrian. This family of fixtures include waste receptacles, drinking fountains, benches, signage kiosks, and newspaper vending areas. The presence of these furnishings accommodates peoples’ use of the street in ways other than movement. Other street amenities intended to serve pedestrians as well as the other modes of traffic include transit shelters, bicycle racks, and parking meters. The design of these items also must contribute to the pedestrian experience.

Paver Grates

5-22

Tree Protection

5-24

Planters

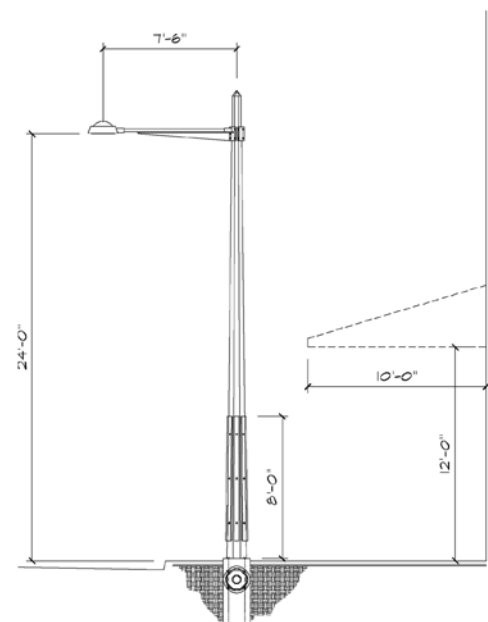
5-26

*For more information concerning Streetscape Amenities, refer to:*

Light Pole Systems

5-28

Utility Appurtenances



Typical streetlight pole and awning

# STREETSCAPE ELEMENTS AND STANDARDS

## INTRODUCTION



A street becomes a *place* and a *space* only when people interact and spend time there. The clearest signal of urban life and vitality is the active sidewalk cafe. Austin is blessed with a very mild climate and more than 250 days of sunshine per year, and is already known as a city of “outdoor activity.” Sidewalk cafes, like other street fixtures, are intended for pedestrian use, but also encourage riders to become pedestrians. Whether comprised of a few tables located in the narrow frontage zone or a fully protected area beneath the trees on a wide pedestrian dominant street sidewalk, this sidewalk cafe family broadens the overall pedestrian experience of a streetscape.



Other moveable or temporary elements that encourage street life and therefore need consideration are vending carts for flowers, food and books. Portable vending carts, located away from intersections at midblock, require storage and after-hour security, which necessitates their coordination with adjacent or nearby business owners. The family of carts and kiosks contributes greatly to the atmosphere and vitality of the street.

### Paved Surfaces

Everything underfoot within the street is hardscape. The most pervasive element, streetscape paving, requires the most maintenance and upkeep, but like the “yellow-brick road” of Oz contributes one of the most lasting impressions of a well-planned street environment. Varying colors and textures create clear distinctions and visual coherence, and therefore contribute to safety within the public right-of-way.

Paved surfaces can be thought of in three general families, or areas: the sidewalk area, the curb-to-curb area or street itself, and the intersection of the two. Different users exist for the sidewalk and the street: the pedestrian and automobile (as well as transit vehicle and bicycle.) The role of the intersection is to safely manage the interaction of the two. All intersections are considered “pedestrian dominant.”

The goal of Great Streets is to provide continuity of the pedestrian experience and articulate the street in block-length segments, signaled by changes in paving. Paved surfaces that should be distinct from each other through the careful use of color and texture include the following areas:

- Sidewalk segments between intersections
- Accessible ramps at intersections
- The crosswalk, or the defined path across street traffic lanes, extending onto the sidewalk to the building property line
- Street segments between intersections
- The Safe Zone, or the outer edge of on-street parallel parking
- Bicycle lanes, or lanes defined for bicycle use on some streets
- Curbs and edges, or the standard curb between sidewalk and street, as well as flat curbs that hold and define paved areas

Paved surfaces are intended to achieve coherence through integral and permanent distinctions rather than temporary designations.

5-30	Waste and Recycling Receptacles
5-32	Drinking Fountains
5-34	Benches and Chairs
5-36	Newsracks
5-38	Signage Kiosks
5-39	Transit Shelters and Bus Stops
5-40	Bicycle Racks
5-42	Parking Meters and Signage
5-44	

*For more information concerning Street Hardscape, refer to:*

Sidewalk Paving	5-45
Intersection Paving	5-47
Street Paving	5-49



## Opportunities for Public Art

Public art creates a sense of place, becoming “place makers” in our memories and often in our affections. These place makers humanize new development in our built environment and create a sense of future value for neglected older environments. This value is based on association with images that are powerful enough to leave a lasting imprint. Place makers restore a sense of belonging within a distinct and unique community. Public art strengthens a community’s identity, affirms its pride, and helps to explain the origins, values, and, consequently, the definition of the community itself. It also can facilitate way-finding, and provide an opportunity for local artists and artisans to have a “hands-on” effect on the built environment downtown.

Implicit in the vision of Austin streets being transformed into great public spaces is the opportunity to establish continuity between past, present, and future, in part through public art. Art creates beauty, arouses wonder, stimulates imagination, and lifts the spirit. A street identity that is inspired by the texture, character, and diversity of the community serves to satisfy appetites for exciting and provocative sensory experiences. Downtown Austin Great Streets should challenge mediocrity with public art that respects and reflects the history, culture, and character of each district.

Potential public art projects can occur on public property or remain visible to the public from private property. Potential projects on public property can be incorporated into the city’s streetscape and construction projects for transportation and streetscape improvements in the public right-of-way. Numerous streetscape elements may be designed and in some cases constructed by local artists or artisans. Opportunities include the design of a unique bench or chair, or the creation of custom manhole covers for the entire district. Often, small artistic gestures create true place makers, such as art or signage embedded in the curb or sidewalk offering visual relief as well as indicating parking zones and fire zones.



# STREETSCAPE ELEMENTS AND STANDARDS

## STREETSCAPE PLANTING AND ACCESSORIES - TREES

### Downtown Tree Patterns

#### Historic Tree Presence

A map of downtown Austin from 1887 indicates trees lined the streets, especially in residential neighborhoods, defining pathways and edges of city blocks. With the change in scale and density of the downtown landscape over time, the paradigm of automobile supremacy reduced the size of the sidewalks and the corresponding amount of downtown trees and lessened the quality of the environment for the pedestrian. Today, reflecting on this historic vision, the Great Streets Master Plan accommodates pedestrians in a more humane manner with widened sidewalks and the addition of street trees, reconnecting Austin's inhabitants to Austin's greenbelt and the surrounding Hill Country. Trees, offering shade in Austin's hot climate, can also stand as landmarks that create contemporary meeting places and historical markers of the city's past.



#### Street Tree Grid Pattern

The Master Plan recommends the establishment of a clear pattern and orientation to street tree planting. While recognizing the need for regional diversity in the species of trees, visual unity requires consistency and restraint in the number of tree types employed. Repetitive uses of species can give a sense of place. The aesthetic integrity of single tree types can create linkages within the street grid. Clarity can be achieved on a downtown-wide basis through a pattern of different tree types that recognize differences in geometry, orientation, light, and function. In downtown Austin, certain tree patterns have been established that respond to microclimate and building shadow patterns. Deciduous trees provide welcome shade in summer, while allowing the warmth of the winter sun.



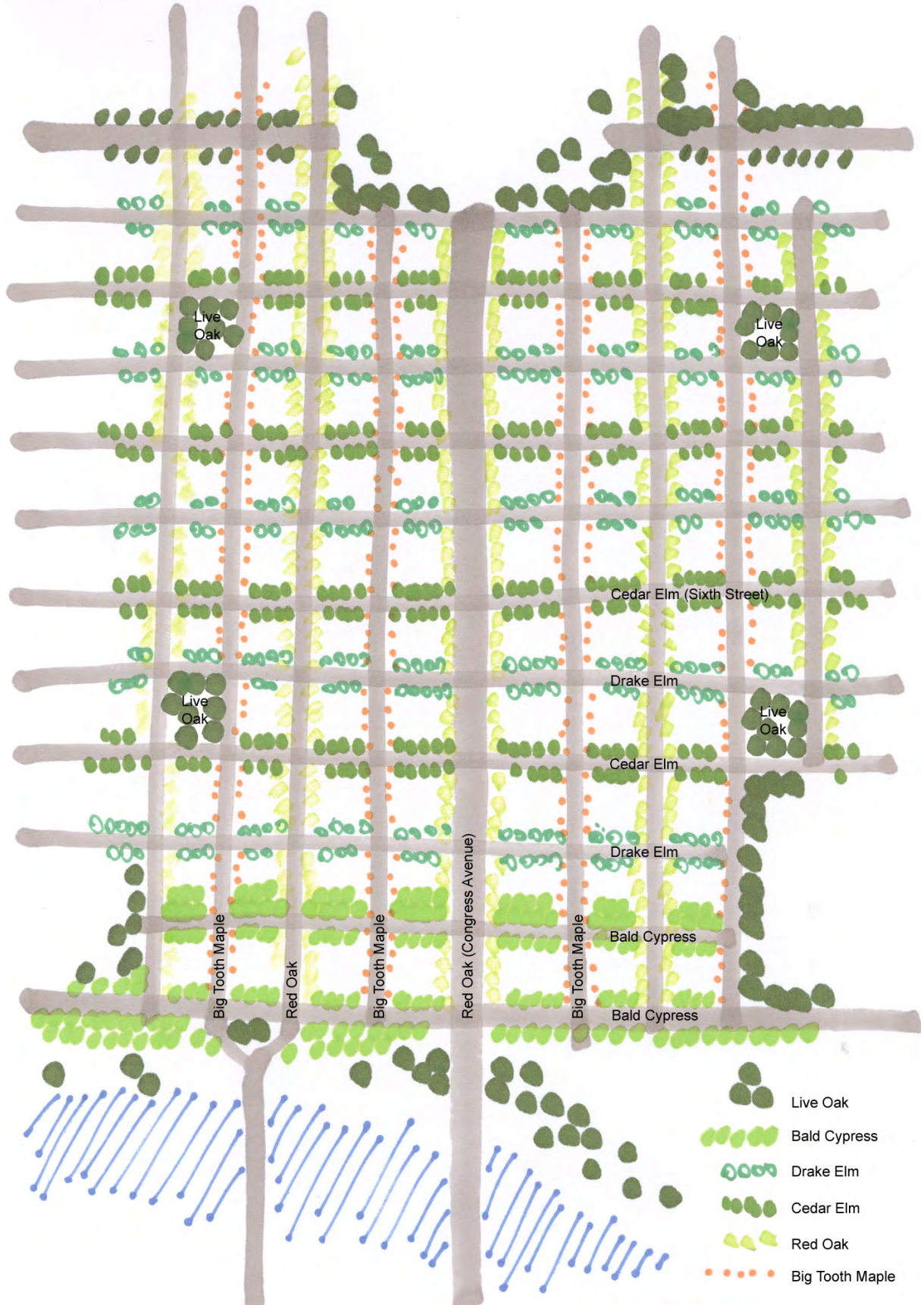
The proposed pattern calls for alternating tree types every other street throughout the street grid. Trees on north and southbound streets should reflect the symmetrical light conditions, while trees on east and westbound streets should respond to the shadow conditions on the south side of the street and the full sun conditions on the north side of the street. On north-south streets deciduous trees with bold, fall color could take advantage of the early morning and late afternoon light. On east-west streets, trees need to be able to adapt to varying conditions. The pattern also calls for use of special trees to recognize districts.

Currently, the beginnings of a deciduous street tree pattern are present. On Congress Avenue, deciduous Red Oaks line the north-south street, reflecting the symmetrical light conditions. On Sixth Street, running east to west, deciduous Cedar Elms respond to both the shadow and full sun conditions. The Master Plan proposes to continue these patterns throughout downtown, while adding some variety into the downtown palette. Alternating north-south streets could be planted with Big Tooth Maple for a contrast in fall foliage color. Alternating east-west streets could be planted with Drake Elm. Special districts, such as the City Hall District along the north side of Second Street, may require a unique visual statement such as Bald Cypress, which symbolizes the Colorado River only a block away. Some conditions may warrant the use of evergreen trees. Live Oaks used as street trees on Cesar Chavez carry the theme of Town Lake Park across the street into downtown. Live Oaks are also used in the Four Squares and at the State Capitol. Additionally, Live Oaks could provide a continuous evergreen screen to parking garages with no retail activity at street level, such as the state parking garage complex in the northeast sector.



# STREETSCAPE ELEMENTS AND STANDARDS

## STREETSCAPE PLANTING AND ACCESSORIES - TREES



Sketch indicating alternating street tree grid pattern throughout downtown



# STREETSCAPE ELEMENTS AND STANDARDS

## STREETSCAPE PLANTING AND ACCESSORIES - TREES

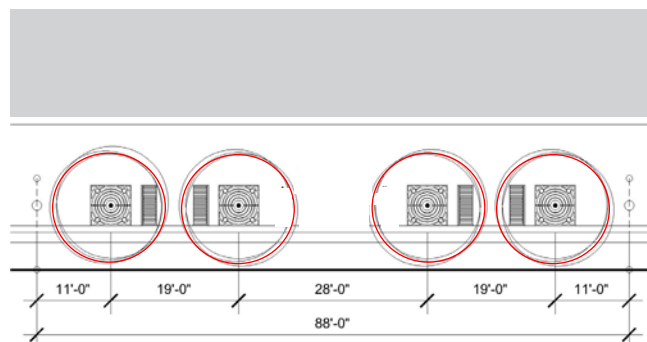
### Street Tree Arrangements

#### Standard Recommendation:

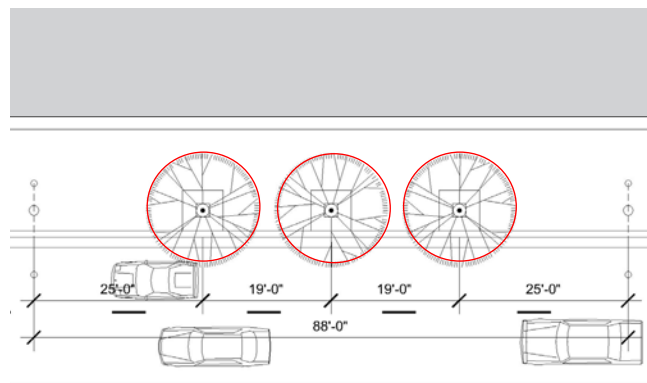
- Single Row of Trees: The recommended standard street tree arrangement in this Master Plan calls for a single row of trees spaced at 22'-0" on center to integrate with the recommended streetlight pole placement. Trees are located to prevent the contact of a car door with a tree, to work with the spacing of the standard light poles, and to provide room for the canopy to grow. (See element plans)

#### Alternate Recommendation:

- Clusters of Trees: Variety and distinction in an area can be achieved by clustering trees in different arrangements. On streets with no duck-in parallel parking, or alternating duck-in parallel parking such as the Bicycle and Local Access Street type or the Commuter Street type, trees can be clustered in groups of two or three. Groups of two trees provide a thicker shade canopy and the ability for benches to be located closer together. Clustered trees can be located at 19'-0" on center. Groups of three trees provide an opportunity for a continuous planting area with decorative rail. This scenario would provide optimum tree growth. Trees can also be located at 19'-0" from the midpoint between adjacent streetlight poles. (See spacing between light poles below.)



Siting criteria of tree configurations; Cluster of two



Siting criteria of tree configurations; Cluster of three

## STREETSCAPE PLANTING AND ACCESSORIES - TREES

### Recommended Tree Species

#### Spanish Oak - *Quercus texana*

##### Description

Shape: Rounded  
Foliage: Deciduous  
Fall Color: Red  
Light Requirements: Full sun to part shade

##### Dimensions

Height: 25-40'  
Spread: 20-30'

##### Siting Criteria

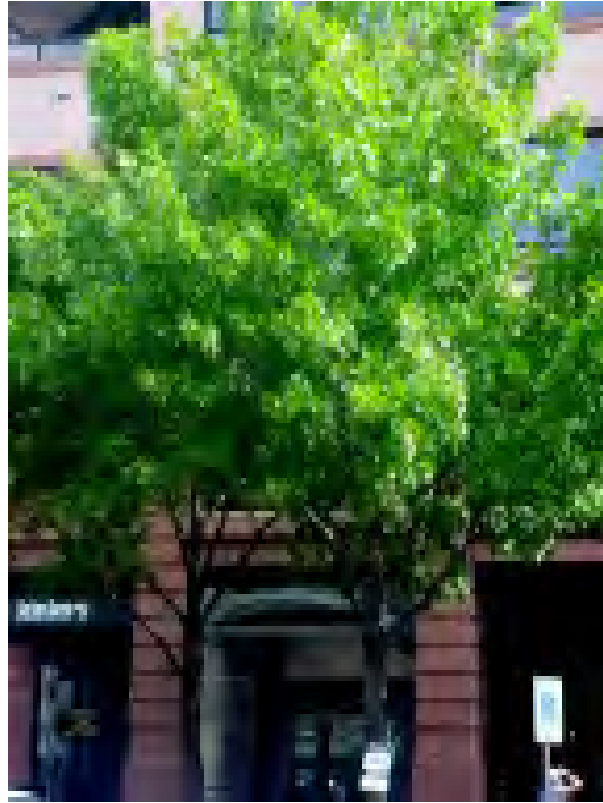
Alternating north and south streets

##### Growth Characteristics

Confirm Hill country seed sources. Specify single trunk with vertical growth habit.

##### Availability

Excellent



Spanish Oak

#### Big Tooth Maple - *Acer grandidentatum*

##### Description

Shape: Erect with open, rounded crown  
Foliage: Deciduous  
Fall Color: Gold  
Light Requirements: Full sun

##### Dimensions

Height: 30'-50'  
Spread: 20'-30'

##### Siting Criteria

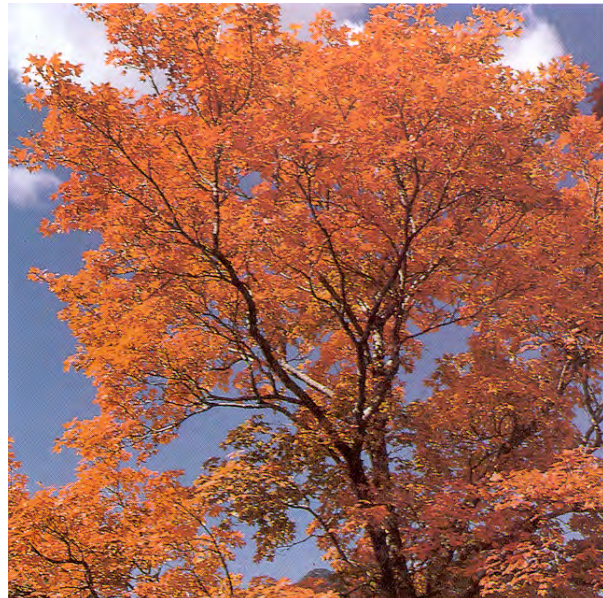
Alternating north and south streets

##### Growth Characteristics

Slow growing up to 15 gal.,  
don't like growing in containers,  
15 gal.-36" box takes 1.5 years

##### Availability

Small growers to grow up to 15 gal.  
Need for contract growing



Big Tooth Maple

# STREETSCAPE ELEMENTS AND STANDARDS

## STREETSCAPE PLANTING AND ACCESSORIES - TREES



Cedar Elm

### Recommended Tree Species

Cedar Elm - *Ulmus crassifolia*

#### Description

Shape: Upright with rounded crown  
Foliage: Deciduous  
Fall Color: Gold  
Light Requirements: Full sun to part shade

#### Dimensions

Height: 30'-60'  
Spread: 20'-30'

#### Siting Criteria

Alternating east and west streets

#### Growth Characteristics

Fast growing

#### Availability

Excellent

Drake Elm - *Ulmus parvifolia*

#### Description

Shape: Upright w/rounded crown  
Foliage: Deciduous  
Fall Color: Gold  
Light Requirements: Full sun to Part Shade

#### Dimensions

Height: 40-60'  
Spread: 40-60'

#### Siting Criteria

Alternating east and west streets

#### Growth Characteristics

Fast Growing



Drake Elm

## STREETSCAPE PLANTING AND ACCESSORIES - TREES

### Recommended Tree Species

#### Bald Cypress - *Taxodium distichum*

##### Description

Shape: Upright  
Foliage:  
Fall Color: Rust  
Light Requirements: Full sun

##### Dimensions

Height: 40'-60'  
Spread: 30'-50'

##### Siting Criteria

Second Street  
Cesar Chavez Boulevard

##### Growth Characteristics:

Confirm Hill Country Seed Sources  
Fast Growing

##### Availability

Excellent



Bald Cypress

#### Live Oak - *Quercus fusiformis*

##### Description

Shape: Upright  
Foliage: Evergreen  
Fall Color: Evergreen  
Light Requirements: Full sun

##### Dimensions

Height: 50'-60'  
Spread: 40'-50'

##### Siting Criteria

South side of Cesar Chavez (only)  
Four historic squares  
Typically not a good street tree due to  
evergreen foliage

##### Growth Characteristics

Slow growing, don't like growing in  
containers

##### Availability

Excellent



Live Oak



# STREETSCAPE ELEMENTS AND STANDARDS

## STREETSCAPE PLANTING AND ACCESSORIES - TREES

### PERFORMANCE SPECIFICATIONS AND STANDARDS

#### Description

The curbside street tree is envisioned as a large canopied, high branching tree that is tolerant of urban conditions, relatively disease and pest resistant, and has been grown successfully within the Austin area. Planting a tree is an investment in time, money, and the future. Trees can provide net benefits two to three times the cost of planting and caring for them over a 30-year period. The most important steps in producing a return on your investment are to select the highest quality tree possible, plant it correctly, and train it to develop a sturdy, tapered trunk with well-spaced lateral branches that are proportional in size.

#### Materials and Properties

- Trees that receive shadows from adjacent buildings should be able to acclimate to such conditions (See Recommended Tree Species.)
- Trees should be readily available from tree nursery in order to implement the streetscape program, have a reasonable growth rate, and be disease resistant varieties whenever available. Care should be taken to match the height and spread of the trees along a street front.
- Install trees only from September 15 to May 31. Planting when the temperatures are high will decrease the chances for survival.
- Property owners will be able to choose the type of tree from a list of trees selected by the project staff in consultation with the City's Urban Forester and the Master Plan. Proper care and continuous maintenance of the trees should be established prior to installation.
- Coordinate size of tree well with width of sidewalk. Provide a minimum of 5'-0" long x 5'-0" wide x 4'-0" deep tree wells in the recommended 18'-0" wide sidewalks. On sidewalks with a width of 14'-0" or less, the planting pit should be at least four-feet square. However, the greater the size of the root zone, the better survival rate of the trees. A minimum of two hundred cubic feet of soil is necessary to sustain long term growth. Elongated planting wells to nine feet deep provide more room for root growth. A continuous trench running parallel to the street and connecting tree pits will provide an even better growing environment for tree roots. The optimum environment would be a structural soil extending from the building face to the curb. This would provide the maximum soil area for root growth. (See Structural Soil Section.)
- Provide positive drainage to storm sewer or use dry wells.
- Provide root barriers to prevent buckling of grade improvements and telescoping of growth patterns as cracks in built surfaces.

## STREETSCAPE PLANTING AND ACCESSORIES - TREES

Install a root barrier at the edge of the pit to 12" depth.

- Fully irrigate the tree wells with two bubblers per well on an automatic irrigation system.
- Provide a well-drained planting mix in tree well, or use a structural soil.

### Siting Criteria

Street trees should be tightly spaced so that the canopies touch, but allow sufficient room for tree canopies to grow without conflict with building elements or other landscaping. Trees are to be planted at approximately 18'-0" to 22'-0" on center. Placement of trees should be in the eight-foot curbside zone for street furnishings, approximately four feet back from the face of curb. Medians with trees shall be a minimum of eight feet wide from back of curb to back of curb. Underground utilities must be set at least five feet from tree trunk on either side, unless a conduit provides barrier.

