

# *Cheyenne Area* **STREET ENHANCEMENT TOOLBOX**



1.16.2013



Approved as to  
form only:

P. White

Date: Feb. 6, 2013

RESOLUTION NO. 5479

ENTITLED: "A RESOLUTION APPROVING THE CHEYENNE AREA  
STREET ENHANCEMENT TOOLBOX"

WHEREAS, the Governing Body of the City of Cheyenne, the Economic Development Organizations consisting of Cheyenne LEADS, Chamber of Commerce, and Visit Cheyenne, the City Urban Planning, the Cheyenne MPO, and numerous business owners and developers have recognized the importance of streetscape enhancements to the economic health of the community; and

WHEREAS, the MPO has produced a 2006 Comprehensive Plan entitled PlanCheyenne, and several corridor plans that contain recommended streetscape enhancements to beautify regional gateways, strengthen the attractiveness for current local and future commercial districts, and create pleasant, vibrant, and safe pedestrian environments; and

WHEREAS, completion of this plan required extensive cooperation and assistance from the City of Cheyenne Urban Planning, Engineering, Public Works, and Parks and Recreation Departments; and

WHEREAS, several city departments were concerned as to funding sources to construct and maintain these landscape and hardscape enhancements; and

WHEREAS, the Cheyenne MPO retained AECOM, a Planning consultant firm, on October 28, 2011 to produce the *Cheyenne Area Street Enhancement Toolbox*; and

WHEREAS, on August 1, 2012 the AECOM consultants responsible for the MPO Contract # 187413 joined Logan Simpson Design, Ft. Collins, CO and the contract was assigned from AECOM to Logan Simpson Design; and

WHEREAS, the City of Cheyenne Planning Commission held a Public Meeting on January 22, 2013, and accepted public comments, and recommended the approval of *Cheyenne Area Street Enhancement Toolbox* to the City Governing Body; and

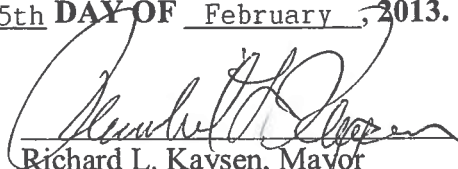
WHEREAS, the Cheyenne MPO Citizen's Advisory and Technical Committee reviewed the Plan and recommended adoption; and

WHEREAS, the *Cheyenne Area Street Enhancement Toolbox* will be used with future transportation planning projects that might include the installation of street enhancement alternatives so that maintenance and cost concerns can be addressed and considered as part of the long range planning process.

NOW, THEREFORE, BE IT RESOLVED BY THE GOVERNING BODY OF  
THE CITY OF CHEYENNE, WYOMING:


THAT, the *Cheyenne Area Street Enhancement Toolbox* dated January 8, 2013, prepared by Logan Simpson Design, is hereby approved for use in planning processes as specified herein.

PRESENTED, READ AND ADOPTED THIS 25th DAY OF February, 2013.

  
Richard L. Kaysen, Mayor  
City of Cheyenne

(Seal)

ATTEST:

  
Carol Intlekofer, City Clerk



## background

In recent years, the Cheyenne Metropolitan Planning Organization has planned, and the City of Cheyenne has begun, to implement several redevelopment initiatives that include streetscape enhancements within the public right-of-way. Through these efforts a number of issues have surfaced especially as they relate to estimating the funding of long-term operation and maintenance (O&M) costs. Specific issues include the need to build consensus among Public Works and Parks Departments responsible for the O&M of corridor elements and infrastructure; the need to build consensus among City leaders responsible for departmental budgetary allocations; the need for a tool to disseminate information about capital and long term costs to City staff; and the need to inform the public of the realistic long-term investment for right of way enhancements.

## project purpose

The purpose of this document is to assist the City of Cheyenne in establishing a roadway enhancement implementation process based on interdepartmental and interagency collaboration early in the design phase, considering the whole lifecycle of each roadway enhancement element. By providing cost estimates and flexible design parameters within this document, the City will have the necessary information to select the most appropriate enhancement elements for each project, anticipate and substantiate long-term funding and resource needs, and develop street standards uniquely suited for each roadway under review.

## process

The Street Enhancement Toolbox builds upon the research conducted during the Best Practices Analysis, and insight from key City staff responsible for the design, implementation and maintenance of enhanced roadways. The Best Practices Analysis was the first of three project deliverables and provides the basis by which costs and roadway designs were derived for the Street Enhancement Toolbox. Six communities were selected based on characteristics similar to Cheyenne, such as climate, size, population, and level of experience with roadway enhancement projects. Several departments within each community were interviewed on a range of questions concerning the cost, design, funding and management of existing and future roadway enhancement initiatives.

Based on the information collected from the Best Practices Analysis, costs and assumptions were developed for the Street Enhancement Toolbox. Cheyenne City staff reviewed, modified and approved the assumptions to provide the most accurate and regionally-specific cost information possible.

The cost information represented in this document is based on a 10' wide median to provide baseline information for cost comparisons. However, a more accurate cost analysis can be found in the third project deliverable, the Street Enhancement Worksheet. This worksheet is a dynamic spreadsheet with an intuitive user interface that allows users to select data, modify assumptions, and create customized design palettes. The output calculates the capital, maintenance and replacement costs of elements over a 20 year period to satisfy short and long-term planning needs.

## report structure

The Toolbox is organized into two sections: *Medians* and *Pedestrian Amenities*. *Medians* is the primary focus of this document primarily because the City funds and maintains nearly all medians within City limits. This section places medians into three distinct typologies: Grassland; Garden; and Architectural. The typologies are broken into three intensity levels: Low, Medium, and High. Intensity levels are measured by the cost and manpower needed to install, operate and maintain the design.

*Pedestrian Amenities* provides streetscape elements of different intensity levels within the public right of way, such as benches, planters and pedestrian light fixtures. Both sections are presented in the same way, with basic design criteria and cost estimates that calculate the capital, anticipated replacement and O&M costs of each enhancement element. The objective is to provide enough information so that all street elements, regardless of the category or intensity level, can be combined to create customized palettes that fit the needs of each project. Please note: all City of Cheyenne and State of Wyoming street standards should be referenced for more specific right-of-way design requirements.

