FINDING A COMMON LANGUAGE

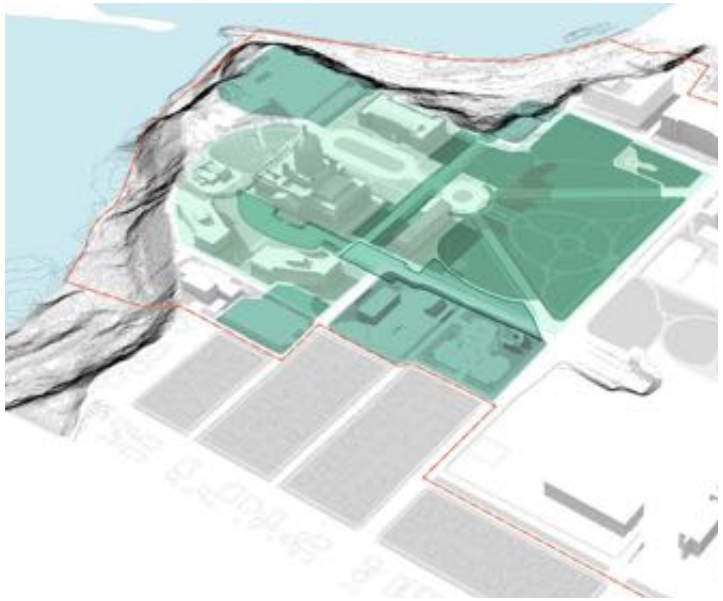
Performance **METRICS** for Key Stakeholders

np 2017 New Partners for Smart Growth Conference

Session Structure

- Introduction
- Panelist Presentations
  - Barbara Deutsch
  - Erin Christensen Ishizaki
  - Anna Cawrse
- Panel Discussion/Question & Answer


16,300 GAL



FINDING A COMMON LANGUAGE

Performance Metrics for Key Stakeholders

Barbara Deutsch, Executive Director, Landscape Architecture Foundation
Erin Christensen Ishizaki, Partner, MITHUN
Anna Cawrse, Associate, Design Workshop

LANDSCAPE ARCHITECTURE FOUNDATION

Barbara Deutsch, Executive Director

21ST CENTURY CALL TO ACTION

1966

2016

2066

Make the **MOST**
of this **MOMENT IN TIME**

LANDSCAPE PERFORMANCE

MEASURING SUSTAINABILITY

Triple Bottom Line

Living Building Challenge

One Planet Principles

Can't achieve **SUSTAINABILITY** without considering **LANDSCAPE**

A CASE STUDY COMPARISON

- Reduces water use by 30% compared to a building with standard code-compliant fixtures
- Uses 51,300 kBtu/ft^2 of energy annually, a 39% reduction from base case
- Reduces carbon emissions by 19 lbs CO_2/ft^2, or 50% by purchasing renewable energy.
- Provides daylight for 75% of regularly occupied spaces and views for 90% of occupied work areas

A CASE STUDY COMPARISON

- Stormwater planters
- 20 new street trees
- Native and adapted plants
- 5 new outdoor dining areas
- Energy-efficient light blades
- Benches made from local stone

A CASE STUDY COMPARISON

- Captures and cleans stormwater runoff
- Reduces the urban heat island effect
- Sequesters carbon
- Reduces potable water use
- Reduced energy use
- Increases social value of space

FROM FEATURES TO CLAIMS TO BENEFITS

- Captures and infiltrates 50% of all rain falling on sidewalks.
- Sequesters 3,000 lbs of carbon annually in tree biomass.
- Reduced energy consumption for outdoor lighting by 55,000 kilowatts, saving $3,200 annually.
- Increased restaurant patronage by 30% on weekdays and 50% on weekends.

LANDSCAPE PERFORMANCE SERIES

THE ONLINE RESOURCE

LANDSCAPE PERFORMANCE SERIES
presented by the Landscape Architecture Foundation

Case Study Briefs
Database of over 100 exemplary projects with quantified landscape benefits

Fast Fact Library
Nearly 200 facts on the benefits of landscape derived from published research

Benefits Toolkit
Dozens of online calculators and tools to estimate landscape performance

Collections
Themed LPS highlights curated by LAF and leading thinkers

The LPS is…

- A collection of resources
- Designed to make “landscape performance” as well-known as “building performance”
- NOT a rating system
- Focused on built, performing projects
- A resource that will grow over time and with your participation
- Generating demand for sustainable landscape solutions

LandscapePerformance.org

FAST FACT LIBRARY

Children with Attention Deficit Hyperactivity Disorder (ADHD) concentrate better after a walk in a city park than after walks in other urban settings.

Faber Taylor, Andrea, Kuo, Frances E., (2009). Children with attention deficits concentrate better after walk in the park. Journal of Attention Disorders, 12, 402-409.

FAST FACT LIBRARY

An 8-year longitudinal study suggests that if all children had commensurate access to parkland and recreation programs, 9.5% of boys and 8.3% of girls would move from being overweight to normal weight.

Berhane, Kiros, Brady, Kirby, Chang, Roger, Dahmann, Nicholas, Gilliland, Frank, Jerrett, Michael, McConnell, Rob, Reynolds, Kim, Su, Jason G., Wolch, Jennifer, (2011) Childhood obesity and proximity to urban parks and recreational resources: A longitudinal cohort study. *Health & Place* 17, 207-214.

FAST FACT LIBRARY

Parks and open space increase nearby property values. A review of numerous studies indicates that a 20% increase is a reasonable estimate, though the impact varies with park size, use, and design.

Crompton, John L., (2005). The impact of parks on property values: Empirical evidence from the past two decades in the United States. *Managing Leisure*, 10, 203-218.

FAST FACT LIBRARY

A Modesto, California study found that asphalt on streets shaded by large canopy trees lasts longer than asphalt on unshaded streets, reducing maintenance costs by 60% over 30 years.

McPherson, E. Gregory, Muchnick, Jules, (2005). Effects of Street Tree Shade on Asphalt Concrete Pavement Performance. Journal of Arboriculture, 31, 303-310.

FAST FACT LIBRARY

Empirical evidence indicates “livable” street treatments are safer than conventional roadway designs. In analyzing crash data, livable sections had fewer accidents and pedestrian crashes.

Dumbaugh, Eric. (2005). Safe Streets, Livable Streets. *Journal of the American Planning Association* 71(3), 283-300.

FAST FACT LIBRARY

Consumers are willing to spend 9-12% more for goods and services in central business districts with high quality tree canopy.

Wolf, Kathleen L., (2005). Business district streetscapes, trees, and consumer response. Journal of Forestry 103(8): 396-400

THE ONLINE RESOURCE

BENEFITS TOOLKIT

GBRL Green Roof Energy Calculator (v 2.0)

Green Roofs for Healthy Cities, Portland State University, University of Toronto

This calculator compares the annual energy performance of a building with a green roof to the same building with either a conventional dark roof or a highly-reflective white roof. Inputs include nearest major city, total roof area, percent green roof cover, growing media depth, and leaf area index of plants. Results are the electrical, gas, and energy cost savings, heat exchange between the roof and the urban environment, and an estimate of the annual roof water balance, including net runoff.

http://greenbuilding.pdx.edu/GR_CALC_v2/grcalc_v2.php#retain

BENEFITS TOOLKIT

National Tree Benefit Calculator

Casey Trees, Davey Tree Expert Company

This online tool calculates stormwater, energy, carbon, air quality, and property value benefits for individual trees. The only inputs are tree species, size (diameter), adjacent land use, and zip code, which adjusts the model according to climate zone.

http://www.treebenefits.com/calculator

THE ONLINE RESOURCE

CASE STUDY BRIEFS

Renaissance Park

BEFORE AFTER

Landscape Performance Benefits

ENVIRONMENTAL

- Removed 34,000 cu yd of contaminated soil from the 100-year floodplain and sealed it safely within the park's iconic landforms. This includes 12,000 cu yd of soil commingled with enamel frit, which was leaching contaminants into groundwater.
- Increased floodplain storage by 9.32 acre feet (15,047 cu yd) through excavation of contaminated soil and creation of a constructed wetland.

CASE STUDY BRIEFS

Landscape Performance Benefits

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SOCIAL

- Promotes a healthy lifestyle, according to 85% of 85 park users surveyed. 81% agree that the park increases their outdoor activity.
- Attracts an estimated 145,220 visitors annually, many of whom also patronize local businesses. 89% of 85 surveyed park users shop or dine within 1/2 mile of the park before or after visiting the park.

ECONOMIC

- Stimulates economic development and neighborhood reinvestment. Since 2005, $55 million has been invested in two redevelopment projects adjacent to Renaissance Park. Five additional properties within 1/4 mile of the park were redeveloped between 2005 and 2013.

View/Download a PDF showing how the landscape performance benefits were derived.

DOWNLOAD METHODS

CASE STUDY BRIEFS

2. ***Increases floodplain storage by 9.33 acre feet (15,047 cu yd.) due to excavation of contaminated soil below 100 year floodplain elevation and creation of a constructed wetland.***

Methodology:
This performance indicator is based on the thorough review of information provided and cut/fill calculations performed by the project's consulting team as well as calculations performed by the research team.

Figure 4. 100 Year Floodplain

The portion of the site where contaminated soils were excavated from capped waste cells of enamel frit was excavated as much as 10' below finished grade. This +/- one acre area is creatively redesigned as a one-acre constructed wetland that receives, retains, and treats runoff

CASE STUDY BRIEFS

At a Glance

DESIGNER
Hargreaves Associates

LOCATION
100 Manufacturers Road
Chattanooga, Tennessee
37405
Map it

SIZE
22 acres

PROJECT TYPE
Park/Open space
Waterfront redevelopment

BUDGET
$8 million

CLIMATE ZONE
Humid subtropical

COMPLETION DATE
2006

FORMER LAND USE
Brownfield Park/Open space

OVERVIEW | SUSTAINABLE FEATURES | CHALLENGE/ SOLUTION | COST COMPARISON | LESSONS LEARNED | PRODUCTS | PROJECT TEAM

- Test wells indicated a bloom of contaminated groundwater down-gradient from the known location of previously capped industrial waste settling ponds within the 100-year flood plain. 34,000 cu yd of contaminated soils were excavated and placed in upland containment cells, safely sealed within the park's iconic landforms. A drainage system beneath the cells diverts any lingering leachate to the sanitary sewer.
- The portion of the site from which contaminated soils were excavated was creatively redesigned as a one-acre constructed wetland. This feature receives, holds and treats runoff from the site while increasing floodplain storage capacity by 9.32 acre feet. The wetland is lined with a bentonite geosynthetic clay liner to prevent further groundwater contamination. Two feet of freeboard is provided between the wetland's normal pool level and outfall orifices which discharge into the stream. Gabions, buffered with wetland plantings, artfully establish the water's meandering path through the wetland.

CASE STUDY BRIEFS

Additional Images

References and Resources

Hargreaves Associates: Renaissance Park

Hefferlin+Kronenberg Architects: Renaissance Park Outdoor Pavilion

East Tennessee River Valley Geocourism MapGuide

Bloomberg Businessweek, "Chattanooga Reinvents Its Downtown," 2009

The Chattanoogan "Renaissance Park Wins Governor's Award," 2007

Tennessee Valley Authority, "Wetland thrives in downtown Chattanooga," 2006

George Hargreaves, J. Czerniak, A. Berrizbeitia, L. Campbell Kelly, "Landscape Alchemy: The Work of Hargreaves Associates," ORO Editions, 2009.

Share Your Photos

No photos have been tagged yet.

Have you visited this project site? Share your experience by tagging your photos on flickr with this machine tag:

lafcasestudy=738

PROJECTS AND BENEFITS

MILLIKEN STATE PARK DETROIT, MI | SMITHGROUPJJR

Filters 4.5 million gallons of runoff from 12.5 acres.

Provides habitat for 62 confirmed species birds.

Expected to catalyze $152.3 million in development.

BUFFALO BAYOU PROMENADE HOUSTON, TX | SWA GROUP

Increases the flood storage capacity of this section of the Buffalo Bayou by 18.65 acre-feet.

Attracts 22,500 annual visitors for programmed activities and events.

Improves the quality of life for 99% of 108 park users surveyed.

ATLANTA BELTLINE EASTSIDE TRAIL ATLANTA, GA | PERKINS + WILL

Attracts 3,000 trail users each weekday and over 10,000 users each weekend day.

Promotes physical activity with 70% of 100 trail users saying they exercise more since the trail opened.

Catalyzed economic development with more than $638 million in new real estate investment planned.

NAPA RIVER FLOOD PROTECTION PROJECT NAPA, CA | MIG, INC.

Increased channel capacity by 40% to accommodate the 100-year flood.

