GREEN Streets for Omaha
Prepared for the City of Omaha:
(by RDG Planning & Design)
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GREEN STREETS FOR OMAHA: {INTRODUCTION}

THIS PLAN
- Considers the nature of Omaha’s street system as public space.
- Defines the city’s proposed Green Street System.
- Establishes design and landscape guidelines for the Green Streets network.
- Presents maintenance concepts and standards for this part of the public landscape.
- Establishes a process to help city decision-makers and public and private funders set implementation priorities.
Streets make up the largest single category of public space in Omaha. Our streets take up more land than all of Omaha’s parks, trails, schools, college campuses, and public buildings and other facilities combined. For most of us, our primary contact with the outside public realm is on streets, as drivers and, to a lesser degree, as pedestrians and bicyclists. Streets are the real front doors to our houses in neighborhoods, as well as our paths to work or play. The Urban Design Element of the City of Omaha’s Comprehensive Plan recognizes the importance of street design to the overall character of the city, and recommends creation of a Green Streets Master Plan to delineate streets that should be subject to special street landscaping planting and maintenance requirements.

While streets constitute Omaha’s most pervasive public spaces, they are typically conceived for the single function of moving traffic rather than as designed environments. It is barely an exaggeration to say that streets are designed on the same model as sewers: the pipe (or street) is designed to handle the projected amount of fluid (or traffic). Yet, streets as public spaces should be both efficient and attractive.

**Why Green Streets?**

Increasingly, when we think of streets as public spaces as well as conduits for motor vehicles, the needs of functionality and appearance coincide. The concept of Green Streets accomplishes a number of significant and desirable outcomes, including:

**Improved Traffic Safety**

Green streets that are a pleasure to travel along reduce stress on drivers, tend to calm traffic, and perhaps, at some level, reduce the potentially deadly problem of road rage. Omaha’s historic boulevards were designed for sedate Sunday drives from park to park. Green streets can help restore civility to our local travel environment.

**Increased Property Values**

Properties and their values are enhanced by attractive streets. Unattractive or poorly landscaped major corridors cause properties to turn away from them, walling off the views of neighborhoods and reinforcing the effluent model of street design. Double-frontage lots, once considered a poor and inefficient land planning practice, have come into common use because of the unappealing nature of our streets.

**Increased Pedestrian and Bicycle Access**

Green streets involves more than the literal “green” of street landscaping; it also considers “green” transportation, opening the way to modes of transportation that have minimum environmental impact and do not use fossil fuels. The Green Streets program, then, introduces the concept of “complete streets” to Omaha, providing streets that safely and attractively accommodate both motorized and non-motorized transportation. Complete streets use landscaping to help define good spaces for the slower speeds of pedestrian and bicycle transportation. Health concerns and skyrocketing fuel costs are making alternative transportation modes more realistic for more people. Our street system should respond appropriately to these developing trends. Green streets provide people with a choice of transportation mode.

**Better Stormwater Management**

The Omaha metropolitan region is embarking on a new stormwater management program of addressing combined sewer overflow, developing a system of regional reservoirs to manage runoff, and implementing best management practices with the development of subdivisions and major projects. Omaha’s street system, a primary cause of high velocity, high volume runoff, should do its part. Tree canopies and landscaped areas can increase the permeability of street right-of-ways and delay precipitation from hitting the ground.

**Upgraded Development**

Green streets along commercial corridors have a demonstrated ability to both upgrade the quality of private development and encourage higher value uses along the street.

**Better Image and Community Marketing**

Communities in the Midwest traditionally have marketed themselves as having “tree-lined streets,” at least before the advent of Dutch elm disease. Green streets can similarly restore this marketing advantage to Omaha, and, as part of the Omaha by Design program, improve the city’s visual image for visitors, prospective residents and businesses, and investors.
Omaha has over 2,000 miles of streets that pass through many different neighborhoods and types of land uses. These streets did not follow green streets standards, and, with a few notable examples, were not designed as public spaces or as designed environments. However, many streets present delightful environments that display patterns and relationships that can guide future street design. By learning from good street environments that already exist, we can derive standards that we can both observe in today’s environment and use to improve new and existing streets.

Each person can have a list of attractive street environments, and occasionally choose travel routes based on the actual experience of the street. Pedestrian and bicyclists, who move at slower speeds and have a closer relationship with the street environment, also gravitate toward attractive and secure corridors. This chapter presents a portfolio of good streets in the Omaha metropolitan selected by the planning team as illustration of both their environmental quality and patterns that can be used in new street design. It also adds a few examples from other places that provide patterns of good environmental design practice. It concludes by presenting patterns and principles to incorporate in new green street design guidelines.

A n A l b u m o f G r e e n S t r e e t s

This discussion, presenting streets that illustrate distinctive design, indicates the street’s function (freeway, major arterial, minor arterial, collector, local), typical section, development context, and the features and patterns that create a distinctive public environment. While most of these examples are in Omaha, some streets from other communities are included in this inventory because they present patterns that can be adapted to the Omaha environment. These examples include:

- Abbott Drive
- 10th Street
- Farnam Street
- Florence Boulevard
- 13th Street
- 32nd Street
- Woolworth Avenue
- Turner Boulevard
- 40th Street
- Underwood Avenue
- Happy Hollow Boulevard
- Regency Parkway
- 144th Street
- Blondo Street
- Maplewood Boulevard
- Adams Dairy Parkway
- US Highway 6
- South Locust Street
- Clayton Road
- M Street
- Harry Langdon Boulevard
Chapter 1: Models and Patterns for Green Streets

Abbott Drive

10th Street to Sorensen Parkway

**Function**
Major arterial

**Section**
Four-lane divided with landscaped median and left-turn lanes

**Posted Speed**
45 mph

**Development Context**
Developing mixed use, with commercial, hotel, and office use programmed in the NoDo district, commercial and business park/office south of Locust Street, and Carter Park and Eppley Airfield adjacent north of Locust Street

**Description**
Abbott Drive has traditionally been the link between Downtown Omaha and the airport, and has also presented a poor environment to city visitors and residents. In 2000, a major grant from the Peter Kiewit Foundation funded a total redesign of the street, producing one of Omaha’s premier examples of street design.

**Patterns in the Street Environment**
- Densely planted median that screens the opposing street channel from direct view.
- Masonry paver units defining the edge of the median.
- Combination of lower level landscape and overstory trees in median plantings.
- Strongly defined edge created by regularly-spaced trees and modern custom-designed globe lights at human scale.
- Hybrid lighting system using sharp cut-off roadway lights and lower-level globes at human scale.
- Somewhat curving alignment that defines straight-ahead views.
Function
Section
Posted Speed
Development Context

Minor arterial
Four-lane divided with landscaped median and left-turn lanes
30 mph
Qwest Center/North Downtown mixed use urban district

Description
Tenth Street continues the Abbott Drive streetscape pattern in a pedestrian context.

Patterns in the Street Environment
- Densely planted median that screens the opposing street channel from direct view.
- Masonry paver units defining the edge of the median.
- Combination of lower level landscape and overstory trees in median plantings.
- Street trees in substantial parkway strip between curb and sidewalk.
- Strongly defined edge created by contemporary custom-designed globe lights at human scale.
- Hybrid lighting system using sharp cut-off roadway lights and lower-level globes at human scale.
Chapter 1: Models and Patterns for Green Streets

Farnam Street
10th to 13th Street

Function
Minor arterial

Section
Two-lane, one-way street with diagonal parking

Posted Speed
25 mph

Development Context
Downtown with Gene Leahy Mall on north side

Description
Downtown’s traditional east-west corridor. Farnam Street historically had a slower speed pedestrian character, compared to the parallel Dodge/Douglas pair. During the last ten years, a four lane configuration with parallel parking has been replaced by a two lane concept with diagonal parking.

Patterns in the Street Environment
- Strong street definition with formal planting of trees in wells behind curb.
- Sidewalk edge defined by formal planting of overstory trees along back of sidewalk.
- Brick paver units that define street tree planting zone.
- Special pedestrian lighting fixtures.
**Florence Boulevard**

*Ames Avenue to Minne Lusa Avenue*

**Function**  
Minor arterial

**Section**  
Two-lane divided and undivided with on-street parking

**Posted Speed**  
35 mph

**Development Context**  
Urban residential

**Description**  
This segment follows the bluff line that forms the western edge of the Missouri River’s floodplain, providing views to homes built on its east side. The street is referred to as the “Prettiest Mile” by its residents and other Omahans.

**Patterns in the Street Environment**

- Intermittent median, present only along certain segments of the street.
- Initial continuous tree canopy, much of which was decimated by Dutch elm disease.
- Curving alignment, preventing the motorist from seeing straight ahead to the horizon.
- On-street parallel parking separating moving and pedestrian traffic.
- Landscaped tree lawn between curb and sidewalk.
Chapter 1: Models and Patterns for Green Streets

13th Street
Pacific to Martha Streets

Function: Minor arterial
Section: Five-lane with two lanes in each direction and center left-turn lane and on-street parking
Posted Speed: 35 mph
Development Context: Urban commercial, with buildings both developed to the property line and free-standing

Description
13th Street was once the main route to Bellevue and Nebraska City, but much regional traffic now uses the Kennedy Freeway. This segment of the wide street hosts a variety of businesses, and still displays the ethnicity of its surrounding area.

Patterns in the Street Environment:
- Wide street channel.
- Mature honey-locust trees relatively regularly spaced in tree wells near the curb line between Pierce and Center Streets. Trees were planted during the 1970s, funded by Community Development Block Grants.
- On-street parallel parking separating moving and pedestrian traffic.
- Continuous urban sidewalk.
Function
Collector

Section
Wide two-lane with on-street parking
Left turn lanes painted at signalized intersection

Posted Speed
30 mph

Development Context
Urban residential, with houses oriented to street. Street forms the western edge of Hanscom Park between Woolworth Avenue and Ed Creighton Avenue.

Description
A wide urban avenue that was a major transit corridor north of Creighton Avenue. Streetcars traveled in the center of the street and separated opposite traffic flow.

Patterns in the Street Environment
- Wide street channel.
- Mature street tree cover, but not planted at regular intervals.
- Street-oriented residential development.
- Continuous urban sidewalk or park path on both sides.
### Woolworth Avenue

**Park Avenue to 42nd Street**

<table>
<thead>
<tr>
<th>Function</th>
<th>Collector</th>
</tr>
</thead>
<tbody>
<tr>
<td>Section</td>
<td>Wide two-lane between Park Avenue and 32nd Avenue; two-lane divided boulevard with on-street parking between 32nd Avenue and 36th Street; two-lane between 36th and 42nd Streets</td>
</tr>
<tr>
<td>Posted Speed</td>
<td>25/30 mph</td>
</tr>
<tr>
<td>Development Context</td>
<td>Urban residential, with houses oriented to street east of 36th Street, with Hanscom Park on south side of street between Park and 32nd Avenues. Field Club golf course between 36th Street and Field Club Trail bridge. Institutional with County Hospital and VA Hospital campuses between trail crossing and 42nd Street.</td>
</tr>
</tbody>
</table>

**Description**

Extensive landscaping and major public and institutional facilities make this one of Omaha’s greenest street environments. The divided boulevard section was originally designed as an extension of the Omaha boulevard system to connect Hanscom and Elmwood Parks. Woolworth was a streetcar corridor between Park and 32nd Avenues.

**Patterns in the Street Environment**

- Wide street channel east of 32nd Avenue.
- Wide landscaped median between 32nd and 36th Street. Median dimension is greater than width of either opposing street channel.
- Landscaping on median breaks direct view of opposing street channels.
- Street oriented houses and churches.
- Continuous urban sidewalk or park path on both sides east of 36th Street. Relatively shallow sidewalk setback, but still adequate for street tree planting.
- Recently installed ornamental neighborhood identification and street signs.
- Narrow moving traffic lane on divided section, with on-street parking east of 36th Street.
**Green Streets for Omaha**

**{Turner Boulevard}**

**Farnam Street to Woolworth Avenue**

<table>
<thead>
<tr>
<th>Function</th>
<th>Collector/Boulevard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Section</td>
<td>Two-lane with on-street parking permitted in most places</td>
</tr>
<tr>
<td>Posted Speed</td>
<td>30 mph</td>
</tr>
<tr>
<td>Development Context</td>
<td>Urban residential, with houses oriented to street. Includes significant public park areas, including Dewey and Turner Parks. Mixed-density housing, including older multi-family buildings, line the boulevard from Farnam to Pacific Streets. South of the horseshoe curve, adjacent land use is single-family residential.</td>
</tr>
</tbody>
</table>

**Description**

Probably the best preserved segment of the original H.W.S. Cleveland Boulevard system. Includes a variety of unique settings, including a horseshoe curve that climbs a grade between Pacific and Poppleton Streets.

**Patterns in the Street Environment**

- Wide boulevard right-of-way with narrow street channel.
- Mature street tree cover, planted informally.
- Street-oriented residential development.
- Substantial parkway setbacks with street trees.
- Adjacent parks that widen the green right of way.
- Curving alignment that frames views.
- Horseshoe curve segment that follows contour rising above a hollow. Other parts of the boulevard system followed this same pattern. Some remain, others (John Creighton Boulevard north of Hamilton) have been straightened.
Chapter 1: Models and Patterns for Green Streets

40th Street
Dodge Street to Hamilton Street

Function: Collector
Section: Wide two-lane with on-street parking
30 mph

Development Context:
Urban residential, with commercial clusters at California, Cuming, and Hamilton Streets. Street is also defined by two large estates, St. Cecilia’s Cathedral, other churches, and nearby Walnut Hill Reservoir.

Description:
A classic streetcar avenue, with commercial clusters at transit stops. Proposed streetscape project will provide a forecourt for the Cathedral that will cross 40th Street.

Patterns in the Street Environment:
- Wide street channel with on-street parking.
- Mature street tree cover, at irregular intervals.
- Street-oriented residential development.
- Continuous urban sidewalk on both sides.
- Parkway setback sufficient for street tree plantings.
- Major landmarks along corridor.
{**Underwood Avenue**}

*49th to J.E. George Boulevard*

**Function**
Collector/Minor Arterial

**Section**
Two-lane with diagonal business district parking from 49th to 51st. Wide two-lane with parallel parking from 51st to 52nd. Three-lane, with center left-turn and no parking west of 52nd.

**Posted Speed**
30 mph, 25 mph in business district

**Development Context**
Neighborhood business district between 49th and 51st. Urban residential and civic west of 51st, including Memorial Park, Dundee Presbyterian Church, and Brownell-Talbot School.

**Description**
Major processional street that accommodated streetcar service to Happy Hollow Boulevard through 1955. A 1980 vintage business district project established diagonal parking set off by landscaped corner nodes.

**Patterns in the Street Environment**
- Walkable business district environment with diagonal parking and overstory trees on corner nodes.
- Hybrid lighting system in business district, with sharp-cutoff roadway lighting and pedestrian-scaled globes on corner nodes.
- Substantial sidewalk setbacks and street-facing residential east and west of the business district.
- Neighboring parks and civic uses.
- Traffic speed increases where off-street parking is prohibited.
- Pedestrian-actuated signal at J.E. George intersection with entrance to Elmwood Park trail system.
Happy Hollow Boulevard
Leavenworth to Saddle Creek Road

<table>
<thead>
<tr>
<th>Function</th>
<th>Collector/Boulevard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Section</td>
<td>Two-lane in wide right-of-way. Dual section between Underwood and Western.</td>
</tr>
<tr>
<td>Posted Speed</td>
<td>30 mph</td>
</tr>
<tr>
<td>Development Context</td>
<td>Urban residential and park</td>
</tr>
</tbody>
</table>

Description
Another major multi-modal street adjacent to Elmwood Park south and Memorial Park north of Dodge Street. Wide median section north of Underwood includes a drainage swale that is used as an informal neighborhood green. Boulevard trail developed in wide right-of-way between Dodge and Underwood, and Seward and Saddle Creek. Bicycle lanes have been striped by realigning lanes.