## acknowledgements

Tom Mason, MPO Director

Nancy Olson, MPO Transportation Planner

James Elias, Public Works Director

Vicki Nemecek, Assistant Public Works Director

Rick Parish, Parks Director

Jason Sanchez, Director of Grounds & Facilities

Brandon Cammarata, Planning & Development Director

Matt Ashby, Planning Services Director

Teresa Moore, Parks Senior Planner

Doug Vetter, City Engineer

Lisa Olson, Forestry Director

Randy Overstreet, Forestry

Jana McKenzie, Logan Simpson Design

Kurt Friesen, Logan Simpson Design

Kelly Smith, Logan Simpson Design

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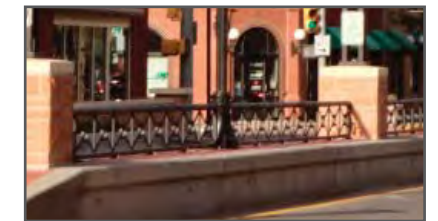
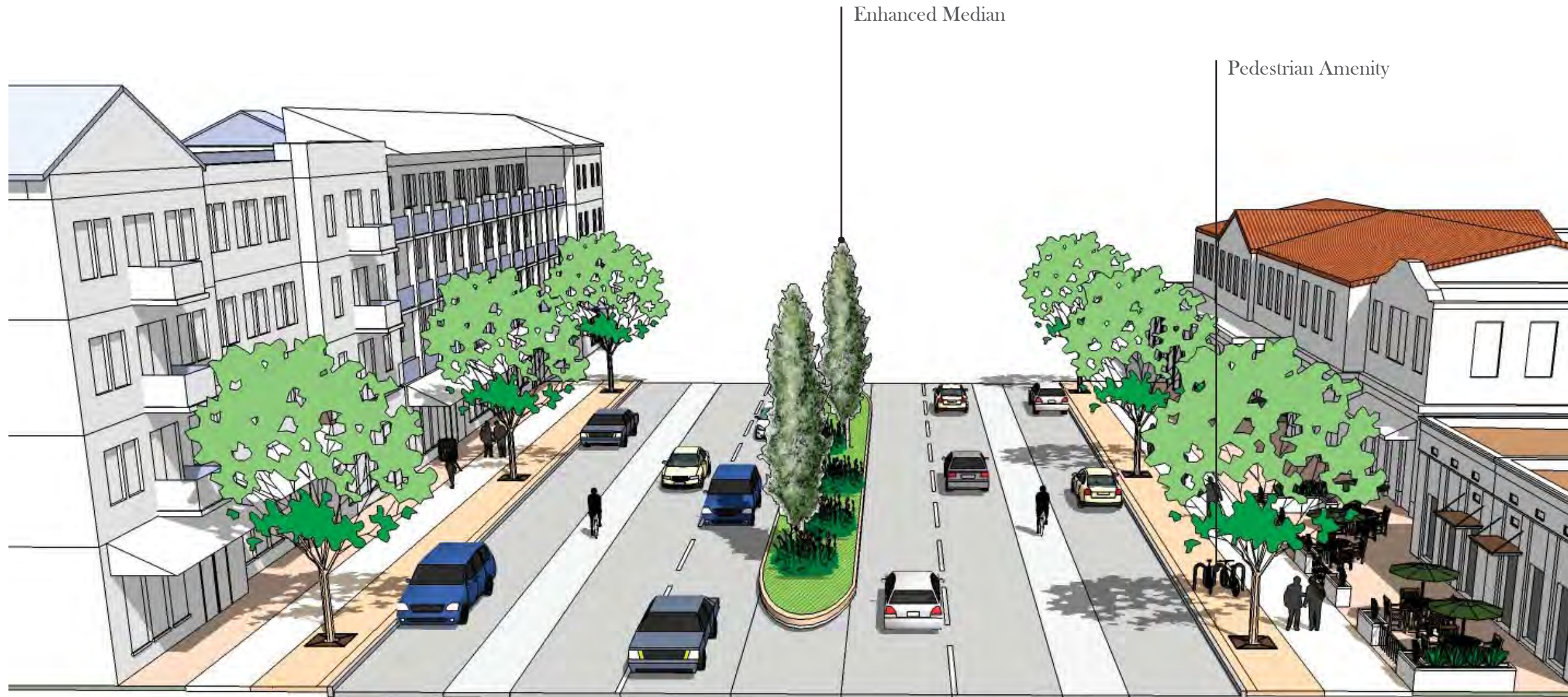
## medians

The City of Cheyenne is looking to broaden the installation of medians throughout the city. Traffic safety studies have indicated that medians offer several benefits to motorists, pedestrians and businesses. For example, medians narrow lanes and help moderate traffic speeds; they provide physical obstructions from opposing vehicular traffic and prevent motorists from passing; and they help guide pedestrians to safe crossing locations. They can be designed with breaks to create pedestrian refuge areas; placemaking elements such as architectural features and plantings; land forms that help mitigate storm water runoff; and plantings to reduce pollutants and heat island effect.

Because of these factors, medians are becoming increasingly popular as traffic calming and placemaking devices. Even in colder climates, communities are testing different methods to find design solutions that are cost effective, and contextually/climatically appropriate.

## pedestrian amenities

Pedestrian Amenities are located between the back of curb, and the right of way boundary. They may be maintained by the City or landowner, and include elements such as bike racks, bus stops, benches and planters. Advantages to Pedestrian Amenities include: (1) creating or reinforcing a district identity, (2) improving public safety and comfort; and (3) encouraging multi-modal transportation.



West Lincolnway, Cheyenne, Wyoming



Harmony Road, Fort Collins, CO

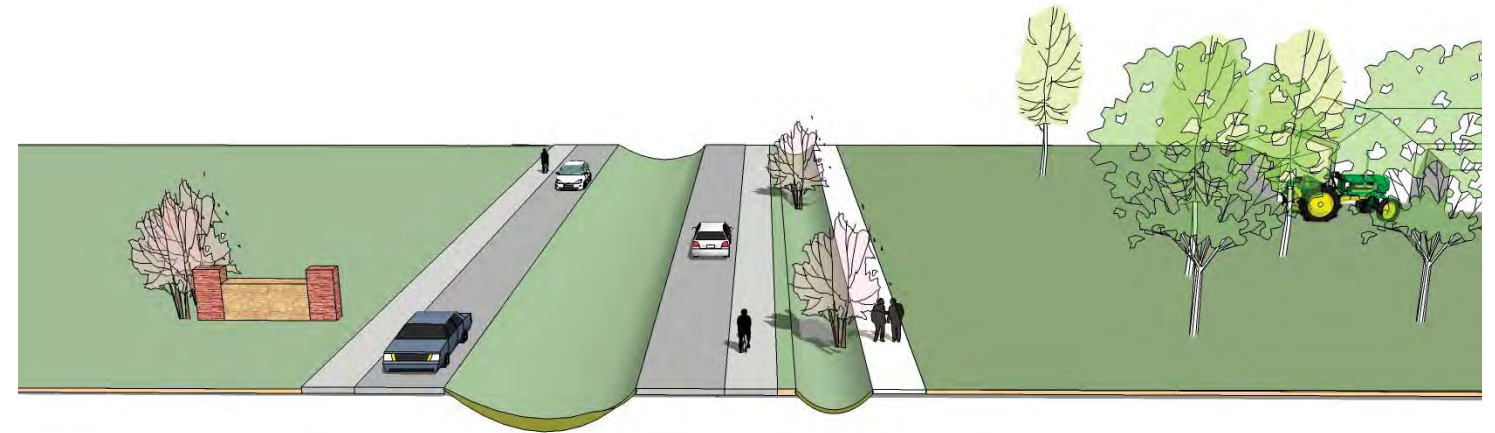


Carey Avenue, Cheyenne, Wyoming



## grassland

Grassland medians feature turf or native seed as the primary element. They typically are designed to emphasize the natural surroundings and are well-suited for low-density development. Advantages of this style include: (1) inexpensive capital and replacement costs; (2) relatively low operation and maintenance costs; and (3) the ability to add plant or hardscape elements over time, if desired.