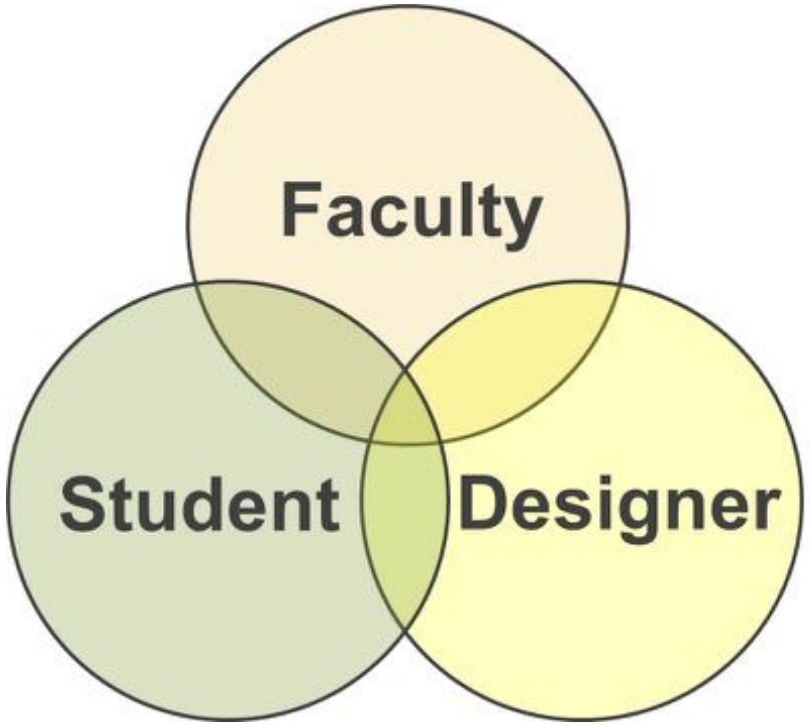
Restored 75% of historic wetlands, resulting in 71 species of migratory and resident birds observed on-site.

Created 1,373 temporary and 1,248 permanent jobs on properties developed in anticipation of protection.

CASE STUDY INVESTIGATION (CSI)

CASE STUDY INVESTIGATION (CSI)

- Unique research collaboration
  - Faculty Research Fellow
  - Student Research Assistant
  - Practitioner
- Document high-performing landscapes
  - New LPS Case Study Briefs



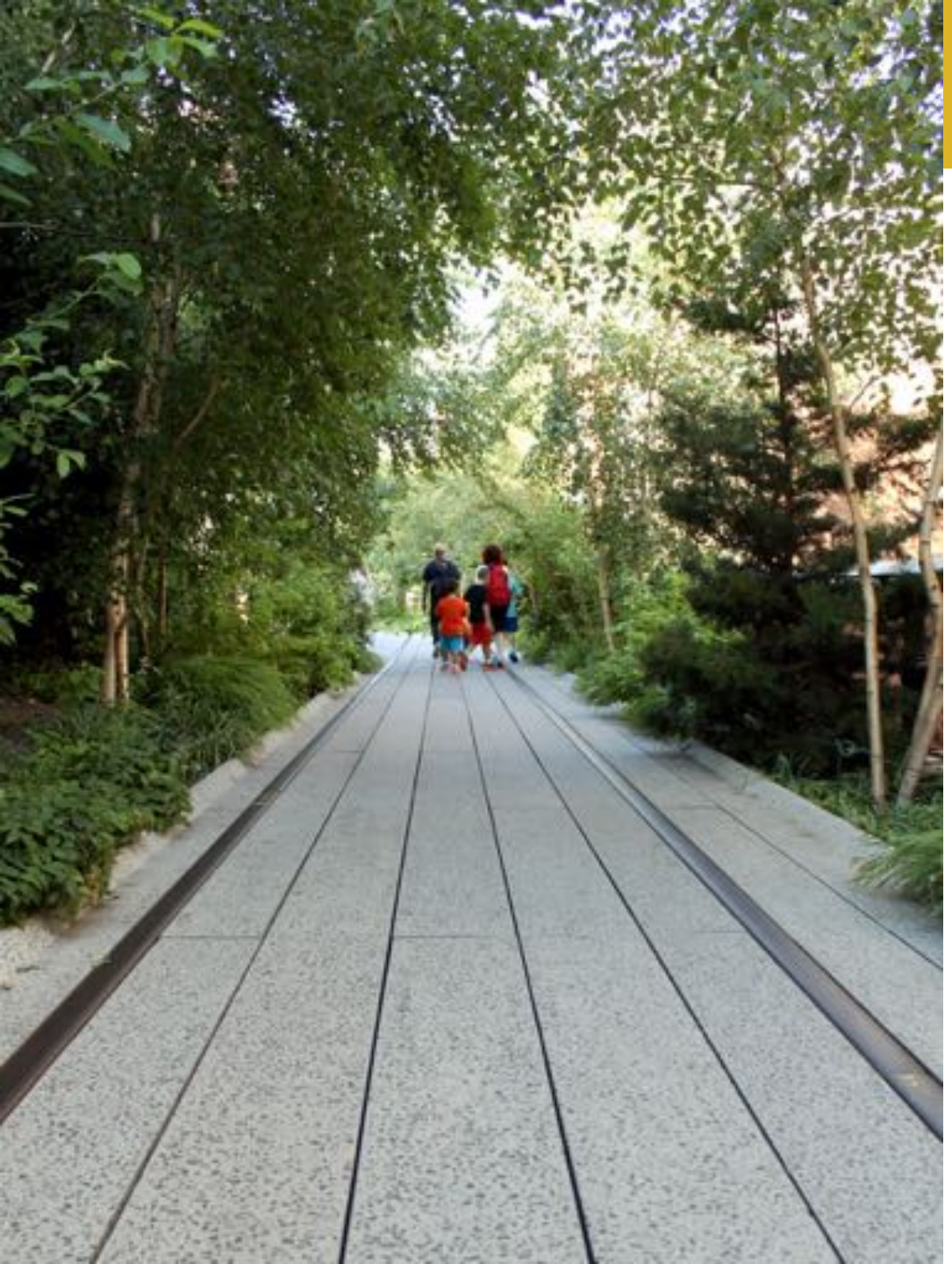
Bridging the GAP between RESEARCH and PRACTICE

"We will **NEVER** approach **DESIGN THE SAME** way again."

-- CSI Participants

CSI KEY LESSONS

- Collaboration is a critical success factor.
- It is hard to show performance without performance objectives and baseline data.
- Including landscape performance in design education is fundamental.
- Need to consider performance during the design process
  - What are performance objectives?
  - How will performance be measured?
  - What baseline data is needed?



WHERE DO I BEGIN?

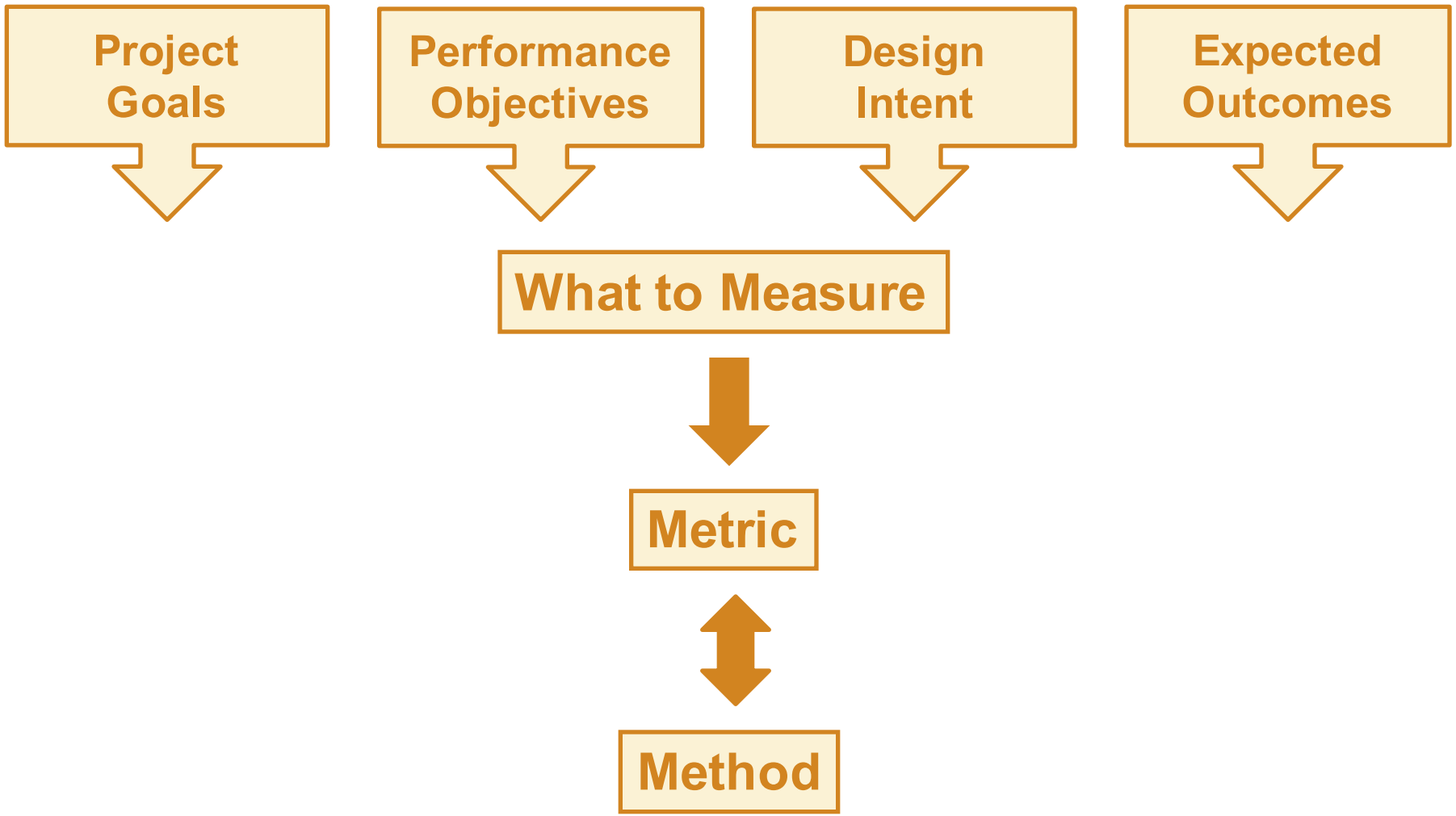
- On every project, think about how you will define success. (And write it down!)
- How will you measure success once the project is built?
  - What to measure?
  - Who will measure? -- partners
- What baseline data do you need to collect?

DETERMINGING WHAT TO MEASURE

METRICS

- To inform a design
- To meet “sustainable” criteria
- To show “substantial completion”
- To evaluate the performance of a project

TO EVALUATE PERFORMANCE



WHAT TO MEASURE

- Need to know:
  - Project goals
  - Design intent
  - Performance objectives

  If you don't evaluate against these, any assessment of performance will miss the mark

- Also consider:
  - Other expected outcomes
  - Unexpected outcomes

EXAMPLE: AVALON PARK & PRESERVE

Memorial & Nature Preserve
Long Island, New York

Goals/Design Intent:

- Restore and protect the ecological communities
- Provide a safe, peaceful, and harmonious place for visitors

EXAMPLE: AVALON PARK & PRESERVE

- Increased the **biodiversity** of the site as evidenced by a 35% increase in identified bird species, including 11 species on the Audubon High Priority Watch List, and 7 species with populations of regional significance.
- Increased the **ecological integrity** of plant communities by more than doubling Avalon's Plant Stewardship Index to achieve a score of 54, reflecting a high diversity of native plants and sustained removal of invasive species.
- Provides **garden therapy and attention restoration** to an estimated 129,600 annual visitors. 93% of those surveyed described Avalon's effect on their mood in positive terms, with 51% of all responses identifying some form of stress reduction.

EXAMPLE: SEATTLE PLAYGARDEN

Fully Accessible Park
Seattle, Washington

Goals/Design Intent:

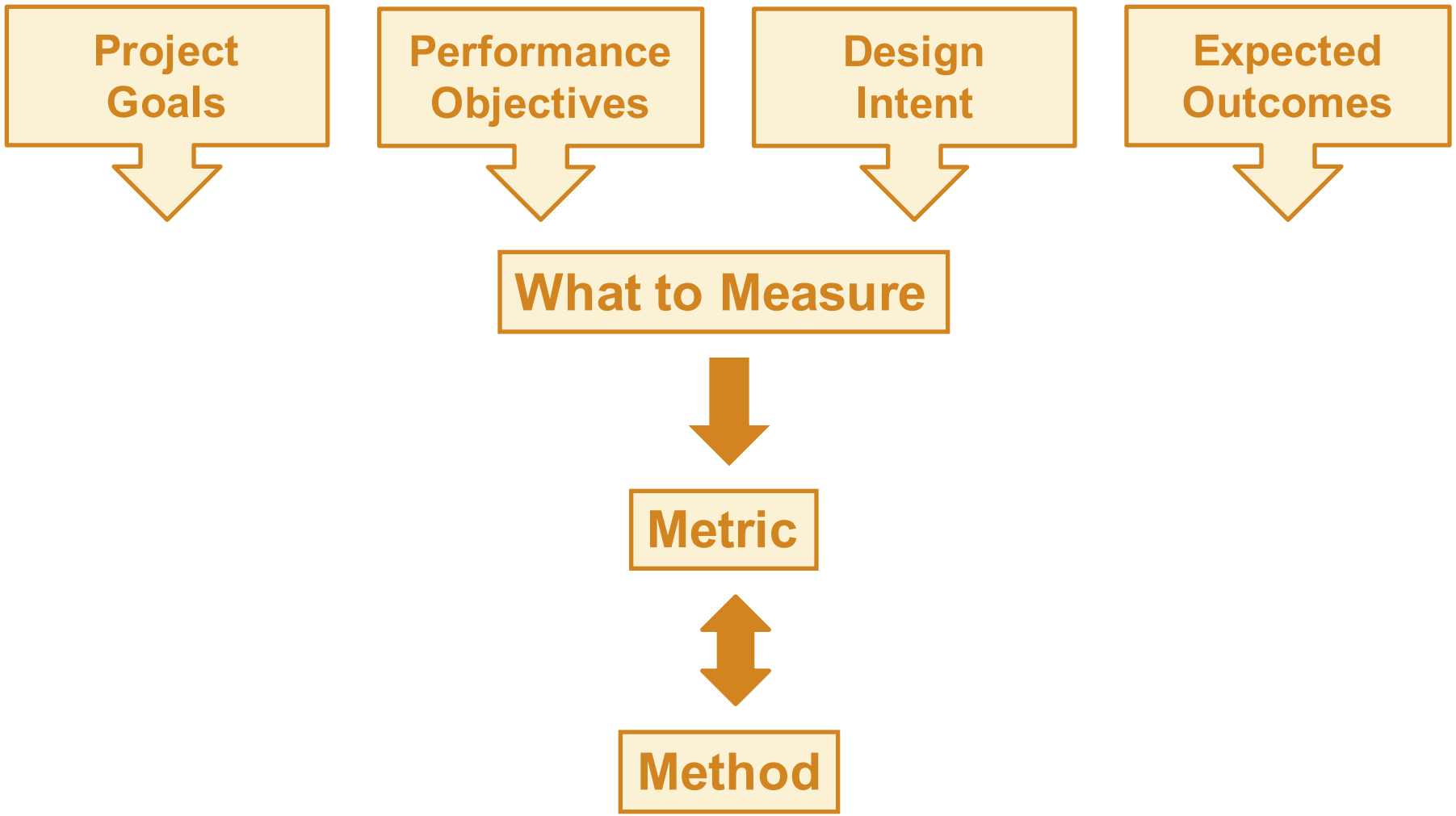
- Create a space where children of all abilities can play outdoors together
- Create a sensory-rich environment for educational and therapeutic benefits
- Use ecological design solutions