Patterns in the Street Environment:
- Wide boulevard right-of-way with narrow street channel.
- Mature street tree cover, planted informally.
- Street-oriented residential development with adjacent trails and greenways.
- Substantial Parkway setbacks with street trees.
- Drainage swale in median north of Underwood is also used as a neighborhood open space.
- Curving alignment that frames views.
- Special signage along recreation trail.
Regency Parkway
Dodge to Pacific

Function
Minor arterial

Section
Four-lane divided with left-turn lanes

Posted Speed
35 mph

Development Context
Intermediate urban mixed use, including detached and attached residential, multi-family, office, and commercial. Residential development is oriented away from the street, or onto intersecting streets.

Description
Divided parkway conceived as part of a comprehensively planned development. Major landscape treatment and surrounding uses attract significant pedestrian activity.

Patterns in the Street Environment
- Wide median with overstory trees that screen views of opposing street channel.
- Median dimension is about 70% the width of either street channel. Curving alignment increases separation effect of median.
- Mature street tree cover, planted according to a designed but informal plan.
- Sufficient sidewalk setbacks to permit street trees.
- Continuous urban sidewalk on both sides of the street.
- Curving alignment that frames perspectives and prevents long views.
- Galvanized “cobra-head” lights are inconsistent with the rest of the streetscape.
Chapter 1: Models and Patterns for Green Streets

PACIFIC TO CENTER

Function
Major arterial

Section
Four-lane divided with left-turn lanes, with multi-use trail on both sides

 Posted Speed
45 mph

Development Context
Suburban mixed use, with commercial and multi-family cluster at Pacific Street, commercial/office from Arbor to Center, and suburban residential between major intersections. Residential is oriented away from the street.

Description
Major suburban corridor conceived as a West Omaha linear park and trail as well as key trafficway. Adjacent development either dedicated or reserved land on either side of the normal right-of-way for greenway and trail development. Pacific to Center segment includes a stormwater basin in the greenway.

Patterns in the Street Environment
- Wide greenway and curvilinear trail on either side of major arterial.
- Sixteen-foot landscaped raised median. Tree planting in median is not adequate to separate views of opposing street channel.
- Stormwater feature incorporated into trail alignment and greenway.
- Large trail setback puts pedestrians/bicyclists in a separate domain.
\{Blondo Street\}
126\textsuperscript{th} to 135\textsuperscript{th} Street

**Function**  
Minor Arterial

**Section**  
Four-lane divided with grass median and left-turn pocket at 132\textsuperscript{nd} street intersection.; sidepath/roadside trail on north side of the street

**Posted Speed**  
40 mph

**Development Context**  
Suburban residential

**Description**  
Blondo Street is developing as multi-modal corridor from 102\textsuperscript{nd} to 144\textsuperscript{th} Street. Primary pedestrian/bicycle accommodation is a sidepath developed to back of curb and using stamped concrete as a visual separator. This segment includes a wider landscaped area on the north side of the street and diverts the trail into that greenway.

**Patterns in the Street Environment**  
- Greenway development on north side of street.
- Curvilinear trail alignment separates trail from back of curb.
- Some designed landscaping on north side of street.
Maplewood Boulevard is one of several similar streets platted in the Maple Village subdivision, developed by N.P. Dodge Company during the 1950s. In the land plan, Maplewood is a unifying thread that connects the two major neighboring arterials—90th and Maple—and intersects the other major boulevards through the development.

Patterns in the Street Environment:

- Wide median with overstory trees that screen views of opposing street channel.
- Median dimension is the same width as either street channel.
- Trees planted primarily in median.
- Sidewalk setback is sufficient for street trees, but most plantings occur on private property.
- Mature street tree cover, planted according to a designed but informal plan.
- Curving alignment that frames perspectives and prevents long views.
- Continuous urban sidewalk on both sides of the street.
{ Adams Dairy Parkway }

Blue Springs, Missouri

**Function**
Major arterial

**Section**
Four-lane divided with left-turn lanes

**Posted Speed**
45 mph

**Development Context**
Suburban mixed use, still in process of development. Existing adjacent uses include suburban residential, major retail, and low-impact industrial. Planned uses include additional large scale retail, business park, and residential.

**Description**
Divided arterial developed as a major arterial to relieve Missouri Highway 7 and serve as a central corridor for new development. Road is designed as a multi-modal street, including a parallel trail and greenway. Adams Dairy Parkway interchanges with Interstate 70 and extends south into a recently annexed 2,000 acre tract planned for mixed use and residential development.

**Patterns in the Street Environment:**
- Landscaped median uses mixed overstory and lower-level landscaping to screen views of opposing street channel.
- Brick paver maintenance strips utilized back of median curb.
- Median dimension is about equal in width to the street channels.
- Curving alignment increases separation effect of median.
- Curvilinear trail is located in a greenway and is generally separated from the back of curb.
- Major fountain and water features at i-70 interchange. Trail is routed in tunnels under the freeway ramps to avoid safety hazards.
- Curving alignment that frames perspectives and frames long views.
- Special street lights.
- Adams Dairy Parkway monuments designed to brand the corridor.
Chapter 1: (Models and Patterns for Green Streets)

US HIGHWAY 6
CORALVILLE, IOWA

Function
Major arterial

Section
Five-lane with left-turn lanes

Posted Speed
45 mph

Development Context
Suburban commercial with railroad corridor on much of the south side

Description
Project was result of a 1990s reconstruction of an outdated four-lane rural section facility. The road project began a highly successful and comprehensive community revitalization process. The project was designed as a multi-modal street, and the roadside trail receives heavy pedestrian and bicycle use. The trail connects to a regional shopping mall, the University of Iowa, and other elements of a regional trail system.

Patterns in the Street Environment:
- Strong edge design, created by formal street tree planting.
- Concrete unit pavers used at crosswalks.
- Trail/pedestrian pathway separated from motor traffic by a substantial setback.
- Pedestrian-scale lights and graphics along back of trail, with roadway lights placed in the sidewalk setback.
- Landscaped median using flower plantings located at strategic intersections.
- Additional landscaping installed between back of path and property line.
**South Locust Street**
Grand Island, Nebraska

**Function**
Major arterial

**Section**
Five-lane with left-turn lanes

**Posted Speed**
40 mph

**Development Context**
Suburban commercial

**Description**
Project involved the reconstruction of an aging commercial strip, connected in 2005 to Interstate 80 with the opening of a new interchange. Street reconstruction was paired with an effort to create an improved landscape and walking environment and has produced significant private reinvestment. Maintenance is carried out through a business improvement district.

**Patterns in the Street Environment**
- Well-maintained and irrigated grass setback between back of curb and sidewalk.
- Continuous urban sidewalk.
- Landscaping, including low-level plants, flowers, and some trees, planted on available sites behind the sidewalk.
- Pedestrian-scale lights along back of sidewalk, with roadway lights placed in the sidewalk setback at consistent intervals.
Chapter 1: Models and Patterns for Green Streets

**{Clayton Road}**

Saint Louis County, Missouri

**Function**
Minor arterial

**Section**
Two-lane with combined bicycle/parking lane

**Posted Speed**
35 mph

**Development Context**
Suburban residential

**Description**
Regional arterial street connects Saint Louis with the west county, and includes a variety of contexts and sections.

**Patterns in the Street Environment**
- Striping used to define two moving lanes.
- Shared bicycle and parking domain.
- Street-oriented residential, with garages opening off street.
- Sidewalk setback sufficient for street tree plantings.
- Regular street trees along with parking/bicycle shoulder provide separation between pedestrian and vehicular realms.
M Street
Aurora, Nebraska

Function: Local
Section: Two-lane in wide right of way
Posted Speed: 25 mph
Development Context: Urban residential

Description
Residential avenue that connects downtown square with high school campus.

Patterns in the Street Environment
- Extremely wide sidewalk setback merges aspects of street and park environments.
- Brick street surface.
- Continuous urban sidewalks.
- Mature overstory trees, combined with garden plantings in wide setback.
- Street-oriented residential development.
Harry Langdon Boulevard
Council Bluffs, Iowa

Function
Minor Arterial

Section
Two-lane divided with left turn pockets and bicycle lanes

Posted Speed
35 mph

Development Context
Industrial/residential

Description
An innovative reconstruction of Highway 375 that extends from historic residential districts south of Downtown through industrial areas. The roadway follows the base of the loess hills.

Patterns in the Street Environment:
- Wide single-lane on either side of a median.
- Curving alignment.
- Bicycle shoulders that supplement lane width in emergency situations.
- Landscaped median.
- Arterial function without providing multiple lanes in each direction.
- Substantial median width in relation to width of either street channel.
1. Green streets separate sidewalks and sidepaths from the vehicular domain. The minimum degree of separation should be a clear space sufficient for plowing of snow and underground utilities, plus space adequate to support street trees. In some situations, the setback could be reduced to six feet where space is constrained or where a sidewalk or path undulates. In Omaha, this setback is often referred to as the “parkway strip.”

2. In high density urban settings, such as Downtowns and traditional business districts, sidewalks may extend to the back of the curb. Separation of vehicular and pedestrian domains is achieved by regular street tree plantings in planter beds or tree wells.

3. Street trees should be planted at continuous spacing in the parkway strips. However, tree plantings may be more informal, depending on context, and need not be at the same interval in every situation.

4. On-street parking tends to reduce traffic speeds, separate the motorized and pedestrian realms and provide better environments for street landscaping. Where on-street parking is not provided, the depth of the sidewalk setback and amount of landscaping provided should increase.

5. The amount of pavement in the motorist’s cone of vision determines the perception of whether a street presents a “green” environment. Therefore, wide expanses of pavement appear to require more substantial landscape treatments to the motorist’s right, or curb, side.

6. Medians should be developed and landscaped in a way that screens the view of a motorist from the opposing street channel. This is most effectively done by combining low-level and overstory plantings, but can be accomplished exclusively by lower-level, fairly opaque treatments.

7. Ideally, medians should be about as wide as one of the street channels. On curving streets, foreshortening can reduce the median width necessary to achieve this screening effect.

8. Details in paving, such as sectional pavers at maintenance strips or edge of curb, can provide a degree of finish in corridors of civic importance.

9. Mild curvature of streets provides a greater sense of greenness and generosity in the environment, and provides the opportunity for street design to frame views. This is partially the result of viewing landscape installations at least partially from the side rather than straight on.

10. In informal contexts, sidewalks and sidepaths similarly can be more subtle and interesting to all users with gentle curvature. Landscaping can be installed on both sides of the path.

11. Pedestrian-scaled lighting on featured paths adds a level of human-scale that increases even the motorist’s perception of the green quality of a street.

12. Stormwater management features, such as drainage swales, wetland areas, or ponds, can increase the amount of green space and improve the appearance of streets.

13. Streets tend to feel better and create more attractive environments when homes are oriented toward them. Therefore, environments should be created that invite rather than discourage street-facing houses.
Chapter One introduces the concept of green streets by looking carefully at attractive corridors in Omaha and other communities to understand the characteristics that make them pleasing. It concludes by deriving some basic patterns that appear in good street environments. This chapter looks deeper at Omaha’s street network by examining the types of streets in our system as well as their contexts. This then leads to developing guidelines for design and landscaping appropriate to these contexts.

Transportation plans typically categorize streets into a functional hierarchy that include freeways, major arterials, minor arterials, collectors, and local streets. This functional classification also has a place in the Green Streets plan. But the concept of Green Streets also addresses the spatial aspects of streets. As a result, two other variables supplement functional classifications:

- The amount of space that streets take—number of lanes, presence of a median, and the historic forces (such as streetcar tracks that have been gone for over a half century) that framed their personality.

- The context of streets, whether urban or suburban, pedestrian or auto-oriented, and their land use character. New zoning regulations proposed to implement Omaha’s Urban Design Element identify three contexts for Areas of Civic Importance: ACI East, encompassing areas east of 60th Street that were formed largely by transit lines and pedestrian movement; ACI Central, generally between 72nd and 96th Streets that grew after 1950 as automobile transportation became dominant; and ACI West, the decentralized, automobile-dominated city of the 1970s to the present that incorporates street standards based on speed and traffic flow characteristics.

In the eastern areas, neighborhood character tends to constrain street design. For example, some two-lane streets have traffic volumes or functions that might, in contemporary practice, require multiple lanes. However, these wider sections would have so much impact on the nature and value of the neighborhood that the City ordinarily avoids them. On the other hand, in the west, street design constrains neighborhood character. Thus, street right-of-ways are preplanned for their ultimate width and often, adjacent houses are oriented away from arterial corridors. In eastern parts of the city, the street pattern is also a fine-grained grid, providing a variety of alternative routes from one place to another. As a result, no individual street bears the entire transportation load, and narrower streets are often adequate. In the west, however, hierarchical street designs, often demanded by consumers to keep traffic out of neighborhoods, direct most traffic to arterial streets. These streets, usually following section lines, are designed for high traffic volumes, and landscaping and street character become at best secondary considerations. The central areas, marking a transition from one dominant mode of transportation to another, have a mix of street environments—often automobile-oriented but with a vestige of the earlier, transit-dominated era of growth. Omaha also has conditions that create special kinds of streets that modify functional classifications, including:

- **Streets That Once Accommodated Streetcar Tracks**
  While Omaha saw the end of streetcar service half a century ago, the streets that were built for transit remain. A single- or double-tracked line in Omaha typically ran in the middle of the street. While these tracks shared right-of-way with cars, the streets that included them were typically somewhat wider than average streets. Examples of these “streetcar avenues” are 40th Street from Dodge to Hamilton Streets, Military Avenue from Hamilton to 45th Streets, and 33rd Street from California to Parker Streets.

- **Boulevards and Parkways**
  The historic Omaha boulevard system, originally conceived by Horace W.S. Cleveland, linked Omaha’s major central city parks. The typical minimum section provides a two-lane traffic channel within a 100-foot wide right-of-way. In many cases, the right-of-way widens to include small parks and green spaces, and, on occasion, the boulevard section also includes a median. In more contemporary development, parkways or boulevard sections were designed as image features as well as trafficways. The city’s Suburban Park Master Plan proposed a new boulevard, HWS Cleveland Boulevard and a network of parkways, to connect neighborhood and community parks in developing suburban areas. While many of these streets function as collector and even arterial corridors, they have special characteristics created by their special status.

- **Main Streets**
  Omaha’s neighborhood business districts—Florence, Benson, Dundee, South Omaha, Vinton Street, and streetcar strips like parts of Leavenworth Street and Q Street—provide street environments often associated with the central districts of the small towns that some once were. These include buildings built along the property line, sidewalks from curb to building line, and on-street diagonal or parallel parking.

- **Special Arterials**
  These are major streets that are designed to fill unique functions in the city. For example, Abbott Drive in its current form is a gateway corridor between the airport and downtown, and is designed to give a distinct image to travelers arriving in Omaha. In West Omaha, 144th Street was conceived as both a major arterial and greenway, and substantial strips of land were dedicated or reserved for landscaping and trails. Current plans envision the same linear park concept along 180th Street.
Contexts and the Dimensions of Streets

As previously discussed, these street types exist in different contexts. One method of evaluating contexts is to consider periods of development, following the ACI East (urban), Central (transitional), and West (suburban) concept presented in the proposed Urban Design Article of the zoning ordinance. This relates generally to different standards of practice during different periods. It also helps to define the scale and character of surrounding development, key to establishing design guidelines. For example, transit-era development in the eastern part of the city tends to be street-oriented, small in scale, and close to the property line. In contrast, auto-era development includes free-standing buildings, deep setbacks, and larger-scale buildings. Different contexts also establish different expectations of street performance. For example, motorists in the older city often tolerate slower speeds, often enforced by street design, than in more dispersed, automobile-oriented suburban environments. We believe that the urban/transitional/suburban triad of contexts applies well to Omaha’s street system. This may be further subdivided by considering the character of adjacent uses.