#### If siting criteria can't be met, consider:

Extend sidewalk at corners and mid-blocks to create opportunities for tree placement with existing ten-foot sidewalks.

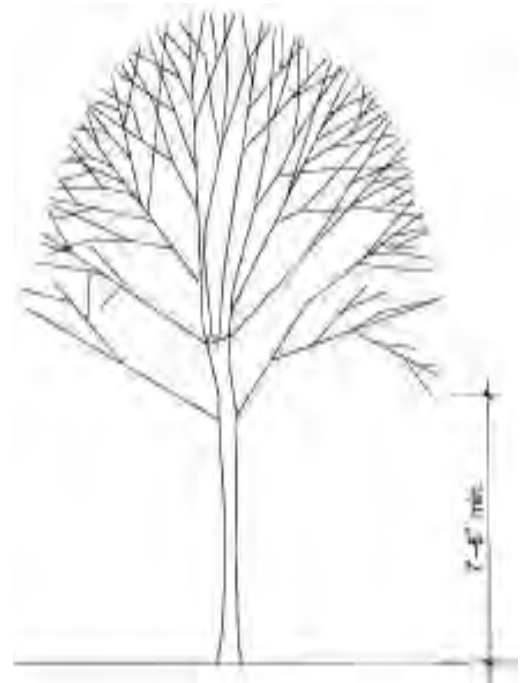
### Dimensions

**Footprint:** Canopy may reach 22 feet at maturity with branches of adjacent trees touching.

**Vertical profile:** Minimum clearance for tree limbs and branches must be 7'-6" above the level of the sidewalk. Trees should be trimmed proportionately to an ultimate clearance height of 12'-0" to 14'-0" over time to provide adequate sight lines for storefronts and traffic signals.

### Tree Selection

- All trees shall be true to type or name as ordered and shall be tagged and numbered individually as specimens.
- All trees shall be vigorous, have a form typical for the species or cultivar, be well rooted, be free from wounds, and be properly trained.
- The height, crown spread, diameter, and root size of all trees shall be appropriate for the type of stock and in proportion to one another.
- Trees shall be container-grown, boxed, or balled and burlapped.
- Root balls of all trees shall be moist throughout and the crown shall show no signs of moisture stress at time of delivery. It shall be free of roots visibly circling the trunk and free of "knees" (roots) protruding above the soil. Roots shall extend to the edge of the container, box, or burlap and be sufficiently dense to hold the soil together.
- The tree shall stand upright, on its own, at the time of acceptance.
- The trunk of the tree must have visible taper with a strong central leader. No portion of the trunk from six inches above the root crown shall be larger than the lower portion. The bottom six inches of the trunk shall be of greater diameter than other portions of the trunk.
- The branches shall be well distributed in a symmetrical pattern around the trunk. The ideal branch spacing is 8" to 12" apart and forming a 45-degree angle with the trunk.
- All trees shall be free of insects or disease at the time of acceptance. Bark should be free of wounds and insect injuries.
- Trees shall be a minimum of five-inch caliper (measured twelve inches above the root ball). For this caliper size, the canopy shall be 14" to 16" typical height and 8" to 12" typical spread.



# STREETSCAPE ELEMENTS AND STANDARDS

## STREETSCAPE PLANTING AND ACCESSORIES - TREES

### Installation

- Inspect all trees upon delivery. Approve or reject any or all trees that do not meet the tree selection specifications.
- Field verify all existing utilities vertically and horizontally prior to construction. Make adjustments as necessary to avoid damage to utilities.
- Identify each tagged tree to be installed. Designate the location of each specimen. Measure the depth of the rootball of each tree to determine the exact depth of the bottom of the tree pit.
- Dig the tree pit 1" to 2" less than the depth of the root ball and two to three times the width depending on soil condition.
- Carefully remove the tree from the container, cut circling roots and those matted at the bottom. Set the root ball so its top is flush with grade in a continuous planting area or six inches below grade with tree grates. Move the tree by its root ball rather than by its trunk.
- Ensure that the best face of the tree is facing outward toward the street.
- When using tree grates, make sure that the trunk is set exactly in the center of the grate opening. Any offset will cause future maintenance issues as the trunk grows.
- If tree is balled and burlapped, remove the wire basket and burlap from the upper one-third of the root ball.
- Backfill with the soil originally removed and gently firm the soil to hold the tree in place and minimize air pockets. Mix in soil amendments as specified.
- Provide deep watering of a tree when planted. Deep watering eliminates large air cavities, firms the soil around the fine roots, and provides nourishment for the new tree.
- Add organic mulch such as shredded bark. Mulch three inches thick to protect tree roots from temperature extremes, conserve soil moisture, and prevent grass from competing for nutrients. Keep the mulch 3" to 4" from the trunk.
- Prune dead or broken branches or branches which may be crossing. Do not prune for crown shape until after the first season.
- Stake and guy trees only if necessary to maintain upright. Place one stake on the North side and one stake on the South side for wind support. Allow slack in the tie for sway. Avoid driving stakes through the root ball. Remove stakes and ties after the first year.

### Maintenance

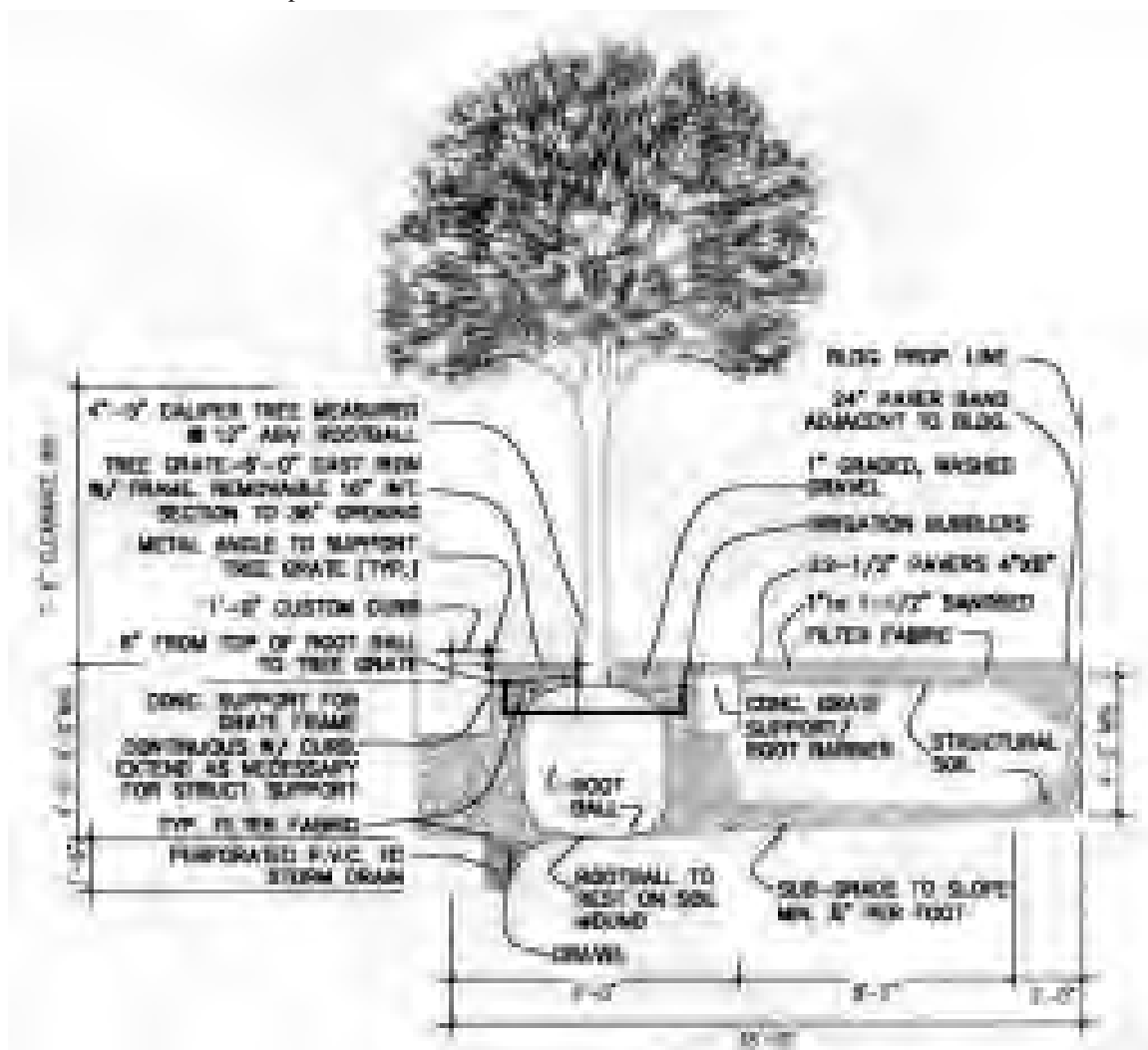
- Watering: Provide watering for two years minimum or until tree is established. Watering regularly during the growing season will promote healthy development. Water about once a week during the growing season; this fluctuates with climate extremes. Taper watering in early fall as the tree stops growing for winter. Over watering and under watering will have a negative impact on a tree.
- Control of Diseases and Pests: Consult with the City Arborist prior to implementing any controls of trees in the R.O.W. Use organic methods of disease and pest control when possible. Consider the timing of any spraying operations to avoid contact with the traveling public.
- Protection from Encroachment: Encroachments include truck access routes that damage overhead branches, service vehicles parked on the sidewalk within the dripline, and polluted water run-off directed toward tree roots. Simply planning ahead for these conditions will ensure the vitality of the tree.
- Pruning: Semi-annual inspections of trees are necessary to identify broken limbs and damaged trunks. All damage must be properly trimmed and dressed to prevent harmful organisms from invading the heartwood. The best time to prune is late winter. The worst time is early spring or early fall.
- Fertilizing: Avoid fertilizing shade trees until late spring of the second year following planting. Fertilizers can burn roots or stimulate crown growth faster than the roots can apply water. Consult the City Arborist for recommendations.
- In order to maintain the character and shape of a street tree, a Certified Arborist should provide all training and pruning operations.
- Young trees can be trained to develop sturdy, tapered trunks with well-spaced lateral branches proportional in size. The following standards apply primarily to large-growing species with decurrent (round-headed) form. Trees shall be pruned to enhance the development of a strong leader and provide the basic crown structure of scaffold

## STREETSCAPE PLANTING AND ACCESSORIES - TREES

branches. This may be accomplished by:

1. Maintaining a single, straight trunk and removing or pruning back strong branches that could compete with it.
2. Providing good, adequate, vertical and radial spacing of potential scaffold branches. As a general guideline, Large-growing trees should be thinned to five to nine main branches by the fourth year. Branches should be less than three-quarters diameter of the main stem and spaced at least 6" to 12" apart vertically.
3. Maintaining temporary branches (small laterals below the desired height of the lowest main branch) along the trunk for two to four years or until they become 1/2" in diameter. Temporary branches should be maintained less than 12" in length.
4. Providing adequate distribution of foliage throughout the crown. One-half of the foliage should be on branches (permanent and temporary) arising in the lower two-thirds of the tree.

- Mature trees can be pruned into individual tree forms or into a continuous street tree canopy. By removing small branches within the crown, more light is admitted. Careful pruning will resolve any conflict between branches and overhead wires. There are times when moving the utilities to save the trees would be in the best interest of the public.



Street Tree Cross Section



## STREETSCAPE ELEMENTS AND STANDARDS

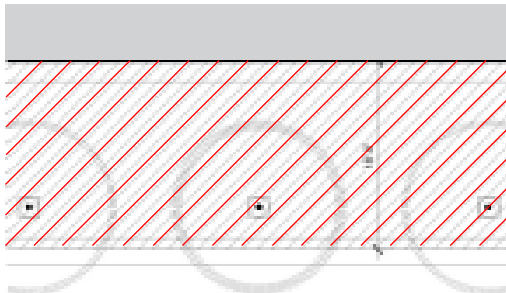
### STREETSCAPE PLANTING AND ACCESSORIES - STRUCTURAL SOIL PERFORMANCE SPECIFICATIONS AND STANDARDS

#### Description

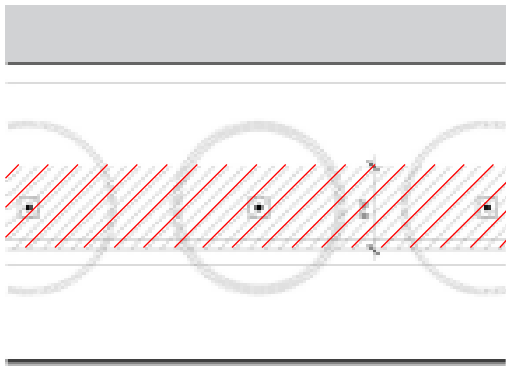
Structural soil is a soil mix that is designed to provide the structural support for a concrete or paver sidewalk, while allowing for sustainable root growth. The standard size tree pit constricts root growth and subsequently causes dieback of the canopy. The Master Plan recommends that all sidewalks should be underlain with a structural soils mix in a continuous trench to encourage tree development. Structural soils, such as that developed by Cornell University, are capable of serving as a compacted and continuous base course, yet at the same time providing a usable volume of soil necessary for tree root growth. The structural soil mix is comprised of crushed stone, clay loam, and a hydrogel stabilizing element that meets pavement design requirements and allows for tree root growth. Further research is needed on irrigation and venting of structural soil.

#### Materials, Properties, and Installation

- Structural soil provides voids for air, water, and roots to penetrate; clay loam soil with nutrients for tree growth; compacted aggregate for structural support for paving.
- Components: Stone particles-Architectural Concrete Aggregate: angular, crushed, washed limestone; sterile soil with 20% compost by volume (organic content 2-5%); powdered or granulated sulphur to lower the pH; and a hydrogel tackifier.
- Use a licenced supplier of structural soil mix. Supplier to mix structural soil elements to ensure even distribution of stone and soil and to ensure proper composition of delivered product.
- Within the tree pit, planting soils should be utilized. Make sure that the composition and textures of these soils, the structural soil mix, and adjacent, underlying native soils are compatible.
- Locate and confirm the location of all underground utility lines and structures prior to the start of any excavation. Excavate and compact the proposed subgrade. Clear excavation of all construction debris. Confirm that subsurface drainage systems and all utility work has been completed.
- Install structural soil in 6" lifts and compact to 95% proctor. Periodically inspect material for match to submitted sample.
- Bring soil to finished grades. Immediately protect the soil from contamination by toxic materials, trash, debris, water containing cement, clay, silt, or other materials that will alter the particle size. Distribute the mix with plastic or plywood.



*Structural soil underneath the entire sidewalk area.*



*Structural soil in a continuous trench.*

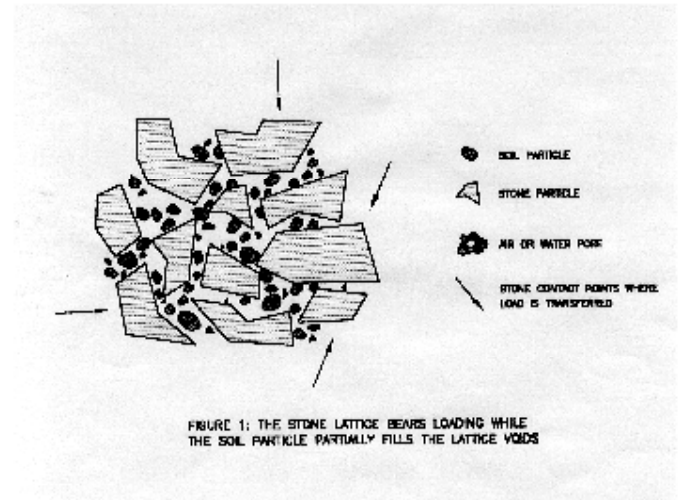
#### Siting Criteria

Place structural soil from the building face to the curb underneath the entire sidewalk area.

**If siting criteria can't be met, consider:** placing in continuous trench parallel to curb in entire Curbside Zone.

# STREETSCAPE ELEMENTS AND STANDARDS

## STREETSCAPE PLANTING AND ACCESSORIES - STRUCTURAL SOIL



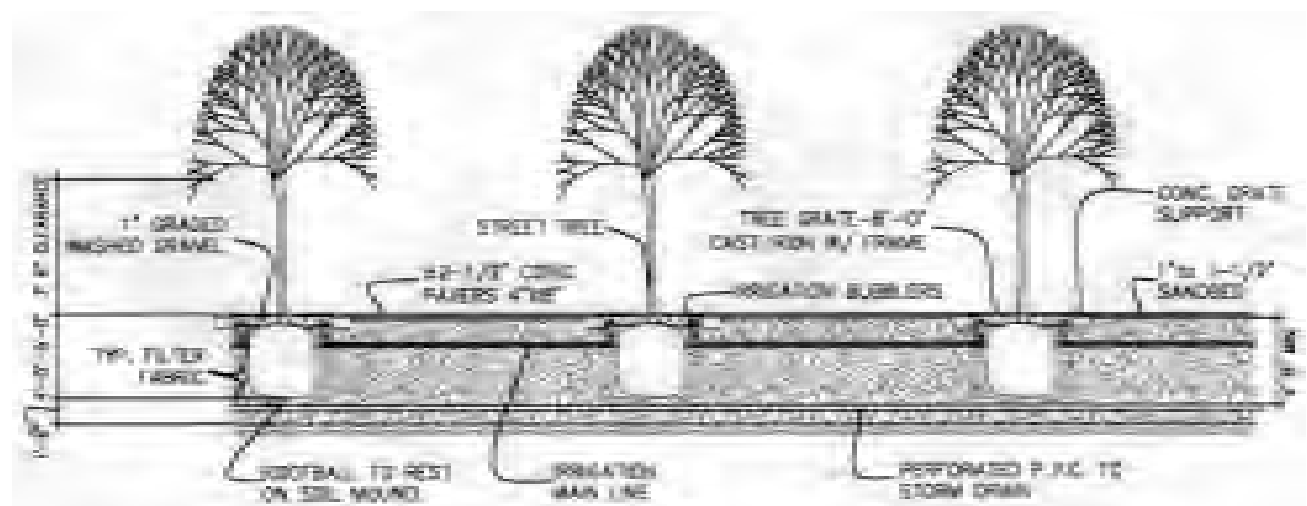
### Dimensions

Footprint: 8'-0" minimum continuous (curbside zone) to 18'-0" of entire sidewalk corridor

Vertical profile: 4'-0" minimum

### Maintenance

Maintenance crews or utility workers will need to replace disturbed/removed soil with new structural soil mix.



Structural Soil Longitudinal Section

# STREETSCAPE ELEMENTS AND STANDARDS

## STREETSCAPE PLANTING AND ACCESSORIES - IRRIGATION SYSTEM PERFORMANCE SPECIFICATIONS AND STANDARDS

### Description

In Central Texas, an automatic underground irrigation system is recommended for the establishment and long term health of street trees, planting beds, and container plantings. The vagaries of our weather, from floods to droughts, indicate the need to supplement natural rainfall with an appropriately timed and regulated water delivery system. The use of underground irrigation, combined with an automatic controller and a rain shut-off device enables efficient water management. It provides the critical ability to supply the deep watering necessary in the warm season for establishment of street trees; it offers separate programs responding to the different water requirements of planting beds and containers; and it provides the ability to respond to summer time 5 day water rationing schedules. The Master Plan recommends separate irrigation meters. By sub-metering irrigation water, a person can monitor annual water usage and reduce the overall water utility rates. It is important to use a licensed irrigation consultant with experience in street/sidewalk conditions to design the system effectively. Opportunities exist for water supply beyond the use of potable water through the city system. Installation of gray water systems for irrigation water only should be explored.

### Materials, Properties, and Installation

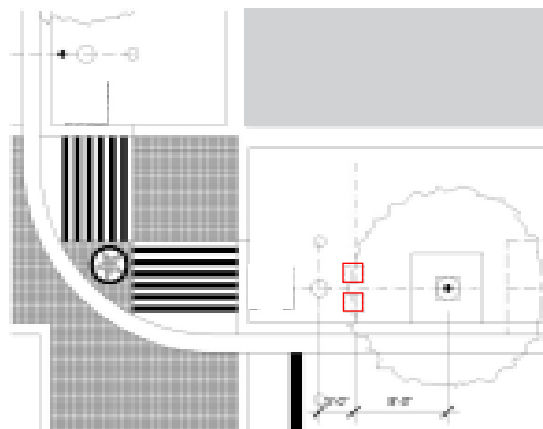
- Irrigation system components include: irrigation meter, backflow preventer, rain shut off device, controller, zone valve, and bubbler heads. A supplemental component would be a soil moisture sensor.
- The meter measures the amount of water flow. The backflow preventer is adjacent to the meter and is required by building code to prevent irrigation water from flowing back into the water supply. Both of these devices are to be set in underground vaults in the curbside zone.
- The rain shut off device prevents the system from coming on, if there is enough moisture. The sensor is typically located high on a building where there are no obstructions to rainfall. A soil moisture sensor is an 8" long probe that measures the amount of moisture in the soil. It provides a more accurate means of measurement and can also can be wired to prevent the system from turning on, if there is sufficient moisture for plant health.
- The controller is an electronic device that can be set to program when and how long a valve operates. Controllers shall provide the following: Minimum of three start times; minimum of three independent programs; can water on a once-every 5 days schedule; battery or 24 hour memory capacity. The zone valve regulates the operation of the irrigation heads. In construction of new buildings, the controllers and valves should be located in an irrigation control room inside the building. In a streetscape retrofit, the controllers and valves should be located in underground vaults in the sidewalk curbside zone.
- Bubbler heads have low flow nozzles that deliver water slowly near the soil surface directly to the plant roots. Bubbler heads minimize run-off and reduce water lost through evaporation and overspray. The typical number of heads is two per tree pit. For installation, see Street Tree Section and typologies.

### Siting Criteria

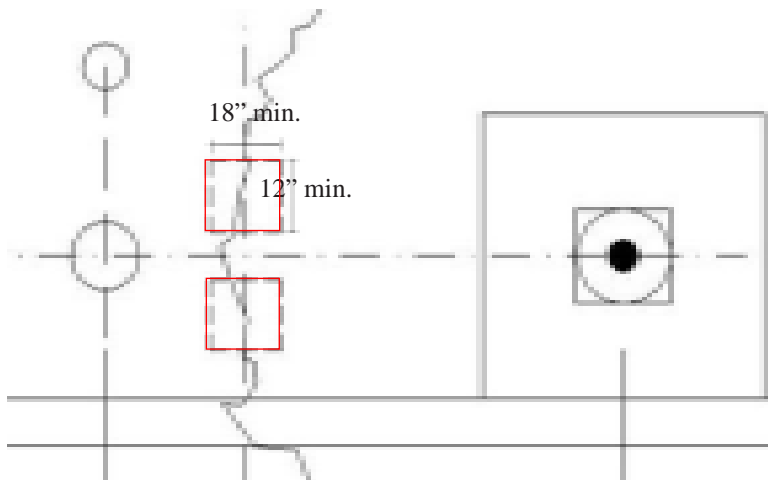
Locate, as necessary, to respond to ownership and use. For instance, a single building user might have one meter, backflow, and controller per building or per block, where an institutionally implemented project may only need one of each per four block area. For a streetscape retrofit, place meters, backflow preventers, controllers, and valves in underground vaults in the curbside zone. Site in the center of the zone between two street trees. For a newly constructed building, place equipment in a separate irrigation control room inside the building.

#### **If the siting criteria can't be met, consider:**

Placing the controller in a vandal resistant wall-mounted box, only when above alternative cannot be met.