EXAMPLE: SEATTLE PLAYGARDEN

- Captures and infiltrates 150,040 gallons of stormwater runoff annually from 7,500 sf of impervious surfaces, saving an estimated $300 in city stormwater management fees each year.
- Yields an estimated 940 lbs (0.4 tons) of fruits and vegetables each year, which has an estimated value of $1,100.
- Provided therapeutic conditioning and outdoor education to nearly 400 children since opening in the Fall of 2010. Due to increasing demand, more capacity in the curriculum and programming is being incorporated for 2011/2012.

DETERMINGING HOW TO MEASURE

TO EVALUATE PERFORMANCE



CHOOSING THE RIGHT METRIC

- What to Measure: Flood Control Benefit
- Possible Metrics:
  - Increase in flood storage capacity
  - Decrease in flood events
  - Decrease in time an area is submerged
  - Decrease in cleanup costs
  - Increase in usability of space

There is
MORE THAN ONE WAY
to measure

METRICS: CONSIDERATIONS

- Availability of information
- Credibility
- Appropriate for timeframe
- Appropriate for audience
- Understandable and relevant

METRICS: CREDIBILITY

Best Available Science

Hierarchy of presumed reliability of published research

- Peer-reviewed journal or book
- Government publication
- Professional journal
- Trade magazine

Defensible Metrics

Ranked according to their practical usefulness as well as their validity

- Can the metric be used with readily-available data?
- Can the data needed be collected with minimal labor?
- Are there weaknesses with the assumptions or known problems with the validity of the metric?
- If so, can these problems be avoided by using the metric in limited circumstances (i.e., only applying certain situations)

APPROACHES TO QUANTIFYING BENEFITS

- Determine from design parameters
  - Stormwater modeling, area calculations, etc.
  - Rating system submittals (LEED, SITES)
- Gather additional information
  - Use public information (property tax, GIS data)
  - Contact other project stakeholders
- Estimate using rules of thumb
- Use online calculators and tools
- Apply previous research
- Obtain actual measurements/monitoring data

METRICS: UNDERSTANDABLE AND RELEVANT

- Some metrics stand on their own

- If they don't, you could try to…
  - Report absolute and relative values (e.g. %)
  - Use equivalencies
  - Monetize
  - Project out over time
  - Compare to similar/traditional

Tripled total assessed value of the Riverfront District from **$242 million** to **$722 million**.

Cheonggyecheon Stream Restoration Project

- Reduced small-particle air pollution by 35% from 74 to 48 micrograms per cubic meter. Before the restoration, residents of the area were more than twice as likely to suffer from respiratory disease as those in other parts of the city.
- Contributed to 15.1% increase in bus ridership and 3.3% in subway ridership in Seoul between 2003 and the end of 2008.

Designer
SeoAhn Total Landscape

Portage Lakefront and Riverwalk

Landscape Performance Benefits

- Increased the total size of Portage City Parks by 14% through the addition of 57 acres of dunes, trails, and lakefront and provides the city's first free public lake access.
- Provides habitat for at least 683 species of plants, birds, mammals, amphibians, reptiles and insects, including 8 federally threatened or state rare species.

Designer
AJR, LLC

Land Use
Brownfield
Park/Open space

Port of Los Angeles Wilmington Waterfront Park

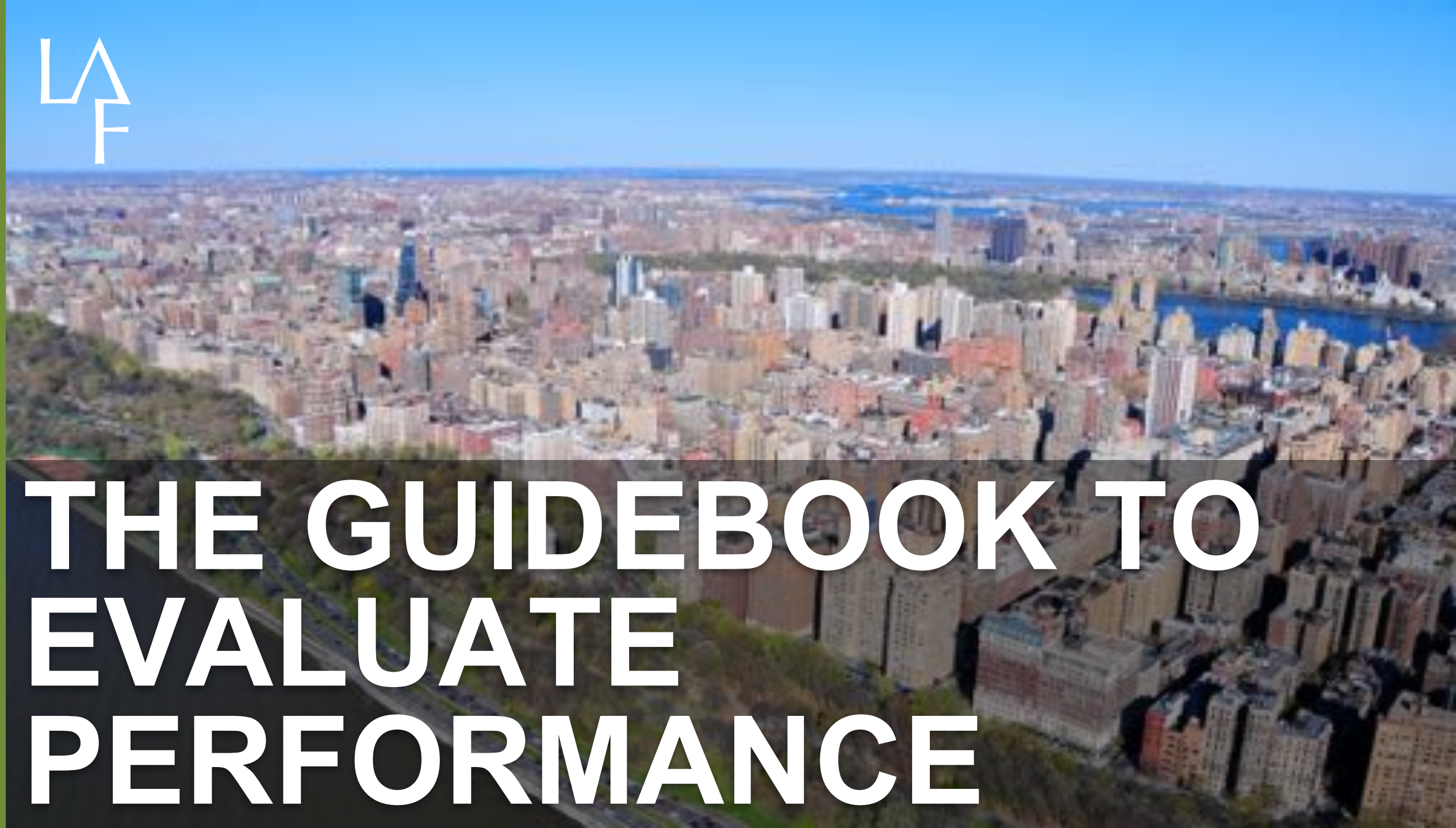
Landscape Performance Benefits

- Reduces noise levels for C Street residents by approximately 10 decibels, which cuts the experienced sound level in half and improves outdoor environment conditions.

Designer
Sasaki Associates, Inc.

ASSESSING THE PERFORMANCE OF LANDSCAPE PROJECTS

Type of Benefit	What to Measure	Method/Tool	Data Source	Relevance
Environmental: Water conservation	Water consumption reduction	Determined volume of reclaimed water used for landscape irrigation and re-charging	Construction Docs	Equivalencies – number of Olympic pools
Social: Health & well-being	Improvement in workplace satisfaction	Survey determining % employees reporting improved mood and/or decreased stress	Survey data	% change from before the project
Economic: Visitor spending	Spending in park cafe	Obtained tourism data, including % of Chicago tourists visiting park & their spending at park cafe	BID, Millennium Park Authority, Chicago Tourist Office	% increase over 6-year period



THE GUIDEBOOK TO EVALUATE PERFORMANCE

Photo: D.A. Reshaur/Design Workshop

Cherry Creek North Improvements and Fillmore Plaza

Design Worship, 2011 | Denver, Colorado

Reduced crime in the District by 39%, from 180 incidents in 2009 to 110 in 2011.

Project Overview

This streetscape project was designed to be Denver's premier outdoor shopping area, preserving the district's history and character while strengthening the retail environment and improving the safety of pedestrians and shoppers.

Method

The upgraded infrastructure and new lighting system helped to create a safe environment for pedestrians.

The crime reduction benefit was quantified by consulting Denver Crime Statistics and Maps freely available on-line. The crime statistics use the National Incident Based Reporting System (NIBRS), a thorough and comprehensive system in which agencies collect data on every individual crime occurrence. The crime numbers in the 16-block District was reduced from 180 incidents in 2009 to 110 and 2011.

A limitation of this assessment was a lack of information on whether or not other factors aside from the design, such as an increased police presence, may also have affected crime numbers.

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GUIDEBOOK FOR METRIC SELECTION

- Metrics
  - Understandable and meaningful to land development decision-makers
  - Over 100 metrics in 34 benefit categories
- Methods
  - Relatively easy to use
  - Generally applicable
  - Useful in a short (≥6 months) timeframe
  - Defensible
- Positioning information
- Examples

GUIDE TO EVALUATE PERFORMANCE

01 Environmental Benefits

Land
1. Land Efficiency & Preservation
2. Soil Creation, Preservation & Restoration

Water
3. Stormwater Management
4. Water Conservation
5. Water Quality
6. Flood Protection
7. Water Body/Groundwater Recharge

Habitat
8. Habitat Creation, Preservation & Restoration
9. Habitat Quality
10. Populations & Species Richness

Carbon, Energy, & Air Quality
11. Energy Use & Emissions
12. Air Quality
13. Temperature & Urban Heat Island
14. Carbon Sequestration

Materials & Waste
15. Reused/Recycled Materials
16. Local Materials
17. Waste Reduction

02 Social Benefits

1. Recreational & Social Value
2. Cultural Preservation
3. Health & Well-Being
4. Safety
5. Educational Value
6. Noise Mitigation
7. Food Production
8. Scenic Quality & Views
9. Transportation
10. Access & Equity

03 Economics Benefits

1. Property Value
2. Operations & Maintenance Savings
3. Construction Cost Savings
4. Job Creation
5. Visitor Spending
6. Increased Tax Base/Revenue
7. Economic Development

METRICS: SCENIC QUALITY & VIEWS

8 Scenic Quality & Views

Creates or preserves desirable sight lines or improves the visual quality of a landscape

Introduction

Quantification of landscape aesthetics is a notoriously thorny research avenue (Manning & Freimund, 2004). Although one of the primary goals of landscape architecture is the improvement of the aesthetic beauty of a site, and despite the wide acceptance of the role of visual aesthetics in promoting social sustainability, there are few projects that are able to quantify the benefits of scenic quality and views. In order to reflect the vital function this benefit category plays in landscape design, researchers must standardize methods for measuring such benefits (Dramstad, Tveit, Fjellstad, & Fry, 2006).

Assessment Considerations

The best practice methodology for obtaining benefits in this category depends largely on the specific metric being measured. In general, the most successful assessment methodologies will measure both quantifiable and qualitative data, compare and integrate the two, and seek to confirm results through consultation with professionals who can give an expert opinion. A well-prepared research team could achieve this goal in a single site visit, though repeated visits would be preferable. Remote-sensing data may be appropriate in cases when site visits are not feasible, though limitations should be recognized.

A digital camera and access to digital photography manipulation software (such as Adobe Photoshop) may be required.

POTENTIAL METRICS

Change in score on a visual quality scale

- Use the US Forest Service Visual Quality Assessment.
- Use or develop a Travel Route Rating such as that used by the Tahoe Regional Planning Agency or other local entity.

Percent of unwanted views screened or desirable views retained

- Digital photography and computer software to determine relative size of views.
- Traditional photography and planimeters to determine relative size of views.
- 3-D simulation using computer-aided design software.