Street Dimensions and Scale: Definitions

This plan uses the following terms to describe the dimensions of streets and the components of the street environment:

Street Right-of-Way (or ROW)
The entire public realm of the street, within which people use or experience all aspects of the street.

Street Channel
The distance between curb faces or the edge of pavement, including off-street parking.

Travelway
The portion of the street channel dedicated to unobstructed moving traffic. The travelway may accommodate both motorized and non-motorized vehicles.

Parking Lane or Area
The portion of the street channel available for parallel or diagonal parking. Some streets (usually in older parts of the city) permit parking in a travelway lane during off-peak hours.

Pedestrian Domain
The distance between the curb and the property line defining the edge of the ROW.

Sidewalk Setback
The portion of the pedestrian domain between the curb and the closest edge of the sidewalk. This area is often planted with grass or a ground cover, and is the typical location of street trees.

Sidewalk
A paved path within the pedestrian domain that provides for the unobstructed movement of pedestrians.

Sidepaths
Widened sidewalks, typically installed against or near the back of the curb, accommodating mixed traffic including bicycles.

Multi-use Trails
A paved pathway within the pedestrian domain that is clearly separated from the street channel and is relatively uninterrupted by street or driveway intersections.
Table 2.1 summarizes the general types of streets in the Omaha network, relating functional classifications to the types of street sections normally associated with them.

<table>
<thead>
<tr>
<th>Functional Classification</th>
<th>Associated Street Sections</th>
<th>On-Street Parking</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Major Arterial</strong></td>
<td>Multi-Lane Divided</td>
<td>No</td>
<td>West Maple, West Center, NW Radial</td>
</tr>
<tr>
<td></td>
<td>Multi-Lane Undivided</td>
<td>No</td>
<td>132nd, Center</td>
</tr>
<tr>
<td><strong>Minor Arterial</strong></td>
<td>2- or 3-Lane</td>
<td>Typically not</td>
<td>52nd, Blondo east of 72nd</td>
</tr>
<tr>
<td></td>
<td>4- or 5-Lane, Divided and Undivided</td>
<td>Varies</td>
<td>Leavenworth, 60th north of NW Radial, P Street</td>
</tr>
<tr>
<td><strong>Special Arterial</strong></td>
<td>Multi-Lane Divided</td>
<td>No</td>
<td>Abbott Drive</td>
</tr>
<tr>
<td><strong>Collector</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Conventional Collector</td>
<td>2- or 3-Lane</td>
<td>Yes</td>
<td>56th, California</td>
</tr>
<tr>
<td>Neighborhood Collector</td>
<td>2-Lane</td>
<td>Yes</td>
<td>Pepperwood, Westwood, Park Drive</td>
</tr>
<tr>
<td>Streetcar Avenue</td>
<td>Wide 2-Lane</td>
<td>Yes</td>
<td>Military, 40th, 48th</td>
</tr>
<tr>
<td>Main Street</td>
<td>2- to 3-Lane</td>
<td>Yes</td>
<td>Vinton, Maple Street in Benson</td>
</tr>
<tr>
<td><strong>Boulevards and Parkways</strong></td>
<td>Multi-Lane Divided</td>
<td>No</td>
<td>Regency Plwy</td>
</tr>
<tr>
<td></td>
<td>Single-Lane or Two-Way Divided</td>
<td>Varies</td>
<td>Happy Hollow, Hanscom</td>
</tr>
<tr>
<td></td>
<td>Two Lane Undivided</td>
<td>Varies</td>
<td>Fontenelle, Turner</td>
</tr>
<tr>
<td><strong>Local Streets</strong></td>
<td>2-Lane</td>
<td>Yes</td>
<td>Many examples</td>
</tr>
</tbody>
</table>
THE STREETS OF OMAHA: TYPES AND CONTEXTS

Omaha’s street system includes a wide variety of functions, sections, and urban contexts. While the following discussion of street categories and contexts oversimplifies the system, it does provide a basis for prototype guidelines that street designers should apply to specific situations.

[Major Arterials]

Omaha’s major arterials (or principal arterials in MAPA’s Federal Functional Classification Map) are typically, but not always, multi-lane facilities that carry high traffic volumes. The design of major arterials differs widely depending on their contexts. For example, Dodge Street’s urban context east of 69th Street is a five-lane undivided facility with a unique reversible center lane, all compressed within a 66-foot right of way. This section leaves little room for either sidewalks or landscaping, resulting in a proposal in both the Destination Midtown Plans and the adopted Urban Design Element of the Comprehensive Plan to acquire additional right-of-way and change the street section to provide a greener streetscape with better pedestrian accommodation. In transitional context between 69th and 90th Street, Dodge is a divided roadway with curbside sidewalks and some local access, while in the suburban context, it becomes a freeway with grade-separated interchanges.

Multi-Lane Divided

In urban contexts, these streets have concrete or landscaped medians of various widths, ranging from as little as 4 feet to 16 feet at channelized intersections. Segments of the Northwest Radial system provide on-street parking, sometimes prohibited during peak hour to provide an extra moving lane. Divided arterials in urban settings were often placed in relatively restricted right-of-way; consequently, sidewalks were placed very close to the curb. Divided arterials in transitional settings resemble the urban contexts, although medians are usually wider. Sidewalks in these situations typically are set back four feet, again inadequate for any street landscaping other than grass. The city has executed several median improvement projects in urban and transitional settings, replacing panels of concrete medians with ornamental grasses, trees, and other plantings.

Arterials in suburban contexts include both urban and rural street sections. The typical urban section includes a minimum 16-foot raised median with curb and gutter. Medians are paved or surfaced with grass, with some limited but ineffective tree plantings in places. Sidewalks are typically provided with urban section arterials, although normal setbacks are again too small to permit landscaping other than ground cover. Some new street projects are including 10-foot sidepaths to accommodate pedestrian and bicycle traffic. Sidepaths adjacent to the back of curbs are separated from moving traffic by a two-foot strip of stamped and colored concrete. In some situations, sidepaths or multi-use trails are separated and sometimes disengaged from the roadway, providing opportunities for significant landscaping in the setback area. Other major arterials are built on a rural section, with a median width ranging from 16 to 24-feet. Medians are profiled to handle surface drainage and are typically surfaced with grass only. Rural section arterials have paved shoulders and, in most cases, lack adjacent sidewalks, sidepaths, or multi-use trails. Areas between the right-of-way line and pavement edge are profiled to drain and, like medians, usually landscaped only with grass. Clearly, Omaha’s divided major arterials are among the most visible and heavily trafficked members of the street network, and, in most cases, offer little street-side or median landscaping other than grass.
Multi-Lane Undivided

In urban contexts, undivided major arterials were typically the principal highways to other cities (Dodge Street, 13th Street, 30th Street, L Street), while others were major transit or other transportation corridors. The regional role of some of these streets has been supplanted by parallel freeways. For example, regional traffic on 30th Street south of the Sorensen Parkway intersection largely uses the North Freeway, while through traffic that once used South 13th Street now follows the Kennedy Freeway. These streets typically present four-lane or five-lane sections where sufficient width is present for a center left-turn lane. Dodge Street’s restricted but heavily used five-lane section includes a reversible lane without left-turns. Some of these streets, generally those along former streetcar corridors, permit on-street parking. Because many of these urban arterials were developed within 66-foot rights-of-ways, sidewalks are typically either adjacent to or set back slightly from curbs, again providing inadequate space for landscaping within the public domain. In some cases, wider public corridors provided wider urban sidewalks, with street trees planted in tree wells close to the curb. An urban greening project installed along 13th Street between William and Center Street during the 1970s is an example of such an installation. Undivided arterials in transitional settings are similar those in urban contexts. One significant exception is 90th Street between Center and Indian Hills Drive, where a controversial street widening project included features more consistent with adjacent residential use. These features included a stamped concrete maintenance strip along the curb, a wider sidewalk setback, and sharp cut-off street lamps.

While most major arterials in suburban environments are divided, some five-lane undivided sections are present. These usually go through built-up areas with some right-of-way limitations. These streets also have limited sidewalk setbacks, with scarce street landscaping.
Chapter II: A Taxonomy of Omaha Streets

Multi-Lane Undivided Major Arterials in Transitional and Suburban Contexts

Far Left: 90th Street near Harney Street.
Left: Millard Avenue.

Multi-Lane Undivided Major Arterials in an Urban Contexts
Two views of Center Street.
Left: Typical conditions along the street near 55th Street—a five-lane section in a 66-foot right-of-way.
Far Left: Center Street at the Hy-Vee redevelopment project, with new sidewalks and landscaping on private land.

Multi-Lane Undivided Major Arterials in Transitional and Suburban Contexts
Far Left: 90th Street near Harney Street.
Left: Millard Avenue.
Minor arterials include a wide variety of street designs, from two-lane street channels in urban residential environments to multi-lane divided facilities that are comparable to major arterial sections. Minor arterials carry lower traffic volumes at lower speeds than major arterials, and place fewer restrictions on access. They typically provide more street landscaping and better pedestrian environments than their busier counterparts.

Two and Three-Lane

Two and three lane streets classified as minor arterials are typically in urban settings and reflect a sensitivity to neighborhood context. Some street channels are in urban rights-of-way as narrow as 50 feet, although others are 60 and 66 feet. The use of three-lane sections significantly increases the capacity of two-lane streets, and has proven more satisfactory in many cases than the previous use of four-lane sections. Many of these narrower arterials include setbacks adequate to accommodate street trees, and typically range from 4 to 12 feet. Reconstructions of some streets (e.g. 52nd Street) were designed to preserve existing street trees.

Some of Omaha’s boulevards are also classified as minor arterials. These sections are typically two lane channels within a 100-foot or larger right-of-way, providing for very deep sidewalk setbacks and extensive street tree planting. Two to three-lane minor arterials exist in a few suburban settings, although in most situations, they will be upgraded to multi-lane facilities.
**Four and Five-Lane Divided and Undivided**

These wider minor arterials are present in all three contexts. In the eastern part of the city, streetcar tracks often ran in the middle of these corridors. These streets are now configured with four narrow lanes, in some cases also providing on-street parking. Typically, these urban corridors have sidewalks built to back of curb, or have sidewalk setbacks of four feet or less. As a result, most landscaping is provided back of the sidewalk. In suburban settings, minor arterials are typically section line roads, and are most frequently configured with five lanes, providing a continuous left-turn. Some suburban minor arterials are divided facilities, with either paved or grass-surfaced medians. Sidewalks are provided along these arterials, with typical setbacks ranging from four to ten feet. Wider setbacks are sufficient to permit street trees, and these have been planted in some corridors. In common with major arterials, some streets include 10-foot sidepaths to accommodate pedestrian and bicycle traffic. These paths adjacent to the back of curbs are separated from moving traffic by a two-foot strip of stamped and colored concrete. When sidepaths or multi-use trails are separated, they sometimes provide landscaping between the path and the street channel.

*4- and 5-Lane Minor Arterials*

*Top:* 132nd Street, a divided street, with 8-foot sidewalk setback and street trees.

*Above:* Ames Avenue, an undivided street, in an urban context.
These streets are typically classified as major arterials, but play special roles in the city. Abbott Drive, for example, is the primary gateway to Omaha from Eppley Airfield and features a special landscaping treatment, financed by a grant from the Peter Kiewit Foundation. This basic design, using an urban section with curbs and sidewalks or sidepaths, was extended along Cuming Street and the new 10th Street, both of which were built as part of the Qwest Center project and the riverfront development program. In west Omaha, 144th Street and, later, 180th Street were conceived as north-south parkways, providing trails and linear parks. Regency Parkway, classified as a minor arterial, was designed as the image street to Mutual of Omaha’s Regency mixed use development in the 1970s. These streets demand individual design solutions because of their roles as image builders for the city. However, in the case of 144th Street, a street design concept was not fully implemented.
Collectors have a variety of functions and contexts. Generally, they connect neighborhoods, or provide continuity through neighborhoods, and carry moderate traffic volumes at moderate speeds. Collectors usually do not restrict local access, and their lower speeds, on-street parking, and deeper sidewalk setbacks often allow space for street landscaping and a more comfortable, pedestrian-friendly pace. Most collectors provide two-lane street channels, although some also include a three-lane section with center left-turn lanes. On occasion, these streets may include medians, usually when they are part of the boulevard system or are gateways or image features in individual developments.

Through Collectors
Through collectors are lower-order through streets than minor arterials, but function in some of the same ways. They are typically located in urban or transitional settings, and function as part of the regular street grid. Through collectors are typically two and sometimes three-lane sections, usually with rights-of-way that vary in width from 50 to 66 feet. These collectors usually, but not always, restrict parking. Sidewalk setbacks are usually narrow to moderate in urban settings, varying from four to eight feet. Street trees are occasionally planted in this setback, sometimes in a narrow parkway strip. In a growing number of situations, through collectors are utilizing traffic calming devices, most frequently speed bumps, to slow traffic. Examples of through collectors are Hamilton Street, 50th Street north of Underwood, or 96th Street north of Dodge.

Neighborhood Collectors
These collectors, often located in suburban contexts, provide street continuity through neighborhoods. They generally do not carry through traffic, but move local traffic from residential areas to section line arterials. The city’s comprehensive plan now requires collector at approximately quarter- and half-section lines, mandating a contemporary version of the urban street grid of the pre-World War II city. Contemporary neighborhood collectors usually provide a wider than normal two-lane section, and permit two-sided parking. In most suburban situations, they use a standard four-foot sidewalk setback, too shallow to permit street tree planting. In some settings, they are designed as image streets, with a deeper sidewalk setback or even intermittent landscaped medians. Often, neighborhood collectors employ traffic calming devices to slow traffic; calmers include speed bumps, medians, and, increasingly, roundabouts.
Streetcar Avenues
These special collectors provide wide two-lane sections, usually with unrestricted parking. These streets hosted streetcar routes, and had one or two tracks in the center of the street. The tracks were often laid in a brick strip, but were not defined by a median or reserved right-of-way. Street channels are usually in the range of 40 to 50 feet, typically within a 66-foot right-of-way. Despite an overall “green” appearance, sidewalk setbacks are sometimes relatively shallow, and may range from two to eight feet. Street trees are sometimes planted in these narrow setbacks. The street width and the relative separation of pedestrian and vehicular domain sometimes give these streets a promenade quality. Examples of streetcar avenues are 40th Street from Dodge to Hamilton, or 60th Street from Leavenworth to Woolworth.

Main Streets
Main streets are located within neighborhood business districts, and typically provide two lanes for moving traffic and on-street parallel or diagonal parking. Main streets are almost always found in urban contexts, although TND (Traditional Neighborhood Development) mixed use projects like Village Pointe have developed internal streets that replicate main street standards. Some main streets are actually classified as arterials, but parking, pedestrian traffic, and frequent signals or stop signs reduce their speeds and level of operation. As a result, through or regional traffic often attempts to bypass main street districts. Main street settings usually have urban sidewalks that extend from building line to the curb. Street landscaping is provided in planters or tree wells, or located within corner nodes. Examples of Main Streets are Underwood Avenue, Maple Street in Benson (classified as a major arterial), Vinton Street (classified a minor arterial), and 24th Street in South Omaha (classified a minor arterial).

