PLANTING STRATEGIES

- Create a Gradient of Planting Strategies
- Landscape Typologies
- Planting Palette
- Tree Canopy Coverage
- Increase Thermal Comfort
- Planting Strategies





Create a gradient of planting strategies and ecological variety that support cultural programming, sustainable maintenance and human comfort goals

CREATE A GRADIENT OF PLANTING STRATEGIES

SUPPORTING CULTURAL PROGRAMMING, SUSTAINABLE MAINTENANCE AND HUMAN COMFORT GOALS

In conjunction with New Public Space Strategies, the Design Framework proposes a gradient of planting strategies that not only reflects the diverse ecologies of Minnesota, but supports cultural programming, sustainable maintenance practices and human comfort. The landscape will transition from the more wild woodlands, meadows and prairie near the southern edge of the Capitol Campus to the northern green frame—a highly curated and structured planting zone that aims to visually support the Capitol Building. In between, the cultural planting zone will support the many commemorative works located in the Lower Mall and an arboretum-esque environment. The open glades will include extensive shade trees and generous event lawns. Lastly, the civic plinth will provide high-performance event lawns with the understanding that the similarly located Democracy Stage will attract high pedestrian traffic.



TAKEAWAYS

- Native prairies showcase significant Minnesotan plants.
- The cultural planting zone provides wind protection and shade while supporting commemorative works.
- An open glade with shade trees and generous lawn supports large events.
- A civic plinth supports high performance event lawns and high pedestrian traffic.

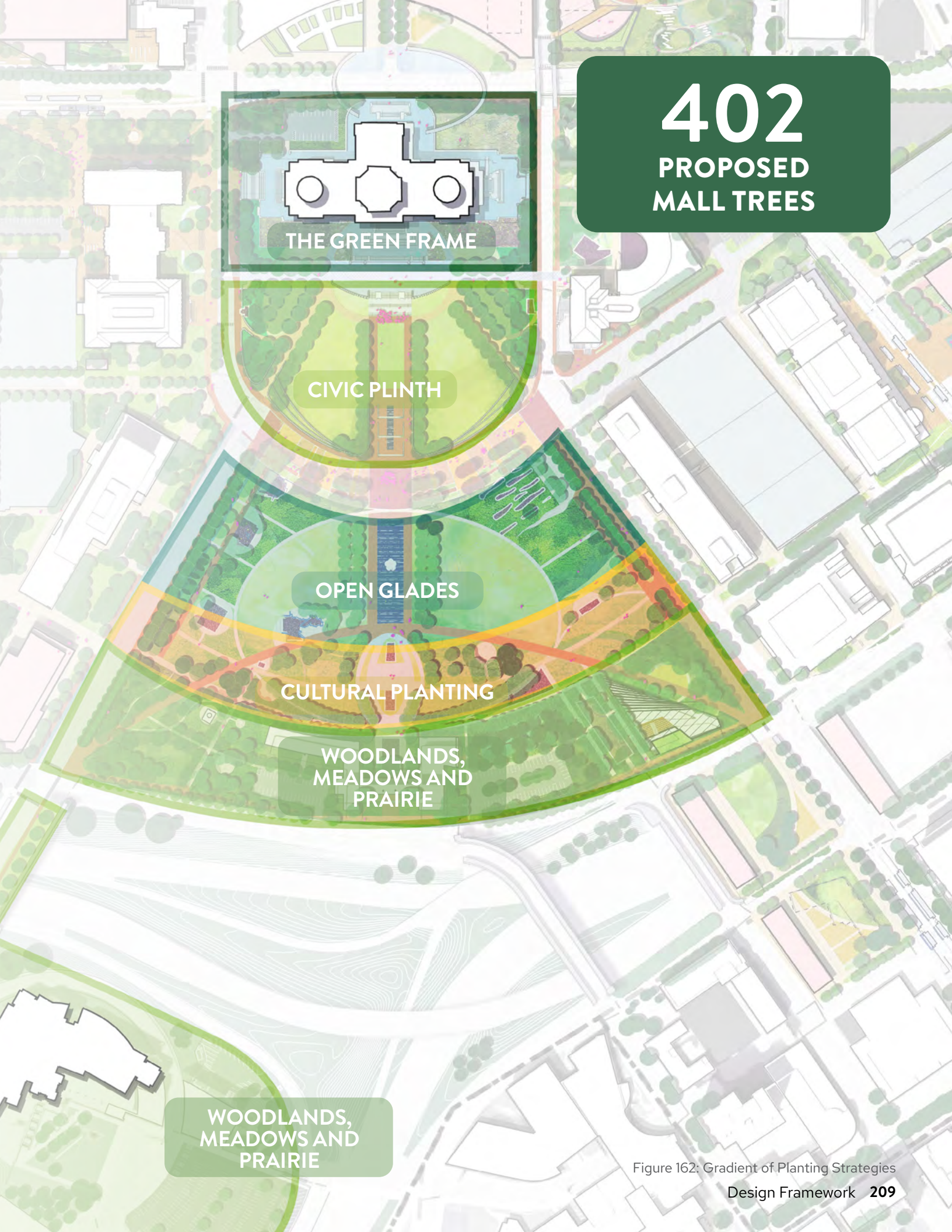


Figure 162: Gradient of Planting Strategies

LANDSCAPE TYPOLOGIES

PRECEDENT IMAGES

THE GREEN FRAME



Figure 163: Wisconsin State Capitol

Source: Klassy, Todd. *Wisconsin State Capitol.* Fine Art America, fineartamerica.com/featured/capitol-tulips-todd-klassy.html?product=greeting-card. Accessed Apr. 2024.