Perception of improved aesthetic

- Survey visitors to determine their perceptions of the visual quality of the site.
- Survey experts in the field to determine their perceptions of the visual quality of the site.

Resources

USFS Handbook for Scenery Management
http://1.usa.gov/1wJmvGT

BLM Visual Resource Management
http://on.doi.gov/1zTtvp2

Travel Route Ratings for Roadway Travel Units
http://tahoemonitoring.org/people/viewscape/347.html

- Change in score on a visual quality scale
  - U.S. Forest Service Visual Quality Assessment
  - Regional index
- Percent of unwanted views screened or desirable views retained
  - Photography
  - Computer simulations
- Perception of improved aesthetic
  - Surveys

HOW TO USE THE GUIDEBOOK

For built projects…

- Initially assess what could be measured based on project goals (and data availability)
- Discover metrics and methods for a particular type of benefit

For projects in concept or design phase…

- Think through measurement protocols and what baseline information to collect
- Set specific performance objectives

As much an **IDEA GENERATOR** as a **HOW-TO**

Founding Partner

AILA/Yamagami/Hope Fellowship

Promotional Partner

LPS RESULTS

- Transforming design practice, education, and industry
- Making advocates more effective
- Building the body of knowledge
- Operationalizing and energizing aspirations for change

LandscapePerformance.org






LANDSCAPE ARCHITECTURE FOUNDATION

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www.LandscapePerformance.org

MITHŪN

Metrics: A Common Language—

Compelling Change and Stories from the Field

Erin Christensen Ishizaki,
Mithun

New Partners for Smart Growth / St Louis MO

February 3, 2017

MITHŪN

Mithun Pier 56 Offices—
Seattle, Washington

Where Design is Needed Most

MITHŪN

Taylor 28—
Seattle, Washington

MITHŪN

Baseline PEQI SCORE

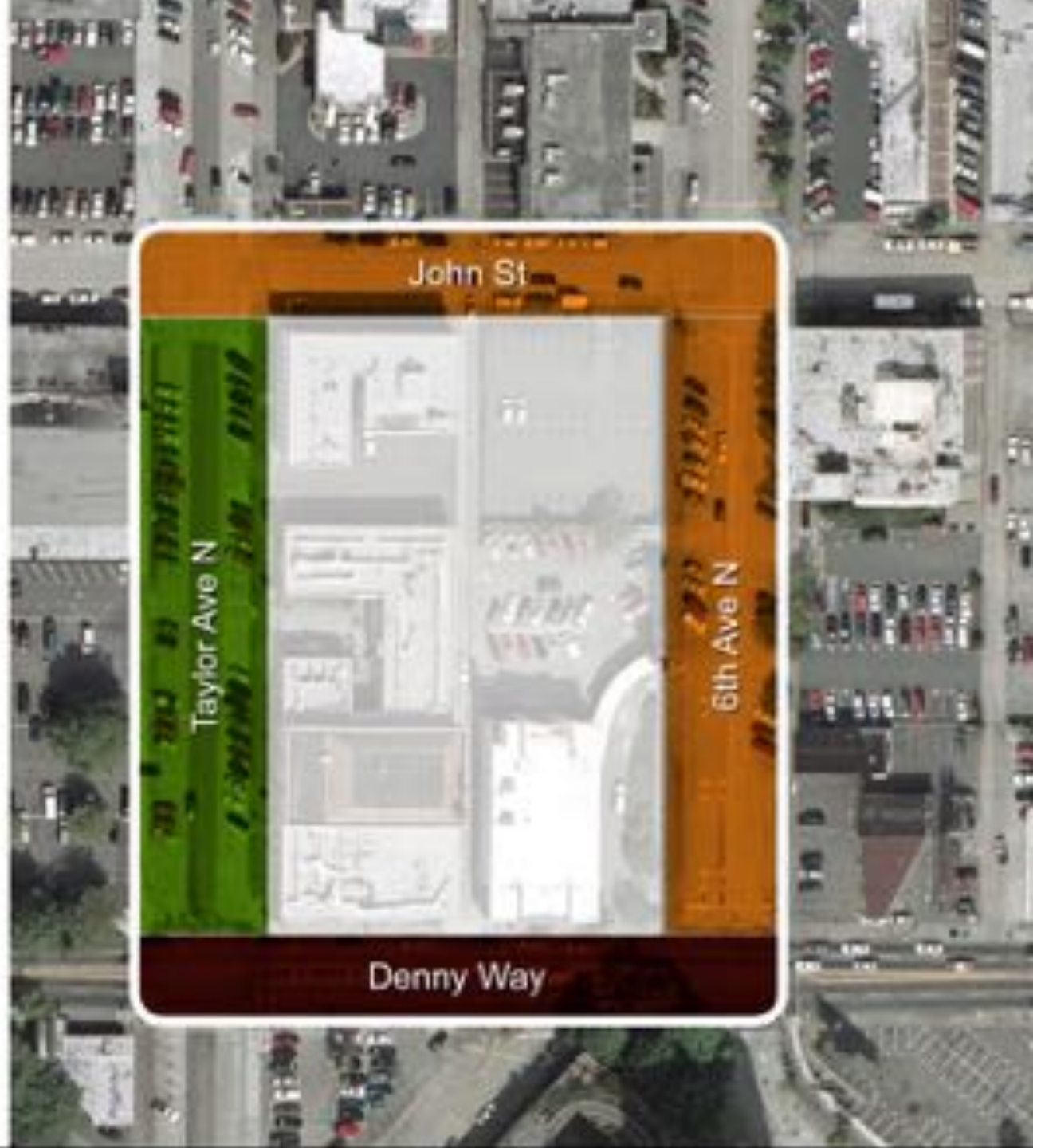
49-60 POOR PEDESTRIAN QUALITY

61-66 LOW PEDESTRIAN QUALITY

67-72 AVERAGE PEDESTRIAN QUALITY

73-83 HIGH PEDESTRIAN QUALITY

84-100 HIGHEST PEDESTRIAN QUALITY



Taylor 28
Seattle, Washington

MITHŪN

Baseline PEQI SCORE

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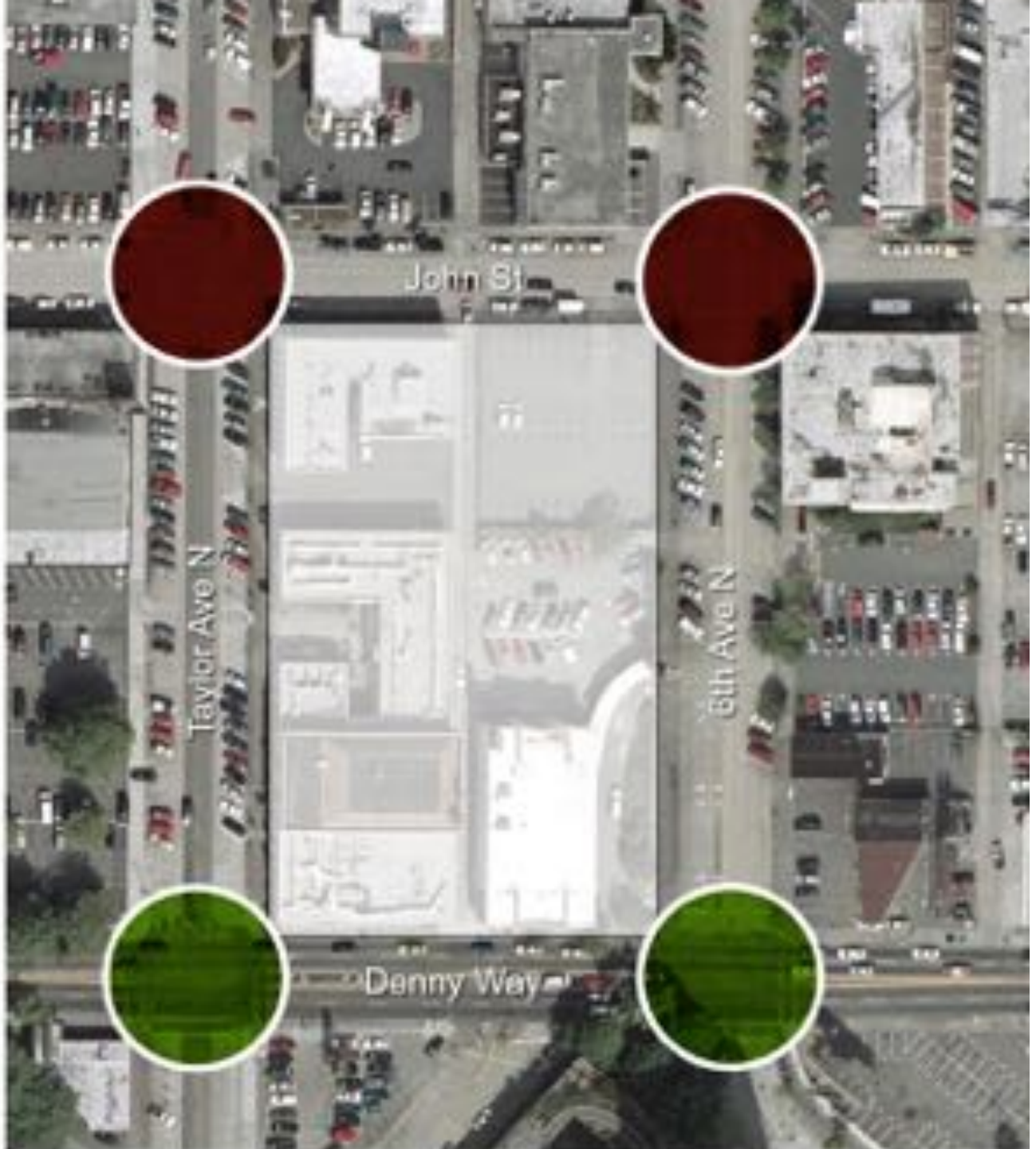

Taylor 28—
Seattle, Washington

MITHŪN

Taylor 28—
Seattle, Washington

MITHŪN

Proposed Design
PEQI SCORE

49-60 POOR PEDESTRIAN QUALITY

61-66 LOW PEDESTRIAN QUALITY

67-72 AVERAGE PEDESTRIAN QUALITY

73-83 HIGH PEDESTRIAN QUALITY

84-100 HIGHEST PEDESTRIAN QUALITY

Taylor 28—
Seattle, Washington

MITHŪN

Taylor 28
Seattle, Washington

MITHŪN

Anseca Mahamed, Sun Valley Youth Resident

Youth Meeting

Engagement with Individual Property Owners

Engagement with Youth at Community Meetings

Sun Valley—
Denver CO

MITHŪN Grow Priority Areas & Goals

The Master Plan is divided into chapters based on these six **Grow Priority Areas**. Each area contributes to the overall purpose of the Master Plan and builds upon the natural assets of Sun Valley. Each **Grow Priority Area** has an associated set of **Goals** which will provide development direction as the master plan is realized.

Grow Priority Areas & Goals

Priority Area 1 — Youth + Education

Goals

- 1.1 Prioritize family and youth
- 1.2 Learning Campus for all ages
- 1.3 Expand youth programing and youth amenities
- 1.4 Neighborhood Learning Lab
- 1.5 Shared Use Future Development Opportunities

Priority Area 2 — Food

Goals

- 2.1 Celebrate culture
- 2.2 Economic Opportunity through Food
- 2.3 Cultivate community amongst neighbors
- 2.4 Placemaking through Food
- 2.5 Healthy lifestyles
- 2.6 Neighborhood Identity

Priority Area 3 — Opportunity

Goals

- 2.1 Create a nexus of culture and food
- 2.2 Invest in local and new businesses
- 2.3 Develop strong community partnerships
- 2.4 Attract and leverage investments
- 2.5 Increase jobs in the neighborhood
- 2.6 Increase commercial space in neighborhood
- 2.7 Attract entrepreneurs by providing maker spaces
- 2.8 Include an integrated job training facility

Priority Area 4 — Intentional Housing

Goals

- 4.1 Replace all DHA public housing one-for-one
- 4.2 Provide public, workforce affordable, and market rate housing to create a mixed-income community
- 4.3 Improve livability through access to desired amenities/services
- 4.4 Provide housing choices to satisfy current residents and attract new residents
- 4.5 Incorporate opportunities for Ownership

Priority Area 5 — Connections + Open Space

Goals

- 5.1 Provide social and outdoor spaces and encourage outdoor activities for all ages
- 5.2 Create safe streets that invite walking
- 5.3 Improve connections to Sun Valley from the surrounding city
- 5.4 Provide connections to transit

Priority Area 6 — Sustainable Infrastructure

Goals

- 6.1 Invest in district energy and water infrastructure and become a model for the City
- 6.2 Implement solutions to reduce water consumption and to capture solar and geothermal power and to build innovative stormwater solutions
- 6.3 Create an interactive briefing center to educate the community about sustainability, infrastructure and district systems
- 6.4 Pursue becoming an 'EcoDistrict' and allow for a holistic approach to resource management

Sun Valley—
Denver CO

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Sun Valley
Denver CO

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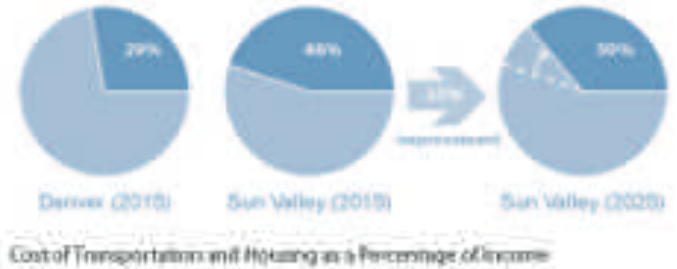
Measuring Success: Metrics