Boulevards and Parkways
These streets include the original Horace Cleveland-conceived boulevard system, new boulevards, and parkways within developments. These are Omaha’s “greenest” streets, characterized by large rights-of-way and deep sidewalk setbacks with extensive landscaping and street tree plantings. These facilities are have both divided and undivided sections. Streets with medians may have one lane with parking or two lanes on either side, while undivided streets may provide two- or three-lanes. The functional classification system sometimes categorizes boulevards and parkways as minor arterials or collectors. Other parkways are important image streets for developments, but primarily serve local traffic. The original Omaha boulevard system will be adapted for both bicycle and pedestrian access; the first segment to be completed is the Happy Hollow Trail between Dodge and 50th Street, combining trails on boulevard preserve and bicycle lanes. The new H.W.S. Cleveland Boulevard in developing western neighborhoods will provide a multi-use trail along one side of the street.

Multi-Lane Divided Parkways
These streets typically provide two moving lanes in each direction without on-street parking. They feature well landscaped medians and extensive street tree planting, permitted by relatively deep sidewalk setbacks. These facilities often serve large developments, and extend across them; they also frequently align with streets outside their primary project. Rights-of-way can be as wide as 100 feet, providing for generous landscaping and a strong degree of separation between vehicular and pedestrian domains. Examples of these parkways, typically found in transitional or suburban contexts, include Regency Parkway and FNB Parkway.
Divided Boulevards
These streets include divided sections of the city’s historic boulevard system, new boulevard segments in developing parts of the city, or boulevards developed within neighborhoods after the Cleveland era. These streets include several configurations. Divided sections of Happy Hollow and Hanscom Boulevards provide two-way traffic on both sides of a generous, parklike median. In these situations, one of the channels is the primary roadway, experiencing higher traffic volumes. Other divided boulevards have a single lane of varying widths in either street channel, permitting on street parking on the curb side. In most cases, divided boulevards have sidewalk setbacks exceeding eight feet. Examples are Florence Boulevard, Woolworth Avenue, and Maplewood Boulevard.

Undivided Boulevards
Most of Omaha’s original boulevards are two-lane, two-way undivided channels, usually 25 feet wide, set in rights-of-way of 100 feet or greater. These streets often have very deep sidewalks, sometimes in excess of twenty-feet. These setbacks were extensively planted, but much of the original tree cover was lost to Dutch elm disease. The city has replanted these areas over time, but the boulevard system’s once continuous tree canopy has not been fully restored. Some of the city’s boulevards, including the new Cleveland Boulevard, include both divided and undivided segments.

Multi-Lane Parkways
Top: Regency Parkway.
Above: FNB Parkway.

Multi-Lane Boulevards
Top: Maplewood Boulevard in a transitional context, part of the Maple Village subdivision platted during the 1950s.
Above: Hamilton Street in the more contemporary Linden Estates development.
Local streets account for most of Omaha’s street miles. The typical local street in nearly all contexts includes a 25-foot street channel in a 50-foot right-of-way. Parking is usually unrestricted, except in high-density neighborhoods like parts of Dundee. Here, high utilization of curbside parking on both sides would prevent two-way movement, even at very slow speeds. In the urban context, sidewalks were typically set back eight feet, permitting the extensive street tree plantings that are so much a part of Omaha’s traditional neighborhoods. This setback pattern persisted in some post-war subdivisions, or in master-planned projects like Regency. Gradually, however, subdivisions reduced sidewalk setbacks to four feet, enough to accommodate underground utilities but inadequate for landscaping between the vehicular and pedestrian domains.
The Green Streets System

Map 2.1 displays this taxonomy of Omaha’s streets and contexts to identify the proposed Green Streets system. This system includes:

- All major and minor arterials identified by the Metropolitan Area Planning Agency’s Federal Functional Classification Map.
- Conventional collectors, most of which are also identified in the MAPA system.
- Neighborhood collectors that extend through several neighborhoods, providing street continuity across relatively long distances.
- All streetcar avenues and main streets in the city street network.
- Most boulevards and parkways that provide more than local traffic circulation.

This includes the both the most visible segments of Omaha’s street system and streets that serve important roles within their individual neighborhoods, developments, or larger districts.

The Urban Design Element of the Comprehensive Plan identifies a potential green streets network, but indicates that this subsequent Green Streets Master Plan will refine and expand that network. Map 2.2 compares the system proposed by this plan to the map in the Urban Design Element and indicates the additional streets and street segments that should follow Green Streets policies.

Although the Green Streets system is relatively inclusive, applying the specific standards and prototypes presented in the next chapter to the entire system at once is clearly both impossible and unaffordable. Application of a green streets program should follow these general guidelines:

- New streets on corridors identified in the Green Streets system should be developed to the standards established by this plan. This applies primarily to areas in the suburban context.
- Street widenings on Green Streets corridors should meet the prototype standards as closely as possible within the constraints of the street right-of-way.
- Street reconstructions within urban and transitional contexts should also apply prototype standards to as great a degree as possible.
- Streets in urban and suburban contexts should be retrofitted over time, following or elaborating on retrofit concepts presented in Chapter Four.
Chapter III: {Green Streets Prototypes}
The prototype standards establish ideal plans and sections for new streets.

**These prototypes should be followed when:**

- New streets are built in corridors identified as part of the Green Streets system.
- Existing streets are widened or reconstructed, to the maximum degree permitted by right-of-way width or other corridor limitations.

The Green Streets prototypes also introduce the concept of "complete streets" to Omaha. Complete streets are street corridors designed to accommodate all types of transportation, including motor vehicles, bicycles, and pedestrian transportation. Some of the diagrams use sidepaths or parallel multi-use trails within the right-of-way to accommodate non-motorized users. Other concepts include bicycle lanes within the street channel itself, in combination with sidewalks for pedestrians. Various stakeholders have different points of view on which facilities work best for bicyclists, and preferences vary with individual bicyclists' experience level.

Sidepaths or separated pathways in the right-of-way move bicyclists out of the way of motor vehicles. This reduces the stress experienced by cyclists, and is favored by inexperienced riders who are uncomfortable with shared streets. On the other hand, sidepaths can create dangerous conditions at intersections and driveways, where most crashes occur. Many experienced riders and commuters prefer to share street channels, although preferably in facilities that provide enough room for both motorized and non-motorized vehicles. However, these facilities are less comfortable for young riders, families, and inexperienced cyclists. Application of these techniques should follow a subsequent Pedestrian and Bicycle Master Plan. These standards recognize that an ultimate complete street system for Omaha will make use of a number of design solutions, depending on contexts and the nature of users.

**The prototype standards address:**

- Multi-lane divided streets
- Five-lane streets with a continuous center left-turn median.
- Four-lane streets.
- Two and three-lane streets.
- Divided boulevards and parkways.
**Multi-Lane Divided Sections**

*Prototype Characteristics:*

- Divided major arterials, with both urban and rural sections.
- Wide medians reflecting traffic volumes and possibility of double left-turn lanes.
- Minimum 8-foot sidewalk setbacks in urban section with regular street-tree plantings. Average street tree spacing should be no less than 40 feet on center.
- Multi-use trail is detached from paving surface. Trail may undulate within the right-of-way, with a minimum separation of 6 feet from the curb.
- Drainage swales should be incorporated into rural sections. Multi-use trail should be developed on opposite side of swale, adding to separation.
**Multi-Lane Divided Sections**

*Prototype Characteristics:
- Divided major and minor arterials with urban section.
- 16-foot median permits single left-turn lane.
- Minimum 8-foot sidewalk setbacks in urban section without bicycle lanes with regular street-tree plantings. Setback may be reduced to 6 feet with bicycle lane, with utilities installed under the lane. Average street tree spacing should be no less than 40 feet on center.
- Multi-use trail is detached from paving surface. Trail may undulate within the right-of-way, with a minimum separation of 6 feet from the curb.*
Multi-Lane Divided Section
Overall Road Segment and Landscaping

Prototype Characteristics:
- Ornamental plantings at median nose and near intersections
- Overstory trees away from intersection. Plantings either in groups or irregular spacings.
- Trees may be planted inside and outside of trail if trail undulates.
**{Multi-Lane Divided Section}**

**Intersection Guideline**

**Prototype Characteristics:**
- Multi-use trail crosses street at corner.
- Clear pavement markings or change in paving, color, or texture at major crosswalks.
**Five-Lane Undivided Sections**

*Prototype Characteristics:*

- 5-lane major and minor arterials with urban section.
- Minimum 8-foot sidewalk setbacks in urban section without bicycle lanes with regular street-tree plantings. Setback may be reduced to 6 feet with bicycle lane, with utilities installed under the lane. Average street tree spacing should be no less than 40 feet on center.
- Multi-use trail is detached from paving surface. Trail may undulate within the right-of-way, with a minimum separation of 6 feet from the curb.
- Sidewalks may be built adjacent to property line.
Four-Lane Undivided Sections

Prototype Characteristics:
- 4-lane minor arterials with urban section.
- Minimum 6-foot sidewalk setbacks with regular street-tree plantings. Average street tree spacing should be no less than 40 feet on center.
- Complete street treatment in 72-foot ROW provides 11 foot inside lanes and 13 foot outside lanes for shared traffic.
- Sidewalks may be built adjacent to property line.
**Four-Lane Undivided Sections**

**Complete Street Options**

*Prototype Characteristics:*

- 4-lane minor arterials in 86–100 foot ROW.
- Minimum 7-foot sidewalk setbacks with regular street-tree plantings with shared bicycle/parking shoulder. Average street tree spacing should be no less than 40 feet on center.
- Minimum 6-foot sidewalk setbacks with lane in narrower ROW. Average street tree spacing also should be no less than 40 feet on center.
- Prototypes assume 12-foot lanes. Lane width may be reduced to 11 feet to accommodate other dimensions. Sidewalks also may be built adjacent to property line.
**Two and Three-Lane Prototypes**

*Prototype Characteristics:*
- 3-lane minor arterial or collector in 66-foot ROW.
- Minimum 8-foot sidewalk setbacks with regular street tree plantings with narrower street channel.
- Minimum 7-foot sidewalk setbacks using wide, shared use moving lanes and regular street tree plantings. Concept includes 11-foot center lane, 14-foot moving lanes.
- Average street tree spacing should be no less than 40 feet on center.
- Sidewalks may be built adjacent to property line.
Prototype Characteristics:
- 2 or 3-lane minor arterial or collector in 60- to 74-foot ROW.
- Minimum 6-foot sidewalk setbacks with regular street-tree plantings with bicycle lanes.
- Average street tree spacing should be no less than 40 feet on center.
- Sidewalks may be built adjacent to property line to increase landscaping or meet other dimensional requirements.
- Lane width may be reduced in 3-lane prototype.

Prototype Characteristics:
- 3-lane minor arterial or collector in 66- to 86-foot ROW.
- Minimum 6-foot sidewalk setbacks with regular street-tree plantings with shared parking/bicycle shoulder.
- Average street tree spacing should be no less than 40 feet on center.
- Sidewalks may be built adjacent to property line to increase landscaping or meet other dimensional requirements.
**Two-Lane Prototypes**

*Prototype Characteristics*
- 2-lane minor arterial or collector in urban context or collector in 58- to 74-foot ROW.
- Minimum 8-foot sidewalk setbacks with regular street-tree plantings.
- Average street tree spacing should be no less than 40 feet on center.
- Sidewalks may be built adjacent to property line to increase landscaping or meet other dimensional requirements.
- Removing parking lane provides wider moving lanes for shared use.

*Prototype Characteristics:*
- 2-lane collector or local street in 50- to 60-foot ROW.
- Minimum 8-foot sidewalk setbacks with regular street-tree plantings.
- Average street tree spacing should be no less than 40 feet on center.
- Sidewalks may be built adjacent to property line to increase landscaping or meet other dimensional requirements.
- Parking unrestricted for local streets in suburban contexts.
**Divided Boulevards**

*Prototype Characteristics:*
- Divided 2-lane boulevards in minimum 80- to 86 foot ROW.
- Minimum 6–10-foot sidewalk setbacks with regular street-tree plantings.
- 12 foot median with regular street-tree plantings.
- Average street tree spacing should be no less than 40 feet on center.
- Sidewalks may be built adjacent to property line to increase landscaping or meet other dimensional requirements. Sidewalks may undulate for greater interest.

**Divided Boulevard**
- 2-Lane with Parking
- 2-Lane with Bike Lanes
The previous chapter addresses prototype streets, and the City and other agencies should apply its recommendations when building new streets. However, most of Omaha’s street network is already in place, and will never fully comply with these prototypes. This chapter presents a variety of approaches for retrofitting existing streets to become "greener." It also applies these concepts to specific situations, showing how, over time, Omaha’s existing street network can also become Green Streets.

Retrofit recommendations are specific to different contexts. The re-design process for a specific corridor must completely analyze the context and function of the street, and tailor solutions appropriate to the specific case. In common with the prototype sections, retrofit concepts also consider accommodating non-motorized transportation as part of the concept of a "green street." Therefore, many of the recommendations include modifying existing rights-of-way and street channels to provide better movement of pedestrians and bicyclists.
**Five-Lane Conversion**

This recommendation applies to major street corridors with five-lane facilities. In urban contexts, some of Omaha's wide streets, sometimes the route of regional highways, have been converted to five-lane facilities. The five-lane street channel without a raised median has also grown in popularity in transitional and suburban contexts. However, the five-lane width, typically 55 to 60 feet, dominates the field of vision of most road users. In addition, many of these streets provide uncomfortable pedestrian domains and do not accommodate bicyclists.

**Retrofit Features:**
- Raised median with regular tree-planting to replace center left-turn lane. Ideal minimum width is 12 feet to accommodate left turns.
- Sidewalk/widened sidewalk on one side of the street. Path can undulate within a 15–18-foot space, with a minimum setback of 6 feet.
- Street tree plantings on the sidewalk side of the corridor.
- Medians may be intermittent and need not be continuous for long distances. The 5-lane section may be used along parts of the street where left-turns for business access are critical.
Divided Arterial Conversions

This concept applies to arterials where narrow concrete medians divide opposing traffic flows on major arterials. In some places, parking is prohibited along the curb lane in rush hours, providing a third moving lane. Traffic behavior and changes in road use sometimes make use of this narrower third lane unnecessary or even hazardous by encouraging faster traffic or passing on the right.

Retrofit Features:
- Narrow concrete median replaced by wider, green median with adequate space to accommodate left turns as required.
- Street channel redesigned to provide 2 standard moving lanes.
- Landscaped nodes extend into the existing parking lane at regular intervals, providing a place for street trees. Extension of node is 6–7 feet from the existing curb face.
- Current curb line and sidewalk remain at existing locations.
**Four-lane Conversion to Complete Streets**

This concept applies to existing four-lane streets, often found in urban or transitional contexts. These streets typically provide on-street parallel parking and sometimes were "streetcar strips" with a linear development pattern that combined residential, commercial, and sometimes industrial uses. Four-lane sections create rear-end collision hazards, and are infrequently used in new street development.

This concept converts the four-lane section to a more contemporary three-lane facility, providing excellent bicycle and pedestrian facilities in the process.