## STREETSCAPE PLANTING AND ACCESSORIES - IRRIGATION SYSTEM



### Dimensions

Backflow Preventer	Footprint: 12" by 18" min. valve box Vertical profile: Flush with pavement
Controller	Footprint: 10-12" width by 3-9" depth Vertical profile: 5-10"
Valve:	Footprint: 4 1/2" Vertical profile: 1-6"

### Maintenance

Maintenance includes monitoring and evaluation of the entire system with each season. The City of Austin offers irrigation audits to determine if the system is operating efficiently. Observe bubblers while in use to ensure effective operation. Check for broken, leaking, or clogged heads; obstruction of water flow, and water run-off problems. Water management operations include observation and learning about the actual needs of the plant from season to season. Change the program on the controller on a monthly basis to reflect the water demand. Schedule in response to rainfall. Water in the hours before and after dawn to maximize water uptake. In summer, with high temperatures and dry conditions, the water loss is great due to evapotranspiration. Water lost through evaporation from the soil and through transpiration out pores in the leaves needs to be replaced frequently. In winter, with cool temperatures and more moist conditions, the demand is reduced. In spring, new growth requires an increase in water supply. Newly planted trees also require more water until established. Use of an expanded area of structural soil under the sidewalk will create a reservoir for soil moisture which encourages trees to develop more extensive root systems. Deep watering to a soil depth of 60 inches will also encourage better root growth. Container plants tend to dry out quickly. Set all container plants on a separate program. Apply water slowly until it comes out the bottom of the pot. Use soil polymers to retain water and slowly release it to the planting soil. Polymers will reduce the water demand.



*Photo courtesy of Toro  
Rain Gauge*



*Photo courtesy of Toro  
Stream Bubbler*



*Photo courtesy of Toro  
Controller*



# STREETSCAPE ELEMENTS AND STANDARDS

## STREETSCAPE PLANTING AND ACCESSORIES - TREE GRATES

### PERFORMANCE SPECIFICATIONS AND STANDARDS

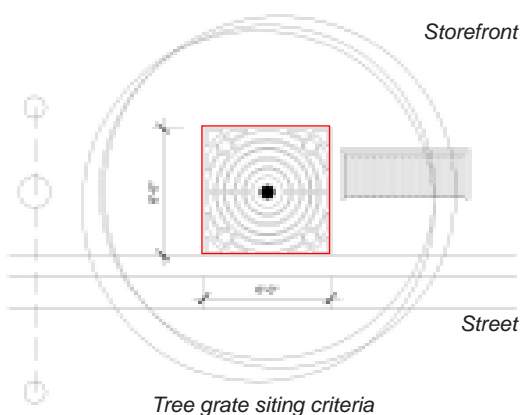
#### Description

Tree grates protect the tree by preventing soil compaction and allowing aeration. They also extend the walkable area of a sidewalk. Cast iron tree grates provide the advantage of being easily expandable without losing their structural integrity. Over the years as tree trunks become larger, the tree opening can be enlarged in increments to accommodate the growth. Tree grates are suitable to be custom designed from a reputable manufacturer.

#### Materials, Properties, and Installation

- Match size of tree grate to size of sidewalk. On a 18' wide sidewalk, use a standard 6'-0" by 6'-0" grate; on a sidewalk 14'-0" wide or less, use a 5'-0" or 4'-0" square grate.
- Tree grates and frames shall be of cast iron with gray iron castings conforming to A.S.T.M. A-8 class 35 or better. If cast iron is not used, then material or finish must be resistant to corrosion.
- Grates shall comprise of two panels no less than 1 1/2" thick to resist high-stress impacts from mechanized sidewalk cleaning machines.
- Grate openings shall be 3/8" or less to meet ADA standards and prevent the gathering of leaves or litter.
- Grates shall have removable insert grate for incremental trunk growth and expansion. Street grates with easily expandable ring should use an abrasive cutting wheel or laser water jet and notch at the radial spokes.
- Grates accommodating subgrade lighting units should have removable light-opening sections secured with countersunk screws in order to tamper-proof the lighting units, if required.
- Grates should be able to accommodate custom corner logos.
- Installation first requires excavation of the tree pit. Place the wood form within the excavation and set the form at proper grade. Assemble the tree grate frame and place frame on wood form. Place both tree grate halves within the frame. Adjust frame alignment and elevation as needed. Anchor frame with 3" rebar. Pour and finish concrete. Do not remove tree grate until concrete is set up. Grate halves are to be bolted together on the underside using bolt slots and tamper proof hardware. Installation requires care in centering the tree trunks in the grate. Add pea gravel or mulch until flush with grate to prevent litter collection in grates.

#### Siting Criteria

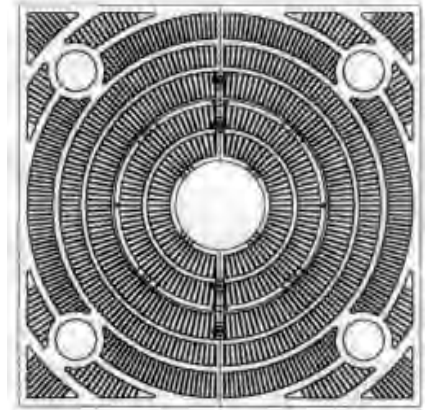
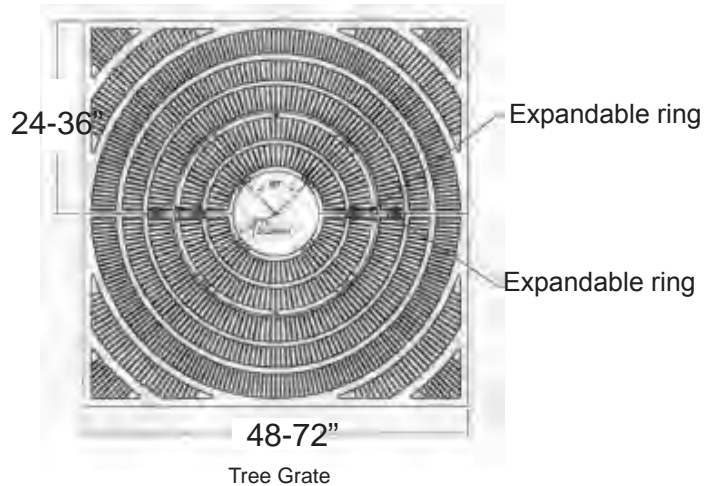


Locate within the Curbside Zone where trees require protection. Use in Central Business District and other high-use pedestrian areas. Do not install in the clear space required as access for stairs or ramps or in the 5' wide min. corridor of accessible travel.

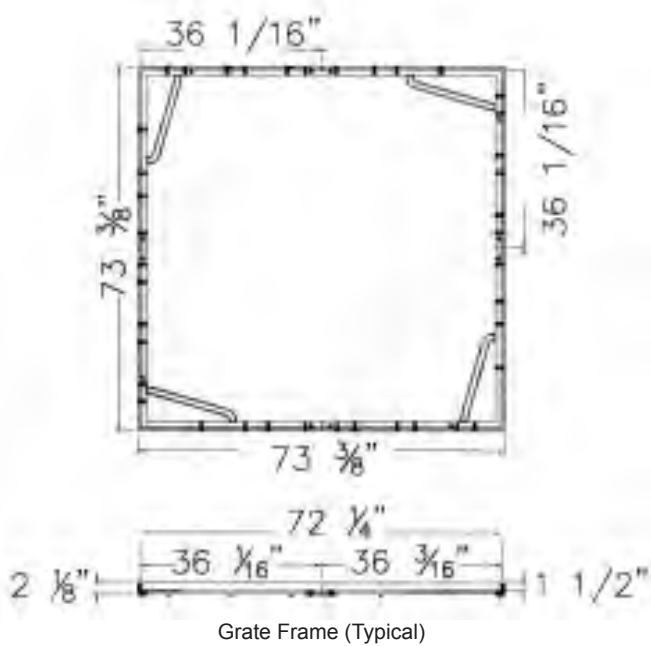
**If siting criteria can't be met, consider:** paver grates to increase surface area of pedestrian walkway. Curb extensions also provide extra area to accommodate trees and grates.

# STREETSCAPE ELEMENTS AND STANDARDS

## STREETSCAPE PLANTING AND ACCESSORIES - TREE GRATES



*Tree grate with lighting openings*



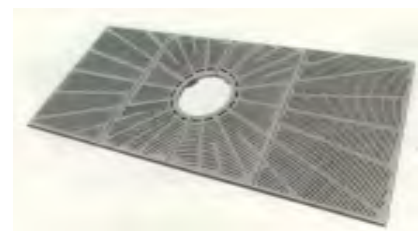
*Tree grate with tree guard  
Photo provided by Neenah Foundry*

### Dimensions

Footprint: Minimum 4'-0" by 4'-0" up to 6'-0" by 6'-0"  
Vertical profile: 1 1/2" thick and flush with sidewalk

### Maintenance

Cast iron grate frames require no regular maintenance. Periodic enlargement of the tree center ring allows growth of the tree trunk.



*Grate alternative to continuous trench  
Photo provided by Neenah Foundry*

# STREETSCAPE ELEMENTS AND STANDARDS

## STREETSCAPE PLANTING AND ACCESSORIES - PAVER GRATES

### PERFORMANCE SPECIFICATIONS AND STANDARDS

#### Description

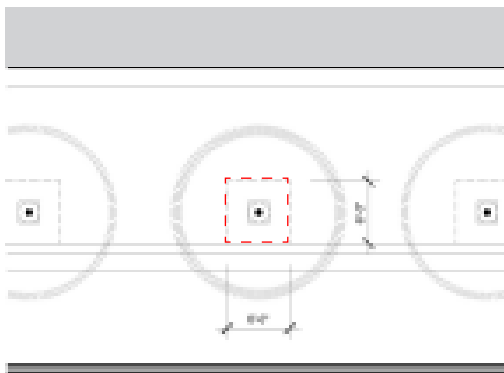
Paver grates allow pavers to “float” over air space over tree pit. The tree is planted deeper, reducing roots’ tendency to heave paving and provides better protection for irrigation bubblers below paving. Paver grates also provide a continuous path surface. The Master Plan recommends the use of paver grates on pedestrian dominant streets and in areas with tight side-walk conditions. Paver grates will need custom designs to accommodate irrigation bubblers and uplighting.

#### Materials, Properties, and Installation

- Grate shall be hot dipped galvanized metal.
- Grates shall have continuous welds at all intersections.
- Expanded metal shall be welded on top of frame work. Spot weld at 6” on center on all angles.
- Grate opening shall be 12” and expandable to 24” opening.
- Grate shall be supported by concrete surround in a square, flat plane below the finish grade to prevent rocking of the grate.
- Provide a means to access the irrigation bubblers for maintenance.
- Install the tree leaving a 4” space between the bottom edge of the grate to the top of the root ball. Place tree trunks exactly in the center of the grate. Backfill with coarse stone fill to bottom of grate.
- Install guy wires if required. If guy wires are needed, set the paver grate in place then pull the wires through the grate and attach to the tree in the recommended manner.
- Install pavers by using 3/16” hardware cloth placed on top of grate. Set pavers into a thin mortar bed leaving joints open but laid in tightly. Use a 12” deep mechanical root barrier adjacent to edge of pit with pavers set no greater than 6” from edge of pit to tree.
- Cut or trim pavers around center opening, sides, and tree guy wires and trim hardware cloth after completing paver installation.

#### Siting Criteria

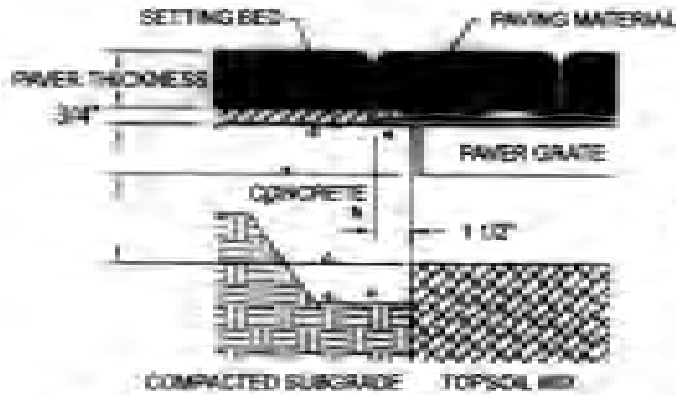
Locate within the curbside zone where trees require protection such as in Central Business District and other high-use pedestrian areas. Use instead of tree grate in conditions where a continuous expanse of pavers is preferred and place adjacent to curb.



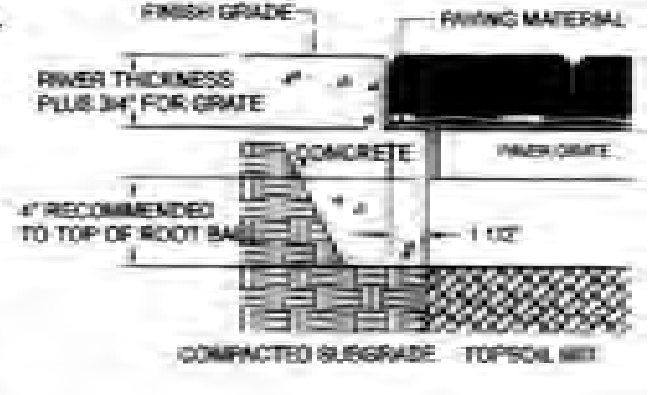
*Paver Grate Siting Criteria*

# STREETSCAPE ELEMENTS AND STANDARDS

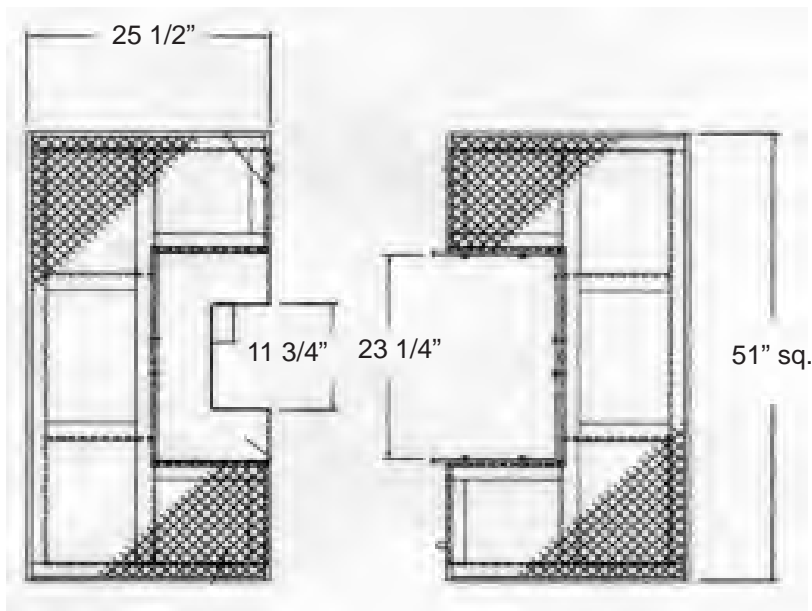
## STREETSCAPE PLANTING AND ACCESSORIES - PAVER GRATES



Grate pavers in sidewalk



Grate pavers at concrete sidewalk



### Dimensions

Footprint: 6'-0" x 6'-0" to accommodate 60" rootball  
Vertical profile: 2 inches

### Maintenance

When tree opening is ready to be expanded, remove pavers and reverse the internal paver stop until 1 1/2" bolt openings are located at the top. Place expandable opening plate around tree with bolt tabs facing down and fasten together using hardware. After hardware is tightened, place expandable opening plate on top of internal paver stops.



Paver-Grate  
Photo provided by Dumor  
[www.dumor.com](http://www.dumor.com)



# STREETSCAPE ELEMENTS AND STANDARDS

## STREETSCAPE PLANTING AND ACCESSORIES - TREE PROTECTION PERFORMANCE SPECIFICATIONS AND STANDARDS

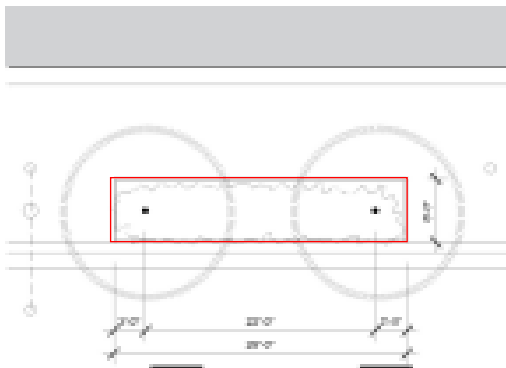
### Description

On streets where there are no parking bays, elongated planting strips should be installed to provide pervious cover and enhance the street. In the containment edge of planters of curbside trees, a decorative rail extending above grade is proposed to protect the plantings from streetsweepers and other intrusions. A permanent railing around a single tree or a cluster of trees provides the best tree protection, dissuades locking of bicycles and other objects to trunk, creates the possibility of planting ground cover/flowering plants at base of tree, and may prevent trash and compaction. Decorative rails provide an excellent opportunity for an artisan designed streetscape element.

### Materials, Properties, and Installation

- Rail shall be hot-dipped galvanized or powder coated steel.
- The size of the rail members should meet ASTM standards to prevent bending.
- Attach railing to curb or use raised curb to protect plantings.
- Provide a continuous steel angle that runs underneath adjacent pavers and bolts to the railing to create stability.
- Ensure that there are no sharp points to avoid hazards for pedestrians.

### Siting Criteria



Decorative Rail Siting Criteria from elements plan

Use instead of tree grate in conditions where planting is preferred and particularly in areas where ground cover is proposed with a cluster of trees. Locate within the curbside zone where trees require protection such as on high traffic streets where a buffer is a greater necessity. (See Commuter Boulevard Street Type.) Do not install in the clear space required as access for stairs or ramps or in the corridor of accessible travel. Provide a pedestrian refuge zone of 12" minimum from back of 12" curb to rail.

#### **If the siting criteria can't be met, consider:**

Providing curb extensions to accommodate trees and railings.

## STREETSCAPE PLANTING AND ACCESSORIES - TREE PROTECTION



Dixon, John Morris, FAIA, ed. *Urban Spaces*. New York: Visual Reference Publications, 1999.

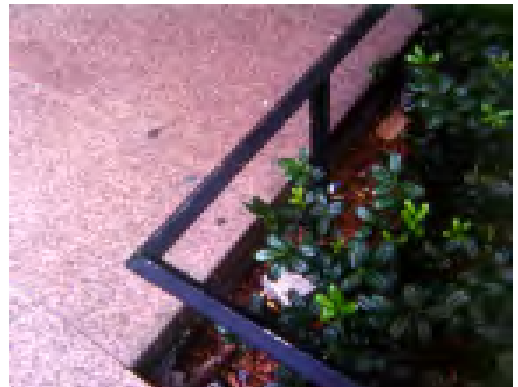


### Dimensions

Footprint: Minimum four feet square. Maximum width to be determined by width of Curbside Zone. Maximum length shall accommodate pedestrian pass through areas every 88 feet.

### Maintenance

Coordinate with Art in Public Places and Local Artisan Program when designing new streetscape elements.



# STREETSCAPE ELEMENTS AND STANDARDS

## STREETSCAPE PLANTING AND ACCESSORIES - PLANTERS

### PERFORMANCE SPECIFICATIONS AND STANDARDS

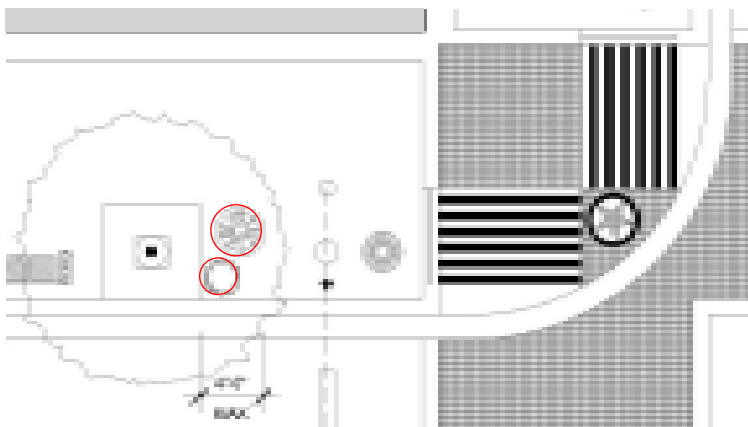
#### Description

Planters provide a contained area for embellishment of a streetscape with colorful plantings. On special streets or in special districts, planters afford an opportunity to enliven the pedestrian experience. On Congress Avenue, custom designed planters have provided the space to display Austin-style plant materials. These planters, located in conjunction with custom benches and waste containers, set a distinctive character to the overall street furnishings. Other streets may benefit from the use of planters to define a district. Streetscape planters offer a possible opportunity for a local artisan-designed element. In addition, individual property owners may choose to place pots or provide planting strips adjacent to buildings in the frontage zone. Metal trellis elements attached to building faces could be used to support vines.

#### Materials, Properties, and Installation

- Planter pots shall be sized to provide a sufficient quantity of soil for plant growth. Provide a pot with minimum dimensions of 24" wide x 24" deep.
- Streetscape planter pots shall consist of glass fiber reinforced concrete (GFRC) suitable for exterior applications. The compressive strength shall be a minimum of 3000 psi. The shell thickness shall be a minimum of 3/8" and a maximum of 5/8".
- Cement finishes shall have facing aggregates that are durable and free of staining and deleterious materials. Integral color shall be pure non-fading mineral oxides which do not impair GFRC strength.
- Concealed brackets and anchors may be aluminum or steel. Separate dissimilar materials to prevent electrolytic reactions.
- Ensure that an opening in the bottom allows for drainage and irrigation lines.
- Install a concrete footing to support the weight of the pot. Provide a connection to the irrigation main line and stub up irrigation tubing. Provide a connection to main drain line to storm sewer or provide a saucer to prevent water run-off.
- Install paving materials such as pavers or concrete. If concrete, allow for an opening under the pot for utilities.
- Inspect planter pots for nicks or patches. Patches noticeable from 5' away are not acceptable.
- Handle pots only from points under the planter. Protect pots to prevent staining, chipping, and spalling. Damaged units should be rejected.
- Move pots into exact locations, taking care to thread irrigation and drain lines through bottom opening.
- Install a layer of drainage gravel a minimum of 2" thick. Place a layer of filter fabric to separate gravel from potting soil. Install potting soil and attach bubbler head to top of irrigation pipe.
- Pots installed by property owners in the frontage zone may be GFRC, terracotta, or metal.

#### Siting Criteria

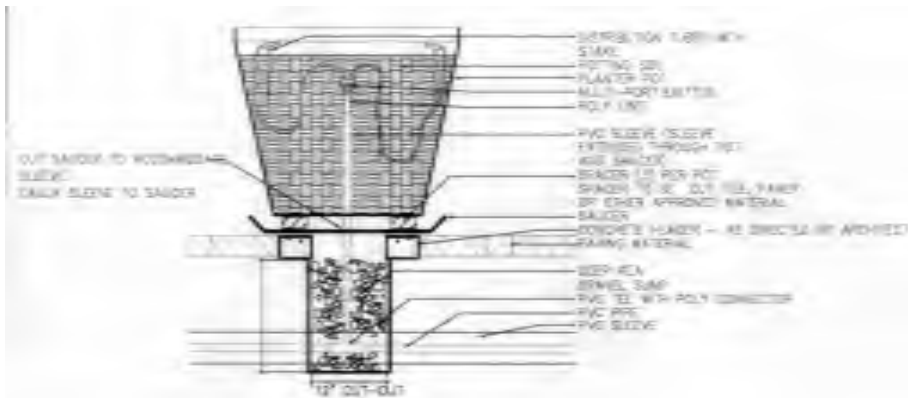


*Planter siting recommendation in curbside zone*

Locate within the Curbside Zone, provided property owner has received a licensing agreement with the City of Austin or the planter(s) are provided by the City. Planters may be connected to an irrigation main line or hand watered. Removable planter boxes may be permitted within the frontage zone, but must be hand watered by property owner. No planters may be placed in the 5' clear Corridor of Accessible Travel.