Figure 166: US Capitol Green Frame

Source: *US Capitol.* The Daily Signal, https://www.dailysignal.com/2018/09/13/if-congress-cant-pass-a-conservative-farm-bill-they-should-extend-existing-law/

CIVIC PLINTH



Figure 164: US Capitol

Source: Sasaki. *Lawn*. Sasaki, www.sasaki.com/projects/u-s-capitol-visitor-center/.



Figure 165: Texas State Capitol

Source: G. Lyon Photography, Inc. *Texas Capitol Mall.* Coleman Associates, www.colemanandassoc.com/projects/texas-capitol-complex-mall-and-garage.

OPEN GLADES



Figure 167: Cantigny Park, Wheaton, IL

Source: Sasaki. *Cantigny Park.* Sasaki, www.sasaki.com/voices-engineering-news-record-honors-cantigny-park-as-it-moves-into-next-phase/.

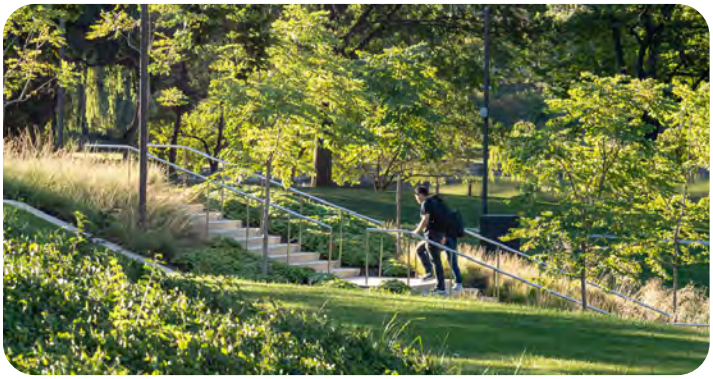


Figure 168: Nord Family Greenway, Cleveland, OH

Source: *Nord Family Greenway.* Cultural Landscape Foundation, www.tclf.org/

CULTURAL PLANTING



Figure 172: Cantigny Park and Landscape, Wheaton, IL

Source: Sasaki. *Cantigny Park and Landscape. Sasaki, www.sasaki.com/projects/cantigny-park-garden-and-landscape-improvements/.*



Figure 171: Dakota Ethnobotany

Source: UMN. *Dakota Ethnobotany*. UMN Extension, extension.umn.edu/find-plants/native-plants.

WOODLANDS, MEADOWS, AND PRAIRIES



Figure 169: US Capitol

Source: Sasaki. *Lawn*. Sasaki, www.sasaki.com/projects/u-s-capitol-visitor-center/.

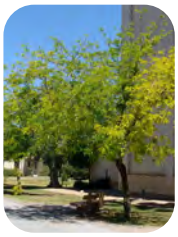
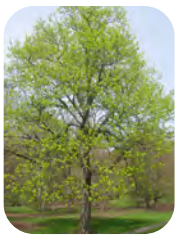
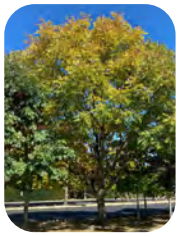
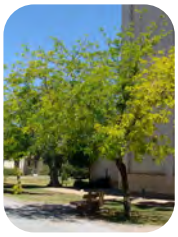
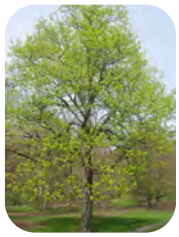
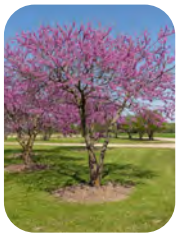


Figure 170: Monk's Garden, Boston, MA

Source: Sasaki. *Lawn*. Sasaki, www.sasaki.com/projects/u-s-capitol-visitor-center/.

PLANTING PALETTE

TYPOLOGY MATRIX

TYPOLOGY	TREE SPECIES
THE GREEN FRAME	     
CIVIC PLINTH	     
OPEN GLADES	     

SHADE
Acer saccharum (Sugar Maple)
Quercus x warei 'Nadler' (Kindred Spirit Oak)
Tilia americana (Basswood)
Ulmus americana (American Elm)

ORNAMENTAL
Cercis canadensis (Eastern Redbud)
Gleditsia triacanthos var. inermis (Thornless Honey Locust)
Juniperus chimensis 'Trautman' (Trautman Juniper)

GROVE
Ulmus americana (American Elm)
Tilia americana (Basswood)

SHADE
Celtis occidentalis (Hackberry)
Gymnocladius dioicus (Kentucky Coffeetree)
Quercus macrocarpa (Bur Oak)
Quercus macrocarpa x robur (Heritage Oak)

SHADE
Acer saccharinum (Silver Maple)
Gleditsia triacanthos var. inermis (Thornless Honey Locust)
Quercus ellipsoidalis (Northern Pin Oak)
Tilia americana (Basswood)
Ulmus americana (American Elm)

ORNAMENTAL
Cercis canadensis (Eastern Redbud)

Source:https://www.dnr.state.mn.us/trees/index.html
Source: HGA. *Minnesota State Capitol Restoration Project.* 16 Oct. 2015.
Source:https://extension.umn.edu/trees-and-shrubs/trees-and-shrubs-minnesota-landscapes