**Retrofit Features:**

- 3-lane section with continuous left-turn lane replaces narrow 4-lane section.
- Defined bicycle lanes between parallel parking and moving lanes. 5-foot minimum width is necessary to prevent hazards to cyclists from opening car doors.
- Nodes may also be used in parking lanes to provide additional street landscaping.
- Eight to 10-foot sidewalk setback with regular street tree-planting.
- Wider sidewalks, up to 10 feet depending on land use context. 5 foot sidewalks are adequate in residential areas.
Asymmetrical Conversion of Five-Lane Corridors

This recommendation also applies to major street corridors with five-lane facilities, where five lanes are no longer necessary, but left turn movements should be preserved. The concept is appropriate when peak hour loads in one direction may exceed the capacity of a three-lane facility. The concept realigns curbs to provide two moving lanes in a dominant direction, along with a continuous left-turn lane.

Retrofit Features:
- Asymmetrical section with 2 moving lanes in a dominant direction and continuous left-turn lane.
- Pedestrian domain is modified to provide ideal 8 foot sidewalk setback with regular street tree planting.
- Continuous 5-foot sidewalk may be built adjacent to property line.
**City Boulevard**

This recommendation also applies to major street corridors with five-lane facilities with on-street parking. The design concept provides a landscaped median and greater sidewalk setback, while retaining parallel parking and existing curb lines. Parallel parking may be replaced by bicycle lanes when retaining parking is not necessary.

**Retrofit Features:**
- Green median to replace center left turn lane.
- Two 11-foot lanes in each direction.
- On-street parallel parking is retained. In places where parking is not necessary, parking may be replaced by a bicycle lane.
- Sidewalk setback increased to 8 feet, including a curbside maintenance strip.
- Sidewalk built adjacent to property line.
**Three-Lane Conversion in Narrow Right-of-Way**

This concept converts four-lane urban facilities in the traditional 66-foot right-of-way to 3-lane facilities with improved street landscaping. Wider moving lanes are provided to accommodate shared bicycle use.

**Retrofit Features:**
- Three-lane section replaces four-lane configuration.
- 11-foot turning lane and 13-14-foot moving lanes with adequate width for shared bicycle use.
- Sidewalk setback increased to 8 feet.
- 5-foot sidewalk may be built adjacent to property line.
**Streetcar Avenue Enhancement**

This concept applies to Omaha’s wide, two-lane streetcar avenues. It maintains current curb lines, using the technique of parking lane nodes to provide space for additional street landscaping. The concept also uses the relatively wide street channel to provide bicycle lanes along these important corridors.

**Retrofit Features:**
- Wide moving lanes are defined at 12–13-foot widths.
- Bicycle lanes provided.
- Landscaped nodes extend into the existing parking lane at regular intervals, providing a place for street trees. Extension of node is 6–7 feet from the existing curb face.
- Existing curb lines and sidewalks are retained.
Different street contexts may provide different design possibilities.
**Streetcar Avenue Enhancement**

**Corridor Plan**

The drawing below illustrates a streetcar avenue corridor, showing a potential street landscape pattern. The concept of parking lane nodes can also be applied to other retrofit projects that involve streets with on-street parallel parking.

*Before*

4-Lane with parking

*AFTER*

2-Lane variable curb with bike lanes, channelized moving lanes & corner nodes
Intersection nodes may be installed at intersections of major streets that provide on-street parking. These nodes decrease crossing distances for pedestrians, protect parking lanes, and help to slow traffic at intersections. They are often used in main street settings to set off diagonal parking, and are sometimes installed on streets with parallel parking. These nodes an important opportunity for street landscaping, further calming traffic and defining intersections as points of refuge.

Retrofit Features:
- Corner nodes extending to edge of parking lane.
- Street landscaping may include both overstory trees and ground cover on node returns.
- More formal landscaping, paving, and street furniture may be used in main street districts.
- Color or texture changes used to define pedestrian crosswalks and places of potential pedestrian/vehicle conflict.
- Bicycle lanes maintain continuity at nodes.
- Keep tall plantings and visual obstructions outside of sight triangles at street intersections.
\textbf{Retrofit Case Studies}

This section applies the Green Streets retrofit concepts to specific situations in Omaha’s street network. The settings considered include:

- **144th Street**, a divided major arterial in a suburban context. 144th was conceived as a parkway street, and a master plan for its development and landscaping was developed in 1989. Some aspects of the plan, including development of a major multi-use trail for its entire length, have been implemented. However, many of its landscape recommendations, which included the definition of outdoor “rooms” at intersections, were not executed and street landscaping has been relatively ineffective.

- **Cuming Street**, a major divided arterial in an urban context, featuring a narrow concrete median and on-street parking that converts to a moving lane during rush hours. With the redesign of the north Downtown and airport access street systems with Qwest Center and riverfront development, Cuming is now a principal connection to the airport and North Downtown area.

- **84th Street** between Center Street and Interstate 80, a 1950s era commercial strip with poor landscaping and confusing intersecting street patterns.

- **42nd Street** south of Center Street, a four-lane major arterial with adjacent residential land use.

- **Leavenworth Street** between 31st Street and Saddle Creek Road, a four-lane streetcar strip with on-street parking that also serves as a major bicycle route into downtown and an approach to the University of Nebraska Medical Center. Leavenworth Street was a major area of focus for the Destination Midtown Plan.

- **Harrison Street** east of Seymour Smith Park, a congested and narrow two-lane facility scheduled for widening to three lanes.

- **Blondo Street** from 66th to 72nd Streets, a three-lane minor arterial that was reconstructed and widened from two lanes during the 1990s.

- **32nd Avenue**, a streetcar avenue that borders Hanscom Park.

- **Farnam** and **Harney Streets** west of 20th Street, currently a one-way pair with a comparatively wide pedestrian domain.

- **Tomahawk Boulevard**, a divided neighborhood parkway in the Maple Village neighborhood.
**{144 th Street}**

**L Street to Q Street**

Typical Section and Concept:
- Undulating trail on one side of wide right-of-way.
- Minimum trail setback of 6 feet, within a 25-foot pedestrian domain.
- Informal landscape pattern consistent with higher traffic speeds.
- Landscaping is used to define intersections as outdoor rooms consistent with 1989 plan concept.
- Much of the 144 th Street corridor has a wider overall public domain, up to 250 feet in width. The L to Q segment has the narrowest right-of-way, because it was developed before the city began reserving dedications for full parkway development. Trail setbacks are much greater where available land expands. As a result, the 144 th Street Trail is capable for functioning as a full multi-use trail, rather than as a sidepath.
144th Street
L Street to Q Street

Linear Concept and Intersection Detail.
**Cumming Street**

30™ to Saddle Creek Road

Typical Section and Concept:
- Widening and landscaping of narrow concrete median.
- Two standard moving lanes in each direction to replace convertible parking lane and narrow existing lane widths.
- Parking lane nodes to provide locations for street trees.
- Curb line and sidewalk remain in current position.
- Project should also replace galvanized street lamps with a new standard that maintains continuity with the Abbott Drive/Cumming Street entrance to the city.
Proposed Cuming Street Retrofit:
Linear Plans and Landscaping Concept.
Cuming Street Retrofit

*Top Left:* Detail at 40th Street intersection. This intersection has some neighborhood business district characteristics at its south east corner and is one block north of the Cathedral Forecourt project.

*Bottom Left:* Detail at the interface with the Mercer Park neighborhood.
CUMING STREET
30th to Saddle Creek Road

Cuming Street Retrofit

Top Left: Detail at the 33rd Street intersection, one of Omaha’s earliest grade separated and controlled access “interchanges.”

Bottom Left: Detail at the TAC building. Traffic loads here require that three through lanes be provided as traffic approaches the 30th Street intersection. The parking node concept may be used on the north side of the street.
Cumming Street Before and After
Left: Cumming Street today west of 38th Street.
Below Left: The same view showing proposed retrofit.
Chapter iv: {Green Street Retrofit Concept}

{84th Street}
Center to Interstate 80

Concept:
- Acquisition of unused, currently private parking areas for street landscaping and improved sidewalk.
- Sidewalk setback should be expended to a minimum of 8 feet. Street trees may be established between sidewalk and property line.
- Realignment of Hascall Street intersection with new traffic control, replacing confusing jog with safe, controlled four-way intersection.
- New open space, corridor image feature on former Hascall Street right-of-way.
Detail of revised 84th Street and Hascall Street intersection.
Typical Section and Concept:

- Voluntary acquisition where possible of additional right-of-way to provide street trees and greater sidewalk setback.
- Likely typical sidewalk setback is 6 feet.
- Reconstruction with ornamental retaining walls.
- Sidewalk alignment and setback may vary depending on individual site conditions.
- Benefit to adjacent homeowners is better buffering from street noise and more usable, if smaller, front yards.
Plan detail at Arbor Street

Sidewalk setback and location of landscaping and street trees will vary, depending on site conditions and individual property owner preferences. The 42nd Street program anticipates close cooperation with neighboring property owners.
Leavenworth Street
31st Street to Saddle Creek Road

Typical Section and Concept:
- Conversion of 4-lane undivided section to three lanes with bicycle lanes. Potential of Leavenworth to serve as a primary complete street access into Downtown.
- Retention of on-street parking.
- Street landscaping in parking lane nodes.
- Section may change at key intersections such as 42nd and 36th Streets. Here, bicycle lane merges to left of a right-turn only lane, with signs noting motor vehicle yield to bicycles.
Leavenworth Street
31st Street to Saddle Creek Road

Plan detail at 39th Street
Bicycle lanes provide access to Downtown. Street trees are established on parking lane and corner nodes, typically at intersections and at a mid-block location. Other street furnishings can improve the quality of this corridor, which will increase in public exposure as an approach to UNMC.
**Harrison Street**

*48th to 66th Streets*

**Typical Section and Concept:**
- Narrow 2-lane rural section road is scheduled for widening to 3-lanes.
- Use of 3-lane prototype, with multi-use trail on north side and sidewalk with adequate setback for street trees on south.
- Lower level landscaping on north buffers residential backyards.
- Street will function as a major link to Keystone Trail and Seymour Smith Park. LaVista also is planning a trail connection at 66th Street through its recreational complex.
Typical Sections and Concept:
- Reconstruct sidewalk within existing right-of-way to provide sidewalk setback adequate for street trees.
- Sidewalk alignment may curve according to site conditions, driveways, and existing landscaping.
- Typical setback should be eight feet within existing 66-foot right-of-way.
Plan detail at 61st Street
Sidewalk on north side is set back behind a row of street trees. Pattern on south side is individualized to curb cuts.
Blondo Street Before and After

Above: Blondo Street in a two-lane section west of 60th Street.

Below: The same view following proposed retrofit.
32nd Avenue
Woolworth to Vinton

Typical Section and Concept:
- Moving traffic lanes are defined by bicycle lane markings.
- Bicycle lanes established outside of parking lane.
- Parking lane nodes used to provide area for street trees.
- Curb line and existing sidewalk alignment remain.
**32nd Avenue**

**Woolworth to Vinton**

*Left:* Corridor plan illustrating areas for parking lane nodes.

*Below Left:* Detail at the Arbor Street intersection. This former streetcar stop has a commercial cluster typical of an earlier transit-oriented era.
{32\textsuperscript{nd} Avenue}
Woolworth to Vinton

32\textsuperscript{nd} Avenue Before and After

Left: The current view north of Arbor Street.

Below Left: The same view following proposed retrofit.
[Farnam and Harney Streets]

West of 20th Street

Typical Sections and Concept:
- Corner nodes with street landscaping developed at intersections, following intersection retrofit concept.
- Planting beds to replace 20-foot sidewalks along the blocks. Resulting sidewalk against property line is 10 feet, with 8 foot planters and a 2–3-foot maintenance and access strip along curb.
- Regular street tree plantings located within planting beds.
Chapter iv: {Green Street Retrofit Concept}

{Farnam and Harney Streets}

West of 20th Street

Harney Street retrofit

Below: Detailed plan east of 26th Street.
Tomahawk Boulevard
West of 90th Street

Concept
- Additional trees on private property, following a unified design for the boulevard.
- Informal plantings in median to augment existing landscaping. Landscaping will add lower-level plantings and ornamental grasses.
Chapter V: {Installation and Maintenance Standards}
Installation

With hundreds of miles of streets identified as green streets, we must look for the most cost-effective ways to create the Green in green streets. Overstory trees are by far the best value. With their very long lives, ability to cover large areas, capacity to reach over street pavements, and low initial cost, overstory trees continue to give back significant returns on the investment made.

Without question the most desirable location for street trees is the area between the sidewalk and the street curb, defined as the parkway planting area. Trees in this location provide much-needed separation between the pedestrian and the vehicle. Traffic slows naturally when trees limit the cone of vision, effectively creating the perception of a more narrow street.

Growing trees in this location is a challenge and takes careful planning. The primary consideration is one of space. It is critical that the tree selected is appropriate for the amount of space available both above ground and below ground. Above ground, the tree must not interfere with overhead utility lines, must be of suitable structure to be pruned with adequate clearance beneath its canopy and cannot interfere with critical site distances. Below ground the tree needs significant soil volume to grow. It is easy to overlook planting space, but the long-term health of the tree is directly related to the amount and quality of the soil space that is available.
The distance between the curb and the walk needs to be a minimum of 6 feet—although 8 feet is preferred—in order to support a tree and provide enough space for the trunk and roots. The diagram below illustrate the recommended spacing of the tree with relationship to the curb and walk. Soil preparation should extend the entire width of the tree lawn and to a minimum depth of 30”.

The immediate area around the tree should be mulched. The remaining tree lawn may be planted with turf. Buffalo grass is a drought tolerant native grass that does well in this situation, especially in areas that are generally open and sunny. In areas that are mostly shade, turf may be planted with a fescue blend.
The recommended amount of soil volume to ensure a beautiful, healthy and vibrant tree (30 feet in canopy diameter) is 400 cubic feet. This is 2 cubic feet for every square foot of canopy. With a 36" planting depth, this requires 470 square feet of root space available and generally, a square or circular root space is more desirable than a long and narrow rectangular space. However, trees are adaptable and if we give them a space to fill with their roots, they typically will do so. Several techniques may be used to expand the available root zone for a street tree, including: providing structural soil under pavements, providing adjacent green space areas for root development, and providing paths for roots under pavements in order to encourage trees to reach available root space on the opposite side of a walk or drive. A landscape architect can provide direction on the best way to provide necessary soil volume to a planted tree.

'Structural Soil' is a designed medium of stone and soil which can meet or exceed pavement design and installation requirements while remaining root penetrable and supportive of tree growth. It was developed by Cornell University Urban Horticulture Institute. This strategy of providing soil volume is used under pavements in urban areas and is used for connecting tree wells within a streetscape environment.

Root paths are constructed by trenching a 4" wide by 14" deep trench fully connecting two soil areas. A 1" thick x 12" tall plastic aeration sheet is inserted along the length of the root path. Top soil or amended soil is lightly compacted around the aeration sheet, filling the trench completely.

Root paths may be used to connect trees planted in paved parkways to adjacent greenspace. Root paths should be placed no more than 4 feet on center in a radial pattern from each tree to the adjacent greenspace.
Where the paved parkway—the distance from the back of the curb to the edge of the building—is less than 9' wide no street tree should be planted. However, trees may be planted at intersections and bump out areas. This technique will be well used in retrofit situations. See page 106.

Where the paved parkway is between 9' and 12' wide trees shall be planted in topsoil backfill using a structural soil system between tree pits under pavement areas.

Structural soil—minimum 30’ depth—is required under the sidewalk regardless of sidewalk width where trees are planted and there is a structure on the other side of the sidewalk. In such cases root paths are not allowed except to link the parkway planters to each other.