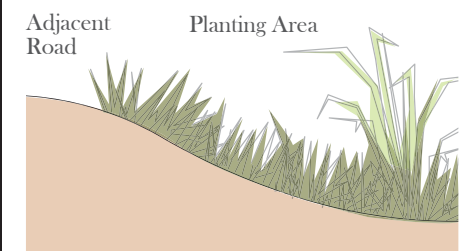


### capital cost

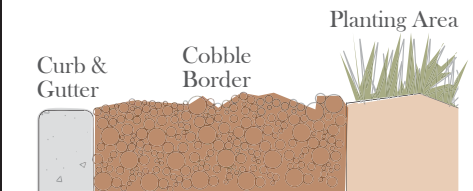
### annual replacement cost

### annual o&m cost

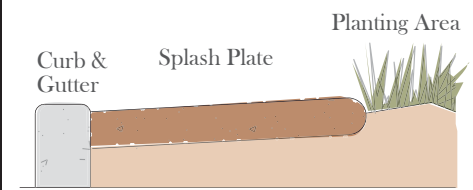
	capital cost				annual replacement cost						annual o&m cost				
	ITEM	UNIT	UNIT COST	NOTES	APPROX. COST P/SF	UNIT	YEARS 1-2	YEARS 3-9	YEAR 10	YEARS 11-19	YEAR 20	NOTES	O&M UNIT COST	O&M COST P/ YR	NOTES
<b>low</b>	Shrubs & Groundcover	SF	\$1.40	Assumptions: • 10% shrub cover • 5 gal. plants • 100% native seed cover	<b>\$.89</b>	SF	\$.04	\$.01	\$.12	\$.01	\$.12	Assumptions: • 5% of shrub/ grass replaced years 1 and 2 • 1.5% shrub/ grass replaced years 3-9, 11-19 • 75% shrub replaced every 10 years	SF	\$.10	• Mow grass (except swale) once in early spring • Apply herbicide on weeds in early spring • Apply herbicide on weeds in fall after first frost • Apply pre-emergence in spring and in late summer or early fall • Apply post-emergence in late fall • Mow 30 days after first mowing • Allow \$.25 SF for plant OM for first 3 months
	Native Seed	SF	\$.75												
	Sod	SF	\$1.00												
<b>medium</b>	Shrubs & Groundcover	SF	\$1.40	Assumptions: • 5 gal. plants • 2.5" cal. trees • 1-2" dia. mulch @ 4" depth • Wood mulch placed in protected shrub areas at 6" depth. • 25% irrigated shrub cover • 10% tree cover • 35% wood mulch cover • 10% cobble mulch cover • 55% native seed cover	<b>\$.676</b>	SF	\$.13	\$.08	\$.33	\$.08	\$.98	Assumptions: • 5% shrub/ grass/ tree/ irrigation replaced years 1-2 • 1.5% shrub/ grass/ tree/ irrigation replaced years 3-9, 11-19 • 75% shrub replaced every 10 years • 75% tree/ irrigation replaced every 20 years • 30% wood mulch replaced yearly	SF	\$.21	• Mow once in early spring • Cut back shrubs and remulch in spring • Apply herbicide on weeds in early spring • Apply herbicide on weeds in fall after first frost • Apply pre-emergence in spring and in late summer or early fall • Apply post-emergence in late fall • Mow 30 days after first mowing • Allow \$.25 SF for plant and irrigation O&M for first 3 months • Check/ repair irrigation • Tree pruning, watering, wrap, chipping and mulching
	Trees	SF	\$1.75												
	Cobble Mulch	SF	\$1.50												
	Wood Mulch w/ Tackifier	SF	\$.50												
	Native Seed	SF	\$.75												
	Sod	SF	\$1.00												
	Irrigation	SF	\$2.00												
Curb & Gutter	LF	\$24.00	*Price based on a 10' wide median												
<b>high</b>	Native Seed	SF	\$.75	Assumptions: • 2.5" cal. trees • 1-2" dia. mulch @ 4" depth • 75% irrigated tree cover • 25% wood mulch cover • 100% native seed cover • Colored concrete • Includes gutter	<b>\$.9.69</b>	SF	\$.22	\$.09	\$.09	\$.09	\$2.16	Assumptions: • 5% grass/ tree/ irrigation replaced years 1-2 • 1.5% grass/ tree/ irrigation replaced years 3-9, 11-19 • 75% tree/ irrigation replaced every 20 years • 30% wood mulch replaced yearly	SF	\$.95	• Mow grass (except swale) once in early spring • Apply herbicide on weeds in early spring • Apply herbicide on weeds in fall after first frost • Apply pre-emergence in spring and in late summer or early fall • Apply post-emergence in late fall • Mow 30 days after first mowing • Check/ repair irrigation • Allow \$.25 SF for plant and irrigation O&M for first 3 months • Tree pruning, watering, wrap, chipping and mulching
	Sod	SF	\$1.00												
	Wood Mulch w/ Tackifier	SF	\$.50												
	Shade Trees	SF	\$1.75												
	Irrigation	SF	\$2.00												
	Splash Plate & Curb - Type A	LF	\$28.00												



**NATURAL EDGE**



**CURB WITH COBBLE BORDER**

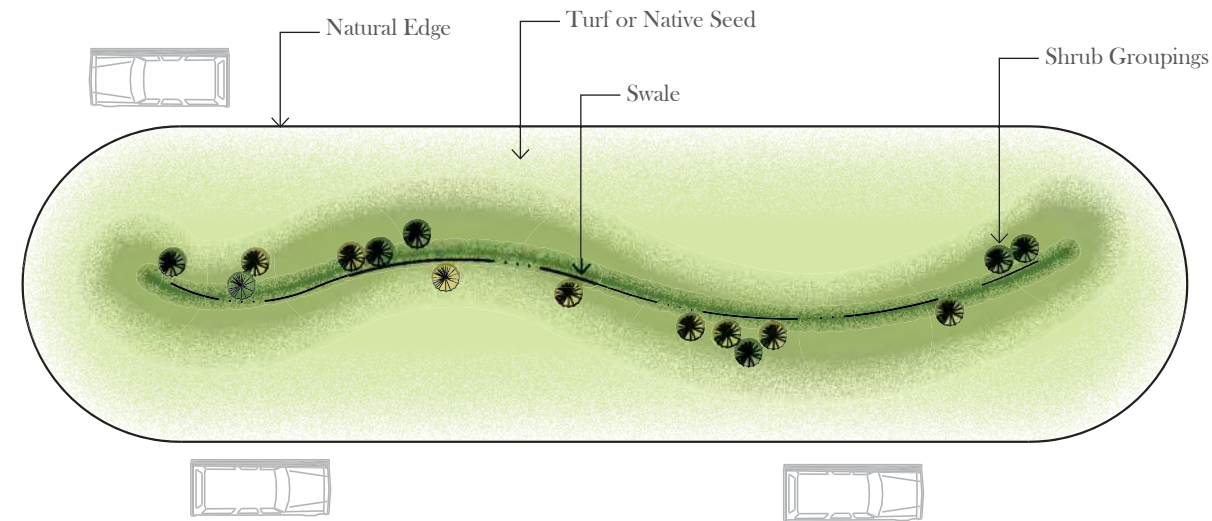


**SPLASH PLATE & CURB TYPE A**



## low intensity

The low intensity grassland median is characterized by a swale within a generous median planted with turf or native seed. Tree and shrub groupings line the swale edges. The size and natural edge condition allows ample space for water to permeate into the soil. This option is appropriate for Urban Transition Residential, Rural Residential, and Public Open Space Areas.



Swale with Native Seed



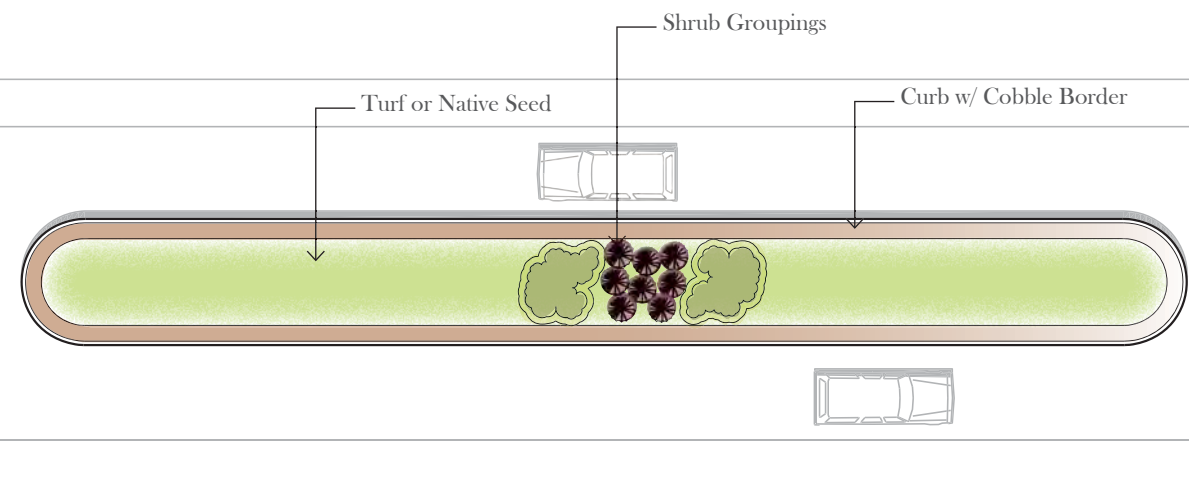
Native Seed



Shrub Groupings

## medium intensity

The medium intensity grassland median is characterized by a field of turf/ native seed surrounded by a protective cobble border. Small groupings of native shrubs and trees are minimally dispersed throughout. This option is appropriate where adjacent development is natural in character such as Public Parks and Open Space Areas.



Native Seed with Cobble Border



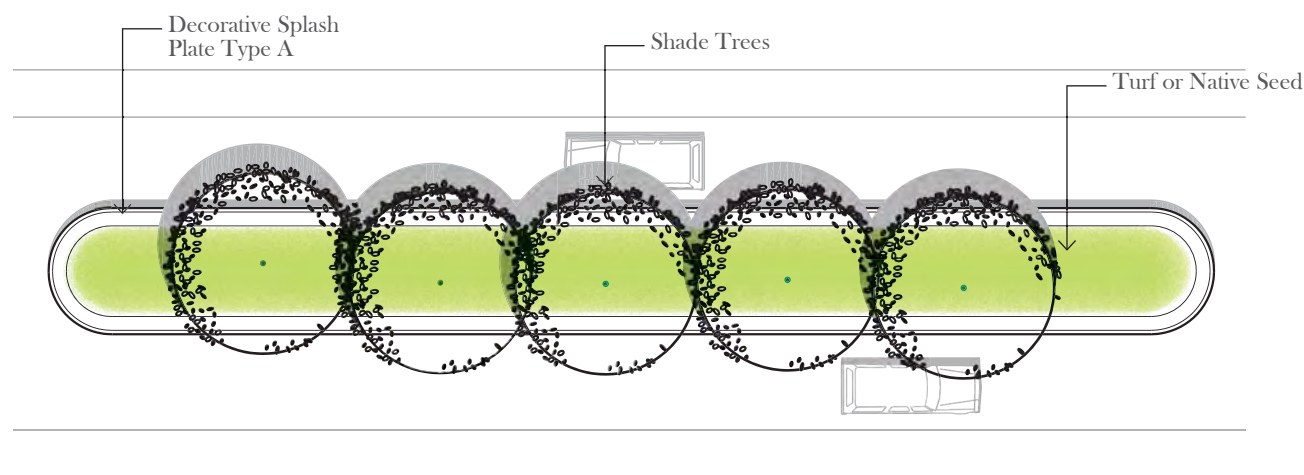
Native Seed



Shrub Groupings

## high intensity

The high intensity grassland median includes evenly spaced trees of one or more species in a field of turf or native seed. The raised median with splash guard may be standard gray, exposed aggregate, or colored concrete. The high intensity grassland median would be appropriate for Industrial and Community/ Regional Activity Centers.