## STREETSCAPE PLANTING AND ACCESSORIES - PLANTERS



Planter pot with drip irrigation



### Cluster of Planters



### Planter siting criteria in frontage zone



## Dimensions

## In the Curbside Zone,

Footprint: Minimum 36"to maximum 60" wide.

Vertical profile: 24" high.

### In the Frontage Zone,

Footprint: Maximum 24" wide.

Vertical Profile: Minimum 24"high.

## Maintenance

Provide an anti-graffiti sealer that is recommended by the manufacturer. For smooth textured surfaces, most spray cleaners will work well to remove grease and dirt. For rough textured surfaces, use a bristle brush to get into the facets. Follow with pressurized water. Pots provided by the property owner will be maintained by the property owner, pots provided by the City will be maintained by the City or a non-profit entity. The issue of metered water needs resolution.

# STREETSCAPE ELEMENTS AND STANDARDS

## STREETSCAPE AMENITIES - LIGHT POLE SYSTEMS

### STREETLIGHT POLES AND FIXTURES

#### Description

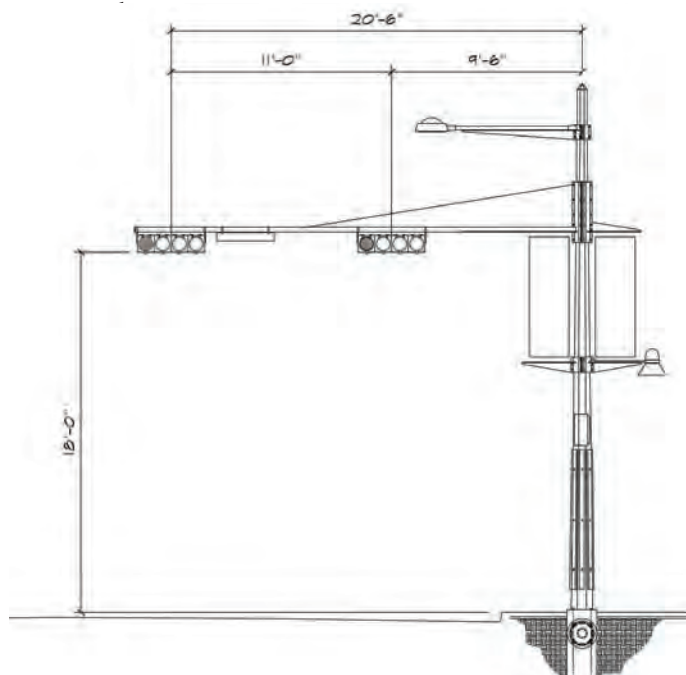
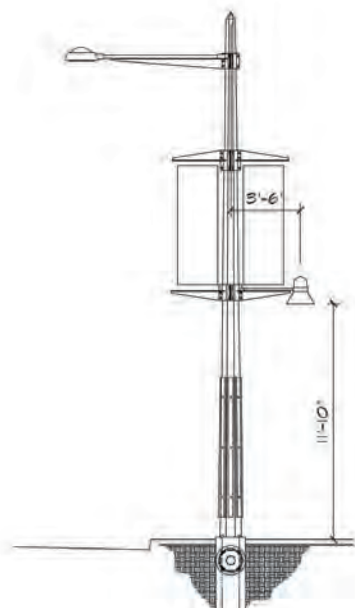
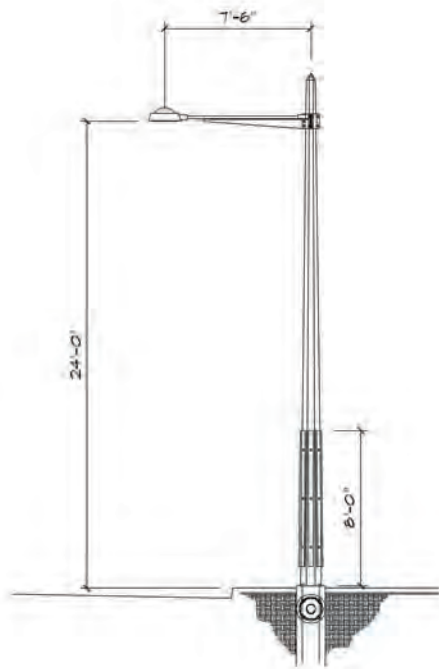
Streetlight poles are to be custom-designed for streetlights within project study area. Streetlight poles should accommodate a variety of accessories, including roadway and pedestrian lighting fixtures, traffic signal lights, pedestrian signals and controls, street names, cameras, signal pre-emption devices, signage, banners, and other seasonal decorations and lighting. Generally, each street block contains eight streetlight poles, arranged symmetrically in four pairs. Fixtures and lamps are to be chosen from lines of major manufacturers. Streetlight illumination, poles, and fixtures are described in greater detail in Chapter Six, "Public Area Lighting," of the Master Plan.

#### Materials, Properties, and Installation

- Streetlight poles are to be of galvanized steel construction
- Streetlight poles shall accommodate all electrical, electronic, and optical cable, accessed through a panel located near the base of the pole
- Streetlight fixtures shall be "partial cut-off" as described in Chapter Six, "Public Area Lighting"
- As sidewalks are constructed according to the Great Street typology, fifteen-inch diameter bolt circle foundations shall be installed at final streetlight pole locations, even where funds will allow only four of the ultimate eight to be installed initially

#### Siting Criteria

- Streetlight poles adjacent to street intersections shall be 6'-0" inward from property corners
- Mid-block streetlight poles typically shall be 88'-0" on center on each side of each street, 4'-0" from pole centerline to face of



## STREETSCAPE AMENITIES - LIGHT POLE SYSTEMS

### PEDESTRIAN POLES AND FIXTURES

#### Description

Pedestrian light poles are intended to supplement the light in the sidewalk space of the streetscape provided by the streetlight fixtures, or to provide sidewalk light where streetlight fixtures and private lighting on buildings and canopies do not provide adequate sidewalk lighting without unacceptable contrast. Design of the pedestrian poles is similar to streetlight poles, but proportionally smaller. Pedestrian poles should be designed to accommodate similar accessories to streetlight poles. Fixtures and lamps are to be chosen from lines of major manufacturers.

#### Materials, Properties, and Installation

- Pedestrian poles and fixtures are similarly designed and constructed of comparable materials and quality to the streetlight poles and fixtures
- Refer to Chapter Six, "Public Area Lighting," for illumination specifications

#### Siting Criteria

- Pedestrian poles may generally occur at evenly spaced intervals between street lighting poles
- Pedestrian poles may also be used at other locations, such as along pedestrian plazas, along paths, trails and urban creeks, urban public plazas, and at other areas where pedestrian light is needed



### PEDESTRIAN AND TRAFFIC SIGNALS

Walk signals and traffic signal lights are considered an integral part of the streetlight pole system of accessories. Walk signals and control devices are attached directly to streetlight poles by an integral attachment system. Generally, traffic signal lights are mounted horizontally on cantilevered arms, centered over traffic lanes. Emerging technologies for signal lighting systems shall be accommodated in design of streetlight pole assembly. Refer to traffic control device for housing of traffic control equipment.

### BANNERS AND OTHER SIGNAGE

Banner arms and attachment devices occur at all streetlight poles. Connection devices are standard on a pole, and banner makers can use them as needed. All accessories should be secured to light pole systems without reliance on girth straps or other makeshift attachment devices. Banners should be well-designed and fabricated of weather-tolerant fabric. Accessories not included among listed and specified accessories shall be approved before purchase and installation. Electrical power for decorations shall be provided on streetlight poles near pedestrian light level.

The prototype lightpole for downtown has the option of banners on the streetside as well as the sidewalk side. The sidewalk side should always be used for civic information, while the streetside banner area should be used for traffic and parking information. In addition, signs that control traffic movements should be mounted in the streetside banner area on the streetlight poles on the far side of an intersection, just below the traffic signal arm height.



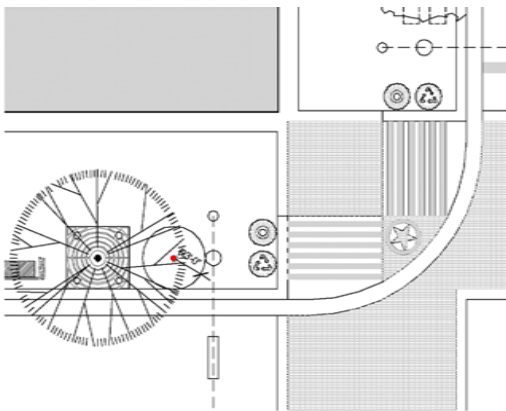
# STREETSCAPE ELEMENTS AND STANDARDS

## STREETSCAPE AMENITIES - UTILITY APPURTENANCES MANHOLE COVERS

Large diameter manhole covers occur more or less randomly in the street surface. They are set into a concrete surround for support and protection. Both the cast iron cover and the concrete support could be considered opportunities for public art. Where the whole street and the utility systems are to be rebuilt, the covers can be better organized than they currently are.

## FIRE HYDRANTS

Fire hydrants are generally located at every intersection in the Great Streets study area. Location criteria include visual identification and 3'-0" clear surrounding the hydrant. Fire hydrants should be powderpainted for low maintenance and should be bright red to bring color back into the environment.



## METERS AND VALVES

Generally meters and valves are located in the alleys throughout the Great Streets study area. Small cover plates for meters and electrical boxes occur within the sidewalk area, but don't create a problem. In the future these should always occur in the ground within the curbside zone rather than within the pedestrian zone.

One notable problem is the recent practice of locating gas meters on the front of buildings. This creates a hazard for the pedestrian, limits the potential for storefront uses, and is inimical to the entire idea of a Great Street. A policy should be adopted immediately to end this practice. If the gas meter cannot be located in the alley it should be located in the ground within the curbside zone, and considered an opportunity for public art.

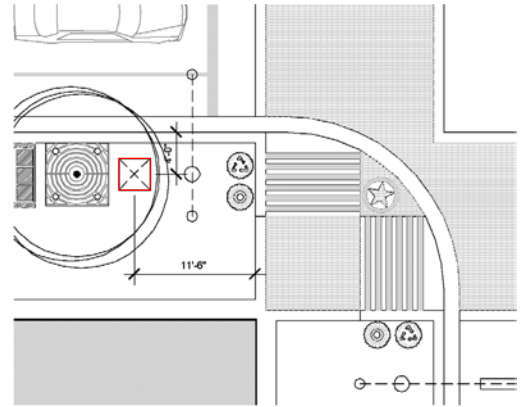
# STREETSCAPE ELEMENTS AND STANDARDS

## STREETSCAPE AMENITIES - UTILITY APPURTENANCES

### TRAFFIC CONTROL DEVICE

Every intersection that has a traffic signal has a traffic control device. The cabinets must be located on the sidewalk in such a way as to allow the technician working on light timing to see all the lights at the intersection.

The Great Streets Master Plan calls for these unattractive utility devices to be housed in a new standard kiosk. (See Streetscape Amenity: signage kiosk.) This kiosk structure will be located to satisfy the visual requirements of the traffic control device, or as close to the intersection as possible.



### TRANSFORMER VAULTS

Every effort should be made to reduce the number of transformer vaults and their intrusion into either the public right-of-way or private sector development. Everything has been tried: under sidewalks, in buildings, in separate outbuildings, and under buildings with access through hatches in the sidewalk. This latter solution (used for instance at the Plaza Lofts on Fifth and Guadalupe Streets) seems to be the best. In any case, transformer vaults should be carefully designed to minimize interference with the other elements and activities of a street. Where possible the hatches should be within the curbside zone, rather than in the pedestrian zone and path of travel.

# STREETSCAPE ELEMENTS AND STANDARDS

## STREETSCAPE AMENITIES - WASTE AND RECYCLING RECEPTACLES PERFORMANCE SPECIFICATIONS AND STANDARDS

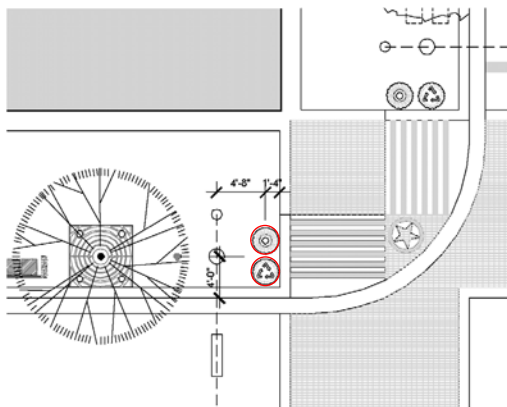
### Description

Waste receptacles should coordinate with benches for style and siting. Receptacles should increase in frequency in high pedestrian areas such as Second Street Retail District, East 6th Street, Congress Avenue, and Warehouse District. Additional containers should be provided for recycling glass, plastic, aluminum, and paper. In addition, receptacles should be designed to maximize service efficiency. There are currently three types of solid waste receptacles in the Central Business District: Keep Austin Beautiful, Congress Avenue Historic District, and Capital Metro. Future coordination between districts can ensure that each district has receptacles that are consistent in style and adequately serve the district's demands. Waste receptacles are suitable for custom designs from a reputable manufacturer.

### Materials, Properties, and Installation

- Receptacle shall have a capacity of at least 45 gallons
- Receptacle must have a lid/top to avoid wind from blowing contents and rain from entering the container
- For accessibility standards describing wheelchair accessible receptacle height restrictions, refer to ADAAG Section X02.
- Provide side-opening bin and handles on liner to aid emptying and use heavy-duty plastic liners.
- Customize lid of recycling receptacles appropriate to the material recycled
- Frame should have a corrosion resistant finish such as aluminum, stainless steel, or galvanized steel. Heavy duty cast iron or steel which should use a rust prohibitive coating, zinc epoxy primer, and powdercoat finish for superior corrosion resistance.
- A fade resistant powdercoat finish color should use RAL color standards so as to be compatible with other products, and color should be coordinated with each district.
- Metal bars shall be at least 3/8" solid steel in profile and all fabricated steel components should be steel shot-blasted, etched, phosphatized and electrostatically powder-coated. Finishes should resist rusting, chipping, peeling, fading, and contain a UV inhibitor.
- Installation should be surface mounted by anchoring a bolt through a 3/4 inch-square center anchor bolt hole into a concrete footing under the finished grade. Installations should use tamper resistant stainless steel or hot-dip galvanized tamper-proof attachments, hardware and/or anchors.
- Pretreat surfaces with graffiti preventer that creates an invisible barrier to prevent the absorption of graffiti.

### Siting Criteria

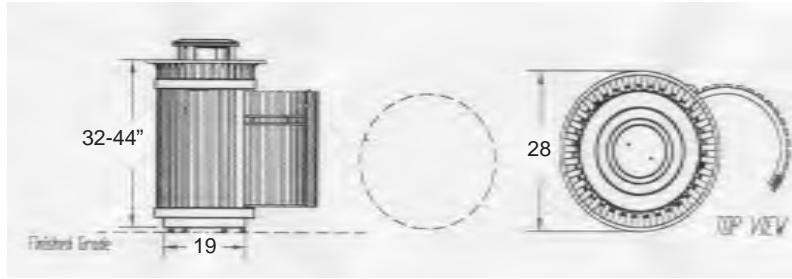


*Typical location of trash and recycle bin at street intersection*

Should be located at the intersections adjacent to streetlight poles centered in curbside zone. Additional receptacles should be located near food service establishments. Waste receptacle should not be closer than 2'-0" to bench or seating area in order to minimize exposure to objectionable odors and maintain a tidy appearance.



### STREETSCAPE AMENITIES - WASTE AND RECYCLING RECEPTACLES



*Receptacle Dimensions*



*Photo courtesy of Victor Stanley, Inc.*



*Side Door Hinged Opening  
Photo courtesy of Victor Stanley, Inc.*

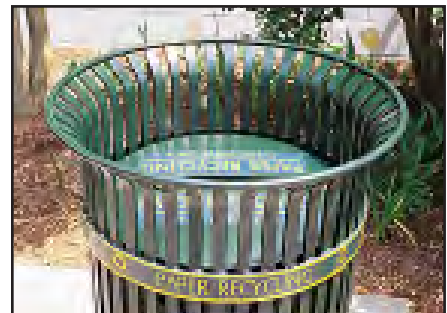
#### Dimensions

Footprint: 28-36 in. diameter average but dependant on gal. capacity

Vertical profile: 32-44 in. tall

#### Maintenance

Frame requires no regular maintenance. Powder-coated surfaces may be cleaned with a mild detergent as needed. If, after inspection, powder coat finishes are badly scratched, nicked, or gouged, repair by sanding then applying a coat of rust converter and add sealant to keep the area protected, then touch-up the finish. Paint may need periodic touch-up. Use graffiti removal products along with graffiti prevention product to protect against vandalism.



*Recycling Option  
Photo courtesy of Victor Stanley, Inc.*

# STREETSCAPE ELEMENTS AND STANDARDS

## STREETSCAPE AMENITIES - DRINKING FOUNTAINS

### PERFORMANCE SPECIFICATIONS AND STANDARDS

#### Description

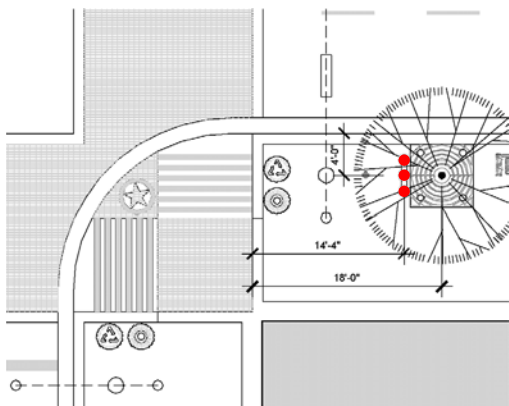
Drinking fountains in a downtown area provide a welcome public amenity, especially in hot climates. Along with shade elements, a drink of cold water may make the difference in creating a pleasant pedestrian experience. In the City of Portland, fifty fountains are located downtown. They are placed where demand is greatest, such as near transit stops, and may not occur at the same place on each block. Portland used the fountains as a public art opportunity to bring a sculptural quality to a functional object. (See middle photo opposite page.) Other recommended locations are along designated bicycle routes, at intersections, and in high-use entertainment districts. Fountains must be accessible to those in wheel chairs as well as to children. Fountains which accommodate a range of heights are preferred. The Great Streets Master Plan recommends installing an experimental drinking fountain in the Central Business District, with a test station to record use. Drinking fountains are suitable to be custom designed from a reputable manufacturer.

#### Materials, Properties, and Installation

- Fountain must meet lead free water quality requirements and have a UL approved label.
- Fountains shall meet ADAAG standard 4.15 for Drinking Fountains and Water Coolers. The spout height shall be no higher than 36" from ground to the spout outlet and be easily operable.
- Fountain pedestal shall be a one piece welded steel construction or 304 schedule 10 stainless steel.
- Receptor bowl shall be 18 gauge electro-polished stainless steel and bowl shall overlap pedestal to prevent build-up of residue in visual drinking area.
- Bubbler head shall be heavy-duty stainless steel, anti-squirt head mounted with lock nut and washer to prevent tampering. Head shall be designed to deliver a constant stream trajectory and natural shield to prevent contamination.
- Water supply shall be lead free and maintenance free reinforced nylobraid tubing with stainless steel fittings.
- Waste water shall be carried away with a PVC pipe.
- Steel fountains shall have an oven-baked powdercoat finish and stainless steel fountains shall have an oven-baked clearcoat finish for additional protection.
- Placement of fixtures on a hard, relatively level surface is recommended.
- Connection to a drain line or sump is essential.
- Installation of the drinking fountain can be embedded or surface mounted. Embedded installation should place the fountain in ground at a minimum depth of 14" with concrete poured around it. Surface mounted installation should anchor fountain on existing surface using anchor bolts through a mounting plate that is welded to the fountain. Surface mounted fountains shall provide an access door with vandal resistant stainless steel screws.

#### Siting Criteria

Drinking fountains shall be located within curbside zone near intersections. Provide a 3' minimum set back from the pedestrian zone.



# STREETSCAPE ELEMENTS AND STANDARDS

## STREETSCAPE AMENITIES - DRINKING FOUNTAINS

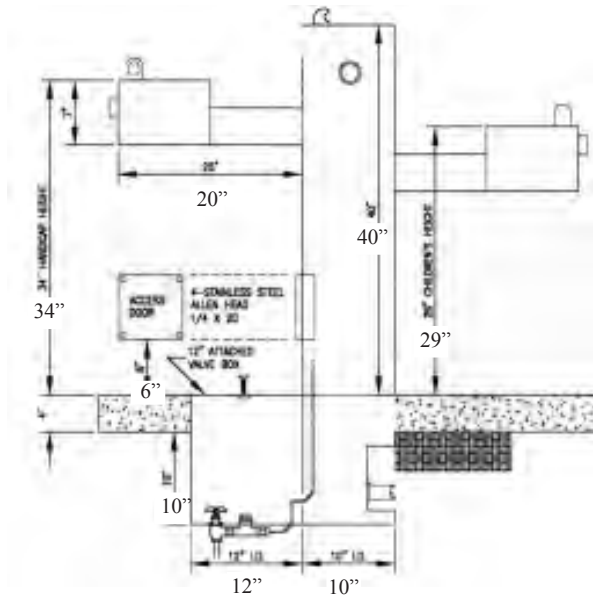
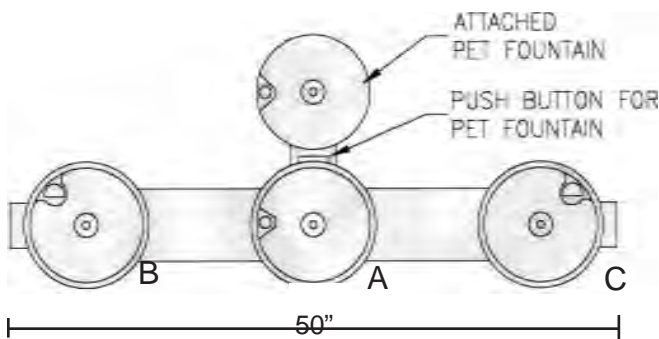


Photo courtesy of Most Dependable Fountains



### Dimensions

- Footprint: 1'-0" diameter single bowl  
 50" wide three bowls system
- Vertical profile: A: Standard adult height: 40"  
 B: Handicap accessible height: 34"  
 C: Children's accessible height: 29"  
 D: Pet accessible height: 10-12"

### Maintenance

Fountains use regular unmetered potable water supply lines of the city. Install timers on all fountains for water savings. Maintenance includes daily cleaning of the fountain bowls, shutting off the water supply in winter, draining down the line, and opening back up in the spring. Service kits are available from fountain manufacturers for replacement parts.



Photo courtesy of Most Dependable Fountains



# STREETSCAPE ELEMENTS AND STANDARDS

## STREETSCAPE AMENITIES - BENCHES AND CHAIRS

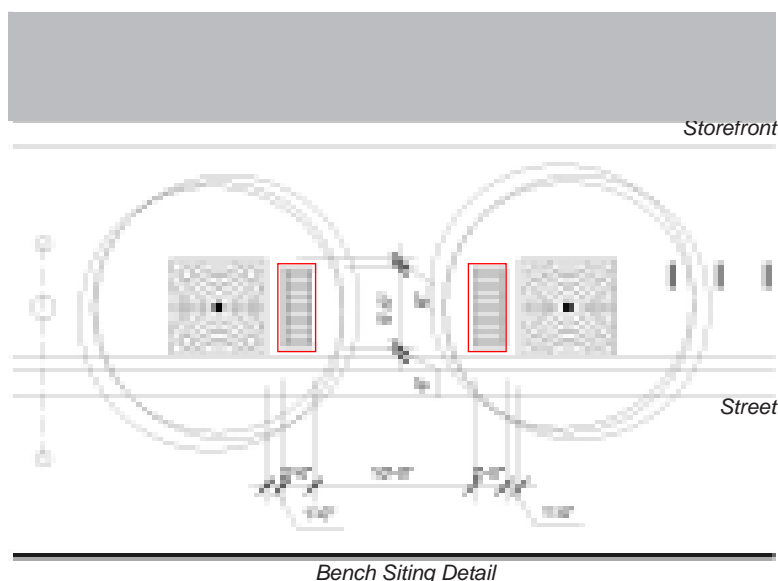
### PERFORMANCE SPECIFICATIONS AND STANDARDS

#### Description

Benches provide places for people to rest, wait for buses or companions, and gather together. Benches should coordinate with waste and recycling receptacles for style and siting. Benches are best provided in shaded areas of the sidewalk corridor. Shorter bench lengths shall be provided for wheelchair accessibility. Seating arrangements might also include a variety of seats such as individual chairs or small tables to encourage a living room style social interaction. Benches are suitable elements for custom designs from a reputable manufacturer.