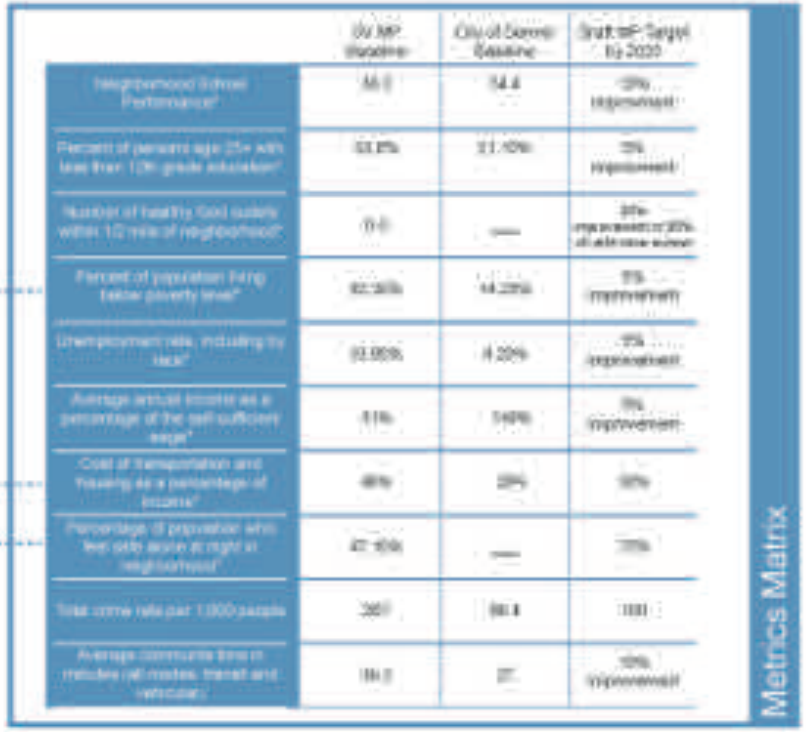
Percent of Population Living Below Poverty Level

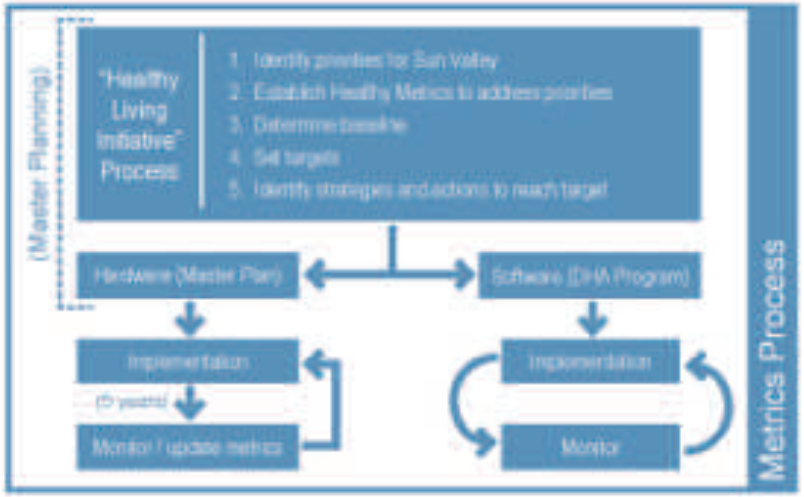


Cost of Transportation and Housing as a Percentage of Income

Percentage of Population Who Feel Safe Above at Night in Neighborhood

Sun Valley
Denver CO





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State Capitol Campus —
Olympia, WA

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NATIONAL MODEL
GREEN
STORMWATER
INFRASTRUCTURE

State Capitol Campus —
Olympia, WAC

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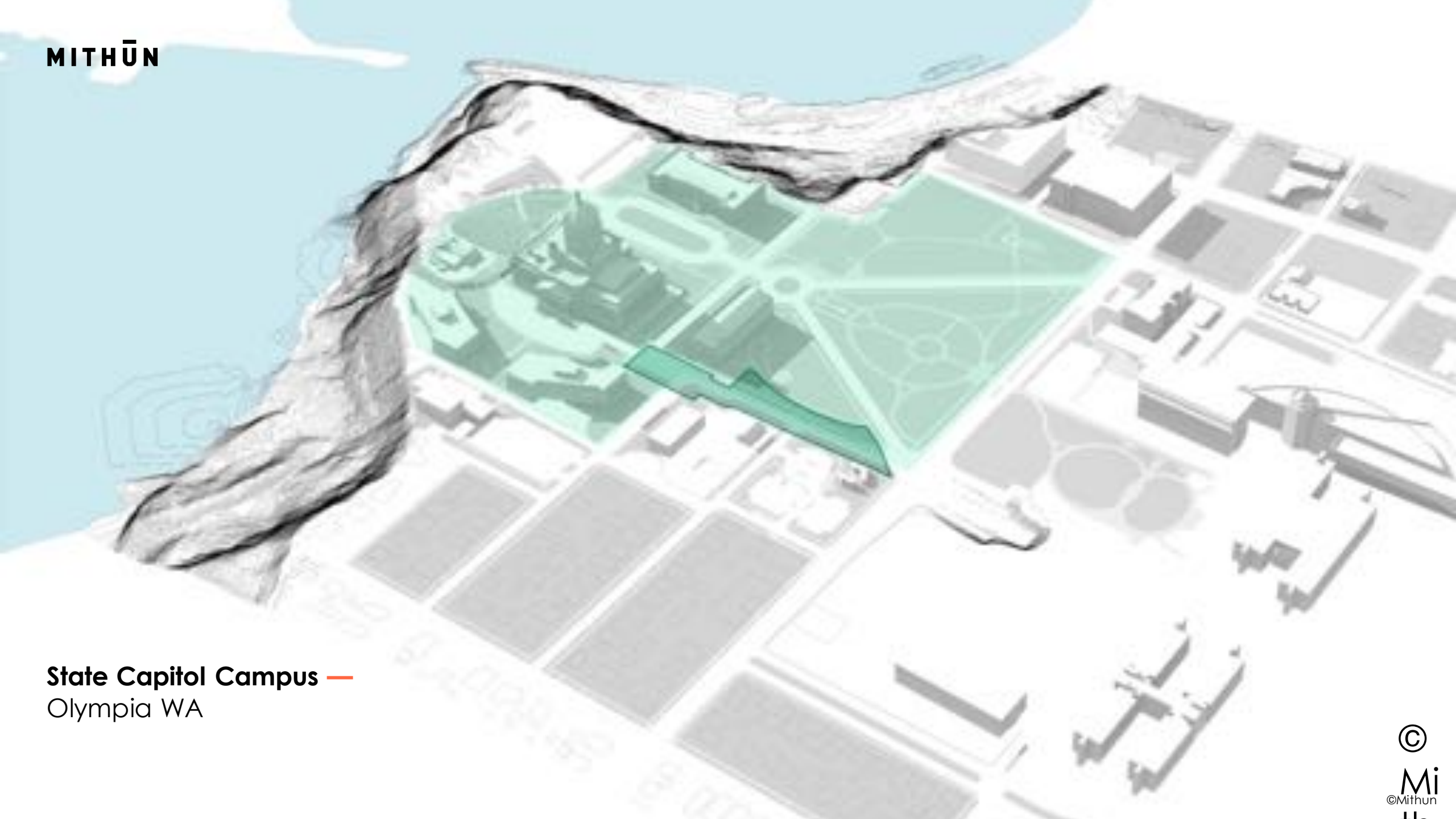

State Capitol Campus —
Olympia WA

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Sid Snyder Way Green Stormwater —
Olympia WA

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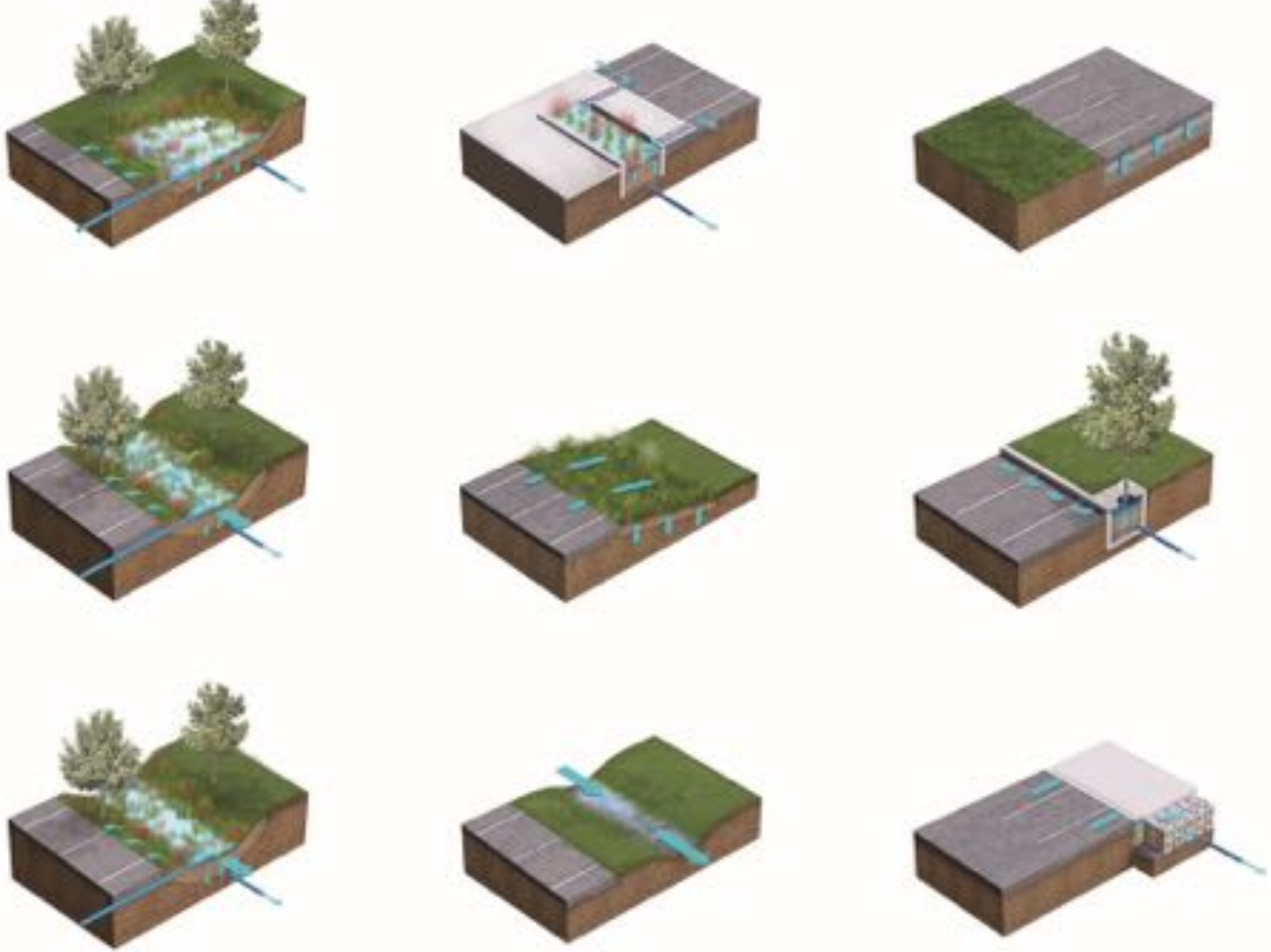

State Capitol Campus —
Olympia WA

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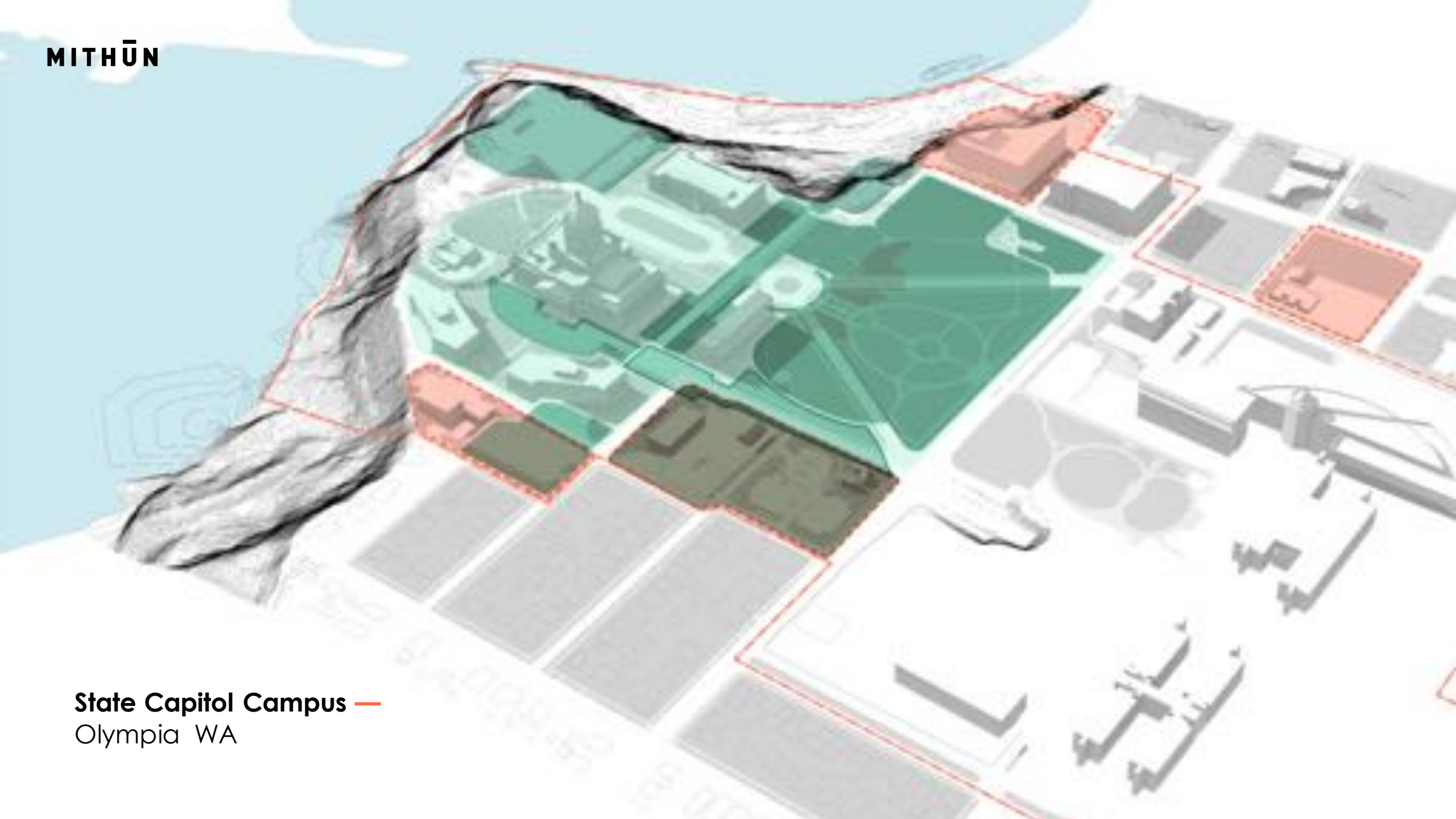