Tree Lawn with Splash Plate



Native Seed



Trees



## garden

Garden medians provide several decorative and climate-appropriate plant, mulch and pavement combinations. They are typically notable features in the public right of way and may mark gateways into special districts or activity centers. The planting palettes range in cost and complexity, and are formal or informal in character. Advantages of this style include: (1) creation or reinforcement of a district identity; and (2) the ability to add/ subtract planting quantities and mix different pavement types.



### capital cost

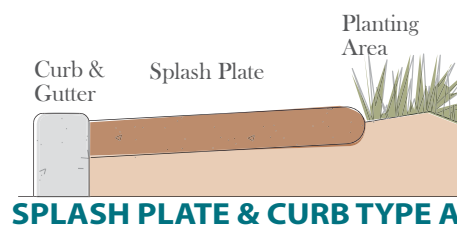
### annual replacement cost

### annual o&m cost

low

ITEM	UNIT	UNIT COST	NOTES	APPROX. COST P/SF
Groundcover/ Shrubs	SF	\$1.40	Assumptions: • 5 gal. plants • 2.5" cal. trees • Wood mulch placed in protected shrub areas at 6" depth • 100% shrub/ mulch/ irrigation cover • 60% tree cover • Colored concrete • Includes gutter	<b>\$10.95</b>
Shade Trees	SF	\$1.75		
Irrigation	SF	\$2.00		
Wood Mulch	SF	\$.50		
Splash Plate & Curb - Type B	LF	\$28.00		

UNIT	YEARS 1-2	YEARS 3-9	YEAR 10	YEARS 11-19	YEAR 20	NOTES	O&M UNIT COST	O&M COST P/YR	NOTES
SF	\$0.37	\$0.22	\$1.25	\$0.22	\$3.49	Assumptions: • 5% tree/ shrub/ grass/ irrigation replaced years 1-2 • 1.5% shrub/ grass/ irrigation replaced years 3-9, 11-19 • 75% tree/ irrigation replaced every 20 years • 75% shrub replaced every 10 years • 30% wood mulch replaced yearly	SF	\$0.85	<ul style="list-style-type: none"> <li>Mow once in early spring</li> <li>Apply herbicide on weeds in early spring</li> <li>Apply herbicide on weeds in fall after first frost</li> <li>Apply pre-emergence in spring and in late summer or early fall</li> <li>Apply post-emergence in late fall</li> <li>Mow 30 days after first mowing</li> <li>Check/ repair irrigation</li> <li>Allow \$.25 SF for plant and irrigation O&amp;M for first 3 months</li> <li>Tree pruning, watering, wrap, chipping and mulching</li> </ul>

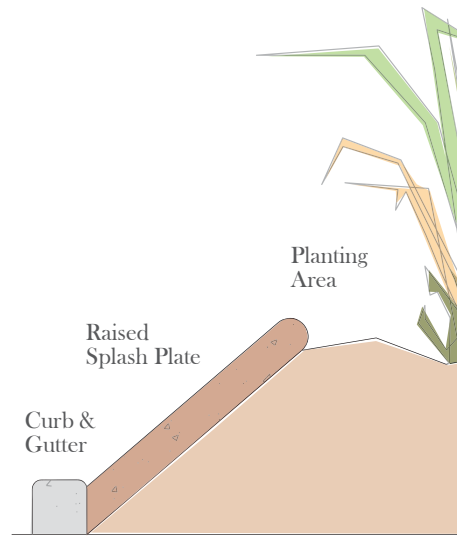


**SPLASH PLATE & CURB TYPE A**

medium

ITEM	UNIT	UNIT COST	NOTES	APPROX. COST P/SF
Shrubs & Ornamental Grasses	SF	\$1.40	Assumptions: • 5 gal. plants • Wood mulch placed in protected shrub areas at 6" depth • 75% irrigated shrub/ mulch cover • 25% decorative pavement cover • Colored concrete • Includes gutter	<b>\$15.43</b>
Wood Mulch	SF	\$.50		
Irrigation	SF	\$2.00		
Decorative Pavement	SF	\$10.50		
Barrier Curb with Decorative Cap	LF	\$75.00		

UNIT	YEARS 1-2	YEARS 3-9	YEAR 10	YEARS 11-19	YEAR 20	NOTES	O&M UNIT COST	O&M COST P/YR	NOTES
SF	\$0.24	\$0.15	\$0.92	\$0.15	\$2.03	Assumptions: • 5% shrub/ irrigation replaced years 1-2 • 1.5% shrub/ irrigation replaced years 3-9, 11-19 • 75% shrub replaced every 10 years • 30% wood mulch replaced yearly	SF	\$0.28	<ul style="list-style-type: none"> <li>Prune to remove dead branches.</li> <li>Cut back shrubs in spring.</li> <li>Remove dead foliage in spring.</li> <li>Remulch in spring.</li> <li>Allow \$.25 SF for plant and irrigation O&amp;M for first 3 months.</li> </ul>

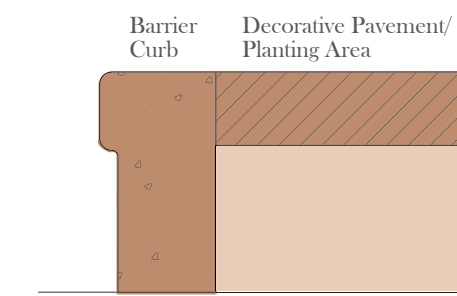


**SPLASH PLATE & CURB TYPE B**

high

ITEM	UNIT	UNIT COST	NOTES	APPROX. COST P/SF
Ornamental Grasses/ Shrubs	SF	\$1.40	Assumptions: • 5% tree cover • 30% irrigated shrub cover • 5 gal. plants • 2.5" cal. trees • Wood mulch placed in protected shrub areas at 6" depth @ 10% cover • Cobble mulch variety: 1-2" dia. and 2-4" dia. 75% cover • 18"x18" buff sandstone boulders at 20% cover • Colored concrete • Includes gutter	<b>\$12.56</b>
Shade Trees	SF	\$1.75		
Wood Mulch	SF	\$.50		
Cobble Mulch	SF	\$3.50		
Irrigation	SF	\$2.00		
Landscape Boulders	SF	\$15.00		
Splash Plate & Curb Type B	LF	\$28.00		

UNIT	YEARS 1-2	YEARS 3-9	YEAR 10	YEARS 11-19	YEAR 20	NOTES	O&M UNIT COST	O&M COST P/YR	NOTES
SF	\$0.08	\$0.04	\$0.35	\$0.04	\$0.93	Assumptions: • 5% tree/ shrub/ irrigation replaced years 1-2 • 1.5% shrub/ grass replaced years 3-9, 11-19 • 75% tree/ irrigation replaced every 20 years • 75% shrub replaced every 10 years • 30% wood mulch replaced yearly	SF	\$0.30	<ul style="list-style-type: none"> <li>Prune to remove dead branches</li> <li>Remove dead foliage in spring</li> <li>Allow \$.25 SF for plant and irrigation O&amp;M for first 3 months</li> <li>Monitor pavement and monuments annually for damage</li> <li>Remulch in spring</li> <li>Tree pruning, watering, wrap, chipping and mulching</li> </ul>