PLANT COMMUNITIES	MAINTENANCE & PERFORMANCE
Asclepias syriaca sub tuberosa (Common Milkweed) *Hydrangea paniculata 'SMHPLQF'* (Little Quick Fire Hydrangea) *Ilex verticillata 'Red Sprite'* (Red Sprite Winterberry) *Juniperus sabina 'Blue Forest'* (Blue Forest Juniper) *Narcissus sp.* (Daffodil) *Nepeta fasseni 'Walker's Low'* (Walker's Low Catmint) *Spiraea betulifolia 'Tor'* (Tor Birchleaf Spirea) *Taxus x media 'Taunton'* (Taunton Yew)	HIGH
Asclepias syriaca sub tuberosa (Common Milkweed) *Artemiisia ludoviciana* (White Sagebrush) *Nepeta fasseni 'Walker's Low'* (Walker's Low Catmint) *Panicum virgatum* (Switchgrass) *Physocarpus opulifolius 'Donna May'* (Little Devil Ninebark) *Rhus aromatica 'Gro-Low'* (Fragrant Sumac) *Sorghastrum nutans* (Indiangrass) *Spiraea betulifolia 'Tor'* (Tor Birchleaf Spirea) *Verbana hastata* (Blue Vervian)	MED
Diospryos virginiana (American Persimmon) *Hydrangea paniculata 'SMHPLQF'* (Little Quick Fire Hydrangea) *Ilex verticillata 'Jim Dandy* (Jim Dandy Winterberry) *Ilex verticillata 'Red Sprite'* (Red Sprite Winterberry) *Prunus americana* (Wild Plum) *Rhus aromatica 'Gro-Low'* (Fragrant Sumac) *Schizachyrium scoparium* (Little Bluestem) *Sorghastrum nutans* (Indiangrass) *Spiraea betulifolia 'Tor'* (Tor Birchleaf Spirea) *Sporobolus heterolepis* (Prairie Dropseed)	MED

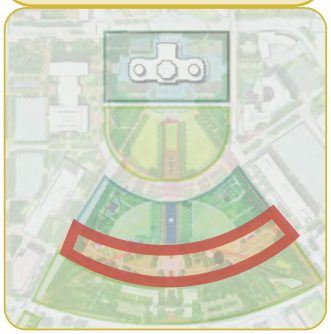
NOTES ON HUMAN COMFORT & CLIMATE CHANGE

- Climate-ready trees
  based on projected local projected climate and University Minnesota Research
- Increased shade canopy for thermal comfort
- Dynamic height differences to create wind flow at human height
- Pollinator and wildlife friendly landscape
- Develop maintenance friendly plant communities based on typologies
- Increased carbon sequestration
- Noise buffering along I-94 with Woodlands, Meadows, and Prairies
- Strategic placement of canopy trees to avoid security cameras

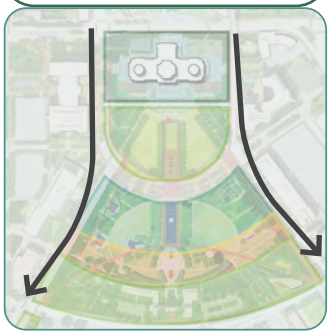
PLANTING PALETTE

TYPOLOGY MATRIX

TYPOLOGY	TREE SPECIES
CULTURAL PLANTING	**SHADE** *Betula papyrifera* (Paper Birch) *Carpinus caroliniana* (Blue Beech) *Celtis occidentalis* (Hackberry) **ORNAMENTAL** *Amelanchier* (Serviceberry) *Prunus virginiana* (Chokecherry)
WOODLANDS, MEADOWS, AND PRAIRIES	**SHADE** *Ulmus americana* (American Elm) *Quercus macrocarpa* (Bur Oak) *Quercus ellipsoidalis* (Northern Pin Oak) *Betula papyrifera* (Paper Birch) *Populus tremuloides* (Quaking Aspen)
STREET TREES	**SHADE** *Ulmus americana* (American Elm) *Tilia americana* (Basswood) *Gleditsia triacanthos var. inermis* (Thornless Honey Locust) *Celtis occidentalis* (Hackberry)





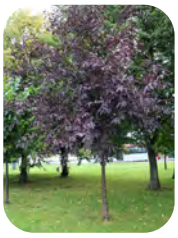














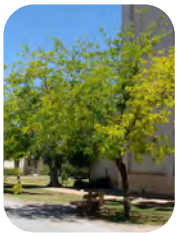
















Source:https://www.dnr.state.mn.us/trees/index.html
Source: HGA. *Minnesota State Capitol Restoration Project.* 16 Oct. 2015.
Source:https://extension.umn.edu/trees-and-shrubs/trees-and-shrubs-minnesota-landscapes

PLANT COMMUNITIES	MAINTENANCE & PERFORMANCE
Andropogon gerardii (Big Bluestem) *Asclepias syriaca sub tuberosa* (Common Milkweed) *Helianthus pauciflorus* (Stiff Sunflower) *Ratibida pinnata* (Prairie Coneflower) *Rosa arkansana* (Prairie Rose) *Rubus occidentalis* (Black Raspberry) *Salix purpurea 'Nana'* (Dwarf Blue Leaf Arctic Willow) *Schizachyrium scoparium* (Little Bluestem) *Sorghastrum nutans* (Indiangrass)	●●●●● HIGH
Dalea purpurea (Purple Prairie Clover) *Helianthus pauciflorus* (Stiff Sunflower) *Ratibida pinnata* (Prairie Coneflower) *Schizachyrium scoparium* (Little Bluestem) *Solidago nemoralis (Gray Goldenrod)* *Symphyotrichum laeve* (Smooth Aster)	●●○○○ HIGH
Bouteloua curtipendula (Sideoats Grama) *Panicum virgatum* (Switchgrass) *Schizachyrium scoparium* (Little Bluestem) *Sorghastrum nutans* (Indiangrass) *Sporobolus heterolepis* (Prairie Dropseed)	●●○○○ LOW