State Capitol Campus —
Olympia WA

Which Changes are Most Effective

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Mariposa Healthy Living Tool

Mariposa Healthy Living District —
Denver, CO

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		MARIPOSA PRE-REDEVELOPMENT BASELINE
	PERCENT OF POPULATION LIVING BELOW POVERTY LEVEL	37.05%
	PERCENT OF HOUSEHOLD INCOME SPENT ON HOUSING	12.75%
	HOUSING INDOOR ENVIRONMENT (AIR QUALITY, TEMPERATURE, HUMIDITY)	n/a
	AVERAGE TRANSIT COMMUTE TIME IN MINUTES	24.60
	COST OF TRANSPORTATION AND HOUSING AS % OF AVERAGE INCOME	26.18%
	NUMBER OF TRAFFIC INJURIES/ COLLISIONS/ FATALITIES	Data Collection in Progress
	PERCENT OF RESIDENTS WITH ACCESS TO OPEN SPACE/ NATURE WITHIN NEIGHBO	26%
	AIR QUALITY - PARTICULATE MATTER	n/a
	VMT PER CAPITA PER DAY	24.4
	PROPORTION OF POPULATION WITHIN 1/2 MILE TO COMMUNITY GATHERING SPA	100%
	TOTAL CRIME RATE PER 1,000 PEOPLE	247.9
	PERCENTAGE OF POPULATION WHO FEEL SAFE ALONE AT NIGHT IN NEIGHBORHOO	49%
	PROPORTION OF POPULATION WITHIN 1/2 MILE KEY RETAIL	100%
	NEIGHBORHOOD SCHOOL PERFORMANCY	n/a
	% PERSONS AGE 25+ WITH LESS THAN 12TH GRADE EDUCATION	38.57%
	# OF HEALTHY FOOD OUTLETS WITHIN 1/2 MILE OF NEIGHBORHOOD	0
	UNEMPLOYMENT RATE	10.63%
	[illegible] WAGE	1.04 / 1.0
	[illegible] BUSINESSES AND NUMBER OF JOBS/100 WO. IN NEIGHBORHOOD	Data Collection in Progress

Mariposa Healthy Living District
Denver, CO

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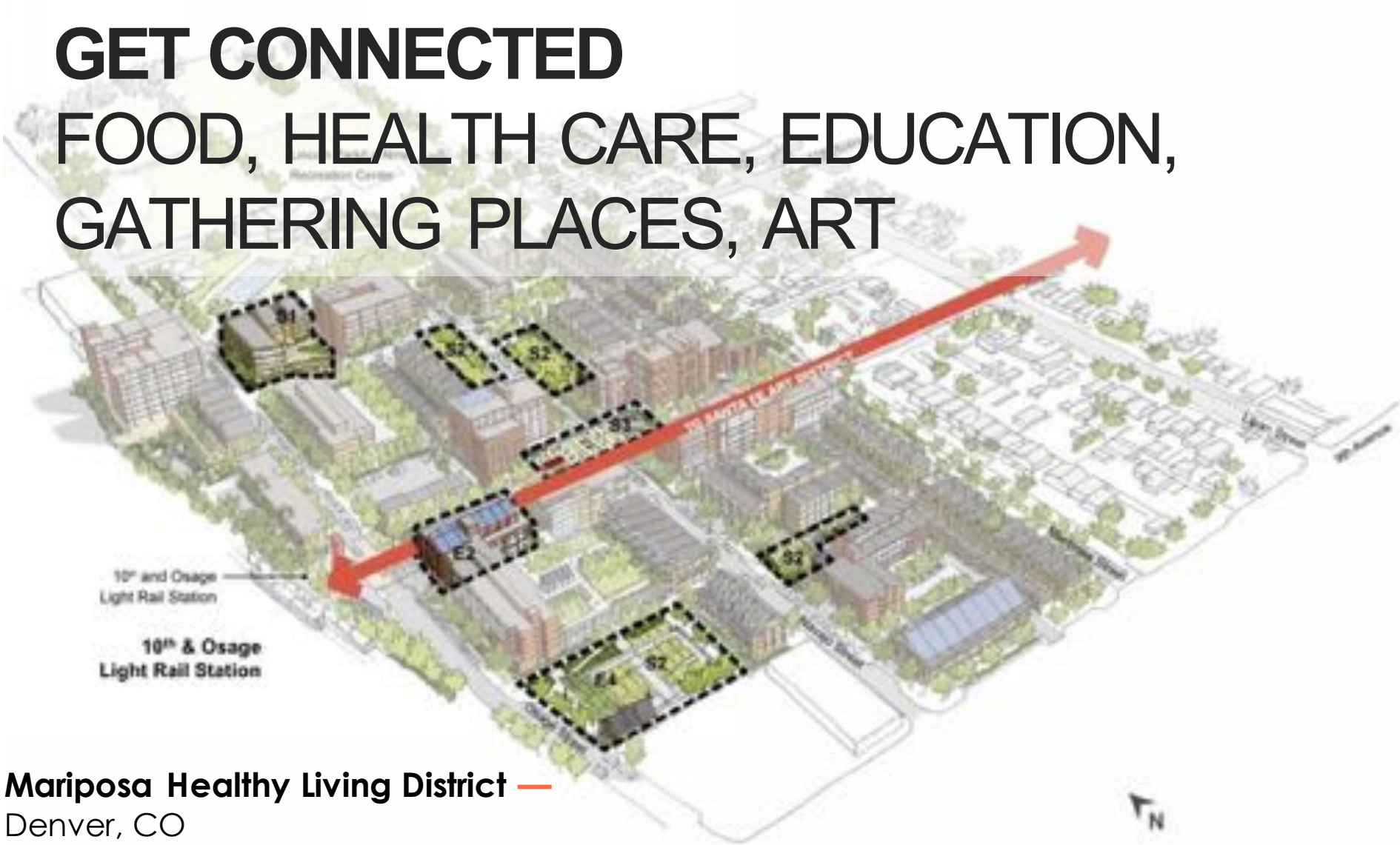
GET CONNECTED

FOOD, HEALTH CARE, EDUCATION, GATHERING PLACES, ART



- Cafe/Food Retail
- Community Gathering Space
- Healthy Food Retail
- Community Service or Amenity

Mariposa Healthy Living District —
Denver, CO

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Mariposa Healthy Living District —
Denver, CO

Real User Behavior

Mithun Design Analytics: Pre / Post Occupancy Initiative

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Lopez Community Land Trust
Lopez Island, WA

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Lopez Community Land Trust—
Lopez Island, WA

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Lopez Community Land Trust
Lopez Island, WA

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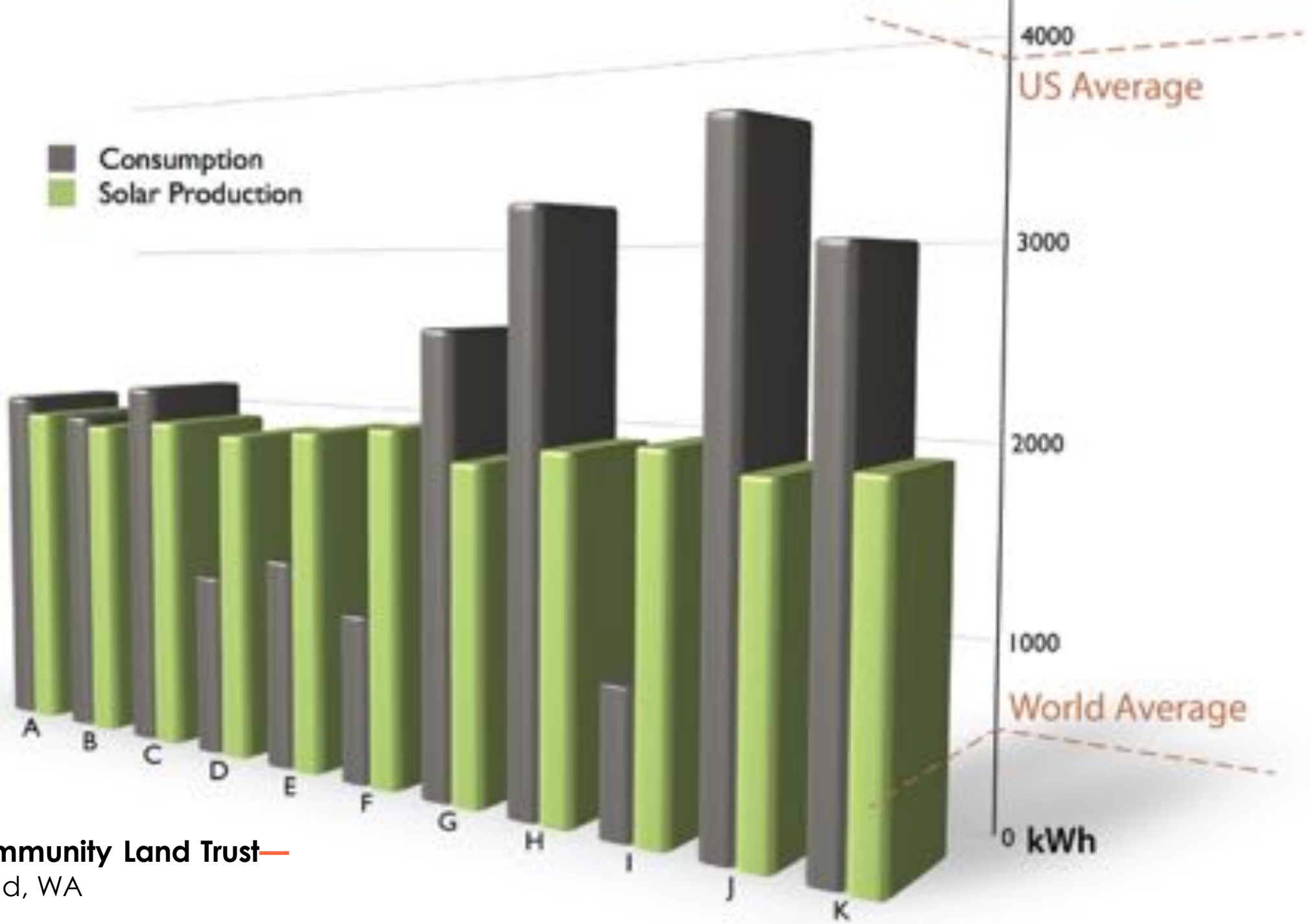

Lopez Community Land Trust—
Lopez Island, WA

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Chatham University Eden Hall Campus
Richland Township, PA

Chatham University Eden Hall Campus—
Richland Township, PA

MITHŪN

Chatham University Eden Hall Campus—
Richland Township, PA

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Chatham University Eden Hall Campus—
Richland Township, PA

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Chatham University Eden Hall Campus
Richland Township, PA

PRIORITY 5: LIVING INFRASTRUCTURE

ENABLE FLOURISHING ECOSYSTEMS AND RESTORE NATURAL CAPITAL

OBJECTIVE CATEGORIES Mandatory	OBJECTIVES Minimum one per category	INDICATORS Each objective requires at least one indicator from the examples here or from other sources.
NATURAL FEATURES	The quality and functions of habitat are enhanced.	- Area of functional habitat. - Percentage of nonfunctional habitat restored annually.
	Tree cover in the district is enhanced.	- Area of tree canopy in the district. - Number of trees planted annually.
ECOSYSTEM HEALTH	Rainwater is managed in the district.	- Percentage of rain events retained, infiltrated, and reused in the district. - Ratio of pervious to impervious surfaces.
	The supply of healthy soil is increased.	- Area of contaminated land remediated for reuse annually.
	Water quality is enhanced.	- Annual water quality index scores for surface water and groundwater.
CONNECTION WITH NATURE	Access to nature is improved.	- Percentage of residents within a 1 mile (1.6 km) walk to natural open space.
	Natural processes are integrated into the built environment.	- Percentile 50-year rainfall event managed within the district.