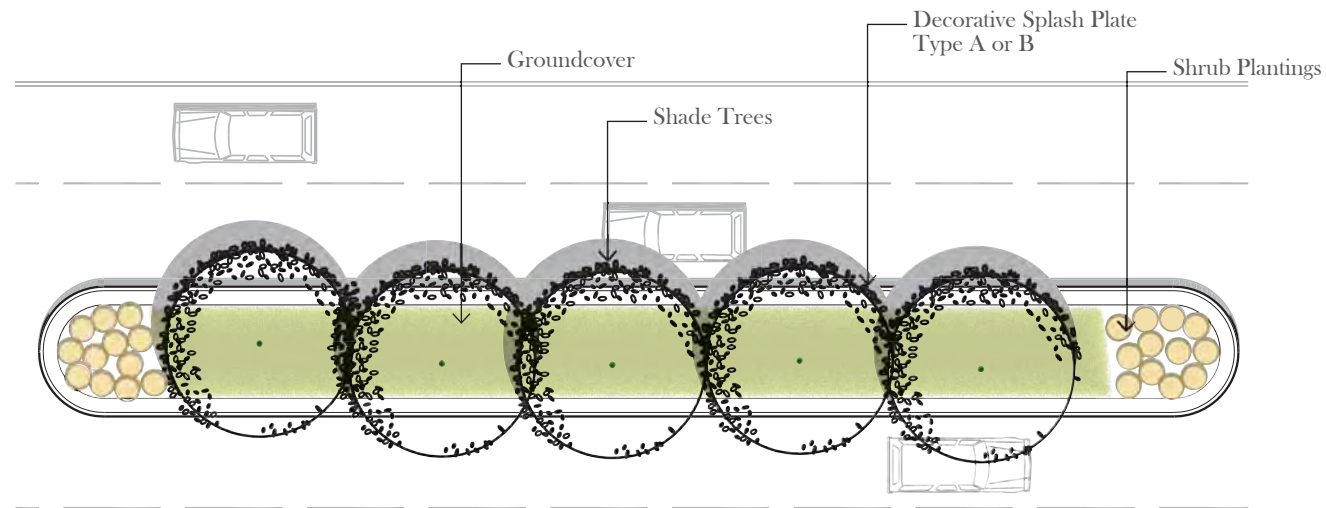


**BARRIER CURB**



## low intensity

The low intensity garden median is characterized by a formal tree canopy with a uniform groundcover, and formally planted shrub massings at both ends of the median. The shrub massings are 3 feet (maximum) in height to provide ample site distance. This option is low in cost and may be most suitable for Urban Residential Areas.



Trees with Shrubs/ Groundcover

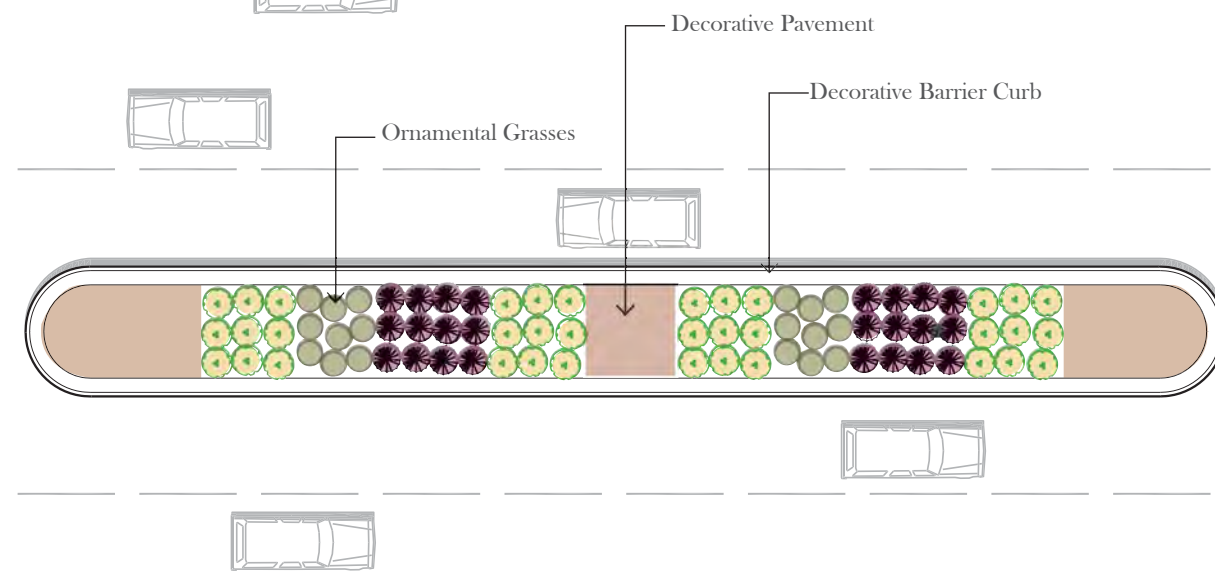


Shrubs

Trees

## medium intensity

The medium intensity garden median is characterized by formal ornamental grass plantings and decorative pavement. This option may be suitable for Community Business and Central Business Districts, and Activity Centers.



Ornamental Grasses with Decorative Barrier Curb



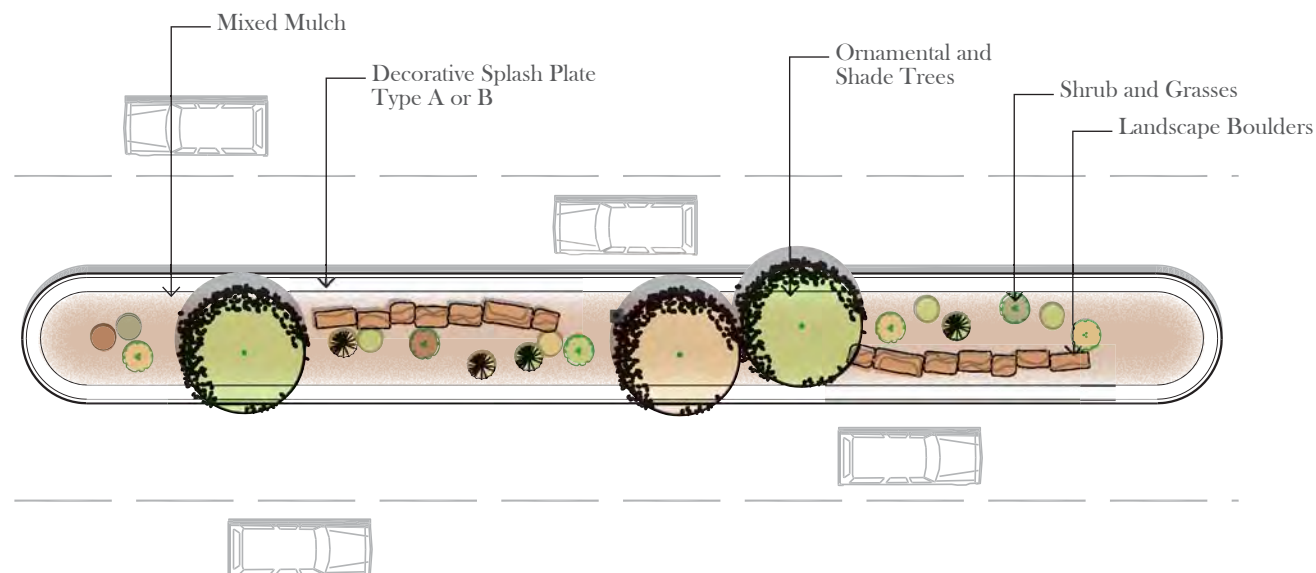
Decorative Pavement



Ornamental Grasses

## high intensity

The high intensity garden median is characterized by informal tree and shrub plantings, landscape boulders, and decorative rock mulch. The plant palette is diverse but the quantity is minimal. The high intensity garden median would be most appropriate for gateways into major Commercial Activity Centers.