NOTES ON HUMAN COMFORT & CLIMATE CHANGE



Climate-ready trees

based on projected local projected climate and University Minnesota Research



Increased shade canopy for thermal comfort



Dynamic height differences to create wind flow at human height



Pollinator and wildlife friendly landscape



Develop maintenance friendly plant communities based on typologies



Increased carbon sequestration



Noise buffering along I-94 with Woodlands, Meadows, and Prairies



Strategic placement of canopy trees to avoid security cameras

TREE CANOPY COVERAGE

EXISTING TREE CANOPIES

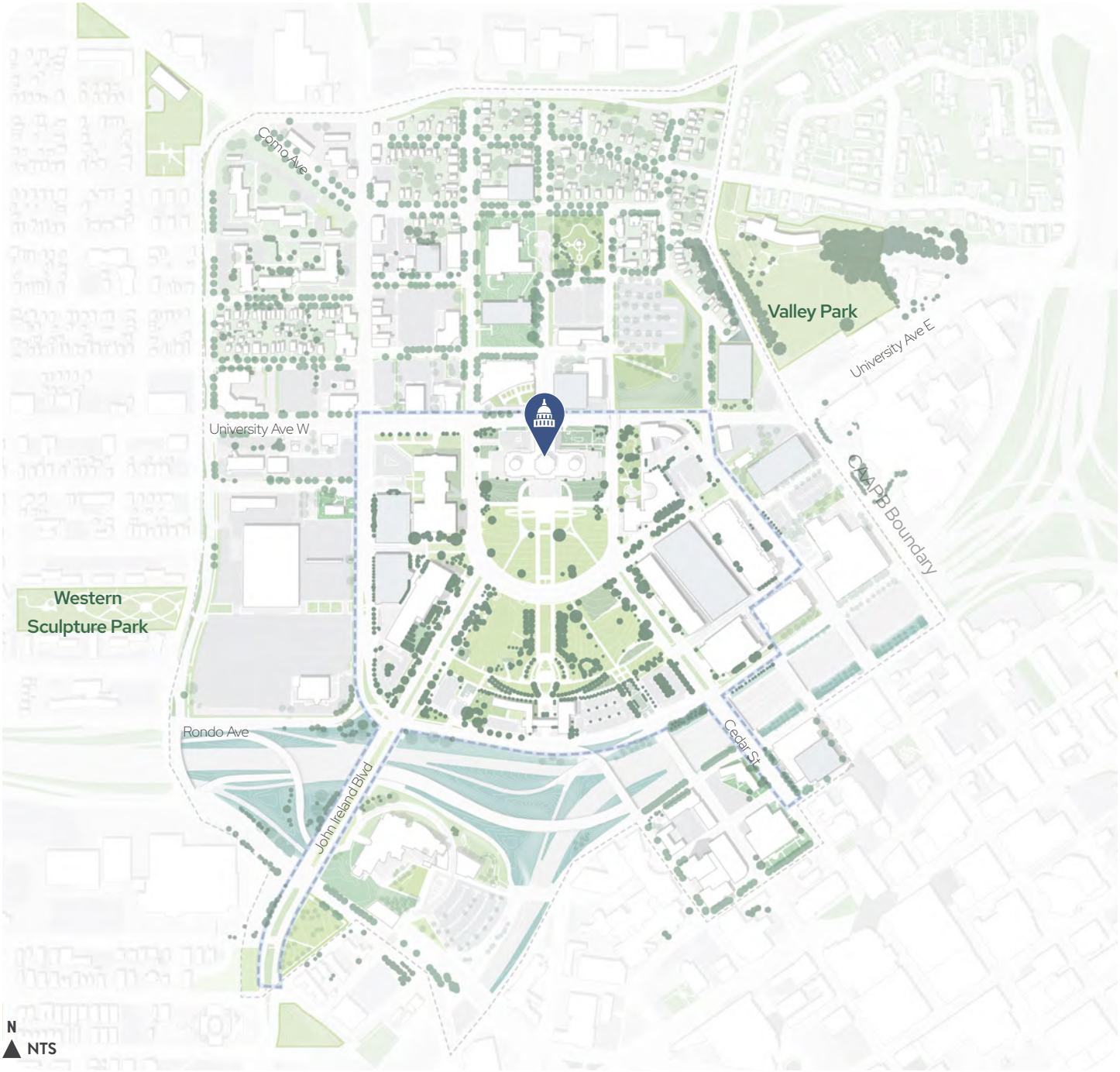


Figure 173: Capitol Area Tree Canopy (Existing)

LEGEND

- CLR + Feb. 2024 Tree Survey Boundary
- Existing Trees (Survey)
- Existing Trees (CAAPB)
- Existing Trees (Google Earth trace)