#### Materials, Properties, and Installation

- Benches greater than 60" in length shall have central arms.
- For accessibility standards describing wheelchair accessible bench siting and sizing, refer to ADAAG Section X02.
- Frame of benches or chairs should have a corrosion resistant finish such as aluminum, stainless steel, or galvanized steel. Heavy duty cast iron or steel should be treated with a rust prohibitive coating, zinc epoxy primer, and powdercoat finish for superior corrosion resistance. Powdercoat finishes should be a polyester finish that resists rusting, chipping, peeling, and fading and contains a UV inhibitor.
- A fade resistant powdercoat finish color should use RAL color standards so as to be compatible with other products, and color should be coordinated with each district.
- Slats on benches or chairs can be wood or metal. Wood slats should use a responsibly produced, durable hardwood that is resistant to fire, moisture, insects, decay, and vandalism such as Pau Lope®, Ipe, or Redwood. It is not recommended to stain, paint, or varnish the wood because refinishing would be a necessity.
- Installation should be embedded or surface mounted installation. Surface mounted benches and chairs attach to sidewalk by drilling into the substrate and installing tamper resistant stainless steel or hot-dip galvanized tamper-proof attachments, hardware and/or anchors.



#### Siting Criteria

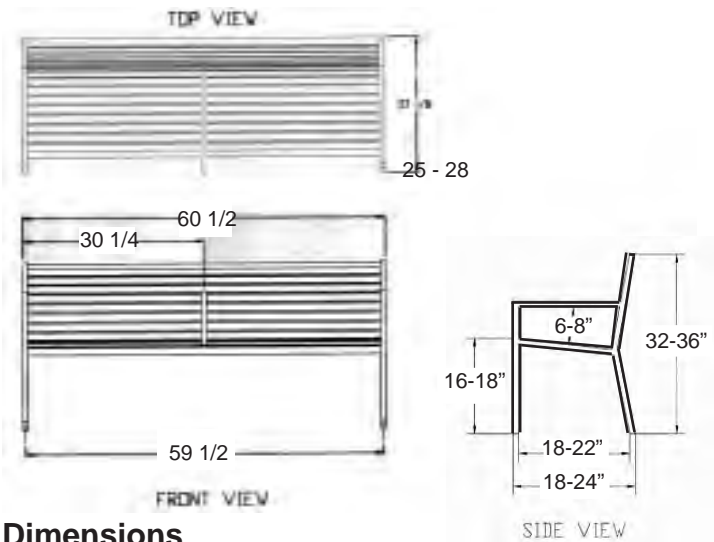
Located within curbside zone. Configure benches face-to-face, perpendicular to the pedestrian zone. Benches and chairs should be sited to facilitate social interaction. Benches should be located near transit stops.

**If the siting criteria can't be met, consider:**

Setting bench at back of pedestrian zone in frontage zone or on private property when frontage zone is greater than 3'-0"

# STREETSCAPE ELEMENTS AND STANDARDS

## STREETSCAPE AMENITIES - BENCHES AND CHAIRS



### Dimensions

Footprint: Min. 42 inches and max. 60 inches wide  
 Min. 22 inches and max. 30 inches deep

Vertical profile: Max. 3'-6" high

Handicap Access footprint: Min. 42 inches wide and max. 20-24 inches deep

Handicap Access vertical profile: Max. 3'-6" high

Chair dimensions should follow above height and depth recommendations and be a min. of 16 inches and max. of 24 inches wide.

### Maintenance

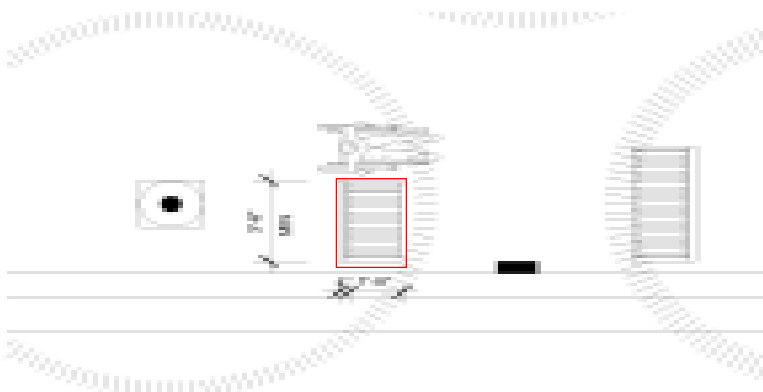
Standard frames require no regular maintenance. Powder-coated surfaces may be cleaned with a mild detergent as needed. If, after inspection, powder coat finishes are badly scratched, nicked, or gouged, repair by sanding then applying a coat of rust converter and add sealant to keep the area protected, then touch-up the finish. Wood can be either left alone to weather to a silver-gray patina or re-oiled approximately once a year with wood finish or similar products. Use graffiti removal products along with graffiti prevention product to protect against vandalism.



Photo courtesy of Landscape Forms™



Photo courtesy of Landscape Forms™



ADA Bench Siting Detail



Photo courtesy of Siteform

# STREETSCAPE ELEMENTS AND STANDARDS

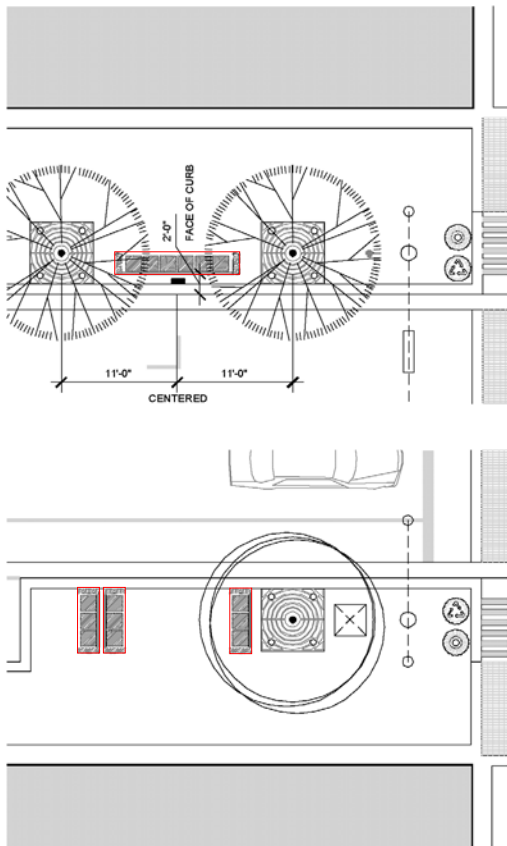
## STREETSCAPE AMENITIES - NEWSRACKS

### PERFORMANCE SPECIFICATIONS AND STANDARDS

#### Description

The dissemination of news through printed media (newspapers) is an essential element in our society and our city, and should be accommodated as an integral element of Great Streets. Not only is the ready availability of news to the public an important service, it also fosters appropriate pedestrian use of the sidewalk space. Both through thoughtful location and design, sites for unmanned “newsracks” (places where newspapers are made available) should be convenient, accessible and should not disrupt the normal flow of pedestrian traffic on the sidewalk. The visual variety, which often produces visual clutter in the design of the many newspaper distribution racks and containers, should be contained within a designed enclosure system. This designed system should be conceived to provide an appropriate space for the pedestrian to select, pay for (where there is a charge) and obtain newspapers with a minimum of effort and without disruption to other activities and functions of the sidewalk.

#### Materials, Properties, and Installation



*Two alternate locations for newsrack displays*

- Create a design for newsrack enclosures, custom-designed for the Austin streets, utilizing local artists and/or artisans, which serves both to celebrate the dissemination of news and to contain the clutter that newsracks usually represent.
- Appropriate design solutions would include a metal semi-transparent enclosure system, designed not to collect litter or to prevent easy sidewalk cleaning, and which would contain an appropriate number of individual newspaper distribution devices, organizing them into a functional display, visually compatible with the entire Great Streets ensemble of elements. The semi-transparent metal enclosure system is conceived to be in the same “family” as the design of railings, guardrails, plant rails and tree protection fencing.
- A consultant should be engaged to provide final design of the newsrack enclosure element, utilizing the input of local artist(s) and artisans.

#### Siting Criteria

- Provide a location for Newsracks at each intersection (refer to Element Plans), located wherever feasible at the same corner of the intersection at each block per street.



# STREETSCAPE ELEMENTS AND STANDARDS

## STREETSCAPE AMENITIES - SIGNAGE KIOSKS

### PERFORMANCE SPECIFICATIONS AND STANDARDS

#### Description

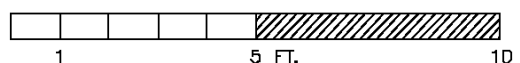
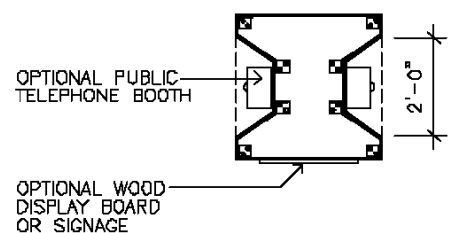
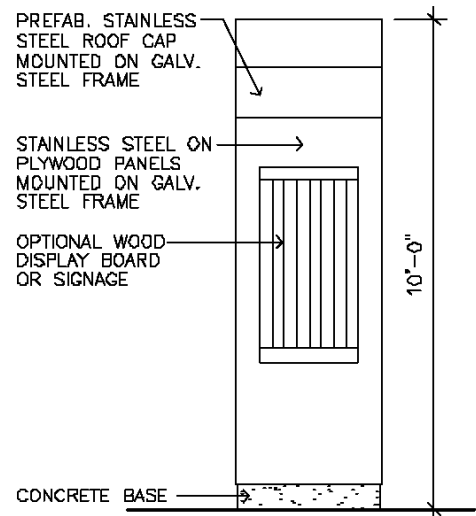
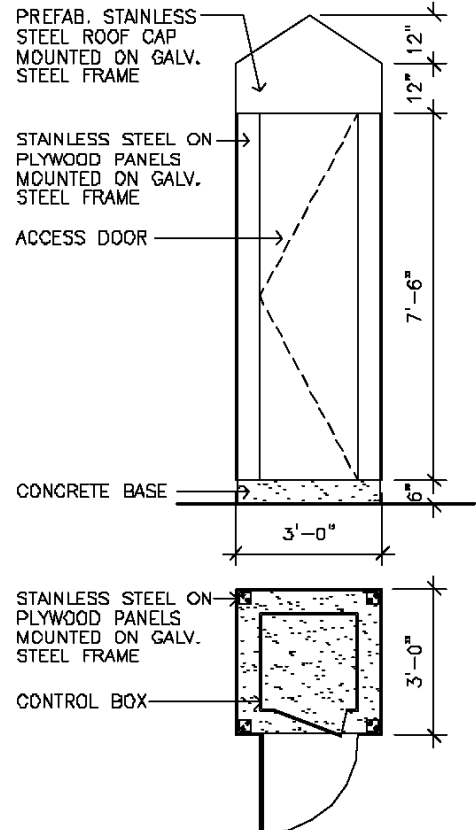
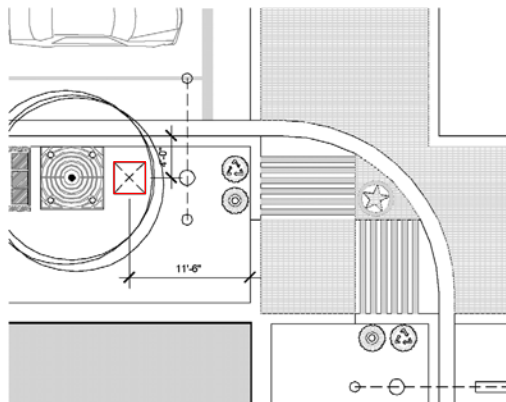
Signage kiosks may be used throughout downtown for a variety of uses, including public information notices, wayfinding signage and transit information. Where possible, signage kiosks can also incorporate other street amenities, such as advertising or public telephones. In addition, these kiosks are intended to act as covers for the traffic control devices. A flattened “two-dimensional” version can be used where no need exists for the interior space.

#### Materials, Properties, and Installation

- Kiosk should be a graffiti resistant, textured surface (stainless steel or powder paint-coated aluminum).
- When kiosk is located adjacent to transit stop, kiosk will remain separate from transit shelter.
- Standard stainless steel and aluminum traffic control device should be built into kiosk; standard traffic control device dimensions are 2'-0" x 2'-0".
- Installation should provide for leveling bolts at the bottom mountings that will also allow for surface drainage.
- Concrete footings should be provided in all cases to 6" above grade.
- Public telephones should be conveniently located and accessible. Intergration into the signage kiosk ensures safety, and should also encourage maintenance. Telephones within the public right-of-way should not be located away from kiosk.

#### Siting Criteria

- Locate kiosk in curbside zone with a minimum of 2'-0" from face of curb and 2'-0" from pedestrian zone, centered on the centerline of trees and streetlight poles.
- Kiosk should be located between streetlight pole adjacent to intersection and first street tree.
- Control device must be oriented so that traffic control technician is able to see traffic signals from controller box.



# STREETSCAPE ELEMENTS AND STANDARDS

## STREETSCAPE AMENITIES - TRANSIT SHELTERS AND BUS STOPS

### PERFORMANCE SPECIFICATIONS AND STANDARDS

#### Description

Currently there are bus shelters within the Great Streets study area, but none in the Central Business District. This is due to the absence of space on the ten-foot sidewalks. The new standard eighteen-foot sidewalk provides the opportunity for shelters in the curbside zone.

#### Materials, Properties, and Installation

Shelters are conceived of in three sizes:

- The simple, small (7'-0" x 7'-0") shade device on a single pole where trees do not exist or are not grown yet, and where the use of the stop is low. No benches or amenities are provided.
- The two-pole medium-sized shelter (7'-0" x 10'-0") for medium-level use. A simple granite block might be provided for short-term waiting.
- A full transit shelter (7'-0" x 18'-0") for heavily used transit stops. The shelter would have two columns, lighting at night, and one or two granite blocks for short-term seating.

Design criteria for transit shelters should include, but not be limited to:

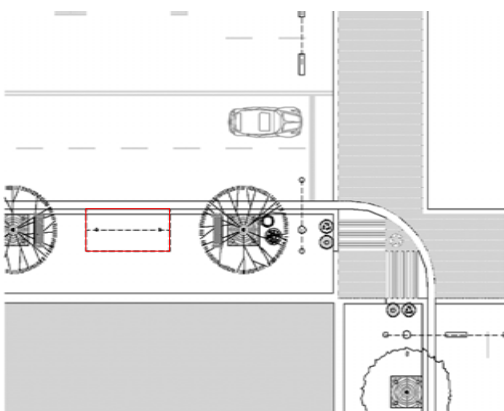
- simplicity and structural integrity
- visually "light," thin and interesting character
- appropriateness in scale to both the human and street
- opportunity for public art
- maintenance-free/graffiti resistant

Galvanized steel or powder-paint are probably the most affordable options. Galvanized steel is probably the more durable surface. However, powder-painted metal provides the opportunity for color. In either case a vigorous maintenance program should be created to maintain "public pride of place."

#### Siting Criteria

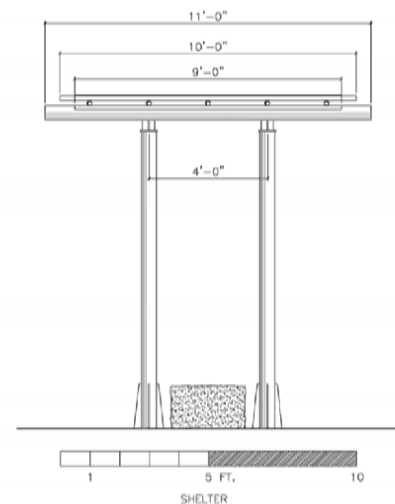
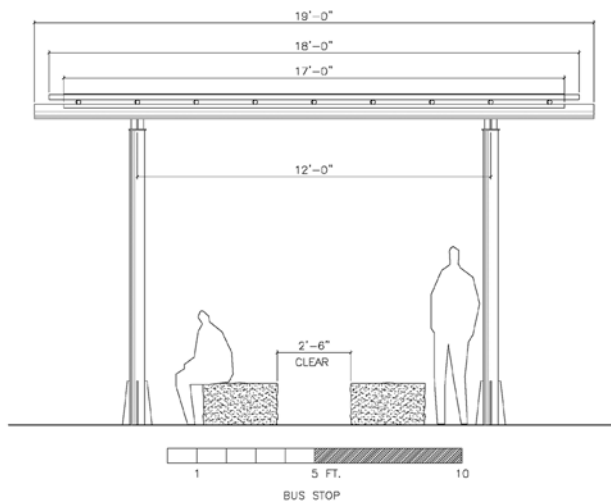
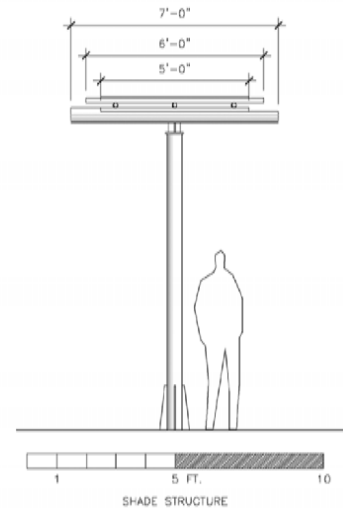
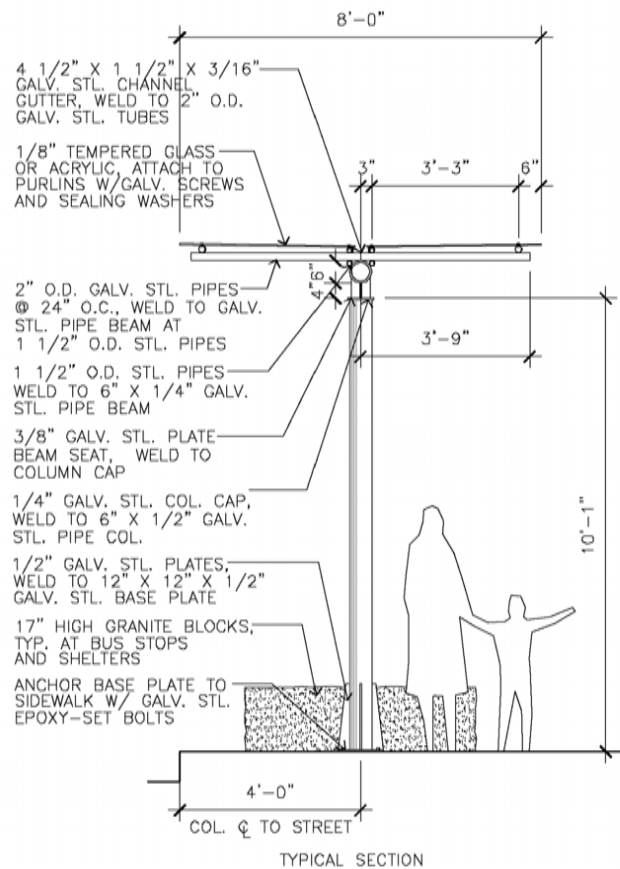
Transit shelters will be located in the curbside zone on the near-side of intersections (the side approaching the traffic signal for the given direction of travel). Coordinate the location of transit shelters with the Capital Metropolitan Transportation Authority Policy.

Transit shelters should have as narrow a footprint as possible to stay within the curbside zone. Transit shelters should be located as close as possible to the place where the stop occurs without being closer to the intersection than the typical first tree according to the Great Streets typology. The second tree may be eliminated where medium or full-sized shelters are used. Small shade structures can be placed between the first and second tree.



# STREETSCAPE ELEMENTS AND STANDARDS

## STREETSCAPE AMENITIES - TRANSIT SHELTERS AND BUS STOPS





# STREETSCAPE ELEMENTS AND STANDARDS

## STREETSCAPE AMENITIES - BICYCLE RACKS

### PERFORMANCE SPECIFICATIONS AND STANDARDS

#### Description

Bicycle racks should coordinate with waste and recycling receptacles and benches and chairs for design and siting. Short-term facilities provide a means of locking the bicycle frame and both wheels, but do not provide accessory and component security or weather protection (unless covered). They are for decentralized parking where the bicycle is left for a short period of time. Bicycle racks should be provided at transit stops, pedestrian and retail districts, place of major employment, and recreational destinations. Bicycle racks are suitable to be custom designed from a reputable manufacturer.

#### Materials, Properties, and Installation

- Racks should be 30" apart from each other and use the Class 3 inverted "U" rack or multiple "U" racks with 1 1/2" steel pipe bent into one piece (not welded in sections).
- Racks should accommodate high security U-shaped bike locks, should not bend wheels or damage other bicycle parts, and should have as few moving parts as possible.
- Frame of racks should have a corrosion resistant finish such as aluminum, stainless steel, or galvanized steel. Standard steel should be treated with a rust prohibitive coating, zinc epoxy primer, and powdercoat finish for superior corrosion resistance. Powdercoat finishes should be a polyester finish that resists rusting, chipping, peeling, and fading and contains a UV inhibitor. Finishes can also be a thermo plastic coating which is soft to the touch and non damaging to bicycles. Stainless steel should use a 1 1/2", 14-gauge tubing.
- A fade resistant powdercoat finish color should use RAL color standards so as to be compatible with other products, and color should be coordinated with each district.
- Installation should be embedded, inground or surface mounted. Surface mounted racks attach to sidewalk by anchoring two round base plates, with at least three 7/16" diameter mounting holes on each base plate. Base plate may be welded to the pipe with two 1/8" vent holes, one on the inside of each upright where the pipe is welded to the base plate. (This will provide for ventilation inside of the piping and allow condensation to drain out.) Drill into the substrate 1/2" diameter holes for drop-in expansion anchors and attach rack with bolts. Use tamper resistant stainless steel or hot-dip galvanized tamper-proof attachments, hardware and/or anchors. Imbedded mounting drops the ends of the rack 4" into sleeves which are imbedded in the concrete and anchored with epoxy. Inground installation requires an extra long rack which is installed 12" below grade.

#### Siting Criteria

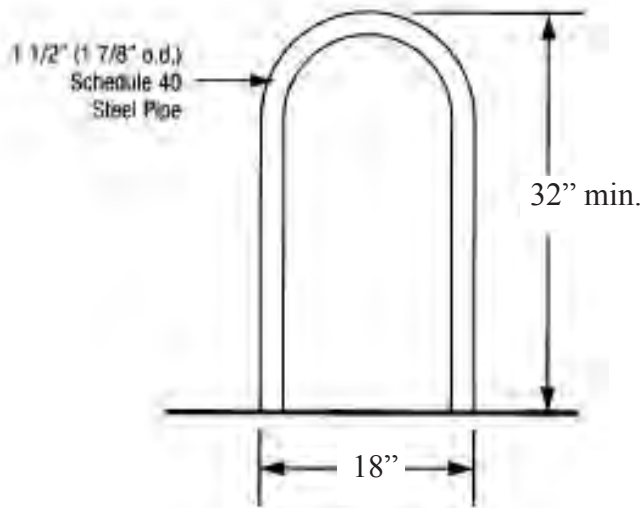
Racks should be installed in the curbside zone, or on private sites in conformance with setback requirements. Racks shall be perpendicular to street and placed on paving, with a minimum of 30" on center between the racks. Racks shall be 30" minimum from face of curb (3'-0" is preferred when parking is adjacent to curb) and at least 5'-0" wide behind all racks to allow room to maneuver. Racks should be located at least 30" from a perpendicular wall and 24" from a parallel wall. Racks should be visible and convenient to building entrances, easily accessed from the street, located near transit stops, protected from motor vehicles, and visible to passersby to promote usage and enhance security.