Structural soil or root paths are not necessary between tree pits and the greenspace if the sidewalk width is 6 feet or less where trees are planted in tree pits and there is greenspace with root access on the other side of the sidewalk. Structural soil or root paths are required between tree pits and the greenspace if the sidewalk width is greater than 6’ where trees are planted in tree pits and there is greenspace on the other side of the sidewalk. In all cases involving tree pits with grates, structural soil or root paths are required between containers.
It is far more important to provide excellent growing space for a few trees that thrive per block than to have a block full of trees planted in impossible growing conditions.

These two photos show the effects of tree growth and appearance with different soil conditions. The photo on the left shows a quality soil condition, where the soil is open to the air, is raised above the subgrade and is large enough to provide adequate moisture. The vegetation and mulch beneath the canopy contributes to the health of the trees by reducing the glare and heat from pavements.

The photo below shows the same species of tree, planted at the same time in a very different soil condition. Unlike the trees on the left, these trees appear to be sick, stressed, and dying.
**Trees in Planters**

Where the paved parkway is 12' wide or greater, street trees should be planted in a parkway planter using a continuous structural soil system. Planting beds are to be at least 6' wide, and should not exceed 20–25' long. A minimum 3' wide walkway should interrupt the planting area and this pattern or dimension should vary with the pattern of on-street parking. Ground cover rather than turf should be used in planting beds.

Structural soil or root paths are required below sidewalks slabs between parkways where trees are planted in continuous planters and a greenspace on the other side, when the sidewalk is 6' wide or greater. The adjacent greenspace needs to be wider than 6'.
**Trees in Retrofit Areas**

These planting details are for parking lane and corner nodes in retrofit situations. Structural soil should be placed under the adjacent walkways and if there is adjacent greenspace to the sidewalk, root paths should extend under the sidewalk to that greenspace. Subsurface drainage may not be required if percolation tests indicate adequate soil percolation.
Trees in the Median

The impact of well planted and thriving trees in a roadway median is unparalleled. The effect of a green median is significant in the ability to break up an expanse of pavement. This planting site is a real challenge relative to proper drainage, road salts and chemical applications and having enough quality soil volume to support the tree.

In medians that are over 12 feet wide, successful planting is possible. Generally, the construction soil that is within the median after street construction should be removed to a 30” depth and an amended soil mix brought in to support tree growth. Percolation testing of the subsurface soil should be done prior to the installation of any planting in order to establish water infiltration rates. If these tests confirm that there is adequate soil percolation, subsurface drainage may not be necessary.

Trees, shrubs, groundcovers, and grasses should be selected that are adapted to Nebraska’s climate and are able to survive and thrive without supplemental irrigation. Trees should be selected from the list provided.
As trees grow to maturity, it is important to prune them to accommodate pedestrians and vehicles along the street. The Omaha City Code requires a 10 foot clearance above sidewalks and a 14 foot clearance above streets. Selecting trees with ascending or vase-shaped mature canopies rather than broad or pyramidal forms, will help alleviate the need for pruning.
Chapter v: [Installation and Maintenance Standards]

Plant Types

Approved Street Trees

The following trees are approved for placement along the Public Right of Way. Other cultivars and the straight species of plants listed may also be acceptable, providing they match the aesthetic and functional characteristics of their established group. Species with similar characteristics are grouped to provide visual continuity to the street segments while allowing for horticultural diversity.

**Group 1**

Large Trees with Round Canopies and Coarse Textured Foliage

- *Acer x freemanii* ‘Jeffersred’
- Autumn Blaze Maple
- *Acer x freemanii* ‘Celzani’
- Acer Wigrum Black Maple
- *Aesculus glabra*
- Ohio Buckeye
- *Aesculus hippocastanum*
- Common Horsechestnut
- *Platanus x acerifolia* ‘Bloodgood’
- Bloodgood London Plane Tree
- *Platanus x acerifolia* ‘Columbia’
- Columbia London Plane Tree
- *Platanus x acerifolia* ‘Liberty’
- Liberty London Plane Tree
- *Platanus x acerifolia* ‘Yarwood’
- Yarwood London Plane Tree
- *Platanus occidentalis*
- American Planetree
- *Quercus macrocarpa*
- Bur Oak
- *Quercus rubra*
- Red Oak
- *Quercus alba*
- White Oak
- *Quercus bicolor*
- Swamp White Oak
- *Quercus robur*
- English Oak
- *Quercus muhlenbergii*
- Chinkapin Oak

**Group 2**

Large Trees with Round Canopies and Fine Textured Foliage

- *Cladrastis kentukea*
- Yellow Wood
- *Gleditsia triacanthos var. inermis*
- Thornless Honeylocust
- *Gleditsia triacanthos var. inermis* ‘Christie’
- Halka Honeylocust
- *Gleditsia triacanthos var. inermis* ‘Moraine’
- Moraine Honeylocust
- *Gleditsia triacanthos var. inermis* ‘Shademaster’
- Shademaster Honeylocust
- *Gleditsia triacanthos var. inermis* ‘Imperial’
- Imperial Honeylocust
- *Gleditsia triacanthos var. inermis* ‘Imperial’
- Thorless Honeylocust
- *Gymnocladus dioicus*
- Kentucky Coffee Tree
- *Phellodendron amurense* ‘Macho’
- Amur Cork Tree Macho
- *Phellodendron amurense* ‘His Majesty’
- Amur Cork Tree His Majesty
- *Phellodendron amurense*
- Amur Cork Tree
- *Sophora japonica* ‘Regent’
- Regent Scholar Tree
- *Sophora japonica*
- Japanese Pagoda Tree, Scholar Tree
- *Sophora japonica* ‘Halka’
- Millstone Scholar Tree
- *Ulmus parvifolia* ‘Dynasty’
- Dynasty Elm
Large Trees with Oval Canopies and Fine Textured Foliage

* Celtis occidentalis ‘Prairie Pride’
  Prairie Pride Hackberry
* Celtis occidentalis ‘Chicago Land’
  Chicago Land Hackberry
* Celtis occidentalis ‘Windy City’
  Windy City Hackberry
* Metasequoia glyptostroboides
  Dawn Redwood
* Quercus imbricaria
  Shingle Oak
* Robinia pseudoacacia ‘Bessoniana’
  Purple Robe Locust
* Tilia cordata ‘Chancellor’
  Chancellor Littleleaf Linden
* Tilia cordata ‘Glenleven’
  Glenleven Littleleaf Linden
* Tilia cordata ‘Greenspire’
  Greenspire Littleleaf Linden
* Tilia cordata ‘Olympic’
  Olympic Littleleaf Linden

Large Trees with Oval Canopies and Coarse Textured Foliage

* Catalpa speciosa
  Catalpa
* Ginkgo biloba
  Ginkgo
* Ginkgo biloba ‘Autumn Gold’
  Autumn Gold Ginkgo
* Liriodendron tulipifera
  Tulip Tree
* Quercus coccinea
  Scarlet Oak
* Quercus velutina
  Northern Black Oak
* Tilia americana ‘Redmond’
  Redmond Basswood
* Tilia sp ‘Sterling’
  Sterling Linden
* Tilia sp ‘Green Meadows’
  Green Meadows Linden
* Tilia tomentosa
  Silver Linden
* Ulmus ‘Frontier’
  Frontier Elm
* Ulmus ‘Discovery Elm’
  Discovery Elm
* Ulmus ‘Morton Glossy’
  Morton Glossy Elm

Large Trees with Spreading Canopies and Fine Textured Foliage

* Celtis occidentalis
  Hackberry
* Celtis Occidentalis ‘Magnifica’
  Magnifica Hackberry
* Ulmus ‘Accolade’
  Accolade Elm
* Ulmus americana ‘Delaware #2’
  Delaware American Elm
* Ulmus americana ‘Washington’
  Washington American Elm
* Ulmus ‘Princeton’
  Princeton Elm
* Ulmus wilsoniana ‘Prospector’
  Prospector Elm
* Ulmus ‘Morton Plainsman’
  Vanguard Elm
* Ulmus ‘Sapporo’
  Autumn Gold

Large Trees with Columnar Canopies

* Carpinus betulus ‘Fastigiata’
  Upright European Hornbeam
* Ginkgo biloba ‘Lakeview’
  Lakeview Ginkgo
* Ginkgo biloba ‘Princeton Sentry’
  Princeton Sentry Ginkgo
* Pyrus calleryana ‘Capital’
  Capital Callery Pear
* Pyrus calleryana ‘Chanticleer’
  Chanticleer Pear
* Quercus robur ‘Fastigiata’
  Upright English Oak
* Quercus robur ‘Long’
  Regal Prince Oak
* Quercus robur ‘Asjes’
  Rosehill Oak
* Taxodium distichum ‘Shawnee Brave’
  Bald Cypress
### Plant Types

**Approved Ornamental Trees**

The following ornamental trees are approved for placement within medians at divided roadway sections, accent areas and under powerlines.

<table>
<thead>
<tr>
<th>Group 1</th>
<th>Small Trees with Round Canopies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acer ginnala</td>
<td>Amur Maple</td>
</tr>
<tr>
<td>Crataegus phaenopyrum</td>
<td>Washington Hawthorn</td>
</tr>
<tr>
<td>Crataegus punctata inermis 'Ohio Pioneer'</td>
<td>Thornless Ohio Pioneer Hawthorn</td>
</tr>
<tr>
<td>Koelreuteria paniculata</td>
<td>Goldenraintree</td>
</tr>
<tr>
<td>Malus baccata 'Jackii'</td>
<td>Jackii Crabapple</td>
</tr>
<tr>
<td>Malus 'Professor Sprenger'</td>
<td>Professor Sprenger Crabapple</td>
</tr>
<tr>
<td>Malus 'Sugartyme'</td>
<td>Sugartyme Crabapple</td>
</tr>
<tr>
<td>Malus x zumi 'Calocarpa'</td>
<td>Calocarpa Crabapple</td>
</tr>
<tr>
<td>Robinia pseudoacacia 'Inermis'</td>
<td>Globe Locust</td>
</tr>
<tr>
<td>Syringa reticulata 'Summer Snow'</td>
<td>Summer Snow Japanese Tree Lilac</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Group 2</th>
<th>Small Trees with Oval Canopies and Dense Branching</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acer platanoides x truncatum 'Norwegian Sunset'</td>
<td>Norwegian Sunset Maple</td>
</tr>
<tr>
<td>Acer platanoides x truncatum 'Pacific Sunset'</td>
<td>Pacific Sunset Maple</td>
</tr>
<tr>
<td>Acer campestre 'Deborah'</td>
<td>Deborah Hedge Maple</td>
</tr>
<tr>
<td>Amelanchier 'Autumn Brilliance'</td>
<td>Autumn Brilliance Serviceberry</td>
</tr>
<tr>
<td>Amelanchier 'Snow Cloud'</td>
<td>Snow Cloud Serviceberry</td>
</tr>
<tr>
<td>Amelanchier 'Spring Flurry'</td>
<td>Spring Flurry Serviceberry</td>
</tr>
<tr>
<td>Malus 'Adams'</td>
<td>Adams Crabapple</td>
</tr>
<tr>
<td>Malus 'Centurion'</td>
<td>Centurion Crabapple</td>
</tr>
<tr>
<td>Malus 'Indian Summer'</td>
<td>Indian Summer Crabapple</td>
</tr>
<tr>
<td>Malus 'Prairie Fire'</td>
<td>Prairie Fire Crabapple</td>
</tr>
<tr>
<td>Malus 'Purple Prince'</td>
<td>Purple Prince Crabapple</td>
</tr>
<tr>
<td>Malus 'Robinson'</td>
<td>Robinson Crabapple</td>
</tr>
<tr>
<td>Prunus virginiana 'Shubert'</td>
<td>Shubert Choke Cherry</td>
</tr>
<tr>
<td>Syringa reticulata 'Ivory Silk'</td>
<td>Ivory Silk Japanese Tree Lilac</td>
</tr>
<tr>
<td>Syringa reticulata 'Regent'</td>
<td>Regent Japanese Tree Lilac</td>
</tr>
</tbody>
</table>
Green Streets Maintenance

The care and ongoing maintenance of the tree and supporting landscape is of major importance. A well maintained landscape is one that commands respect and projects beauty, where as a poorly maintained landscape is one that speaks to neglect and abuse and can in fact greatly downgrade the overall impression of a city or public space.

The proper maintenance of a tree is critical within the initial period of planting. Without consistent watering of new plant material major portions of the plantings will die. Omaha’s climate cannot be relied upon to provide consistent rains. If proper establishment maintenance of the tree plantings cannot be provided, it is futile to plant.

The City of Omaha has used several different strategies in the past to provide the necessary maintenance of the public landscape of streets with mixed results. This Green Streets plan proposes to use the best of these approaches and is broken into two categories.

For those streets that are the most intensively planted, using a private contractor to install the trees and provide ongoing maintenance works well. An example of this type of landscape is the Abbott Drive Corridor connecting downtown Omaha to the Airport. Here we have a landscape that consists not only of overstory shade trees, but includes large plantings of shrubs and perennials, grasses, and a median that is primarily shrubs and perennials as well. The exception to the Abbott Drive system is that we would not include a full irrigation system for the right of way. Instead we would develop a xeriscape/low water requirement planting palette that would require an initial period of watering after which the plants would thrive with only occasional watering.

In order to ensure the success of this type of intensive planting, this plan proposes the development of a privately held and maintained fund for planting and maintenance. The City would provide oversight on the design, installation, and maintenance, with the strong private partner administering the fund and soliciting private contributions for the installation and maintenance of the green street. A private landscaping company would contract to provide the ongoing maintenance of this landscape.

For those street segments that are primarily planted with trees only, using a contractor to plant the trees and then providing direct maintenance by city crews has proven to be the most effective method of ensuring success and establishment of the trees. Over the first 5 years of the planting, these city crews would water, weed, prune and care for the new trees on a frequent schedule. As the plantings begin to establish themselves and thrive, the schedule of watering can move to one of infrequent waterings only during the most significant dry periods, however ongoing maintenance is still required to keep the landscape in a healthy and safe condition.

So how does a city meet the challenges of finding the resources necessary to maintain a lively and green system of public streets? In a period of overall diminishing city staff and reducing budgets, it is a real challenge to find funds for new programs and initiatives. This plan recommends that maintenance for the initial period of 3 to 5 years be included in the up-front funding costs of the capital investment. In this way, we can be assured that each of the streets that are planted will have the care that is imperative at that initial period.

Today’s cost of maintaining an intensive landscaped street such as Abbott Drive averages $20,000 per year per mile. The chart that follows illustrates the tasks included. If a full irrigation system were implemented, the costs increase by about $10,000 per year per mile.

Landscape Maintenance Schedule

January–March
Remove litter from planting beds and right of way once each month. Remove any debris caught in trees and shrubs. Prune any damaged branches as needed.

April–October
Remove litter from planting beds once each month. Begin mowing turf grass areas this month on a 10 day minimum cycle. Replenish mulch to a full design depth in all shrub beds and tree bases in April. Begin watering as required. For each week that there is less than 0.5” of rain for the week, apply 1” of water to the entire shrub bed length and width. Apply 1” of water over the entire root zone of each tree. Monitor all planting beds for weedy conditions and take appropriate measures to maintain all plantings in a weed-free condition.

November–December
Remove litter from planting beds and right of way once each month. Remove any debris caught in trees and shrubs. Prune any damaged branches as needed.