PROPOSED TREE CANOPIES

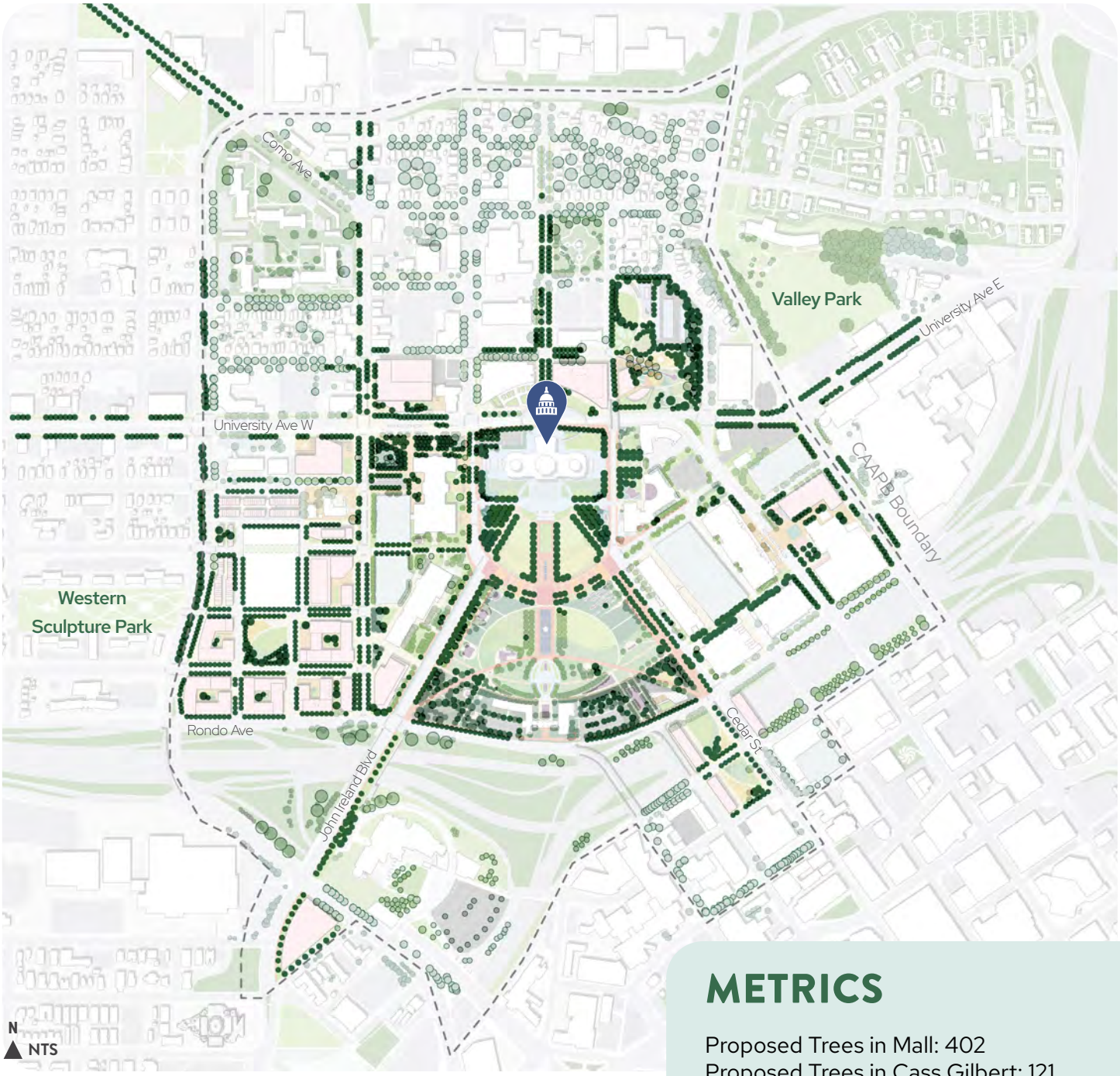


Figure 174: Capitol Area Tree Canopy (Proposed)

LEGEND

- Existing Trees
- Proposed Trees

METRICS

Proposed Trees in Mall: 402
Proposed Trees in Cass Gilbert: 121
Proposed Trees in MLK: 32
Proposed Street Trees: 1,151