#### If the siting criteria can't be met, consider:

- Provide bicycle parking in the street where parking spaces might occur, or on curb extension within the on-street parking lane
- Set rack on private property or on acquired easement
- Use wall mounted racks in nearby parking garages with signs to guide cyclists to public parking located in ga-

# STREETSCAPE ELEMENTS AND STANDARDS

## STREETSCAPE AMENITIES - BICYCLE RACKS



### Dimensions

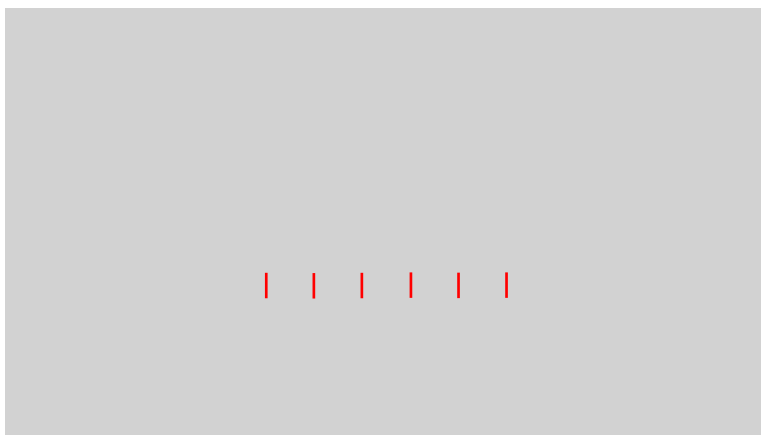
Footprint: (of typical "hitching post" rack) 1'-6" long by 2" wide  
Vertical profile: 2'-8" minimum

### Maintenance

Standard frames require no regular maintenance. Powder-coated surfaces may be cleaned with a mild detergent as needed. If, after inspection, powder coat finishes are badly scratched, nicked, or gouged, repair by sanding then applying a coat of rust converter and add sealant to keep the area protected, then touch-up the finish.



Photo courtesy of Function First Bike Security™



*Bicycle Rack Siting Criteria*



Photo courtesy of Function First Bike Security™

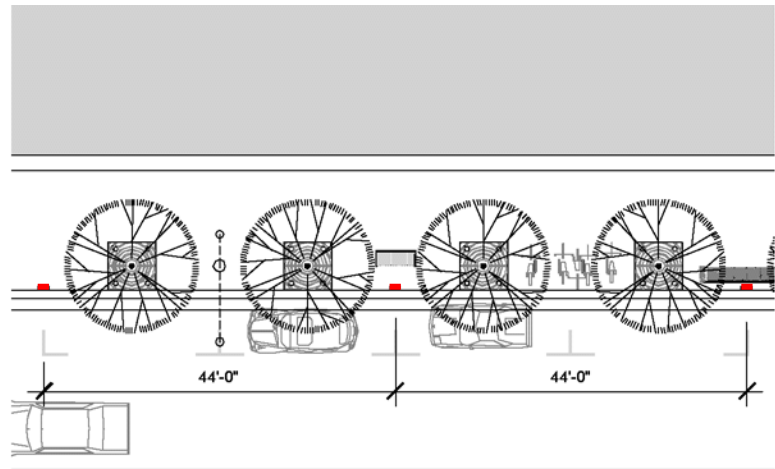
# STREETSCAPE ELEMENTS AND STANDARDS

## STREETSCAPE AMENITIES - PARKING METERS AND SIGNAGE PERFORMANCE SPECIFICATION AND STANDARDS

### Description

The Great Streets philosophy regarding the placement, marking, and metering of parallel parking is founded on several core principles:

- The location and immediate availability of vacant spaces should be immediately clear to the automobile driver, facilitating efficient, safe movements from the traffic stream to the parked position.
- The entire transaction of paying for meter time (whether with a card or other coinless system, or with coins) should be as effortless as possible, and should occur at the meter rather than at a remote location.
- The visual confusion and clutter normally represented by Parking Signs and their poles should be avoided to the greatest extent possible. Combine the functions of metering and signage into a single, custom-designed component, located near the curb between parking spaces, utilizing the placement itself as the primary visual clue as to the position of the parking space and the point of pedestrian entry to the curbside zone of the sidewalk.
- Meters and signage should, like all Great Streets accessories, convey a sense of permanence and order; they should be seen as an integral component within an entire visual ensemble. Place appropriate signage above the meters, including Accessibility denotation, limitations on types and duration of parking, and other essential information regarding parking and restrictions. Where metering is not necessary or desired, provide “blank” surfaces where meters could be installed in the future if necessary.
- Utilize stone, concrete, or metal in the design and construction of the custom meter and signage system. These objects should be rugged, durable, and appropriate visual markers of both the edge of the curbside zone, and the access points from sidewalk to parked cars.
- A consultant should be engaged to design this element, with the input of local artist(s) and artisans.





The sidewalk, generally 18'-0" wide, extends from intersection to intersection and from building front (or property line) to face-of-curb. The sidewalk is considered as a continuous surface and a more or less undifferentiated area to accommodate a wide variety of activity. Within that general understanding, opportunities to modify or specialize sidewalk paving should be taken when they present themselves, such as with special building entries, sidewalk cafes, street markets, historic locations, and unique district identity.

Of the three sidewalk zones (the curbside zone, the pedestrian zone, and the frontage zone within the pedestrian zone) the frontage sub-zone deserves special explanation here. This 24" wide zone is particularly useful in dealing with a wide variety of unpredictable existing conditions at the interface between sidewalk and building. The frontage or "shy" zone becomes a work-to line for the pedestrian paving, thus avoiding engagement with thresholds, facades, entry levels, etc.

The shy zone can also represent opportunities for the private sector. It should be available for use as a planting strip (in lieu of paving) or planters where appropriate, and as a zone that contains the arc of outswinging doors. In some cases it could be available for storefront intrusion to identify building entry.

### ACCESSIBLE SIDEWALKS

All newly constructed sidewalks in the public-right-of way require a corridor of accessible travel to be a minimum of 60" wide (recommended 72" wide) free of utility covers, grates, and accessories, and 80" high without protruding objects greater than 4". The corridor of accessible travel shall also be free of abrupt changes in level more than 1/4" or beveled to 1/2". It must be within the sidewalk zone, across intersections, across driveways, over overpasses, bridges, etc. The corridor must be respected by private property owners who may create accessible barriers such as advertising signs, trash cans, or vehicles parked in the sidewalk.

Elements encroaching into the pedestrian zone such as stairs, stoops, rails, bay windows, awnings, canopies, overhangs, signs, flags, banners, marquees, cornices, brackets, fences, walls and lanterns must comply with ADAAG clearance guidelines and the Uniform Building Code, Chapter 32. Such elements are subject to permitting by the City Engineer. Particularly, fire safety systems, such as standpipe systems, may project into the Frontage Zone from the building face a maximum of 12" per City Engineer, but not more than four" if they project in the clear area of pedestrian zone.

The running grade of pedestrian access route shall be less than 5 % (1:20) or in compliance with ADAAG Section X02.4 or Section 405. The grade of a pedestrian access route should be as flat and uniform as possible. When the grade of the adjacent roadway exceeds 5 %, it may be possible to create an independent sidewalk and pedestrian access route that differs from the continuous roadway. By establishing a sidewalk profile that is higher or lower than the roadway profile or by using a switch back design of connected ramps and landings, a lesser slope may be created. Where sidewalk grades are contiguous with the adjacent roadway grades and are steeper than 5%, accessibility will be maximized if level landings and/or handrails can be provided.

The cross slope for the entire paved sidewalk corridor shall be 2% (1:50). If a greater slope is anticipated because of unusual topographic or existing conditions, the designer should maintain the preferred slope of 2% within the entire pedestrian zone for the corridor of accessible travel. This can be accomplished by either raising the curb so that the cross-slope of the entire sidewalk can be 2%, or by placing the more steeply angled slope within the curbside zone and/or frontage zone.

No sidewalk, curb cuts, or ramps shall constrict the sidewalk to less than three feet wide so as to prevent disabled persons being forced onto street pavements. To focus construction efforts, it is recommended that arterial streets be inventoried in a cooperative effort by affected jurisdictions to determine which sidewalk corridors have only one or two significant barriers. Clear paths could be created along otherwise impassable corridors with minimal cost outlay.

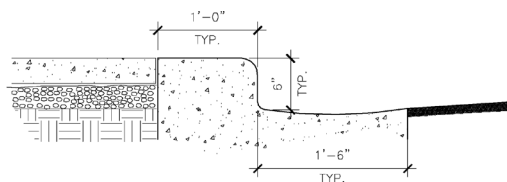
# STREETSCAPE ELEMENTS AND STANDARDS

## STREET HARDSCAPE - SIDEWALK PAVING CURBS

### Description

The Master Plan recommends a 12" wide curb along all streets for durability, to create a distinction for the downtown area, and to signify a transition between vehicular and pedestrian zones. Wider curbs are more pedestrian-friendly, acting more like a tread on a public stair. Plain concrete curbs also will stand out in contrast to the sidewalk pavers and the colored concrete parking, creating visual clarity for the various zones of the street.

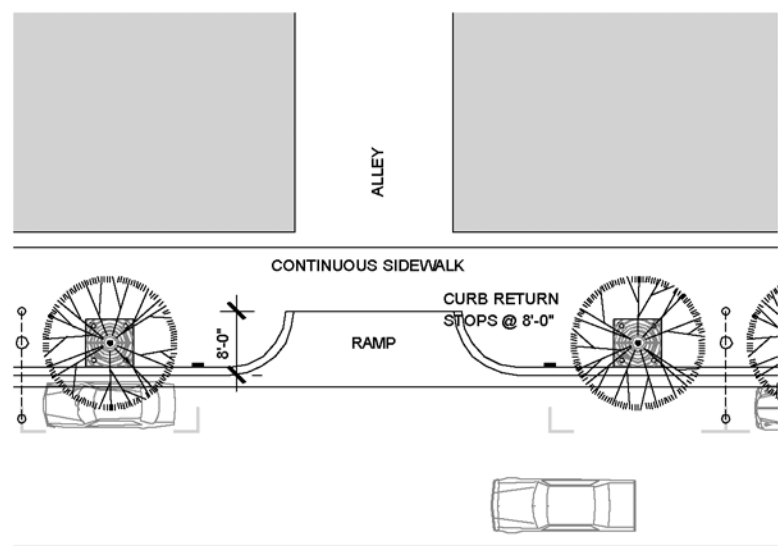
The 12" curb allows room on the top surface for information such as street names to be inscribed on plaques and set into the concrete. Block numbers or other information could also be set into the face of the curb.



Where curb breaks exist, the interruption to the sidewalk should not be treated identically to an intersection. Curbs should be terminated, aprons sloped to sidewalk level, and sidewalk paving continued seamlessly across the intrusion.

### Materials, Properties, and Installation

- Visibility: provide safety by defining the pavement edge
- Longevity: minimum 20-year life span
- Durability: ability to withstand abuse from vehicular traffic, mechanical maintenance equipment; resistance to disintegration from freeze-thaw weather cycle or salts and chemicals; prevent erosion by confining the surface waters within the pavement channel, prevention of edge raveling, prevention of undercutting gutters, and protection of shoulders and fill
- Maintenance: plain concrete can easily be replaced for repairs, etc.



# STREETSCAPE ELEMENTS AND STANDARDS

## STREET HARDSCAPE - INTERSECTION PAVING

Intersection crosswalks are intended to provide continuity for the pedestrian and discontinuity for the driving experience in the interest of signifying pedestrian dominance. The driver is reminded every block of the presence of the pedestrian. This will provide a significant measure of traffic-calming and increased safety.

The actual crosswalks should be the same pavers as the sidewalks that lead to them. Both pavers are distinct from the safe zone of the Mixed Mode Street type, transit, bicycle, and parking lanes, and the street itself. 1'-0" flat curbs of colored concrete should be used to contain the pavers and further define the crosswalks. The square contained in the center of the intersection is a special opportunity for identity markers. Streets, districts, entrances or exits, and such could be marked by the creative use of this space.

### ACCESSIBLE CURB RAMPS

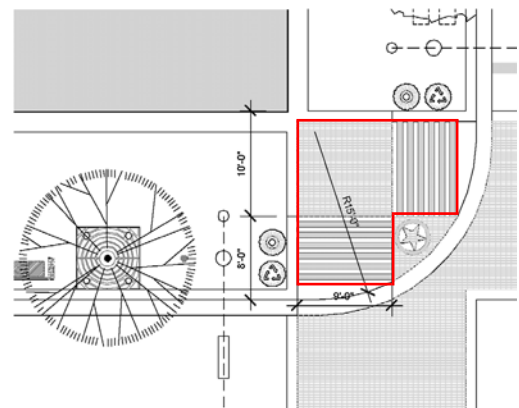
#### Description

ADA curbs and curb ramps function to make the sidewalk accessible from the roadway level of the crosswalk.

#### Materials, Properties, and Installation

- Ramps are not to exceed an 8.3% slope.
- Cross slope warping is to be minimized.
- Surface of curb ramps and landings shall be stable, slip resistant, and satisfy requirements for safety regarding color and textural demarcation.
- Curb ramps are required to have a 33% contrast in color to the sidewalk they serve.

It is recommended that longer, more gradual slopes be incorporated into ramp design. Careful attention should also be paid so that ramps are aligned on opposite sides of the street. Because a separate ramp curb or flush landing is required for each direction of travel, ramps should be aligned and widened at every intersection. Caution should be paid to "blind corners" where pedestrians with the right-of-way cannot see rapidly approaching traffic, particularly in situations involving a "free right turn". This may be solved using signage and "traffic calming" devices. One of the most hazardous and hidden barriers can be the drainage swale or gutter at the bottom of a curb cut. Consequently, the gutter return slope shall be limited to no more than 10% or 1.2" in 12".





# STREETSCAPE ELEMENTS AND STANDARDS

## STREET HARDSCAPE - INTERSECTION PAVING

### Siting Criteria

A curb ramp or flush landing is required wherever the pedestrian access route crosses a sidewalk or street transition. A curb ramp or flush landing is required for each direction of travel, and a landing is required at the top of each curb ramp, except at unsignalized driveways. A landing is also required at the top and bottom of each transition ramp, except at unsignalized driveways. Curb ramps and flush landings shall be wholly contained within the public sidewalk and shall not protrude into the vehicular way. Curb ramps are permitted to protrude into accessible parking aisles if they do not intrude into the maneuvering and unloading areas. Landings may overlap with adjacent landings or a single landing may serve multiple ramps. Successive curb ramps or transition ramps shall be separated by at least 60" in the direction of travel on the pedestrian access route.

### Dimensions

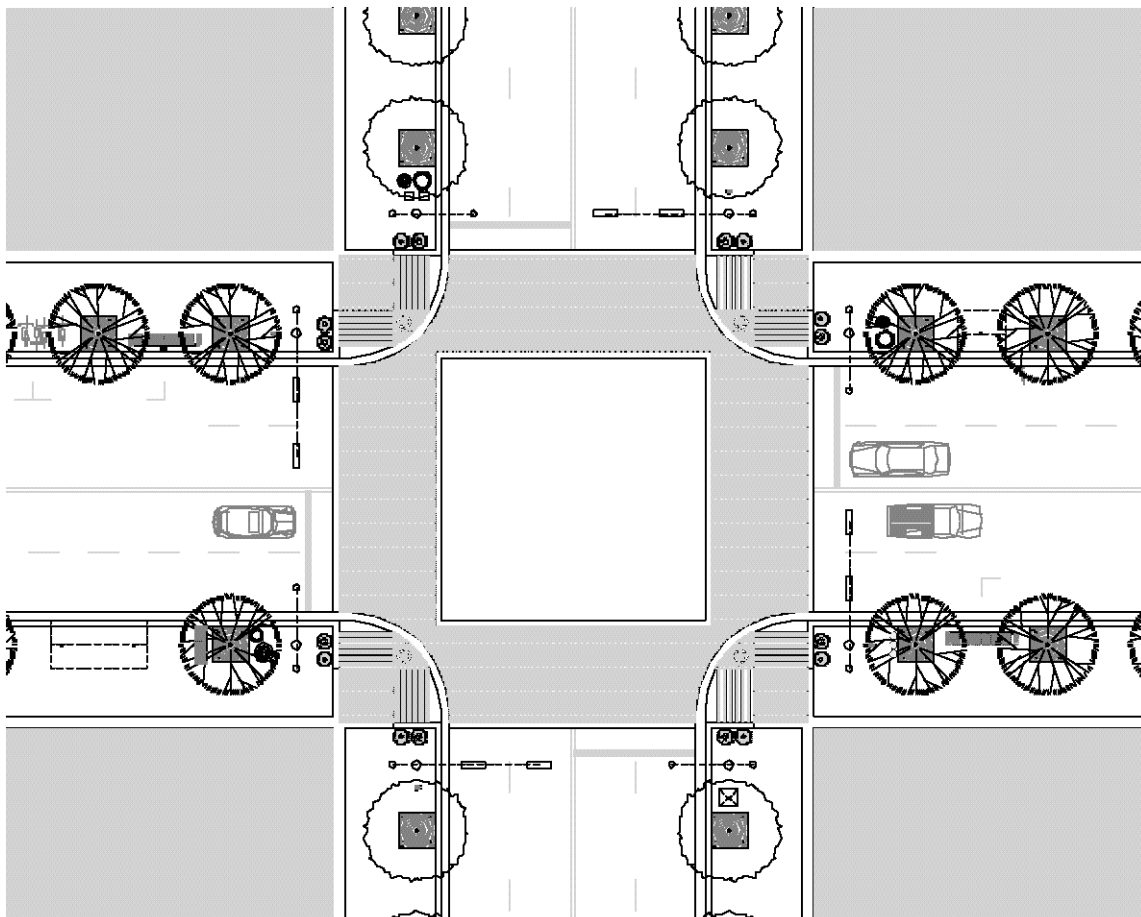
**Landing size:** Landings must contain a 60" square or 60" diameter circle. Landings may serve multiple ramps or overlap with other landings.

**Running grade:** The maximum running grade of any portion of any curb ramp or transition ramp shall be 1:12. Curb ramps and transition ramps are not required to exceed 15'-0".

**Cross slope:** The maximum cross slope of curb ramps and transition ramps shall be 1:48. The maximum cross slope for landings shall be 1:48 in any direction.

**Counter Slope:** The algebraic difference in grade at the ramp/street interface shall not exceed 11%. Multiple grade breaks shall be separated by at least 24".

**Edge Conditions:** Where transition ramps that are not full sidewalk width are installed, pedestrian shall be protected from walking across the diverging grade in the public sidewalk. The curb ramps shall have flares if pedestrians might walk across them. Flare length along the curb line shall be at least ten times as long as the adjacent curb height.



At least six zones are proposed to be used within the street portion of the public right-of-way. Generally only three would be used on a typical street, but special streets require other treatments. The six zones are:

- Travel zone: the automobile travel zone includes typical travel lanes, and takes up the most room within the public right-of-way. For reasons of utility, maintenance, and ease of replacement, this zone should typically be asphalt. If possible, colored asphalt should be investigated and a reliable supply established.
- Safe zone: the safe zone is closely related to the wide edge of the parking zone. The safe zone should be colored concrete, the same material as the parking zone, but with a differing integral color to help distinguish this important space between parking and the travel lane.
- Typical transit stop and parking zone: this zone should be colored concrete to create a distinction between it and the travel lane as well as the plain concrete curb. The color chosen should be distinctive from adjacent safe zones where applicable.
- Bicycle zone: colored concrete should be used for bicycle lanes, with special attention paid to providing a bicycle-friendly texture.
- Medians: most medians are planted medians, particularly on the Commuter Boulevard type. The portion of the median for pedestrians should be treated similarly to the intersection crosswalk. Medians may also be designated by a paving change between left-turn lanes at intersections. This paving would not be driven on, but might be a place to park service vehicles.
- Rapid transit zone: Very special requirements exist for the paved surface of a rapid transit corridor. A heavy texture accomplished with small square granite block pavers can identify this zone as a non-pedestrian and non-bicycle environment, and reduce or eliminate the need for extra signage.

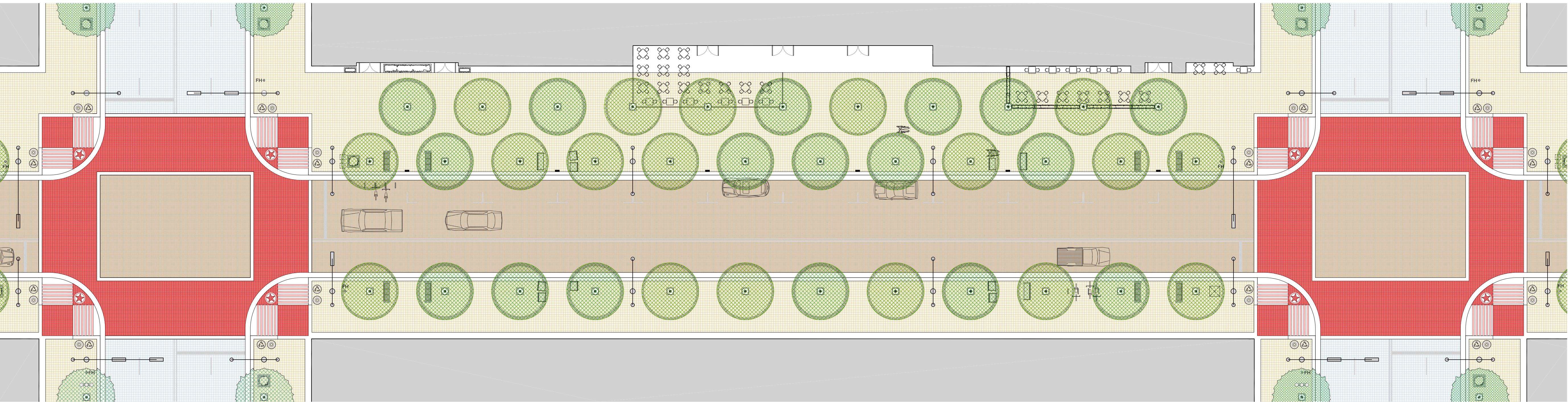
Special opportunities for paving include using a variation of the paving suggestions above to denote a unique identity within downtown for a district or street, such as the Second Street Retail District.

# STREETSCAPE ELEMENTS AND STANDARDS

## ELEMENT PLANS

The following color element plans have been developed from the six street types of the Great Streets Typology. They are intended to serve as a literal “snapshot” for each street type, with appropriate furnishings, or elements, suggested. The orientation of each element plan is also included, indicating whether the chosen version of a given street type runs north-south or east-west.