The cost of maintaining a less intensive streetscape of newly planted trees only averages $5,000 per year per mile. This assumes that a city crew composed primarily of summer seasonal labor is employed for 6 months equipped with a watering truck, hand tools, and other incidental equipment. The seasonal crew would water trees, maintain mulch, prune branches as necessary, and remove litter within the plantings.
Chapter VI: {Priorities}
Setting Green Streets Priorities

Chapter Two established the scope of the Green Streets program and recognized the need to set rules and priorities for selecting projects. The general rules established in that chapter follow:

- New streets identified in the Green Streets system should be developed to the standards established by this plan. This applies primarily to areas in the suburban context. New street construction projects should incorporate these standards into their basic design, including greenway setbacks, sidewalks and sidepaths, and street landscaping. Added project costs are incorporated into cost estimates for projects, and are factored into bond issues and funding requests.

- Street widenings on Green Streets corridors should meet the prototype standards as closely as possible within the constraints of the street right-of-way.

- Street reconstructions within urban and transitional contexts should apply prototype standards to as great a degree as possible.

- Streets in urban and suburban contexts should be retrofitted over time, following or elaborating on retrofit concepts presented in Chapter Four.

This section establishes criteria for determining the priority of potential green streets projects, while Chapter Six considers implementation mechanisms.

Green Streets Evaluation Criteria

The following criteria should be used to establish priorities for a phased program to bring new life to Omaha’s street environment.

Visibility
- Street has a relatively high profile.
- Street is used by most people in the city at some point during the course of a week.

Civic Importance
- Street connects or serves significant institutional or civic features, or is a route to major community destinations.
- Street is a major commercial arterial.
- Street is part of a major city or neighborhood image center.

Investment Leverage
- A reasonable probability exists that investment in the street is likely to generate significant private investment.

Neighborhood Impact
- Street has a significant influence on adjacent residential areas.
- Investment in street could effect property values or help to stabilize a nearby neighborhood.

Replicability
- Street provides contexts that are common to other parts of the city, with concepts could be applied in other situations.

Condition
- Street appearance is particularly negative or poorly landscaped.
- Street environment is neglected or overgrown.
- Transformation of street environment would be especially noticeable.

Pedestrian Character
- Street either does or could potentially serve non-motorized transportation modes, specifically pedestrians or bicyclists.

Constructability
- Street has sufficient right-of-way or adjacent space to allow substantial change without major cost or property acquisition.

Table 4.1 displays a sample matrix that ranks selected candidate projects on a 10 to 1 scale for each of the evaluation criteria. A similar device should be used to consider potential green streets projects for construction, providing a reasonably objective way to evaluate them for inclusion in the city’s capital improvements program.
### Table 4.1

**Sample Evaluation of Selected Projects**

<table>
<thead>
<tr>
<th></th>
<th>Visibility</th>
<th>Civic Importance</th>
<th>Investment Leverage</th>
<th>Neighborhood Impact</th>
<th>Replicability</th>
<th>Condition</th>
<th>Pedestrian Character</th>
<th>Constructibility</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Weighting</strong></td>
<td>x2</td>
<td>x2</td>
<td>x1</td>
<td>x1</td>
<td>x0.5</td>
<td>x2</td>
<td>x0.5</td>
<td>x3</td>
<td></td>
</tr>
<tr>
<td><strong>Leavenworth</strong></td>
<td>7</td>
<td>7</td>
<td>8</td>
<td>7</td>
<td>7</td>
<td>7</td>
<td>5</td>
<td>55</td>
<td></td>
</tr>
<tr>
<td>32nd to 48th</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Farnam</strong></td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>4</td>
<td>4</td>
<td>7</td>
<td>8</td>
<td>8</td>
<td>52</td>
</tr>
<tr>
<td>24th to I-480</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Cuming Street</strong></td>
<td>8</td>
<td>8</td>
<td>5</td>
<td>9</td>
<td>5</td>
<td>9</td>
<td>3</td>
<td>6</td>
<td>50</td>
</tr>
<tr>
<td>30th to SCR</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Dodge</strong></td>
<td>10</td>
<td>9</td>
<td>8</td>
<td>6</td>
<td>2</td>
<td>8</td>
<td>5</td>
<td>2</td>
<td>50</td>
</tr>
<tr>
<td>Turner to 50th</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>84th Street</strong></td>
<td>8</td>
<td>7</td>
<td>8</td>
<td>5</td>
<td>7</td>
<td>8</td>
<td>2</td>
<td>3</td>
<td>48</td>
</tr>
<tr>
<td>Center to I-80</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>32nd Avenue</strong></td>
<td>4</td>
<td>6</td>
<td>5</td>
<td>7</td>
<td>7</td>
<td>4</td>
<td>8</td>
<td>7</td>
<td>48</td>
</tr>
<tr>
<td>Woolworth to Vinton</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Blondo</strong></td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>7</td>
<td>7</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>47</td>
</tr>
<tr>
<td>60th to 66th</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>West Center</strong></td>
<td>9</td>
<td>8</td>
<td>4</td>
<td>4</td>
<td>7</td>
<td>5</td>
<td>2</td>
<td>7</td>
<td>46</td>
</tr>
<tr>
<td>1-80 to 144th</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>42nd Street</strong></td>
<td>6</td>
<td>7</td>
<td>4</td>
<td>6</td>
<td>6</td>
<td>5</td>
<td>5</td>
<td>4</td>
<td>43</td>
</tr>
<tr>
<td>Center to I-80</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The Green Streets program holds considerable promise for improving Omaha’s public environment. It complements the ordinance proposed to implement the Urban Design Element’s recommendations for private development. However, without specific implementing measures, the Green Streets concept will remain unrealized. Implementation includes three components:

- **Policies**, defining when and how green streets standards should be applied.

- **Capital financing**, establishing methods for funding green streets improvements for both new construction and retrofit projects.

- **Maintenance funding**, identifying methods to pay for quality maintenance of the new street landscape.

**Policies**

- New construction and reconstruction projects should adhere to green streets guidelines identified in this plan. Because each context is different, the design of projects should determine how the guidelines are applied. Green street design should be integrated into street projects, rather than added after the fact.

- Streets should be designed as “complete” or multi-modal streets, safely and efficiently accommodating alternate transportation modes, including pedestrian, bicycle, and, where appropriate, public transportation. Sidewalks, properly designed trails, sidepaths, and bicycle lanes should be included in basic street design. Use of these facilities should be guided by a balanced transportation master plan that integrates all forms of city transportation. “Green streets” means more than landscaping. It should also mean providing for movement of people through modes that minimize the use of fossil fuels.

- A base level should be established for green street landscape improvements to be included in all new construction and reconstruction projects. This base level may fall short of full application of green streets guidelines to the entire improvement, but does include the cost to add trees only to the entire improvement. Table 7.1 suggests a level of base funding for new construction. Base level funding should be included in the basic cost of the street project. The street design process will decide how this base level budget is used for each improvement.

- The priority-setting process presented in Chapter Five should guide the selection of retrofit projects. However, retrofits will be financed by a source other than the existing Transportation and Recreation and Culture bond issue categories, except when retrofits deal specifically with necessary transportation or complete streets improvements.

**Capital Financing**

- For new projects, the base level of green streets landscaping improvements should be incorporated into basic project costs. These costs are typically financed by a combination of federal, state, and local funds. The principal funding source at the local level is City of Omaha transportation bonds.

- A new Urban Design Bond Issue program should be established to help finance projects that implement the Urban Design Element. A portion of the urban design bond proceeds should be used each year to finance green streets improvements. Types of improvements include:
**Chapter vii: Implementation and Financing**

**Transportation Enhancements (TE).** This program, funded through the SAFETEA-LU Act of 2006, provides funding for trails, enhancements of major transportation facilities, and preservation of historic transportation structures. TE funds provide 80% of the funding for these enhancements. The program is administered by the Nebraska Department of Roads, with recommendations by a statewide advisory committee.

**Maintenance Funding**

When people feel that the street environment is an extension of their own property, they generally maintain the street environment. Thus, homeowners along a residential street maintain the parkway setback because they view it as part of their front yard. However, when the street seems to belong to the “public” in general (and nobody in particular), the quality and quantity of private maintenance declines or even disappears. Many streets in the proposed Green Streets network fall into this second category. Probable green streets funding sources include:

- **City general revenues.** This is the typical method for financing maintenance of public property. An effective green streets program must include adequate annual public funding for maintenance.

- **User fees.** Wheel taxes are used to finance parts of the city’s street construction and maintenance programs. A small dedicated portion to the wheel tax could assist with funding maintenance of green streets improvements.

- **An endowment fund such as an Omaha Streets Conservancy.** Private funds and contributions could be used to create an endowment whose investment earnings maintain green streets initiatives.

- **Private sponsorships.** City capital financing of green streets improvements could be matched by private street sponsorships for a specific period of time.

- **Business Improvement Districts.** BID’s provide special assessments that can maintain the district’s public environment. For example, the South Locust Street streetscape, presented in the first chapter of this plan, is maintained by a BID. The BID mechanism is appropriate along commercial corridors, and has the further benefit of encouraging businesses to think of themselves as members of a district who can work together for common benefit and mutual profit.

- **Enhancements over the base level of landscaping for new construction or reconstruction projects.** These enhanced projects should generally be highly visible or significant corridors, often within Areas of Civic Importance, Civic Place, or Major Commercial Corridors as defined by the Urban Design Element.

- **Retrofit projects.** Selection of retrofit projects uses the process set forth in Chapter Five. The regular scheduling and execution of retrofit projects is similar to the city’s project selection for park rehabilitations. Along commercial corridors, support by businesses and their willingness to participate in maintenance funding may also be considerations in selecting projects.

- **Urban Design Bond funds should leverage other funds to the maximum degree possible.** Other potential funding sources include:

  - **Private sponsorships or capital contributions.** The Abbott Drive streetscape project, funded by the Peter Kiewit Foundation, is Omaha’s best example of private support for a major improvement of a critical civic corridor. The Omaha Community Foundation’s Catalogue for Urban Design Philanthropy may be a technique for building private participation in this part of the public realm.

  - **Tax Increment Financing (TIF).** The added tax revenue generated by development in a redevelopment area can finance improvements to the area’s street environment. Green streets projects also create conditions that generate additional private development. According to current statutes, TIF may only be used in areas designated as “blighted.”
This plan identifies over 450 miles of streets that should be planted.

To simply plant trees over a mile of street is a significant effort. If we would plant one mile of street, both sides, with a 3” trunk size as a ‘balled and burlapped’ tree with an average spacing of 40 feet apart, we might expect to spend $75,000 to $100,000. Some street types will require a more intensive planting and greening approach. Table 7.1 shows the different street types and a ball-park cost to simply plant trees sometimes within the street right of way. These numbers do not include pavements, drainage structures, lighting, irrigation or other landscape and site items that may be necessary to provide a complete landscape.

This very basic level of tree planting should be included as part of each road construction or reconstruction project.

**Classification of Omaha Green Streets**

- Freeway
- **MAJOR ARTERIALS**
  - 1 Multi-lane, divided, new/suburban
  - 2 Multi-lane, divided, urban
  - 3 Multi-lane, undivided, new/suburban
  - 4 Multi-lane, undivided, urban
- **MINOR ARTERIALS**
  - 5 Multi-lane
  - 6 2-3 Lane
- **COLLECTORS/Others**
  - 7 Streetcar Avenues
  - 8 Main Streets
  - 9 Boulevard, divided
  - 10 Boulevard, undivided
  - 11 Neighborhood Collector
  - 12 Special/Scenic Arterial
### Table 7.1
**Cost to Green New Construction**

**Base Level**

<table>
<thead>
<tr>
<th>Map Symbol</th>
<th>Label</th>
<th>Feet</th>
<th>Miles</th>
<th>Costs to Add Green Per Mile</th>
<th>Assumptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Multi-lane, divided, new/suburban</td>
<td>318,610</td>
<td>60.34</td>
<td>$217,500.00</td>
<td>800 trees per mile and 500 shrubs per mile</td>
</tr>
<tr>
<td>2</td>
<td>Multi-lane, divided, urban</td>
<td>144,458</td>
<td>26.79</td>
<td>$217,500.00</td>
<td>800 trees per mile and 500 shrubs per mile</td>
</tr>
<tr>
<td>3</td>
<td>Multi-lane, undivided, new/suburban</td>
<td>290,576</td>
<td>55.03</td>
<td>$114,000.00</td>
<td>400 trees per mile and 400 shrubs per mile</td>
</tr>
<tr>
<td>4</td>
<td>Multi-lane, undivided, urban</td>
<td>161,341</td>
<td>30.56</td>
<td>$100,000.00</td>
<td>400 trees per mile</td>
</tr>
<tr>
<td>5</td>
<td>Multi-lane</td>
<td>201,113</td>
<td>38.09</td>
<td>$100,000.00</td>
<td>400 trees per mile</td>
</tr>
<tr>
<td>6</td>
<td>2-3 Lane</td>
<td>586,265</td>
<td>111.04</td>
<td>$100,000.00</td>
<td>400 trees per mile</td>
</tr>
<tr>
<td>7</td>
<td>Streetcar Avenues</td>
<td>91,282</td>
<td>17.39</td>
<td>$100,000.00</td>
<td>400 trees per mile</td>
</tr>
<tr>
<td>8</td>
<td>Main Streets</td>
<td>23,470</td>
<td>4.45</td>
<td>$100,000.00</td>
<td>400 trees per mile</td>
</tr>
<tr>
<td>9</td>
<td>Boulevard, divided</td>
<td>23,535</td>
<td>4.46</td>
<td>$217,500.00</td>
<td>800 trees per mile and 500 shrubs per mile</td>
</tr>
<tr>
<td>10</td>
<td>Boulevard, undivided</td>
<td>179,733</td>
<td>34.04</td>
<td>$217,500.00</td>
<td>800 trees per mile and 500 shrubs per mile</td>
</tr>
<tr>
<td>11</td>
<td>Neighborhood Collector</td>
<td>318,056</td>
<td>60.24</td>
<td>$100,000.00</td>
<td>400 trees per mile</td>
</tr>
<tr>
<td>12</td>
<td>Special/Scenic Arterial</td>
<td>56,929</td>
<td>10.78</td>
<td>$217,500.00</td>
<td>800 trees per mile and 500 shrubs per mile</td>
</tr>
</tbody>
</table>

**Total**

<table>
<thead>
<tr>
<th>Feet</th>
<th>Miles</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,392,368</td>
<td>453.10</td>
</tr>
</tbody>
</table>

**Notes:**
- Trees are planted on average 40' apart.
- Medians are planted with trees and shrubs.
- Wider rights of ways are planted with shrubs and additional trees.
- Costs are in 2006 dollars.
- Measurements based on GIS database
The cost of retrofitting streets is generally described in Table 7.2. These costs do include the cost of creating space for trees and landscape within the street environment. Modifications to curbs, drainage structures and soil conditions are included. New pavements for maintenance strips and curb bump outs are also included. Trees are placed at 25’ on center but are expected that we will only have 60% of a full planting due to driveways, utilities, and other interferences resulting in the average 40’ on center. These costs are based on 2006 dollars, using the retrofit examples explained earlier in this document and are to be used as a general idea of the magnitude of cost for full implementation.
## Table 7.2
### Retrofit Costs