Existing Trees Removed or Relocated: 259

Total Proposed: 1,968

INCREASE THERMAL COMFORT

EXISTING

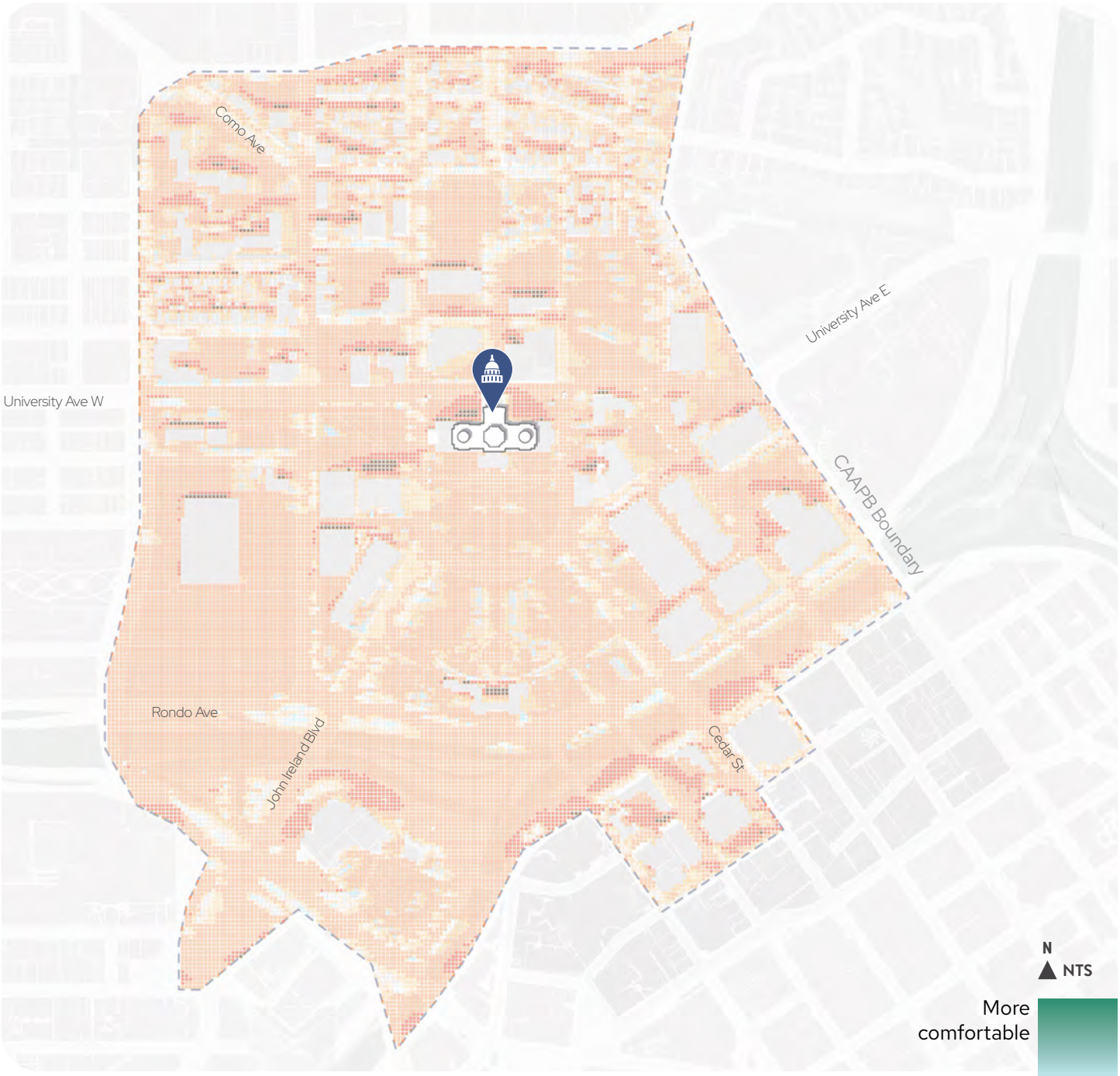
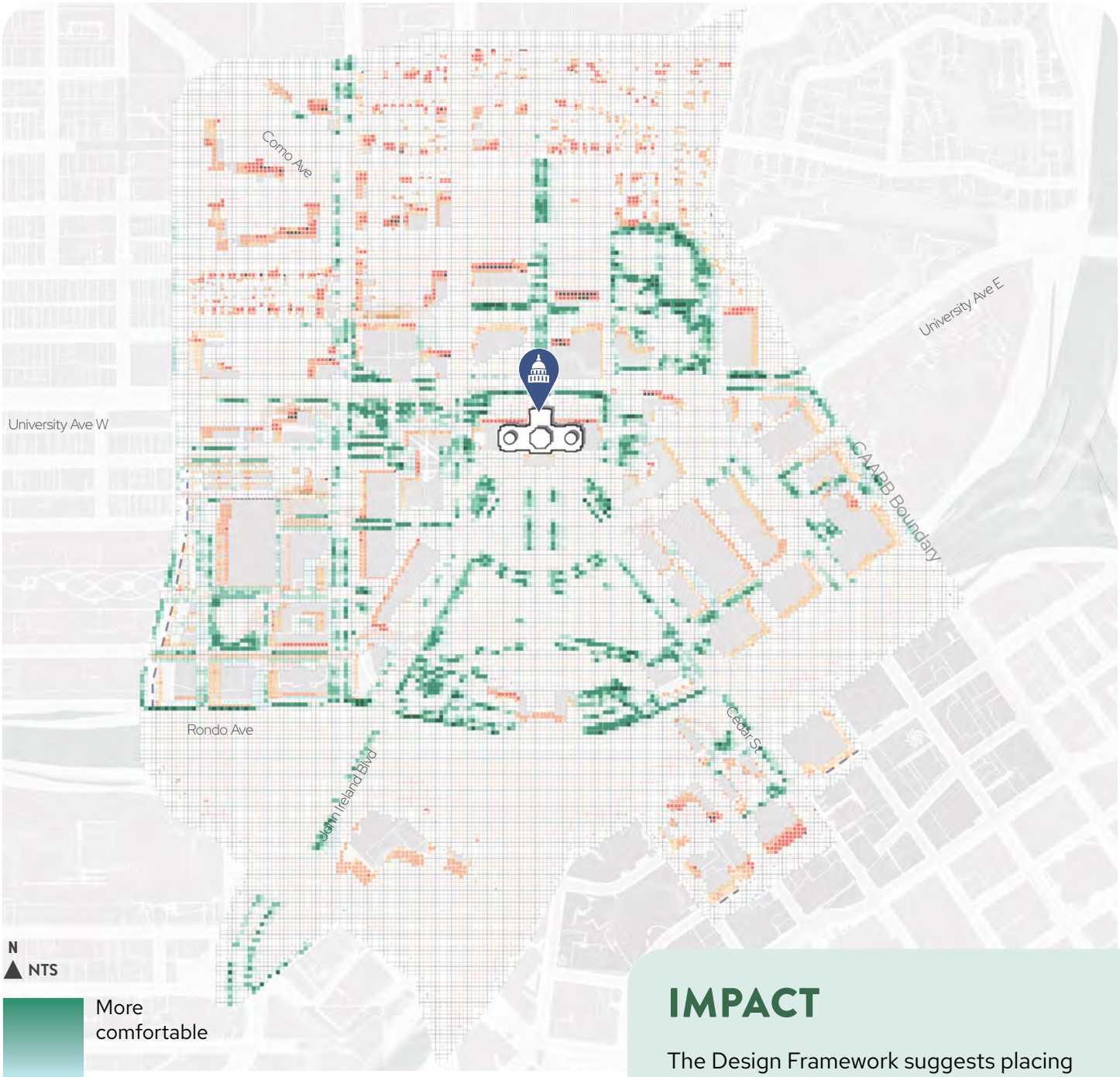