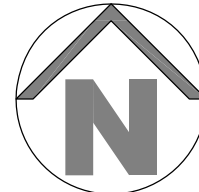
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STREET PLAN  
PEDESTRIAN DOMINANT STREET  
EAST - WEST VERSION

0 16' 32'

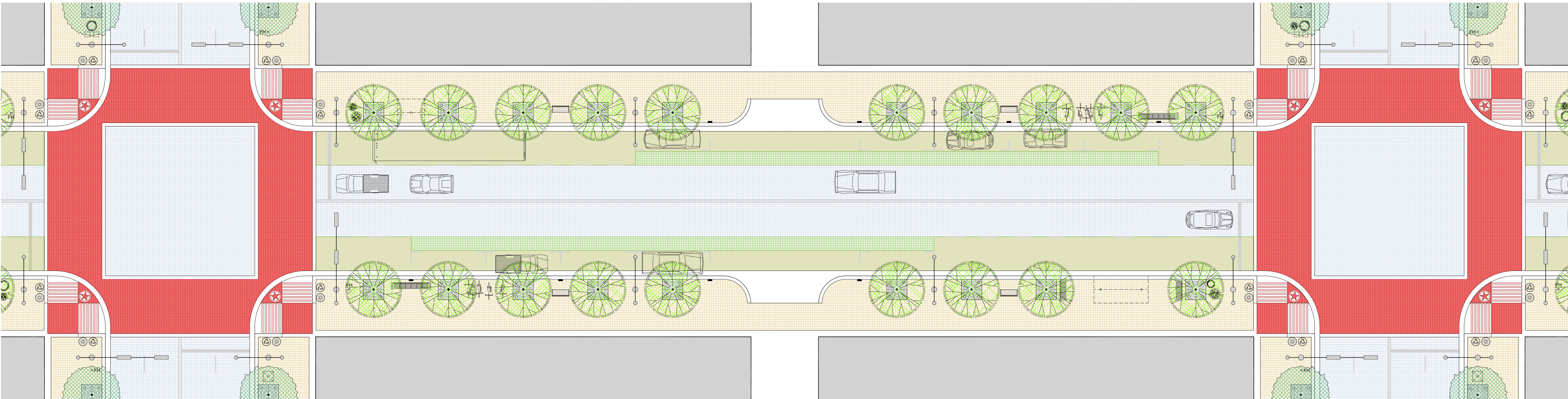


### Legend of symbols

	Bald Cypress with Paver grate		Planter
	Irrigation Controls		Accessible Ramp
	Streetlight Pole and Traffic Signal		Streetlight Pole
	Fire Hydrant		Waste Receptacle
	Drinking Fountain		Recycling Receptacle
	Signage Kiosk and Traffic Control Device		Bench
	Sidewalk Cafe		News Rack
	Bicycle Rack		Parking Meter

For descriptions of specific elements refer to Streetscape Elements and Standards



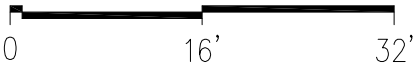


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STREET PLAN  
MIXED MODE STREET  
NORTH - SOUTH VERSION

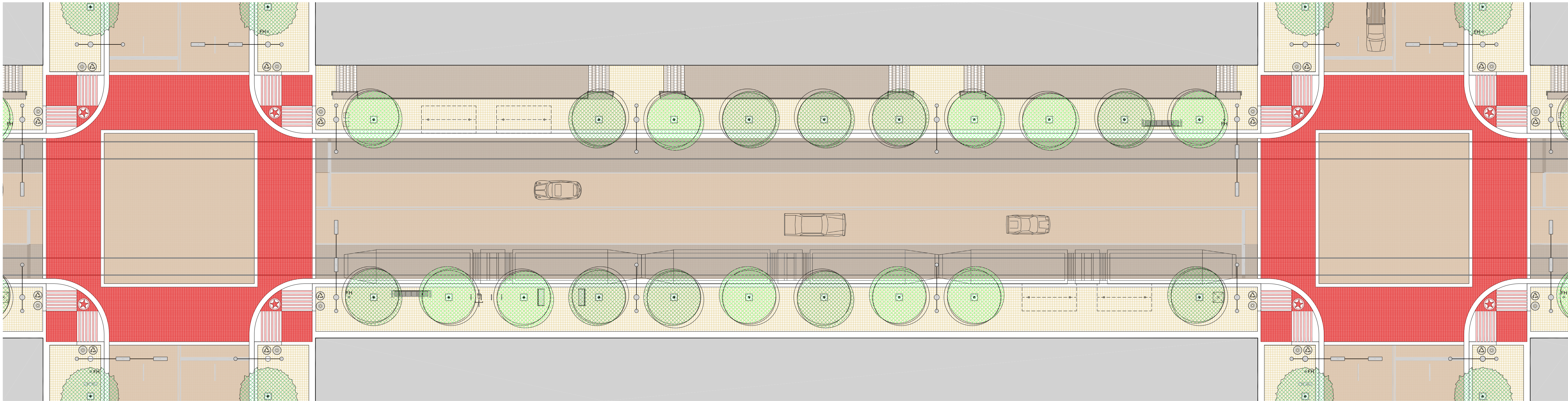


Legend of symbols

	Big Tooth Maple with Tree grate		Planter
	Irrigation Controls		Safe Zone
	Accessible Ramp with Guard Rail		Streetlight Pole and Traffic Signal
	Streetlight Pole		Fire Hydrant
	Drinking Fountain		Waste Receptacle
	Signage Kiosk and Traffic Control Device		Recycling Receptacle
	Transit Shelter		Bench
	Bicycle Rack		News Rack
	Parking Meter		

For descriptions of specific elements refer to Streetscape Elements and Standards



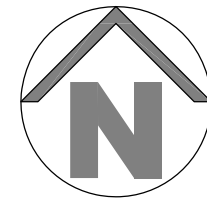


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STREET PLAN  
RAPID TRANSIT STREET  
EAST - WEST VERSION

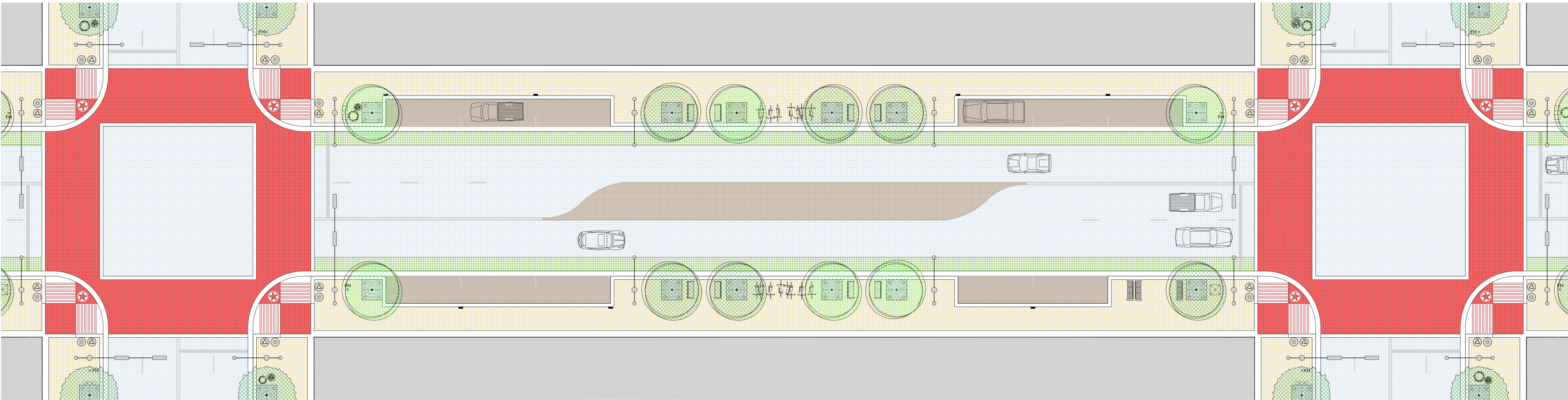


Legend of symbols

- Cedar Elm with paver grate
- Irrigation Controls
- Dedicated Transit Lane
- Accessible Ramp with Guard Rail
- Streetlight Pole and Traffic Signal
- Streetlight Pole
- Fire Hydrant
- Waste Receptacle
- Recycling Receptacle
- Drinking Fountain
- Signage Kiosk and Traffic Control Device
- News Rack
- Transit Shelter
- Bicycle Rack

For descriptions of specific elements refer to Streetscape Elements and Standards



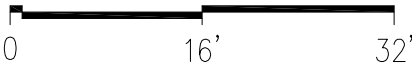


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STREET PLAN  
BICYCLE AND LOCAL ACCESS STREET  
EAST - WEST VERSION



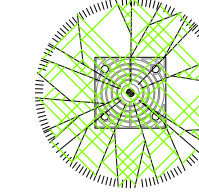

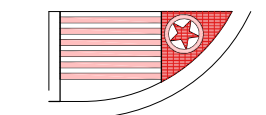

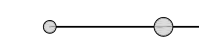



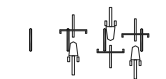




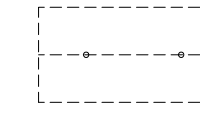

Legend of symbols

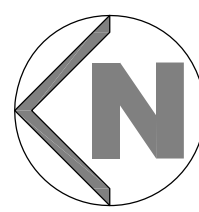
- |  |  |  |                                     |
|--|--|--|-------------------------------------|
|  | Cedar Elm with Tree grate                |  | Planter                             |
|  | Irrigation Controls                      |  | Dedicated Bicycle Lane              |
|  | Accessible Ramp with Guard Rail          |  | Streetlight Pole and Traffic Signal |
|  | Streetlight Pole                         |  | Fire Hydrant                        |
|  | Drinking Fountain                        |  | Waste Receptacle                    |
|  | Signage Kiosk and Traffic Control Device |  | Recycling Receptacle                |
|  | Bicycle Rack                             |  | Bench                               |
|  |  |  | News Rack                           |
|  |  |  | Parking Meter                       |

For descriptions of specific elements refer to Streetscape Elements and Standards



Legend of symbols

-  Red Oak with Tree grate
  -  Irrigation Controls
  -  Accessible Ramp
  -  Streetlight Pole and Traffic Signal
  -  Streetlight Pole
  -  Fire Hydrant
  -  Drinking Fountain
  -  Signage Kiosk and Traffic Control Device
  -  Bicycle Rack
  -  Waste Receptacle
  -  Recycling Receptacle
  -  Bench
  -  News Rack
  -  Transit Shelter
  -  Parking Meter
- For descriptions of specific elements refer to Streetscape Elements and Standards



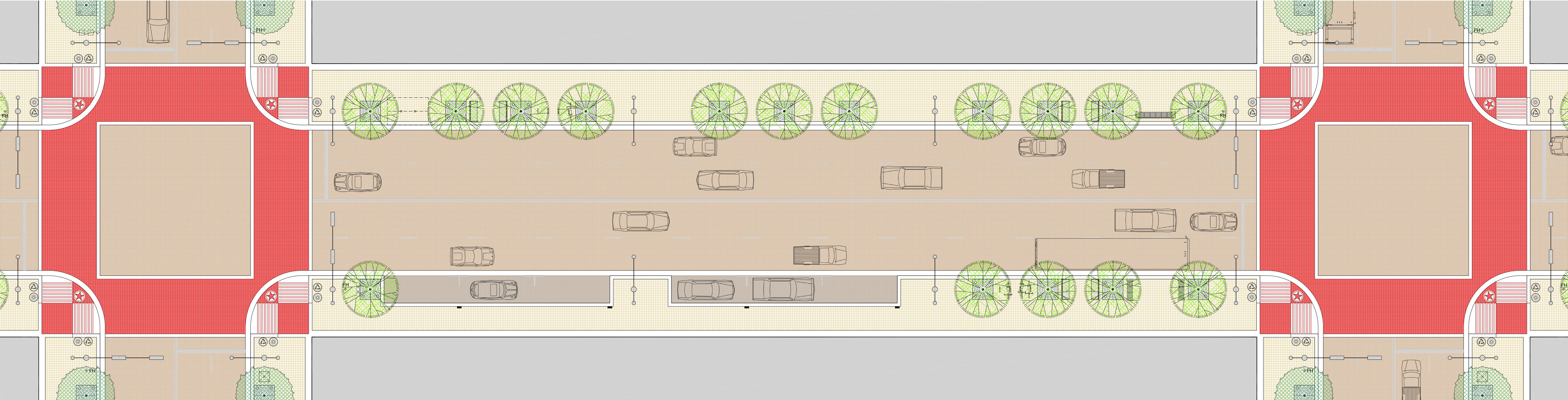
STREET PLAN  
COMMUTER STREET  
NORTH - SOUTH VERSION

0 16' 32'

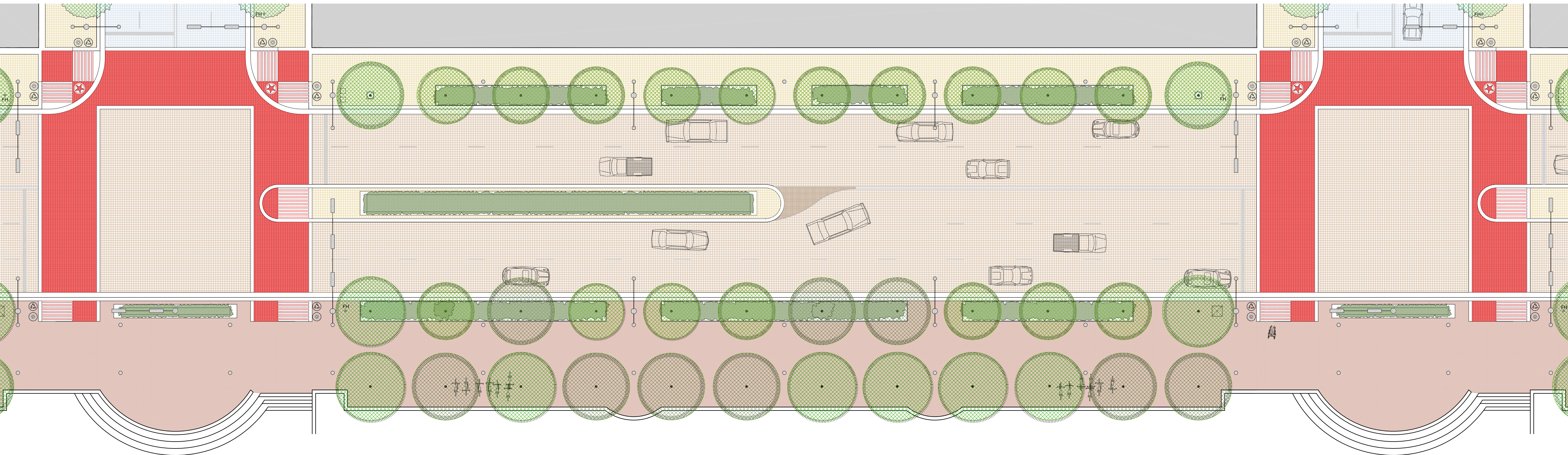
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STREET PLAN  
COMMUTER BOULEVARD  
EAST - WEST VERSION

0 16' 32'

### Legend of symbols

Bald Cypress with Planting Strip

Irrigation Controls

Pedestrian Promenade

Accessible Ramp

Streetlight Pole and Traffic Signal

Streetlight Pole

Pedestrian Pole

Fire Hydrant

Drinking Fountain

Signage Kiosk and Traffic Control Device

Bicycle Rack

Waste Receptacle

Recycling Receptacle

Bench

News Rack

For descriptions of specific elements refer to Streetscape Elements and Standards



## INTRODUCTION

Lighting design objectives have been established that are consistent with the Downtown Great Streets Master Plan. The quality and quantity of street lighting in any city is integral to the successful nighttime use of the downtown environment. Both quality and quantity of light promote safety and civic pride in the downtown environment. Successful lighting applications must synthesize numerous design goals, as outlined below.

## STREET LIGHTING DESIGN GOALS

Lighting design goals include the following:

- Street lighting applications will meet or exceed recommendations included in the ILLUMINATING ENGINEERING SOCIETY OF NORTH AMERICA RP-8-00, ROADWAY LIGHTING. No sacrifices shall be made which compromise the safety of the public.
- Lower fixture mounting heights and greater fixture density shall increase uniformity (leading to decreased contrast) and lower brightness at each luminaire. Pole configuration and the placement of poles in pairs shall work with trees to create 'space' on the street. The pole and light fixtures will become the 'trees of the night' for the streetscape.
- The overall streetscape shall be designed to minimize clutter (amount, variety and means of attachment) and organize the arrangement of items attached to street lighting standards.
- Luminaire shall use metal halide lamps due to of preferences for white light and improved visual performance related to the color rendering of the source.

## RECOMMENDED LIGHTING APPLICATIONS

The recommended street lighting proposes eight fixtures installed per block. This is a configuration of four pole fixtures installed on each block face. Fixture spacing is approximately 88 feet on center, covering a 276-foot typical block size. Fixtures shall be installed in pairs, with each fixture aligned with an opposing fixture across the street. This eight per block arrangement is recommended, regardless of street typology.

The only exception to this arrangement will likely be very narrow streets, which allow four street light fixtures along a single side of the street. In this case, pedestrian poles will likely be required on the side of the street without street lighting fixtures.

Fixture mounting height for the street lighting fixture is approximately 24-foot above the sidewalk surface. Pedestrian lighting may be incorporated into the fixture/pole at a 12-foot mounting height. Pedestrian lighting should be coordinated with building canopies and other potentially conflicting streetscape items. In certain locations, pedestrian area lighting may be supplemented by building or canopy mounted lighting, pedestrian poles installed in the right-of-way or pedestrian poles installed on private property.

Refer to Great Streets Typology in Chapter 4 for illustrations of street

lighting strategies.

RECOMMENDED LIGHTING DESIGN GOALS

Based on IESNA RP-8-00, a range of design classifications exist in the Downtown Great Streets Master Plan area. Consider the following:

- Most roadways in the Master Plan area are either classified as COLLECTOR (“servicing traffic movement between major and local streets”) or LOCAL (“used primarily for direct access to residential, commercial, industrial or other abutting property”). See RP-8-00, Section 2.1.
- Most roadways and related sidewalks are classified as either an area with HIGH pedestrian conflict (“downtown retail areas, near theaters, concert halls, stadiums and transit terminals”) or MEDIUM pedestrian conflict (“downtown office blocks, blocks with libraries, apartments, neighborhood shopping, industrial and older city areas, and streets with transit lines”). See RP-8-00, Section 2.2.
- Most roadways have asphalt paving and are classified as either R2 (“mixed diffuse and specular”) or R3 (“slightly specular”). For the purpose of street lighting design and evaluation, there are no differences between the R2 and R3 pavement classifications. See RP-8-00, Section 2.3.
- Most sidewalks in the Master Plan area are classified as HIGH PEDESTRIAN CONFLICT AREAS (“commercial areas in urban environments”). See RP-8-00, Table 5.

For consistency in design, maintenance and appearance, the design goals should be established to exceed minimum lighting levels for the worst-case classifications. Exceeding the minimum recommendations will better accommodate streetscape obstructions such as trees.

The worst-case combination of classifications is COLLECTOR roadways and HIGH pedestrian conflict, with the following performance values.

STREET LIGHTING	AVERAGE	AVG:MIN
IESNA RP-8-00	1.2	4.00:1
GREAT STREETS DESIGN GOALS	1.4	4.00:1

WALKWAY LIGHTING	AVERAGE	AVG:MIN
IESNA RP-8-00	1.0	4.00:1

GREAT STREETS DESIGN GOALS 1.2 4.00:1

**ILLUMINANCE MODELS FOR RECOMMENDED GREAT STREETS LIGHTING APPLICATIONS**

ITEM 1, Appendix C, is a point-by-point illuminance model showing lighting performance of the recommended 8 poles per block lighting application, incorporating pedestrian lighting on each pole. This application meets the design goals described above.

STREET LIGHTING	AVERAGE	MAXIMUM	MINIMUM	AVG:MIN	MAX:MIN
IESNA RECOMMENDATIONS	1.20	NONE	NONE	4.00:1	NONE
GREAT STREETS GOAL	1.40	NONE	NONE	4.00:1	NONE
GREAT STREET USING 100W MH	1.52	3.70	0.70	2.17:1	5.29:1

SIDEWALK LIGHTING	AVERAGE	MAXIMUM	MINIMUM	AVG:MIN	MAX:MIN
IESNA RECOMMENDATIONS	1.00	NONE	NONE	4.00:1	NONE
GREAT STREETS GOAL	1.20	NONE	NONE	4.00:1	NONE
GREAT STREET USING 50W MH	1.22	2.40	0.50	2.44:1	4.80:1

**PRODUCTS FOR RECOMMENDED APPLICATION**

The recommended applications include fixtures which possess a specific appearance / style which communicates a freshness to the design solutions. Product data sheets are included for the following products:

*Street lighting luminaire*

GARDCO CIRCA / FORM 10: This is a new luminaire housing using optics from Gardco's other products. The appearance of this fixture is fresh and suitable for this application. The photometric performance of Gardco fixtures is exceptional. This fixture is the basis of the illuminance models included in this report.

*Pedestrian lighting luminaire*

KIM LIGHTING ERA: This is a relatively new luminaire based on international design trends. For this application, a special modification is proposed which will allow arm mounting the luminaire. Mounting of all fixtures and detailing of the support poles are included in other portions of the Downtown Great Streets Master Plan.

**ALTERNATE LIGHTING PRODUCTS**

The result of the above fixture selections is a unique lighting appearance for the Great Streets improvements. A consequence of the desire for a fresh look is that few options exist for alternate light fixtures. Product research shows that a significant change in appearance will be required to achieve alternate products for these luminaires. This is a limitation that only applies to the appearance. A number of high quality luminaires exist that will produce acceptable lighting results.

Product data sheets are included in this report that illustrate a range of alternate products and the change in appearance results from the substitution.



ILLUMINANCE MODELS FOR STAGGERED APPLICATION

As a result of phased implementation of the Downtown Great Streets Master Plan, some downtown streets may only receive a portion of the overall improvements. In this case, concrete bases for the 8 per block lighting solution should be installed. Instead of the 8 per block Great Streets lighting application, a staggered pole configuration is appropriate utilizing 35-foot tall poles with cut-off cobra head luminaires. No dedicated pedestrian lighting is proposed in this interim period.

The staggered lighting application would utilize pole bases with the same bolt pattern as the Great Streets recommended application. For safety and appearance, the pole bases not used in the staggered application should be covered using bollards (not illuminated), or other suitable method. This design approach allows for the removal of the four 35-foot tall poles and installation of all eight Great Streets lighting poles with minimum disruption to the existing streetscape.

For this interim period, the design goals are to meet the minimum recommendations of RP-8-00.

ITEM 2, Appendix C, is a point-by-point illuminance model showing lighting performance of the staggered lighting application. This application meets the recommendation of RP-8-00 for roadway lighting and pedestrian area lighting.

STREET LIGHTING	AVERAGE	MAXIMUM	MINIMUM	AVG:MIN	MAX:;MIN
IESNA RECOMMENDATIONS	1.20	NONE	NONE	4.00:1	NONE
COBRA HEAD USING 250W MH	1.77	3.10	0.70	2.53:1	4.43:1

SIDEWALK LIGHTING	AVERAGE	MAXIMUM	MINIMUM	AVG:MIN	MAX:;MIN
IESNA RECOMMENDATIONS	1.00	NONE	NONE	4.00:1	NONE
COBRA HEAD USING 250W MH	1.06	2.10	0.30	3.53:1	7.00:1

To meet the RP-8-00 recommendations for SIDEWALK lighting in this application, the fixture mounting height must be 35-foot high using a 250-watt metal halide lamp. As a result, the street lighting illuminance exceeds the minimum recommendations of RP-8-00 for roadway.

This recommendation likely exceeds the current practices in the City because of the emphasis on roadway lighting. Current City practices exclude specific lighting related to pedestrian walkways. During detailed design and execution of the Great Streets Master Plan, lower wattage luminaires and lower mounting heights may be possible.

## PRODUCTS FOR STAGGERED APPLICATION

The recommended applications include fixtures which possess a specific appearance / style which communicates a freshness to the design solutions. Product data sheets are included for the following product:

### *Street lighting luminaire (staggered application)*

COOPER LIGHTING STREETWORKS OHV FLAT GLASS: This luminaire is a cut-off version of the typical cobra head commonly used in roadway lighting. This fixture is the basis of the illuminance models included in this report.