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95th and 100th percentile

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Stormwater Performance Assessment

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Green and Gray Stormwater Performance

Mithun Puget Sound projects


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Stormwater Performance Assessment


©Mithun

Questions?

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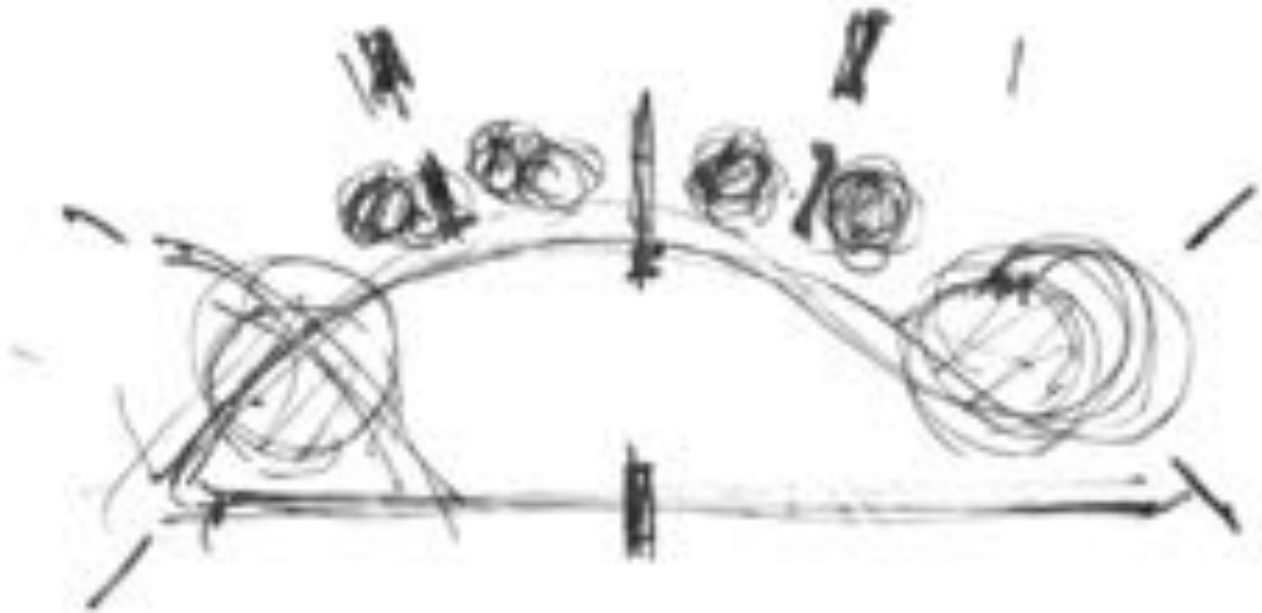
DESIGNWORKSHOP

Anna Cawrse, Associate at Design Workshop



Design Workshop is a firm born
in the pursuit of ideas.

rethinking
ENVIRONMENT

building
resilient
COMMUNITIES

innovating
ECONOMIC
landscapes

through
ARTFUL integrity


Ashville
Aspen
Austin
Chicago
Denver
Dubai
Houston
Lake Tahoe
Los Angeles
Shanghai

A Global Practice with Projects in 29 Countries


88%





IT'S MY PARK!









“Practical Tools and Innovative Strategies for Creating Great Communities”

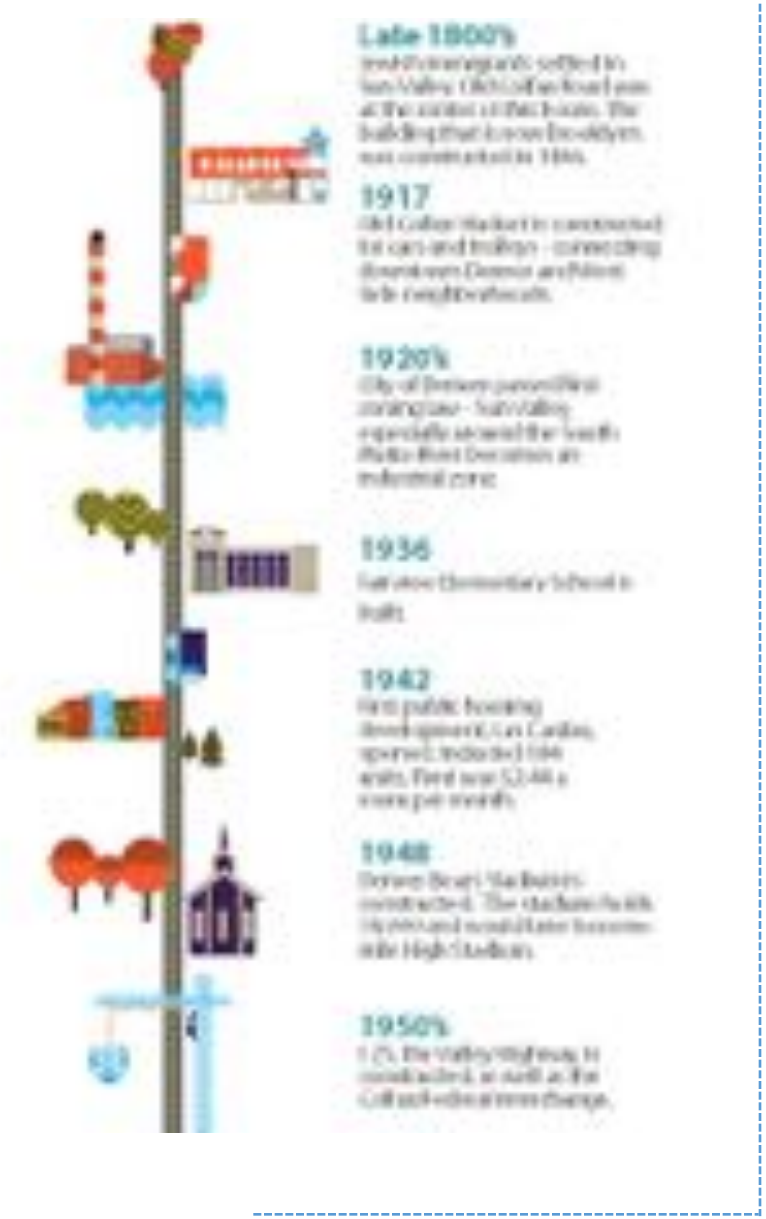
SUN VALLEY

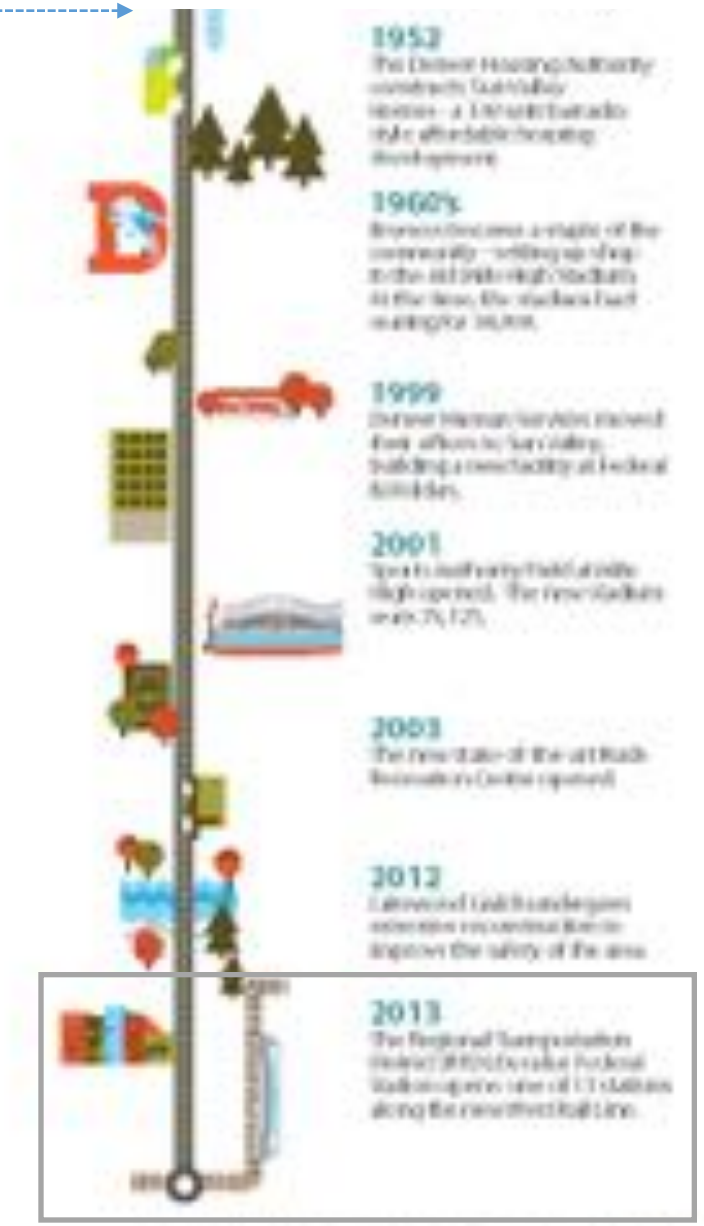
Connecting to Opportunity

THIS IS SUN VALLEY TODAY

"What do people say?
We're the ***land of the forgotten.****"*
-Toni Cisneros, Sun Valley resident

History of Sun Valley





Station
Area Plan

SUN VALLEY NEIGHBORHOOD

DECATUR-FEDERAL

STATION AREA PLAN

THE VISION FOR SUN VALLEY

A. A CELEBRATED SUN VALLEY

- **A.1** Build upon Sun Valley's History and Assets
- **A.2** Encourage Diversity
- **A.3** Celebrate Culture

B. A CONNECTED SUN VALLEY

- **B.1** Reknitting Neighborhoods
- **B.2** Integrated System of Parks and Public Spaces
- **B.3** Enhance Walkability and Bikeability
- **B.4** Make Transit Convenient

C. AN INNOVATIVE SUN VALLEY

- **C.1** Transit Oriented Development
- **C.2** Stadium Entertainment Destination
- **C.3** Open For Business
- **C.4** A Vibrant Corridor

D. A HEALTHY SUN VALLEY

- **D.1** Healthy For People
- **D.2** Healthy for the Environment
- **D3.** Healthy for the Economy

TRANSFORMATIVE PROJECTS

The seven projects are identified as the most critical steps to positively transform the station area.

Multi-layered and long-term in nature, these projects will take a concerted effort by both public and private sectors. All energy and resources should be harnessed toward making these a reality. Only through executing these projects can Sun Valley truly transform and achieve the vision of a celebrated, connected, innovative and healthy station area.

1. 13TH AVENUE

2. RIVERFRONT PARK

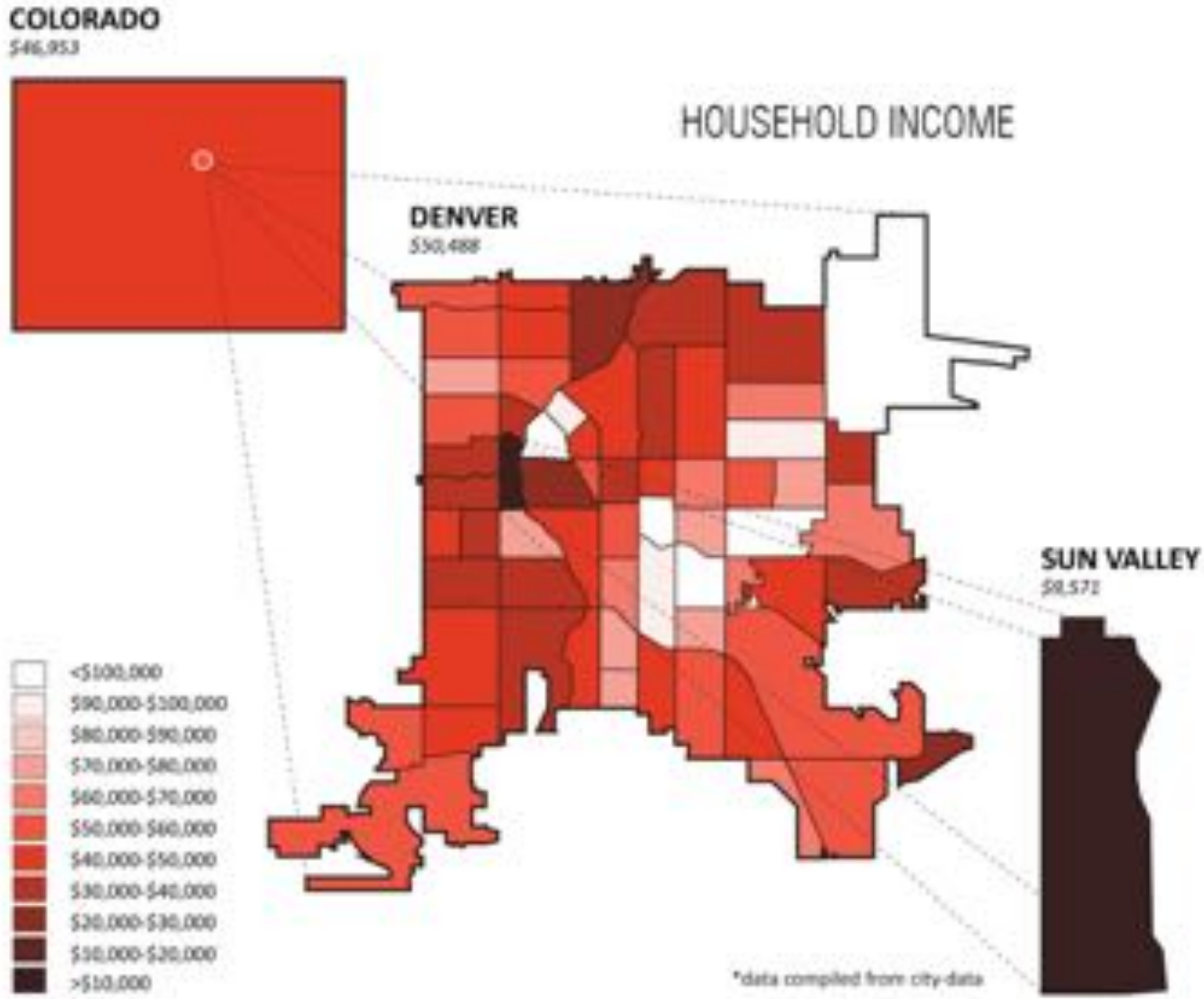
3. STADIUM, ENTERTAINMENT & CULTURE

4. HIGH QUALITY RESIDENTIAL COMMUNITIES

5. CONNECT PEOPLE WITH JOBS AND EDUCATION

6. 10TH AVE

7. FEDERAL/COLFAX INTERCHANGE


COLORADO
$46,953
HOUSEHOLD INCOME
DENVER
$50,488
SUN VALLEY
$9,571
<$100,000
$90,000-$100,000
$80,000-$90,000
$70,000-$80,000
$60,000-$70,000
$50,000-$60,000
$40,000-$50,000
$30,000-$40,000
$20,000-$30,000
$10,000-$20,000
>$10,000
*data compiled from city-data