Shrub, Tree and Grass Plantings



Mixed Mulch

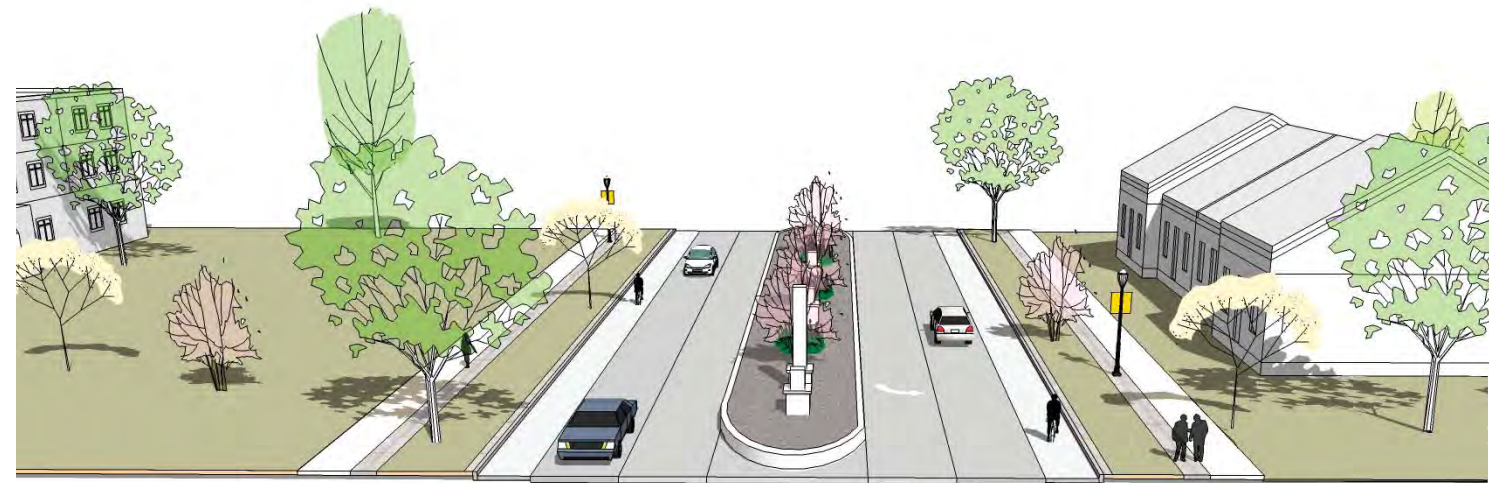


Landscape Boulders



## architectural

Architectural medians contain architectural or sculptural feature(s). They typically mark gateways or districts, and are often designed to complement adjacent development. Architectural features may vary in size and quantity, and create a focal point or identity for a district. Advantages of this style include: (1) creating or reinforcing a district identity, (2) maintaining an enduring presence throughout all seasons, and (3) requiring relatively low operation and maintenance costs along major vehicular corridors.



### capital cost

### annual replacement cost

### annual o&m cost

low

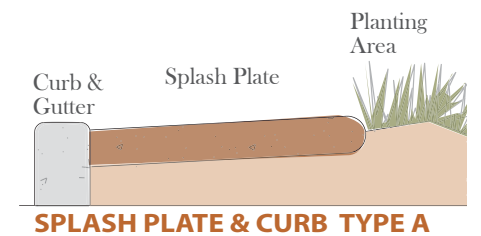
ITEM	UNIT	UNIT COST	NOTES	APPROX. COST P/SF	UNIT	YEARS 1-2	YEARS 3-9	YEAR 10	YEARS 11-19	YEAR 20	NOTES	O&M UNIT COST	O&M COST P/YR	NOTES
Sod	SF	\$1.00	Assumptions: • Colored concrete • Includes gutter • 100% irrigated sod cover (no native seed)	<b>\$7.80</b> <small>*Price based on a 10' wide median. Price does not include Monuments</small>	SF	\$0.15	\$0.05	\$0.05	\$0.05	\$1.52	Assumptions: • 5% grass/ irrigation replaced years 1-2 • 1.5% grass/ irrigation each subsequent year. • 75% irrigation replaced every 20 years	SF	\$0.10	<ul style="list-style-type: none"> <li>Mow once in early spring</li> <li>Apply herbicide on weeds in early spring</li> <li>Apply herbicide on weeds in fall after first frost</li> <li>Apply pre-emergence in spring and in late summer or early fall</li> <li>Apply post-emergence in late fall</li> <li>Mow 45 days after first mowing</li> <li>Check/ repair irrigation</li> </ul>
Native Seed	SF	\$.75												
Irrigation	SF	\$2.00												
Splash Plate & Curb - Type A	LF	\$28.00												
Monument/ Sculpture	EA	\$5,000.00												

medium

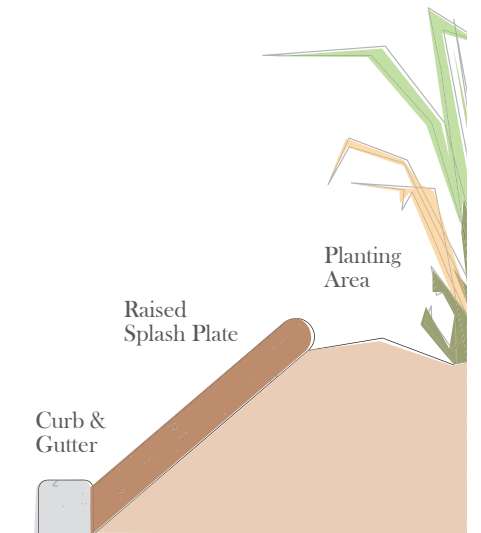
ITEM	UNIT	UNIT COST	NOTES	APPROX. COST P/SF	UNIT	YEARS 1-2	YEARS 3-9	YEAR 10	YEARS 11-19	YEAR 20	NOTES	O&M UNIT COST	O&M COST P/YR	NOTES
Shrubs & Groundcover	SF	\$1.40	Assumptions: • 80% irrigated shrub cover • 5 gal. plants • Wood mulch placed in protected shrub areas at 6" depth @ 40% cover • Cobble mulch variety: 1-2" dia. and 2-4" dia. 40% cover • Colored concrete • Includes gutter	<b>\$9.82</b> <small>*Price based on a 10' wide median. Price does not include Monuments</small>	SF	\$0.26	\$0.16	\$0.98	\$0.16	\$2.16	Assumptions: • 5% shrub/ irrigation replaced years 1-2 • 1.5% shrub/ irrigation years 3-9, 11-19 • 75% shrub replaced every 10 years • 75% irrigation replaced every 20 years • 30% wood mulch replaced yearly	SF	\$0.28	<ul style="list-style-type: none"> <li>Prune to remove dead branches</li> <li>Cut back shrubs in spring</li> <li>Remove dead foliage in spring</li> <li>Remulch in spring</li> <li>Allow \$.25 SF for plant and irrigation O&amp;M for first 3 months</li> </ul>
Wood Mulch	SF	\$.50												
Cobble Mulch	SF	\$3.50												
Irrigation	SF	\$2.00												
Splash Plate & Curb - Type B	LF	\$28.00												
Decorative Monument	EA	\$1,500.00												

high

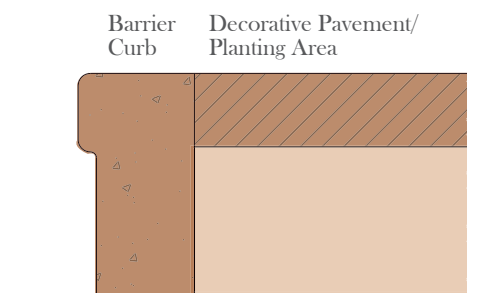
ITEM	UNIT	UNIT COST	NOTES	APPROX. COST P/SF	UNIT	YEARS 1-2	YEARS 3-9	YEAR 10	YEARS 11-19	YEAR 20	NOTES	O&M UNIT COST	O&M COST P/YR	NOTES
Shade Trees	SF	\$1.75	Assumptions: • 40% irrigated tree cover • 60% concrete • 2.5" cal. trees • 2-4" dia. cobble mulch @ 4" depth and 40% cover • Colored concrete • Includes gutter	<b>\$14.60</b> <small>*Price based on a 10' wide median. Price does not include Monuments</small>	SF	\$0.08	\$0.02	\$0.02	\$0.02	\$1.13	Assumptions: • 5% tree/ irrigation replaced years 1-2 • 1.5% tree/ irrigation years 3-9, 11-19 • 75% tree/ irrigation replaced every 20 years	SF	\$0.60	<ul style="list-style-type: none"> <li>Prune to remove dead branches</li> <li>Remove dead foliage in spring</li> <li>Allow \$.25 SF for plant and irrigation O&amp;M for first 3 months</li> <li>Monitor pavement and monuments annually for damage</li> <li>Tree pruning, watering, wrap, chipping and mulching</li> <li>15% increase in cost added to tree maintenance to account for hot spots caused by hardscape</li> </ul>
Cobble Mulch	SF	\$1.50												
Irrigation	SF	\$2.00												
Decorative Pavement	SF	\$10.50												
Barrier Curb	LF	\$75.00												
Monument	EA	\$8,000.00												