## ENERGY STATEMENT

The existing City of Austin street lighting solution includes staggered applications using 250-watt high pressure sodium luminaires mounted on 30-foot tall poles. This application utilizes four fixtures per block, producing a connected load of about 1,200 watts.

The recommended Great Streets lighting application includes 100-watt metal halide luminaires mounted at 24 foot. This application utilizes eight fixtures per block, producing a connected load of about 1,040 watts. This street lighting application results in a reduction in load of about 160 watts, or about 13 percent savings.

Additionally, some Great Streets applications will include pedestrian luminaires. These fixtures may be 50-watt metal halide installed on each street lighting pole. The additional eight luminaires would produce a connected load of about 536 watts. This application is new to the City of Austin and has no existing application for comparison.

## CONCLUSION

The proposed street lighting applications depicted in the Downtown Great Streets Master Plan meet the illuminance criteria recommended by IESNA in RP-8-00. Final evaluation of all aspects of the roadway applications should be completed on a project-by-project basis to accommodate the specifics of each lighting application.

This final implementation should include evaluation of updates in recommendations of IESNA and standard lighting practices and evaluation of additional calculations/performance criteria in roadway lighting. The appropriate design professional engaged to provide specific services for implementation of the Downtown Great Streets Master Plan shall conduct this evaluation.

## Implementation Public Policy

### *The Significance of Great Streets*

A master plan is only as good as the implementation concepts and strategies that support it. This implementation plan is intended to provide a conceptual model and detailed “power steering” to achieve the goals. Opportunities for implementation need to be thought of in several different but complementary sections, as follows:

- Determination of Priorities for project implementation. Create a fair, logical, systematic plan for making decisions over time.
- Determination of all city programs and expenditures that could create Great Streets through synergy, good timing, cooperation, and consolidation.
- Identification of all potential sources of funding for Great Streets including mechanisms to elicit private support for publicly funded projects. The possibilities should include, but not be limited to, bond programs, tax increment financing, T-21 projects, and joint ventures with Capital Metro Transit Authority.
- Creation of a special non-profit entity that can achieve consensus in the private sector and provide a much-needed interface between the public and private sector. Great Streets cannot be solely accomplished on a project-by-project piecemeal basis, or without successful public/private cooperation.

All private investment and development resulting in investment in downtown streetscapes should be carefully coordinated in order to help carry out the Great Streets vision. This coordination program should encourage public/private participation in implementation process. In addition, the City should seek to better create a coordination process with all entities doing business in right-of-way: fiber-optic cable, electrical utilities, Southern Union gas or local gas provider, and so on.

Other specific recommendations include:

- The removal of electrical/utilities/metering/transformer vaults from pedestrian way, and/or placed underground. Specifically, gas meters placed in front of older renovated buildings in pedestrian way should be prohibited
- The creation of an immediate city program with Austin Energy to remove all overhead wiring within the study zone area
- A separate study undertaken for trash removal and recycling downtown, where recycling doesn't viably exist currently (As an example, recycling on East 6<sup>th</sup> should be encouraged and further developed.)
- Provision by the City of public lighting in downtown alleys
- Great Streets should become a category of Smart Growth—administered by the City for tax offsets in new related development.
- A separate study undertaken to further develop the establishment and growth of a long-term tree supply system for downtown



# IMPLEMENTATION STRATEGIES

## Evaluation Criteria to Select Priority Great Streets

The establishment of priority Great Streets is a two-fold maneuver incorporating both the strategy chosen for implementation, as well as the method for determining areas for implementation. Determination of Great Street priorities would be based on the development of specific projects within the downtown district. Projects may be either proposed district-wide developments (such as 2<sup>nd</sup> Street), or “enhancements” conducted per building within a non-developed area, leading incrementally to complete Great Streets implementation.

Four strategies for streetscape development describe the possible physical implementation of priority Great Street zones:

- A street development strategy consisting of any development occurring along sequential blocks of a typical downtown street
- A block development strategy arising from any implementation occurring along all four faces of a single downtown block
- An intersection development strategy identifying single downtown intersections for implementation and involving all four corners of the two intersecting streets
- An intersecting streets development strategy including both an intersection for development, as well as two or more of the blocks leading to that intersection from each of the crossing streets

Streets following the street development strategy to be completely built out should be the first priority for implementation, followed by streets that are rapidly being built out (as in Second Street.) The block development strategy represents a very good opportunity for private sector participation, while the intersection development strategy could become a good catalyst program for the spread of Great Streets across downtown.

Two ways in which Great Streets are built:

- Build a Great Street as completely as possible at one time, realizing that “holes” would continue to exist where development has yet to occur
- Accumulate a Great Street through building the “holes,” or a piecemeal of projects as opportunities arise, recognizing it might take many years to achieve a complete street if completion is tied to the participation of the privately funded project

As a project emerges in the project area with a developing strategy for implementation, certain considerations must be included in order to evaluate the opportunity for Great Streets implementation.

- Cost-effectiveness for the street improvements required in a given implementation project, including possible itemization of specific street improvements necessary, as in curbs, trees, lightpoles (the most expensive elements to implement and the least likely to change) as opposed to less permanent street fixtures
- Timing, coordination, and sequencing with other projects
- Potential District identity opportunity, based on specific street or downtown region
- Equity, or a geographic imperative for equitable development through downtown
- Need-based improvements, including safety concerns, utility coordination or reconstruction, changing land use, and street condition
- Joint-venture opportunity between public and private-sector entities for matching participation, coordination, and fund sources (as in Second Street Retail District)
- Bus and Rapid Transit system coordination, including opportunities for allocating available funds
- Other special opportunities for seeking funds, such as events, ceremonies, or seasons

In general, an awareness of a project’s response to the overall Great Streets vision must be considered and evaluated in order to address the balance between implementation opportunities that are well-funded and those that are merely well-conceived. Each of these considerations is included in the Priority Criteria Matrix for considering the viability of implementing a selected Great Streets project.

# IMPLEMENTATION STRATEGIES

## PRIORITY CRITERIA MATRIX

PROJECT NAME \_\_\_\_\_

PROJECT DESCRIPTION \_\_\_\_\_

PROJECT TYPE \_\_\_\_\_  
 (select one) Street development strategy  
 Block development strategy  
 Intersection development strategy  
 Intersecting streets strategy

		(circle one)					TOTAL	Remarks
<b>Cost-effectiveness</b>	scope of project	2	4	6	8	10	of 10	
<b>Coordination</b>	proximity to other current projects	1	2	3	4	5	of 5	
	sequencing with other projects	1	2	3	4	5	of 5	
	potential district identity	1	2	3	4	5	of 5	
<b>Need</b>	geographic equity	1	2	3	4	5	of 5	
	emerging project (zoning change)	1	2	3	4	5	of 5	
	safety/accessibility concerns	1	2	3	4	5	of 5	
	utility reconstruction	1	2	3	4	5	of 5	
	street-related CIP	1	2	3	4	5	of 5	
<b>Fundability</b>	partnering opportunities	2	4	6	8	10	of 10	
	grant-funding opportunities	2	4	6	8	10	of 10	
	transit project coordination	2	4	6	8	10	of 10	
	other funding opportunities	2	4	6	8	10	of 10	
<b>Other criteria</b>	urban design effectiveness	2	4	6	8	10	of 10	
TOTAL							of 100	

PROJECT EVALUATION BY \_\_\_\_\_ DATE \_\_\_\_\_

REVISED BY \_\_\_\_\_ DATE \_\_\_\_\_

GENERAL REMARKS

## Prioritization of Great Streets

Using the above criteria to prioritize the Great Streets included in the 2025 Plan, a scenario may be created for the overall prioritization of Great Street implementation throughout downtown. Once each individual project has been qualified, an overall ranking of priority may be developed which may, in turn, coincide with opportunities for funding through city Bond elections. The following list of suggested Great Streets projects represents a possible system for prioritizing the overall Great Streets vision over the course of the next twenty-five years.

Prior to the next Bond election, the following Great Streets priorities should be addressed for implementation, either through completion or funding allotment and scheduling:

- West Second Street, including the CSC buildings, the City Hall, Block 20 AMLI
- East Second Street, to Convention Center
- Other emerging projects, including:
  - Convention Center expansion
  - Convention Center Hilton
  - 4<sup>th</sup> and Congress
  - Nokonah
  - CarrAmerica
  - Plaza Lofts
  - AMLI Residential
- Two-way conversion of downtown streets (included in the 2005 Interim Diagrammatic Plan) in the following order:
  - Cesar Chavez & Third Street
  - South First Street Bridge reversible lane
  - Colorado & Brazos Streets
  - Seventh & Eighth Streets
  - Ninth & Tenth Streets
  - San Jacinto Boulevard & Trinity Street

Prior to a General Bond election, the following projects should be planned so that execution can begin with passage and allotment of Bond resources (refer to Implementation Priorities Plan).

The first Bond Election within the Great Streets timeframe should prioritize funding allotment towards the following implementation projects:

- Cesar Chavez and the Town Lake Pedestrian Promenade
- Third Street, including the western extension
- Besides Chavez, other Major East-west connecting streets, including:
  - Seventh Street (from IH-35 to Guadalupe)
  - Eleventh Street
  - Fifteenth Street
  - MLK Blvd
- Light Rail corridors (assuming light rail is a possibility in this time frame), including:
  - Fourth Street, and Third Street to the west
  - Colorado Street (to MLK Boulevard)
  - Brazos Street (to Eleventh Street)



- The four historic Squares: Woolridge Square Park, RepublicSquare Park, BrushSquare, and the First Baptist Church of Austin block
- Seaholm District improvements, including the extensions of West Avenue, Third Street, and the realignment of Cesar Chavez per the Seaholm District Master Plan.

The second Bond Election within the Great Streets timeframe should prioritize funding allotment towards the following implementation projects:

- Light Rail Corridors (if not covered in previous Bond Election)
- North-South streets emphasizing mobility through downtown provided IH-35 and Mopac are under reconstruction, including:
  - Guadalupe Street and Lavaca Street, and the “Y” at Drake Bridge
  - San Jacinto Boulevard and Trinity Street
  - Red River Street, including the Lake Shore Drive extension
  - Lamar Boulevard from the bridge north
- Fifth and Sixth Street, including the western connection at Mopac
- Eighteenth Street pedestrian bridge through Waterloo Park
- Bowie and Henderson Streets, and the Nueces Street extension

The third Bond Election within the Great Streets timeframe should prioritize funding allotment towards the following implementation projects:

- Eighth, Ninth, Tenth, and Twelfth Streets (including Ninth and Tenth Street to Lamar Blvd)
- Neches and Sabine Streets (including East Second and Third Street extensions east of the Convention Center)
- San Antonio, Nueces, and Rio Grande Streets
- Eighteenth Street
- Congress Avenue, including North Congress

Following these three increments, remaining Great Streets implementation projects would be undertaken to complete the 2025 Plan.

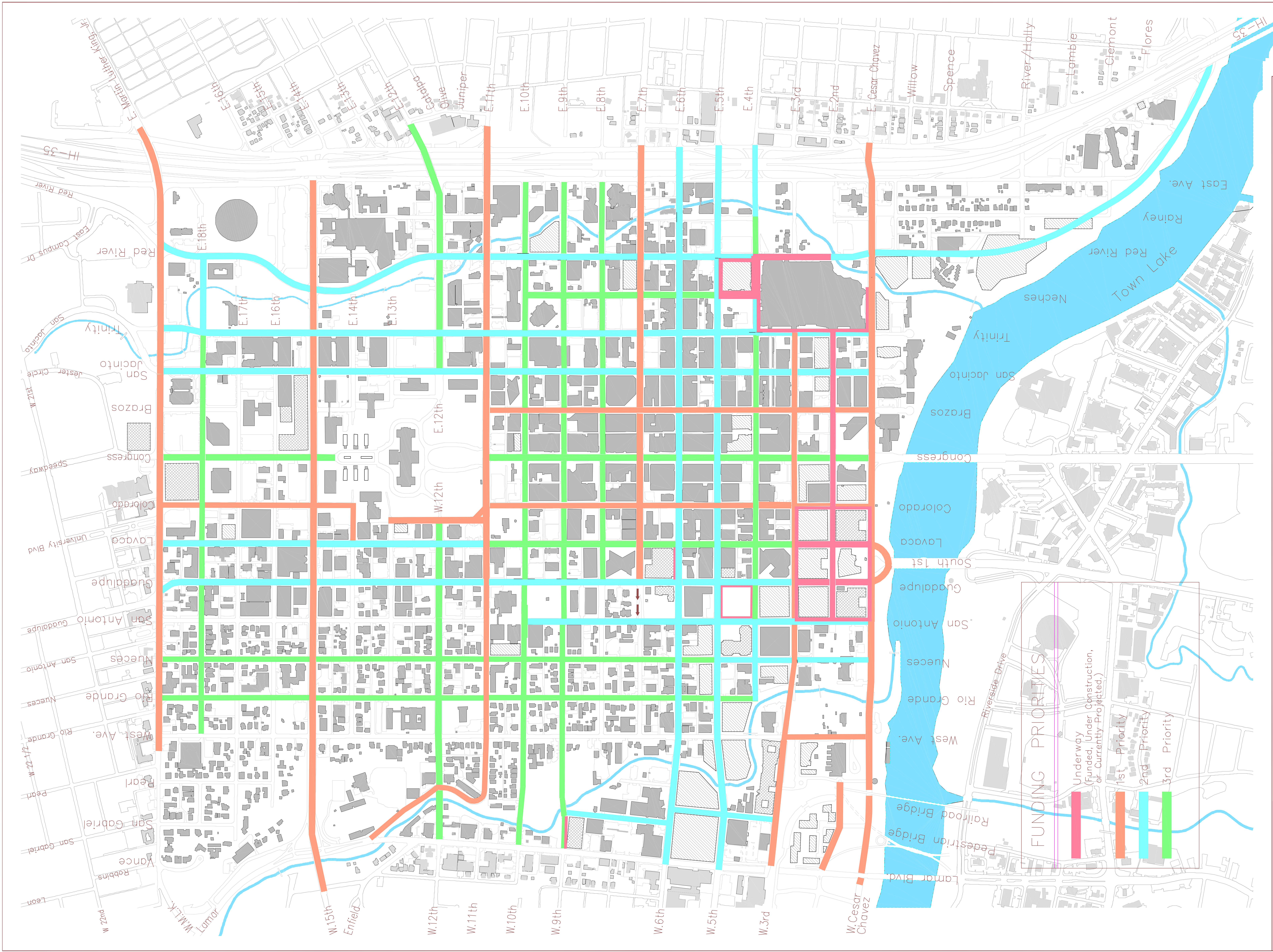
# IMPLEMENTATION STRATEGIES

## STREET PRIORITY MATRIX

	First Priority	Second Priority	Third Priority	Fourth Priority		First Priority	Second Priority	Third Priority	Fourth Priority
Cesar Chavez	●	○	○	○	IH 35	○	○	○	○
Second Street	●	○	○	○	Sabine Street	○	○	●	○
Third Street	●	○	○	○	Red River Street	○	●	○	○
Fourth Street	●	○	○	○	Lake Shore Blvd	○	●	○	○
Fifth Street	○	●	○	○	Neches Street	○	○	●	○
Sixth Street	○	●	○	○	Trinity Street	○	●	○	○
Seventh Street	●	○	○	○	San Jacinto Blvd	○	●	○	○
Eighth Street	○	○	●	○	Brazos Street	●	○	○	○
Ninth Street	○	○	●	○	Congress Avenue	○	○	●	○
Tenth Street	○	○	●	○	Colorado Street	●	○	○	○
Eleventh Street	●	○	○	○	Lavaca Street	○	●	○	○
Twelfth Street	○	○	●	○	Guadalupe Street	○	●	○	○
Thirteenth Street	○	○	○	●	San Antonio Street	○	○	●	○
Fourteenth Street	○	○	○	●	Nueces Street	○	○	●	○
Fifteenth Street	●	○	○	○	Rio Grande Street	○	○	●	○
Sixteenth Street	○	○	○	●	West Avenue	●	○	○	○
Seventeenth Street	○	○	○	●	Bowie Street	○	●	○	○
Eighteenth Street	○	○	●	○	Henderson Street	○	●	○	○
MLK Blvd	●	○	○	○	Lamar Blvd	○	●	○	○

This executed matrix represents the “ordering” of streets by the Great Streets Consultant Team and corresponds to the following recommended Implementation Priorities Plan.







### **Stakeholder Coordination and Public Involvement Process**

The City of Austin has traditionally ranked capital improvements based on need as determined by citizen input and city staff. City staff plays a significant role in this activity because in many cases the improvements are a health and safety issue and often times urgent. For example, a fire station may be more urgent than an office building.

To facilitate the implementation of the Great Streets Master Plan via the CIP process, the Master Plan includes criteria to facilitate ranking of the streets and street segments to receive improvements over the life of the Great Streets program. This methodology should be superior to one that would rank (at the completion of the Master Plan) all streets to receive streetscape improvements during the entire life of the program. As the introduction of Great Streets into downtown Austin continues into the future, the development and use of the criteria becomes more important. In the future, the criteria could be updated as needed for an efficient continuation of the GS program without interruption.

The Project Administration for Great Streets, run through a downtown non-profit trust representing downtown property and business owners, would include long-term implementation and management once funding is known, so the private sector can rely on implementation and coordination of whole program. For management and administration, the non-profit trust should receive and distribute the monies for Great Streets, through establishment of a Development Corporation specific to Great Streets.

All expenses of public capital improvement money in public right-of-way should be considered part of implementation of Great Streets Master Plan and Standards. In addition, any necessary improvements needed within the right-of-way may seek funding through Great Streets provided the improvements meet Great Streets criteria.

The implementation of the GSMP using the ranking criteria should involve all stakeholders in the downtown community, and be led by the property owners, merchants, and residents of the downtown area. Adjoining areas merchant and neighborhood associations should be included since they border the downtown area. As downtown is the center of the city, the public should also participate in the implementation. The process of involving area stakeholders would include design charettes and hearings for proposed project improvement areas to accommodate and inform all involved parties concerned.

The role of the City staff should be one of providing the relevant data and information and facilitating the process. This will include staffing of the process, whether it is lead by a private sector group or a City appointed advisory body. As a public capital improvements process, it is appropriate for City staff to function as the sources of the relevant data and information and as expert witnesses contributing pertinent information to reach the best schedule of the public's improvements.

With the adoption of the GSMP, the City Council will have adopted the first phase of the GS program. This will give the City's CIP staff the first set of Great Street enhancements to be funded via the CIP, possibly up to three years of project funding.

## IMPLEMENTATION STRATEGIES

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The public's involvement in the implementation of the Great Streets Program will be distinguished first as a planning process and secondly as construction interruption mitigation process. It could also function as an improvements marketing process.

After the initial set of streetscape improvements adopted as part of the GSMP, subsequent planning processes will include the application of the implementation criteria to select additional projects for construction. The decision-making body for the public's involvement, besides the City Council, could either be a City Council designated advisory body like the Downtown Commission (DC) that represents other City advisory bodies and a wide range of private sector entities, or an organization representing the broadest range of downtown and adjacent area interests like the Downtown Austin Alliance (DAA). The process should be open and transparent to ensure participation and consensus in the streetscape improvements rankings. As the GS program will be ongoing, so should be the decision-making venue.

To ensure the proper application of the criteria and selection of logical sequencing of improvements, the City should develop a methodology of long-range planning and tracking of utilities infrastructure improvement needs throughout downtown and adjoining areas. This should include the installation of telecommunications cabling systems and streetscape surface treatment maintenance. Graphic and textual information on this information should be available on the Internet for access by the private sector as needed.

It is foreseen that the decision-making body would convene at least for one cycle per year; the City staff would present its information; and an Annual GS Implementation Action Program would be developed. While this is an over simplification of the overall process, it should be kept as simple or streamlined as possible.

The data and information is provided to the decision-making body beforehand along with preliminary recommendations and their justifications. The decision-making body would convene to hear a presentation by City CIP personnel. The downtown stakeholders would be present, as would be representatives of adjoining merchant and neighborhood associations, and members of the public. After one or a series of discussions, the decision-making body would develop the Annual GS Implementation Action Program and forward it to the City Council for its consideration. The Council would hold its own public hearing and take action on the recommendations. This would then result in the subsequent list of GS projects to be funded via the City's CIP. The cycle would be repeated annually if the General Obligation bond elections succeed and have multi-year programming of streetscape improvements. While the City does not hold General Obligation bond elections every year, conducting the recommended process annually will fine-tune the GS streetscape enhancements leading to a finished improvements package ready to be included in the subsequent CIP bond election.

The construction interruption mitigation initiative would involve ongoing communications between City staff, design and construction consultants

and the downtown stakeholder groups. Upon the private sector's proposal of a facility within the downtown area, the required additions or expansions to the public's infrastructure, if any, would be determined and the best scheduling would be programmed. Great Streets streetscape improvements requirements would be communicated to the private sector's party, and the approved Great Street enhancements would be programmed in conjunction with the private project's required infrastructure improvements. This will mitigate undue construction and corresponding the traffic delays. The same decision-making body that developed the Annual GS Implementation Action Program would be available as needed to hear the City's plans for construction interruption mitigation initiatives and hear complaints on the implementation of these plans.

The third aspect of the public's involvement should be one to ensure the continuation of the implementation of the GSMP without slow-downs or interruptions. The decision-making body should have the directive from the City Council to assist in gaining the electorate's support for the capital improvements General Obligation bonds. A public relations campaign could be developed and carried out by downtown interests leading to successful General Bond elections. And upon completion of streetscape enhancements, the decision-making body and the downtown private sector would take responsibility of celebrating the completion of yet another successful Downtown Austin Great Streets Project.

### **Public and Private Funding Sources and Mechanisms**

Funding for Great Streets implementation consists of both public and private money, over short-term and long-term periods. Privately funded improvements within or adjacent to the public right-of-way will be based on principles outlined in the Master Plan. These expenditures for Great Streets may be coordinated through a non-profit agency to balance the variety of interests and priorities, as well as the arrangements of multiple sources of funds involved. Mechanisms for accumulating and distributing money as well as grant acquisition should be established and maintained by the non-profit downtown-based Trust. A suggested model is "Trees for the Future".

The Non-Profit Trust's arrangement with the City should resemble a typical City inter-agency agreement, with the Trust providing quarterly and annual reports for approval of expenditures. The Non-Profit Trust would not itself be a source of funds, but a repository for funds, with various sources for funding to pursue, including:

- Dedicated income streams, such as revenues from on-street parking (after maintenance and operation cost), or street closure fees charged for downtown construction projects, with funds going first to the project which paid the fees
- Permanent funding sources through General Obligation Bond money, including Street Reconstruction, ADA Programs/Improvements, Annual General Revenue Funds
- Individual projects could come under the Smart Growth Program where the developer installs streetscape with construction and is refunded the costs through property tax offsets over the following ten-year period



## IMPLEMENTATION STRATEGIES

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- New funding sources, such as special tax arrangements/assessments (including Tax-increment financing, PID, MMD) levied on a per-street on pre-improvement area basis rather than blanket CBD taxations
- Blanket funding could be accomplished by using a SID (Sidewalk Improvement District), as in the City of Seattle
- Grant solicitation, including CMTA Bus Stop/Transportation Enhancements, Livable Community Initiatives, foundation money for “Economic Redevelopment” and “Republic Square”-type proposals
- Contributions from private sector developer/development organizations
- Contributions from other Governmental agencies (including Travis County, State of Texas)
- Special funding opportunities, such as T-21 Grants, requiring the complete cooperation of the city, county, CMTA, and downtown business community; in addition, priorities for special funding would be set by the entities and interest groups involved

A twenty-five year Great Streets funding plan should be developed for capital improvement bond issues, to ensure the seamless and continuous accomplishment of the Great Streets Vision. In addition, the goals of Great Streets could be greatly leveraged if advanced planning and design could be funded separately from actual implementation projects. Relatively small amounts of money would produce design documents to seek consensus buy-in from the private sector and justification for public funding before project status.