Figure 175: Thermal Comfort (Existing)

Source: *Minnesota Geospatial Commons*. gisdata.mn.gov/dataset.
Source: *Ramsey County Map Ramsey.* maps.co.ramsey.mn.us/mapramsey/.
Source: *Ramsey County Maps and Surveys.* www.ramseycounty.us/residents/property/maps-surveys.
Source: *Saint Paul Minnesota.* information.stpaul.gov/search.

PROPOSED



IMPACT

The Design Framework suggests placing buildings and tree canopies in key spots to offer year-round thermal comfort. Summer shade is provided by trees positioned in the upper and lower malls, ideal for programming and use.

Figure 176: Thermal Comfort Net Impact

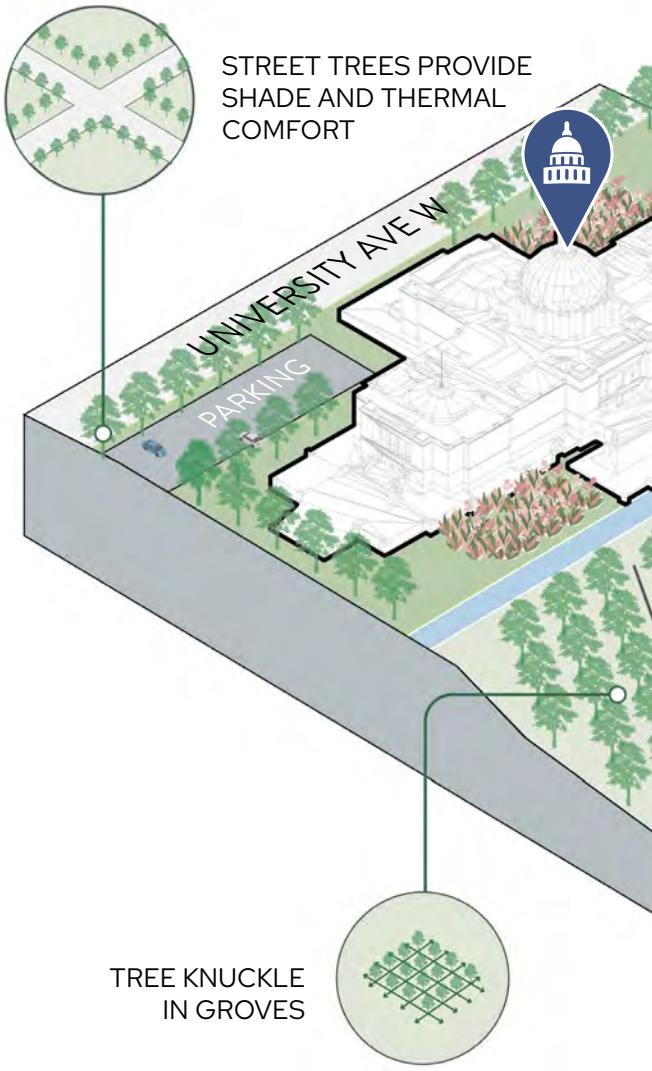
PLANTING STRATEGIES

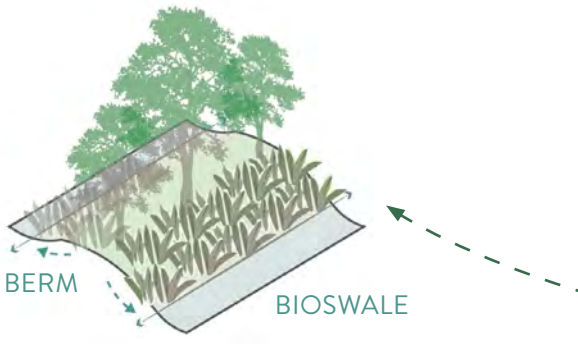
The Design Framework supports a variety of landscape strategies, including green infrastructure, natural drainage and infiltration, and selective planting material for long-term maintenance. Some specific interventions include the following:

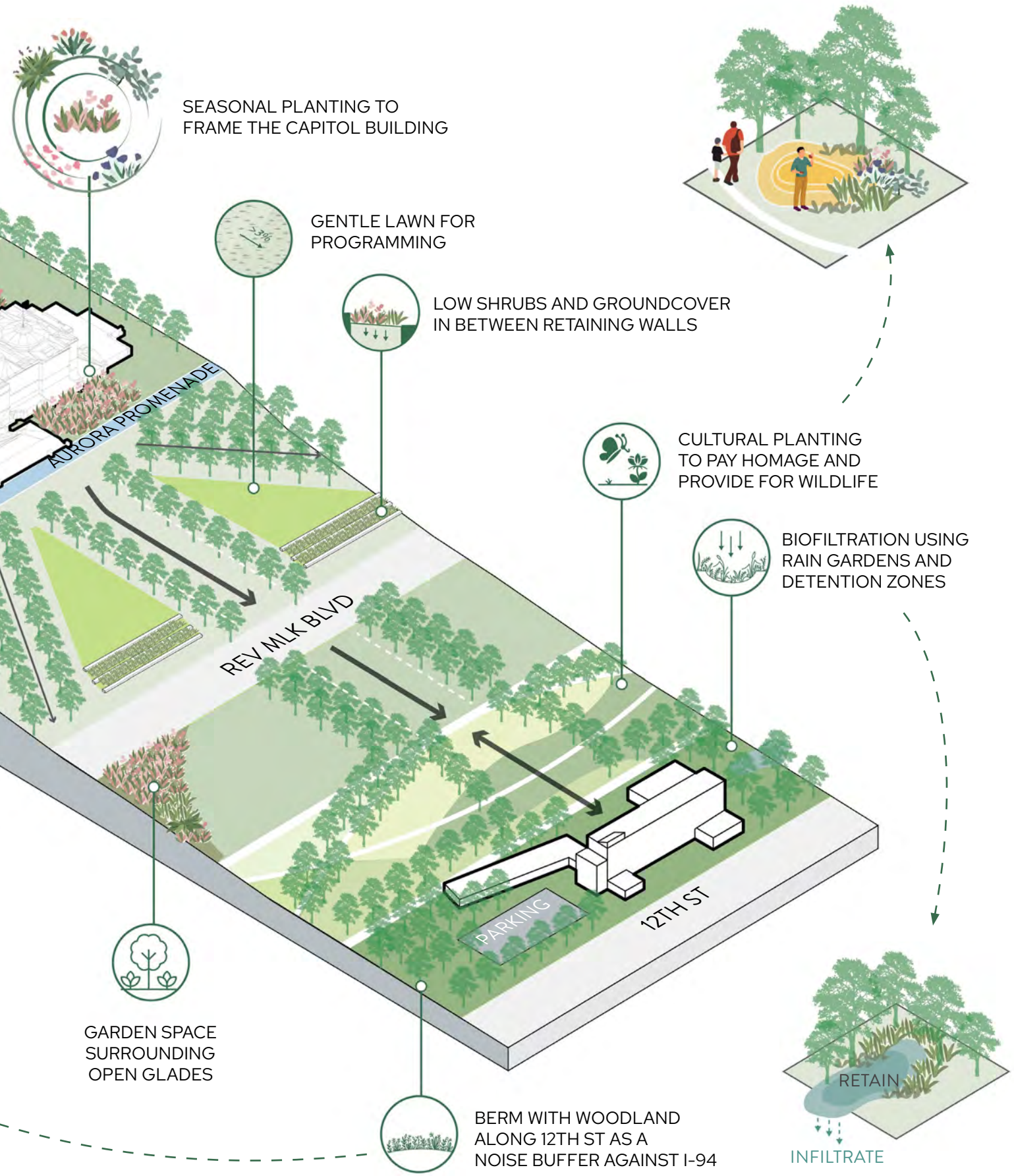
- Increase native street trees to provide shade and thermal comfort
- Design seasonal plantings to frame the Capitol Building
- Create gently sloped lawns for event programming
- Utilize low shrubs and ground cover to provide greenery while maintaining sight lines and security
- Select cultural plantings to pay homage and support wildlife
- Add biofiltration through rain gardens and detention zones
- Buffer interstate noise and pollution using berms with woodland plant species along East/West 12th Street

Other planting considerations include:

- All surfaces that are installed while implementing the Design Framework must be sufficient to support their intended purpose. Ground cover in public assembly areas such as the Upper Mall should withstand heavy traffic on a high-frequency basis.
- Placement of additional trees on the Upper Mall should be done in a fashion that minimizes interference with sight lines and event audio between presenters and those wishing to see and hear them.
- Landscaping elements should be mindful of security vulnerabilities such as the inability to monitor property by cameras and security officers or providing people who wish to stalk, harass, or do harm to others the ability to hide.






SEASONAL PLANTING TO
FRAME THE CAPITOL BUILDING
GENTLE LAWN FOR
PROGRAMMING
LOW SHRUBS AND GROUNDCOVER
IN BETWEEN RETAINING WALLS
CULTURAL PLANTING
TO PAY HOMAGE AND
PROVIDE FOR WILDLIFE
BIOFILTRATION USING
RAIN GARDENS AND
DETENTION ZONES
AURORA PROMENADE
REV MLK BLVD
PARKING
12TH ST
GARDEN SPACE
SURROUNDING
OPEN GLADES
BERM WITH WOODLAND
ALONG 12TH ST AS A
NOISE BUFFER AGAINST I-94
RETAIN
INFILTRATE

LOWER CAPITOL MALL

RENDERING




Capitol
Building
Minnesota
WWII Memoria
Minnesota
Veterans Mem
Reflection Pool