SPLASH PLATE & CURB TYPE A



SPLASH PLATE & CURB TYPE B

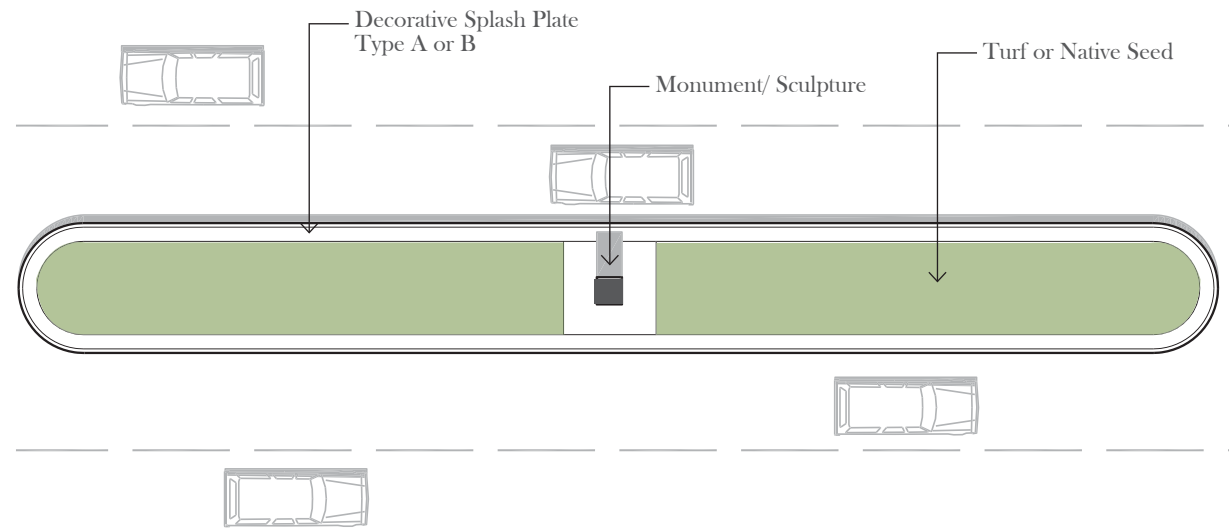


BARRIER CURB



## low intensity

The low intensity architectural median option is characterized by a single monument or sculpture in a field of turf or native seed. This minimalist approach may be suitable for a Civic or Urban Residential Area.



Monument/ Sculpture: Image courtesy of City-Data.com



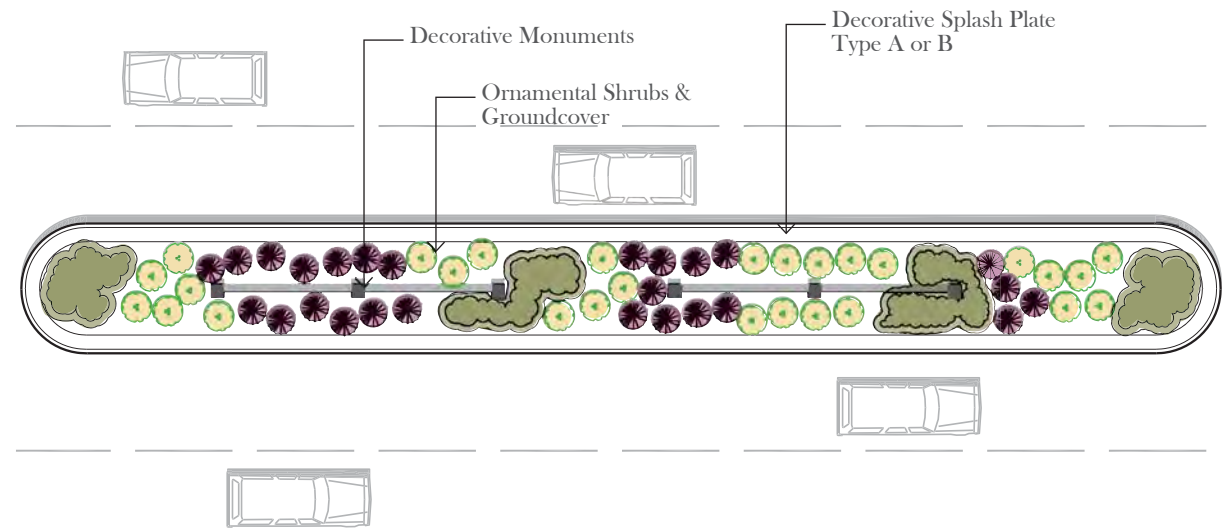
Decorative Splash Plate



Turf

## medium intensity

The medium intensity architectural option is characterized by one or more small decorative monuments accompanied by ornamental shrubs, grasses and groundcover plantings. This option is well suited for urbanized areas with high pedestrian/commercial activity, such as Mixed-Use Activity Centers.



Decorative Monuments with Diverse Planting Palette



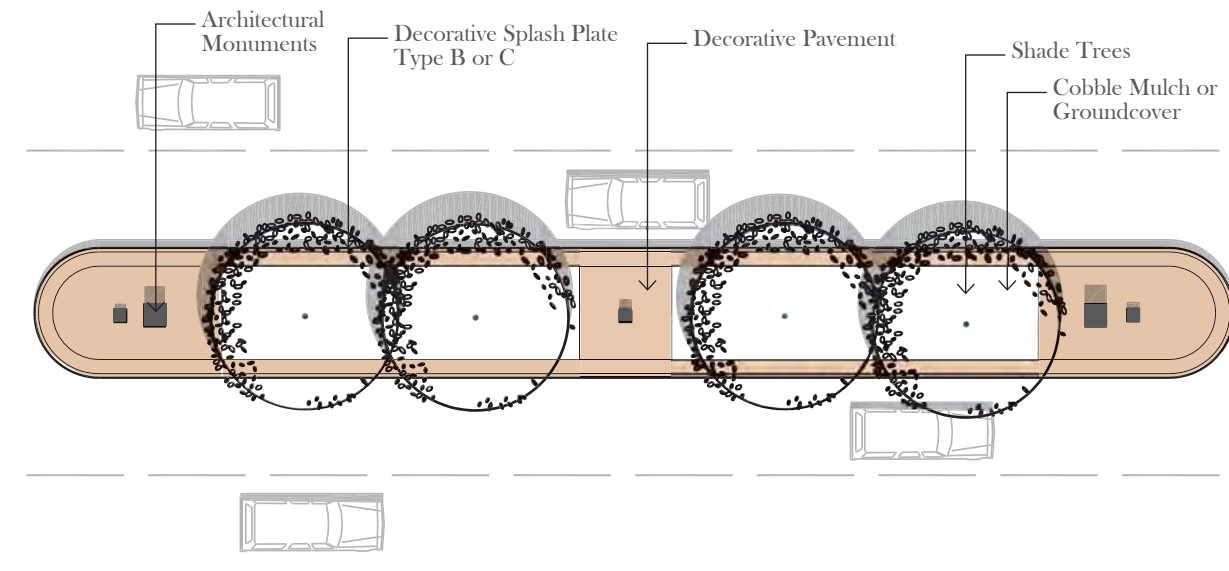
Mixed Mulch



Shrubs/ Ornamental Grasses

## high intensity

This option focuses on decorative pavement and monumentation. The capital and replacement costs are high but the O&M costs are low. This option is appropriate for Urban Transition areas that mark a particular Gateway or District.