<table>
<thead>
<tr>
<th>Street and Type</th>
<th>Description</th>
<th>Cost/ LF</th>
<th>Location of Improvements</th>
<th>Length LF</th>
<th>Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>144\textsuperscript{th} Street Divided Suburban</td>
<td>Plant existing median with trees at $350 ea. and shrubs at $56 ea, allowing 30% for turns lanes, etc.</td>
<td>$50</td>
<td>F Street to Q Street</td>
<td>5280</td>
<td>$496,320</td>
</tr>
<tr>
<td></td>
<td>Trees planted 25’ OC at 2 per 25’ = $500</td>
<td>$20</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Single row of shrubs in ROW gives 1 shrub every 4’, and $32/shrub</td>
<td>$3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Maintenance Strip in median</td>
<td>$14</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Subdrain and Trench in median</td>
<td>$7</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total 144\textsuperscript{th} Street</strong></td>
<td></td>
<td>$94</td>
<td></td>
<td></td>
<td><strong>$496,320</strong></td>
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<tr>
<td>West Center Divided Suburban</td>
<td>Remove Concrete from median, $1.50/SF x 16</td>
<td>$24</td>
<td>1-80 to 120\textsuperscript{th}</td>
<td>3275</td>
<td>$347,150</td>
</tr>
<tr>
<td></td>
<td>Import Soil</td>
<td>$25</td>
<td>120\textsuperscript{th} to 132\textsuperscript{nd}</td>
<td>5280</td>
<td>$559,680</td>
</tr>
<tr>
<td></td>
<td>Trees at 25’ OC in median</td>
<td>$10</td>
<td>132\textsuperscript{nd} to 144\textsuperscript{th}</td>
<td>5280</td>
<td>$559,680</td>
</tr>
<tr>
<td></td>
<td>Shrubs in median</td>
<td>$3</td>
<td>144\textsuperscript{th} to Industrial</td>
<td>4540</td>
<td>$481,240</td>
</tr>
<tr>
<td></td>
<td>Maintenance Strip in median</td>
<td>$14</td>
<td></td>
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<td></td>
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<tr>
<td></td>
<td>Subdrain and Trench in median</td>
<td>$7</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Single row of shrubs in ROW gives 1 shrub every 4’, and $32/shrub</td>
<td>$3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Trees planted 25’ OC at 2 per 25’ = $500</td>
<td>$20</td>
<td></td>
<td></td>
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</tr>
<tr>
<td><strong>Total West Center Road</strong></td>
<td></td>
<td><strong>$106</strong></td>
<td></td>
<td></td>
<td><strong>$1,947,750</strong></td>
</tr>
<tr>
<td>120\textsuperscript{th} Street Divided Suburban</td>
<td>Maple to Fort</td>
<td>$105</td>
<td></td>
<td>5280</td>
<td><strong>$554,400</strong></td>
</tr>
<tr>
<td>144\textsuperscript{th} Street Divided Suburban</td>
<td>Pacific to L Street</td>
<td>$105</td>
<td></td>
<td>13050</td>
<td><strong>$1,370,250</strong></td>
</tr>
<tr>
<td>Q Street Divided Suburban</td>
<td>159\textsuperscript{th} to 169\textsuperscript{th}</td>
<td>$105</td>
<td></td>
<td>3960</td>
<td><strong>$415,800</strong></td>
</tr>
<tr>
<td>120\textsuperscript{th} Street</td>
<td>Dodge to Center</td>
<td>$105</td>
<td></td>
<td>10660</td>
<td><strong>$1,108,800</strong></td>
</tr>
<tr>
<td>Blondo Divided Suburban</td>
<td>120\textsuperscript{th} to 132\textsuperscript{nd}</td>
<td>$200</td>
<td></td>
<td>5280</td>
<td><strong>$1,056,000</strong></td>
</tr>
<tr>
<td><strong>Total Additional Streets</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td><strong>$4,505,250</strong></td>
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Notes: OC—On Center  LF—Linear Foot  SF—Square Foot  ROW—Rights-of-Way
<table>
<thead>
<tr>
<th>Street and Type</th>
<th>Description</th>
<th>Cost/LF</th>
<th>Location of Improvements</th>
<th>Length LF</th>
<th>Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cuming Divided Urban</td>
<td>Plant existing median with trees and/or shrubs, allowing 30% for turns lanes, etc.</td>
<td>$50</td>
<td>33rd to Saddle Creek</td>
<td>6760</td>
<td>$1,352,000</td>
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<tr>
<td></td>
<td>Planting node includes curb bump-out, imported soil, and one to three trees.</td>
<td>$350</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Total Cuming Street</td>
<td></td>
<td>$200</td>
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<td></td>
<td>$1,352,000</td>
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<tr>
<td>84th Street Undivided Urban</td>
<td>Trees planted 25' OC at 2 per 25' = $500</td>
<td>$20</td>
<td>Center to I-80</td>
<td>3110</td>
<td>$155,500</td>
</tr>
<tr>
<td></td>
<td>Acquire Easement or ROW 10' wide for 50% of street length at $5/SF</td>
<td>$30</td>
<td>1-80 to I</td>
<td>3485</td>
<td>$174,250</td>
</tr>
<tr>
<td>Total 84th Street</td>
<td></td>
<td>$50</td>
<td></td>
<td></td>
<td>$329,750</td>
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<tr>
<td>42nd Street Undivided Urban</td>
<td>Trees planted 25' OC at 2 per 25' = $500</td>
<td>$20</td>
<td>Leavenworth to Center</td>
<td>5280</td>
<td>$242,880</td>
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<tr>
<td></td>
<td>Acquire Easement or ROW 6' wide at $2/SF</td>
<td>$12</td>
<td>Center to I-80</td>
<td>3960</td>
<td>$182,160</td>
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<tr>
<td></td>
<td>Relocate walkways over 40% of street length</td>
<td>$14</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total 42nd Street</td>
<td></td>
<td>$46</td>
<td></td>
<td></td>
<td>$425,040</td>
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<td>Leavenworth Undivided Urban</td>
<td>Planting node includes curb bump-out, imported soil, and one to three trees. 4 nodes per 300 LF</td>
<td>$100</td>
<td>60th to Saddle Creek</td>
<td>5280</td>
<td>$528,000</td>
</tr>
<tr>
<td></td>
<td>Saddle Creek to Turner Boulevard</td>
<td></td>
<td></td>
<td>6175</td>
<td>$617,500</td>
</tr>
<tr>
<td>Total Leavenworth Street</td>
<td></td>
<td>$100</td>
<td></td>
<td></td>
<td>$1,145,500</td>
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<tr>
<td>Saddle Creek Undivided Urban</td>
<td>Cuming to Dodge</td>
<td>$100</td>
<td></td>
<td>3115</td>
<td>$311,500</td>
</tr>
<tr>
<td>Saddle Creek Undivided Urban</td>
<td>Leavenworth to Center</td>
<td>$100</td>
<td></td>
<td>4595</td>
<td>$459,500</td>
</tr>
<tr>
<td>120th Street Undivided Urban</td>
<td>Blond to Maple</td>
<td>$100</td>
<td></td>
<td>5280</td>
<td>$528,000</td>
</tr>
<tr>
<td>30th Street Undivided Urban</td>
<td>Cuming to Ames</td>
<td>$100</td>
<td></td>
<td>10960</td>
<td>$1,096,000</td>
</tr>
<tr>
<td>Center Undivided Urban</td>
<td>42nd to 60th</td>
<td>$100</td>
<td></td>
<td>8345</td>
<td>$834,500</td>
</tr>
<tr>
<td>Pacific Undivided Urban</td>
<td>72nd to 84th</td>
<td>$50</td>
<td></td>
<td>5280</td>
<td>$264,000</td>
</tr>
<tr>
<td>Total Additional Streets</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$3,453,500</td>
</tr>
<tr>
<td>Street and Type</td>
<td>Description</td>
<td>Cost/ LF</td>
<td>Location of Improvements</td>
<td>Length LF</td>
<td>Total Cost</td>
</tr>
<tr>
<td>---------------------</td>
<td>-----------------------------------------------------------------------------</td>
<td>----------</td>
<td>--------------------------</td>
<td>-----------</td>
<td>-------------</td>
</tr>
<tr>
<td><strong>Harrison</strong></td>
<td>Trees planted 25' OC at 2 per 25' = $500</td>
<td>$20</td>
<td>48th to 72nd</td>
<td>10,200</td>
<td></td>
</tr>
<tr>
<td>Two Lane</td>
<td>Single row of shrubs in ROW gives 1 shrub every 4', and</td>
<td>$3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>$32/shrub</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Add 8' wide trail to one side of street</td>
<td>$32</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total Harrison Street</strong></td>
<td><strong>Trees planted 25' OC at 2 per 25' = $500</strong></td>
<td>$55</td>
<td></td>
<td></td>
<td>$561,000</td>
</tr>
<tr>
<td></td>
<td>Add 8' wide trail to north side of street</td>
<td>$32</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Relocate walkways over 70% of street length on south</td>
<td>$14</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Blondo</strong></td>
<td>Trees planted 25' OC at 2 per 25' = $500</td>
<td>$20</td>
<td>52nd to 66th</td>
<td>5,280</td>
<td></td>
</tr>
<tr>
<td>Two Lane</td>
<td>Add 8' wide trail to north side of street</td>
<td>$32</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total Blondo Street</strong></td>
<td><strong>Trees planted 25' OC at 2 per 25' = $500</strong></td>
<td>$66</td>
<td></td>
<td></td>
<td>$348,480</td>
</tr>
<tr>
<td></td>
<td>Relocate walkways over 70% of street length on south</td>
<td>$14</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>108th Street</strong></td>
<td>Oak to I-80, trees only</td>
<td>$20</td>
<td></td>
<td>3,540</td>
<td>$70,800</td>
</tr>
<tr>
<td>3 Lane</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Underwood Ave.</strong></td>
<td>Happy Hollow to JF George, trees only</td>
<td>$20</td>
<td></td>
<td>2,640</td>
<td>$52,800</td>
</tr>
<tr>
<td>3 Lane</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>46th Ave. - 2 Lane</strong></td>
<td>Redman to Grand, trees only</td>
<td>$20</td>
<td></td>
<td>2,640</td>
<td>$52,800</td>
</tr>
<tr>
<td><strong>Country Club Ave. - 2 Lane</strong></td>
<td>Cuming to Saddle Creek, trees only</td>
<td>$20</td>
<td></td>
<td>4,540</td>
<td>$90,800</td>
</tr>
<tr>
<td><strong>Total Additional Streets</strong></td>
<td><strong>Oak to I-80, trees only</strong></td>
<td>$20</td>
<td></td>
<td></td>
<td>$267,200</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>32nd Avenue</strong></td>
<td>Add bike lane to streets which are already wide enough</td>
<td>By City</td>
<td>Ed Creighton Avenue to Vinton</td>
<td>3065</td>
<td></td>
</tr>
<tr>
<td>Streetcar</td>
<td>Planing node includes curb bump-out, imported soil, and one to three trees. 4 nodes per 300'</td>
<td>$100</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total 32nd Avenue</strong></td>
<td><strong>Add bike lane to streets which are already wide enough</strong></td>
<td>$100</td>
<td></td>
<td></td>
<td>$306,500</td>
</tr>
<tr>
<td><strong>16th - Streetcar</strong></td>
<td>Cuming to Ames</td>
<td>$100</td>
<td></td>
<td>10,560</td>
<td>$1,056,000</td>
</tr>
<tr>
<td><strong>Total Additional Streets</strong></td>
<td><strong>Cuming to Ames</strong></td>
<td>$100</td>
<td></td>
<td></td>
<td>$1,056,000</td>
</tr>
<tr>
<td>Street and Type</td>
<td>Description</td>
<td>Cost/LF</td>
<td>Location of Improvements</td>
<td>Length LF</td>
<td>Total Cost</td>
</tr>
<tr>
<td>--------------------------</td>
<td>--------------------------------------------------</td>
<td>---------</td>
<td>--------------------------</td>
<td>-----------</td>
<td>-------------</td>
</tr>
<tr>
<td><strong>Farnam Undivided Urban</strong></td>
<td>Remove entire concrete walk</td>
<td>$18</td>
<td>1-480 to 24th</td>
<td>1750</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Remove Debris</td>
<td>$16</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Import Soil</td>
<td>$20</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>New Concrete Walk</td>
<td>$72</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Trees</td>
<td>$9</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mulch/Groundcover</td>
<td>$8</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Allow 30% for Drives and Walks</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total Farnam Street</strong></td>
<td></td>
<td>$143</td>
<td></td>
<td></td>
<td>$250,250</td>
</tr>
<tr>
<td><strong>Harney Undivided Urban</strong></td>
<td>Remove entire concrete walk</td>
<td>$18</td>
<td>1-480 to 24th</td>
<td>1750</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Remove Debris</td>
<td>$16</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Import Soil</td>
<td>$20</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>New Concrete Walk</td>
<td>$72</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Trees</td>
<td>$9</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mulch/Groundcover</td>
<td>$8</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Allow 30% for Drives and Walks</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total Harney Street</strong></td>
<td></td>
<td>$143</td>
<td></td>
<td></td>
<td>$250,250</td>
</tr>
<tr>
<td><strong>Tomahawk Divided Boulevard</strong></td>
<td>Median – Mixed species of trees and shrubs with 41 trees at $100 each and 150 shrubs at $32 each per 1000' of median, excluding swales</td>
<td>$15</td>
<td></td>
<td>3275</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Street Trees – Offer one to two trees for front yard planting within 10' of walk, assuming an average of one tree every 60' at $250 per tree</td>
<td>$9</td>
<td></td>
<td></td>
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</tr>
<tr>
<td><strong>Total Tomahawk Boulevard</strong></td>
<td></td>
<td>$24</td>
<td></td>
<td></td>
<td>$78,600</td>
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<tr>
<td><strong>Maplewood Divided Boulevard</strong></td>
<td>Maple to 90th</td>
<td>$24</td>
<td></td>
<td>5280</td>
<td>$126,720</td>
</tr>
<tr>
<td><strong>Twin Ridge Divided Boulevard</strong></td>
<td>42nd to Center</td>
<td>$24</td>
<td></td>
<td>1530</td>
<td>$36,720</td>
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<td>$163,440</td>
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</table>
Table 7.3 – **Intensive Plantings – Including Native Grasses, Shrubs, Trees**

<table>
<thead>
<tr>
<th>Per Mile</th>
<th>Streetscape Per Mile</th>
<th>3 Year Maintenance Establishment</th>
<th>Additional 5 Year Maintenance</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Option 1</strong></td>
<td>City of Omaha</td>
<td>528000*</td>
<td>45,000</td>
</tr>
<tr>
<td>Sustaining Partner</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Option 2</strong></td>
<td>City of Omaha</td>
<td>528,000</td>
<td>45,000</td>
</tr>
<tr>
<td>Sustaining Partner</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Option 3</strong></td>
<td>Bond</td>
<td>528,000</td>
<td>45,000</td>
</tr>
<tr>
<td>Sustaining Partner</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Option 4</strong></td>
<td>Private</td>
<td>528,000</td>
<td>45,000</td>
</tr>
<tr>
<td>Sustaining Partner</td>
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<td></td>
<td></td>
</tr>
<tr>
<td><strong>Option 5</strong></td>
<td>Private donor</td>
<td>528,000</td>
<td>45,000</td>
</tr>
<tr>
<td>Sustaining Partner</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- City to provide oversight on the plantings, design, maintenance.
- Private entity to maintain the fund.
- Represents average per mile cost of divided suburban.

Table 7.4 – **Tree Only Plantings**

<table>
<thead>
<tr>
<th>Per Mile</th>
<th>One Time Cost</th>
<th>3 Year Maintenance Establishment</th>
<th>Additional 5 Year Maintenance</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Option 1</strong></td>
<td>Private</td>
<td>52,000</td>
<td>15,000</td>
</tr>
<tr>
<td>Sustaining Partner</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Option 2</strong></td>
<td>Bond</td>
<td>52,000</td>
<td>15,000</td>
</tr>
<tr>
<td>Sustaining Partner</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Option 3</strong></td>
<td>City of Omaha</td>
<td>52,000</td>
<td>15,000</td>
</tr>
<tr>
<td>Sustaining Partner</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Assumes 6 months of staff time, mulching, pruning, watering annually.