Architectural Monuments



Cobble Mulch



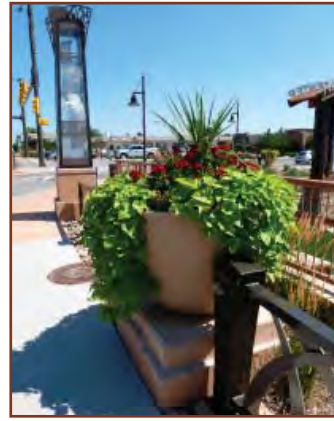
Shade Trees



# PEDESTRIAN AMENITIES



Fort Collins, Colorado



Fort Collins, Colorado



Cheyenne, Wyoming



'New Town' Williamsburg, Virginia

## capital cost

low

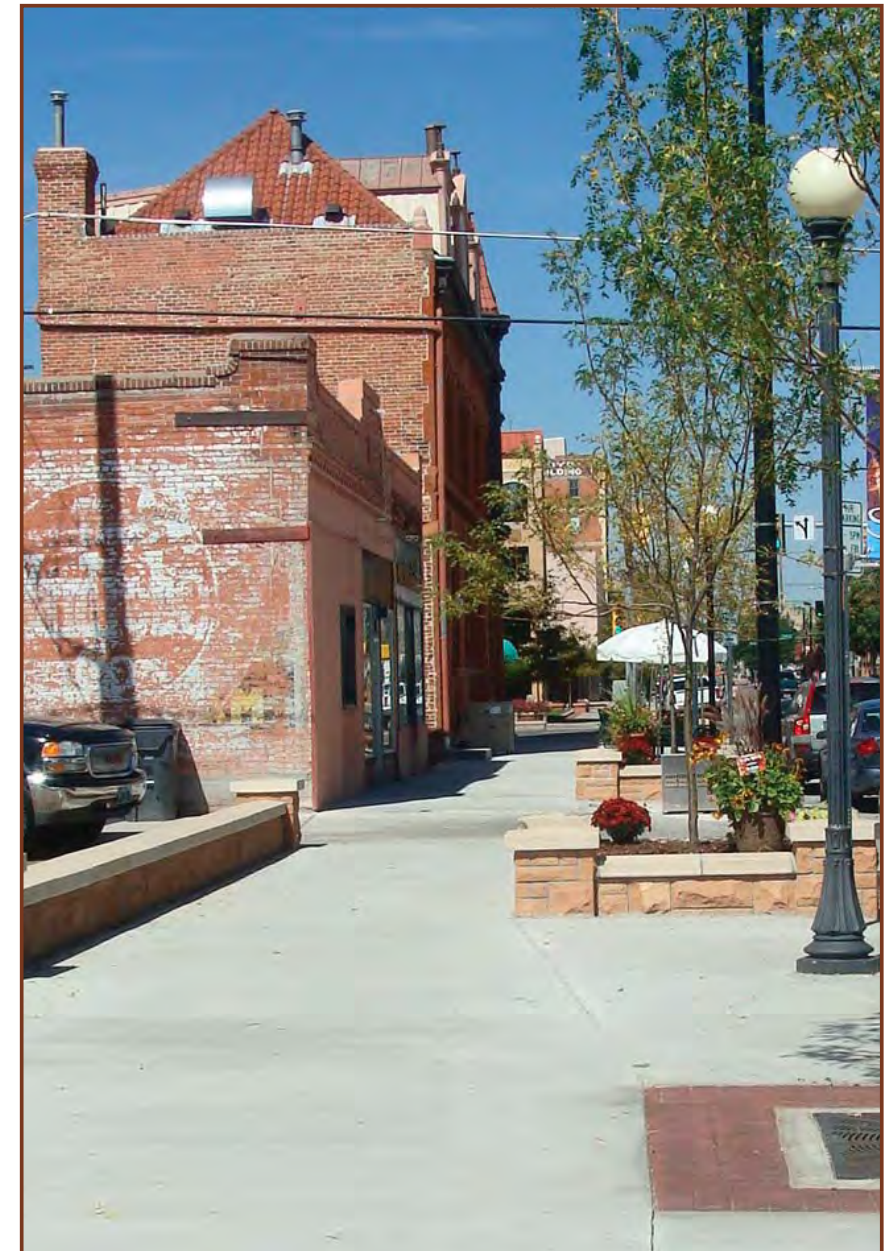
ITEM	UNIT	UNIT COST	NOTES
Concrete Walk	SF	\$4.50	Assumes a 4" thickness, standard gray
Bench	EA	\$800.00	Standard catalog item
Epoxy Painted Crosswalk	EA	\$500.00	
Bus Stop Sign	EA	\$500.00	
Planter	EA	\$500.00	Standard catalog item
Pedestrian Light Fixture	EA	\$5,500.00	Standard catalog item
Bike Rack	EA	\$1,000.00	Standard catalog item

medium

ITEM	UNIT	UNIT COST	NOTES
Walk w/ Decorative Border	SF	\$15.00	18" wide decorative concrete paver band and concrete walk
Bench	EA	\$1,300.00	Specialty catalog item
Colored Concrete Crosswalk	SF	\$18.00	Assumes 11" thickness
Bus Stop Bench	EA	\$1,300.00	Includes sign and bench
Planter	EA	\$2,100.00	Specialty catalog item
Pedestrian Light Fixture	EA	\$8,500.00	Specialty catalog item
Bike Rack	EA	\$3,000	Specialty catalog item
Screen Plantings	SF	\$2.00	Hearty salt and drought tolerant species

high

ITEM	UNIT	UNIT COST	NOTES
Brick Paver Walk	SF	\$15.00	60 mm thick pavers
Bench	EA	\$1,750.00	Unique or artistic item
Paver Inlaid Crosswalk	SF	\$22.00	80 mm pavers
Bus Shelter	EA	\$13,000.00	Includes concrete pad, bench and sign
Planter	FF	\$40.00	Custom stone veneer and cap; assumes 18" tall
Pedestrian Light Fixture with Banner and Sound System	EA	\$19,000.00	Led light fixtures; price includes banner, with speakers and sound system
Bike Rack	EA	\$6,000.00	Unique or artistic item
Screen Wall	FF	\$40.00	Custom stone veneer and cap; assumes 18" tall



Cheyenne Wyoming



## low intensity

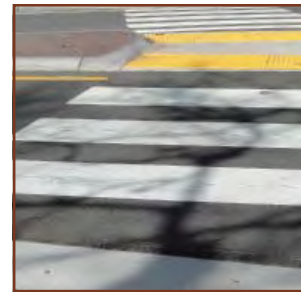
Low intensity pedestrian amenities are fairly inexpensive and are standard catalog items or comprised of readily available, inexpensive materials. They are most suitable in areas with modest vehicular traffic at lower speeds, such as Industrial and Community/ Regional Activity Centers.



Gray Concrete Walk



Bench



Painted Crosswalk



Bus Stop Sign



Planter



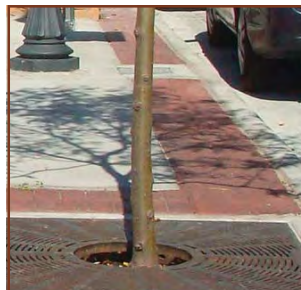
Pedestrian Light



Bike Rack

## medium intensity

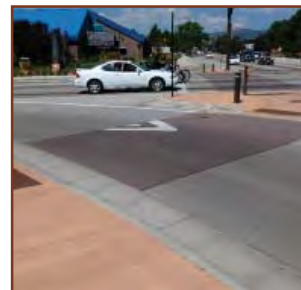
Medium intensity pedestrian amenities are characterized by specialty catalog items that are readily available for replacement. They are most appropriate for areas with higher vehicular and pedestrian activity, such as Major Commercial Activity Centers.



Walk w/ Decorative Border



Bench



Colored Concrete Crosswalk



Bus Stop Bench



Planter



Pedestrian Light



Bike Rack



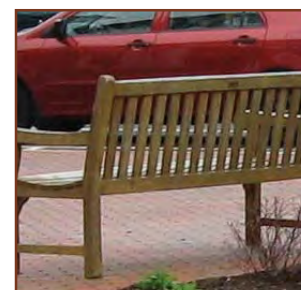
Screen Plantings

## high intensity

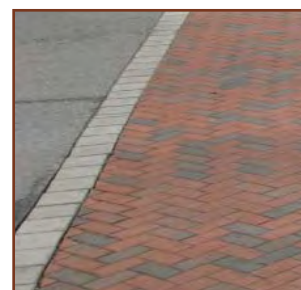
High intensity pedestrian amenities are custom built, difficult to replace, and/ or high in capital and maintenance cost. They provide a unique identity to an area and are most suitable downtown where businesses can provide additional funding to support long-term operation and maintenance costs.



Brick Pavers



Bench



Paver Inlaid Crosswalk



Bus Shelter



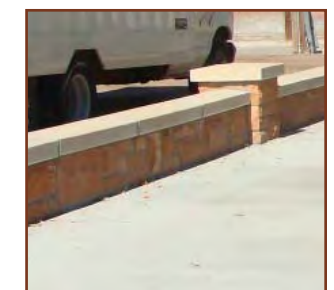
Planter



Pedestrian Light



Bike Rack



Screen/ Seatwall