Public Engagement

367 COMMUNITY MEMBERS

60 CHILDREN AT WORKSHOPS

3 DESIGN WORKSHOPS

4 PUBLIC MEETINGS

4 LANGUAGES

SOMALI
SPANISH
VIETNAMESE
ENGLISH

Sun Valley Team

Focus Group Feedback

1. Education
2. Jobs
3. River and Open Space
4. Food and Health
5. Energy
6. Housing
7. Lower Colfax
8. Commercial

Community Master Plan Goals

1. Youth & Education focus
2. Intentional Housing with many housing choices
3. Family friendly: housing, amenities, services, affordable businesses + opportunities
4. Multicultural, intergenerational and affordable are qualities to maintain
5. Better access to and within Sun Valley
6. Improved safety & pedestrian safety
7. Access to open space and active outdoor uses
8. Food as an expanded opportunity, draw and focus on plan solutions + outcomes
9. Resident based solutions, phasing & implementation
10. 'Hubs' for jobs & job access, art, education, entrepreneurial success

THE FUTURE OF SUN VALLEY:

GROWING AND CONNECTING TO OPPORTUNITY

OPEN SPACE

YOUTH + JOBS

FOOD

HOUSING

INFRASTRUCTURE

CONNECTIONS + OPEN SPACE

PARK SAFETY

RIVER EDGE IS EXPANDED & INCREASED FROM 133% TO 33%

REGIONAL TRAILS

NEW BIKE PATH CONNECT THE CITY'S 2 LARGEST TRAILS

CONNECT THE GRID

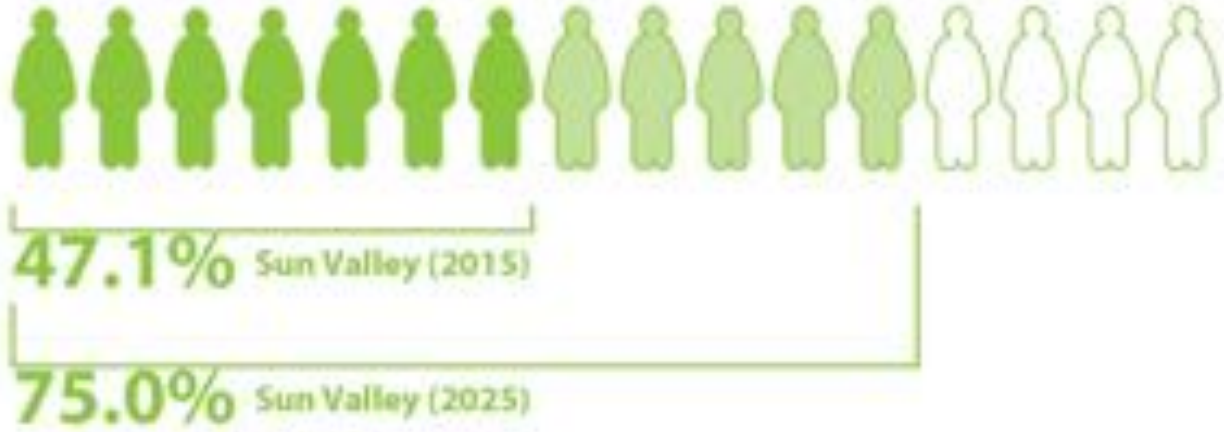
INCREASE TRANSIT ACCESS & MULTI-MODAL CONNECTIONS

WALK RANGE

CUL-DE-SACS ARE REPLACED WITH A MIXED-USE GRID

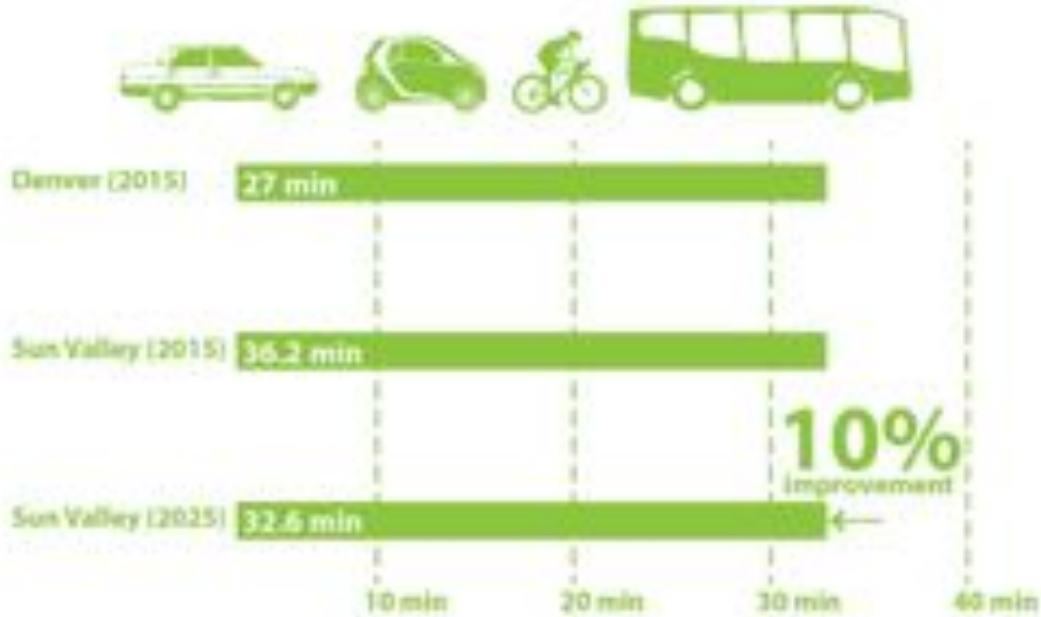
COMMUNITY METRICS

VEHICLE MILES TRAVELED PER CAPITA PER DAY



PERCENTAGE OF POPULATION WHO FEEL SAFE ALONE AT NIGHT IN NEIGHBORHOOD

TOTAL CRIME RATE PER 1,000 PEOPLE



AVERAGE COMMUTE TIME IN MINUTES (ALL MODES: TRANSIT AND VEHICULAR)

CHILDREN & OPPORTUNITY

New and Existing Catalysts

- (A) Infrastructure Hub
- (B) Sun Valley Youth Center
- (C) New Park
- (D) Job Training Center
- (E) Mile High Rude Park Child Care Center
- (F) Courtyards Space above Structured Parking
- (G) Potential Area for Education Facilities by DPS
- (H) Other Youth and Education Placemaking Elements

- DPS Property
- Master Plan Boundary
- Radius to Train Station

FOOD & CULTURE

GREEN HOUSES

2 10,000SF GREEN HOUSES PRODUCING OVER 500,000 LBS. FOOD

URBAN AGRICULTURE

3 ACRES URBAN FOOD PRODUCTION
DENVER'S LARGEST COMMERCIAL FARM

LOCAL GROCER

REPLACING 7-11 AS CLOSEST FOOD STORE

COMMUNITY GARDENS

FLEXIBLE FRONTYARDS

TOWNHOME COMMONS

SUN VALLEY HOUSING

2015	2025		
333	333	333	333
PUBLIC HOUSING UNITS	PUBLIC HOUSING UNITS	TAX CREDIT UNITS	MARKET RATE UNITS

ETHNIC FOOD

CUISINE FROM SV'S LARGE IMMIGRANT COMMUNITY

ROOFTOP GARDENS

76,000SF OF PLOTS AVAILABLE TO RESIDENTS

COMM. GARDEN

46 PLOTS PER 100 RESIDENTS

INNOVATIVE STREETS

INCREASING CONNECTIVITY

MIXED USE COLLECTOR

RIVERFRONT COLLECTOR

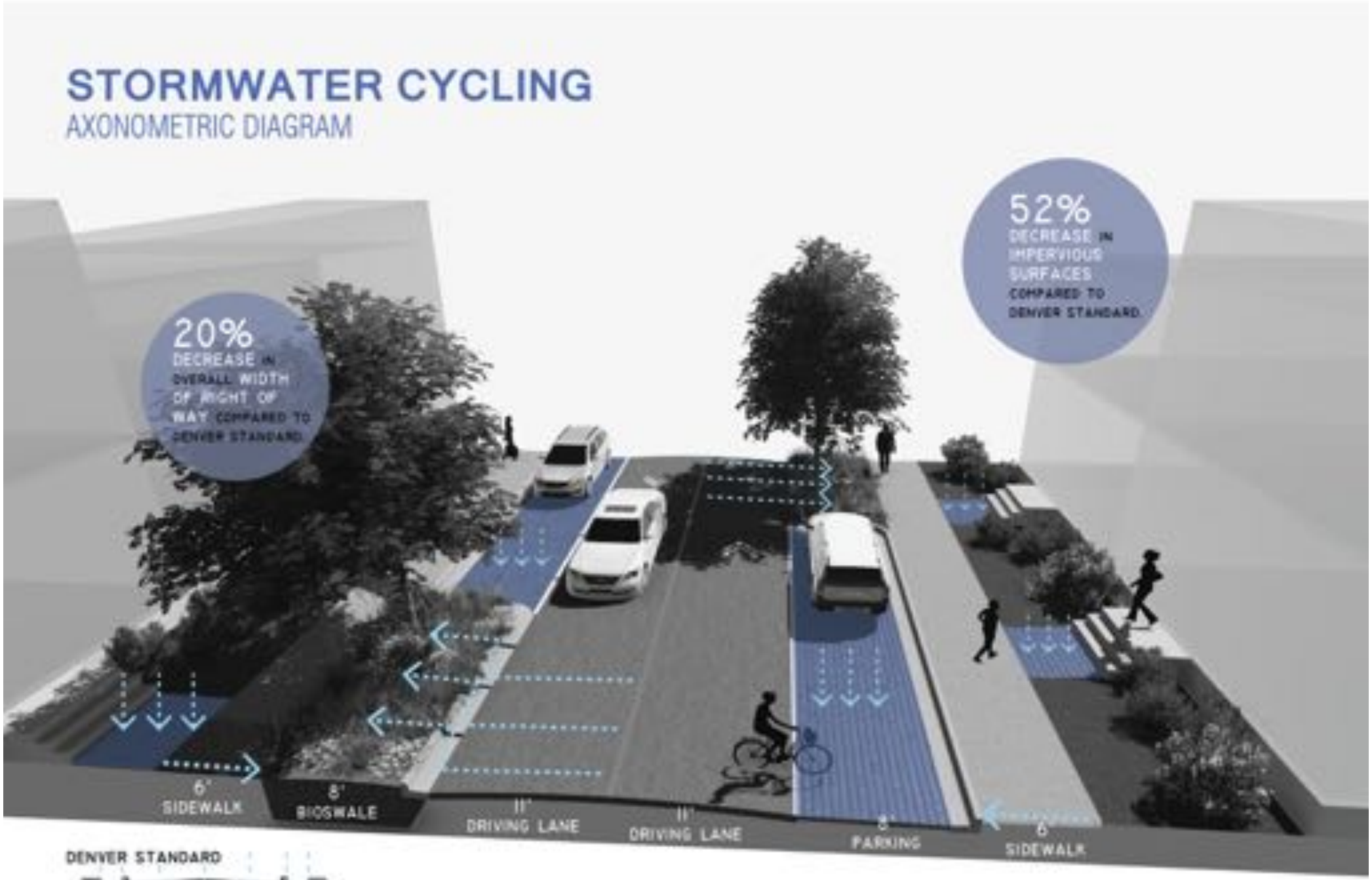
2 WAY LOCAL WITH SHARROW

2 WAY LOCAL WITH ALTERNATING BIOSWALES

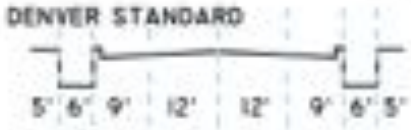
2 WAY LOCAL WITH BIOSWALE

STORMWATER CYCLING

AXONOMETRIC DIAGRAM

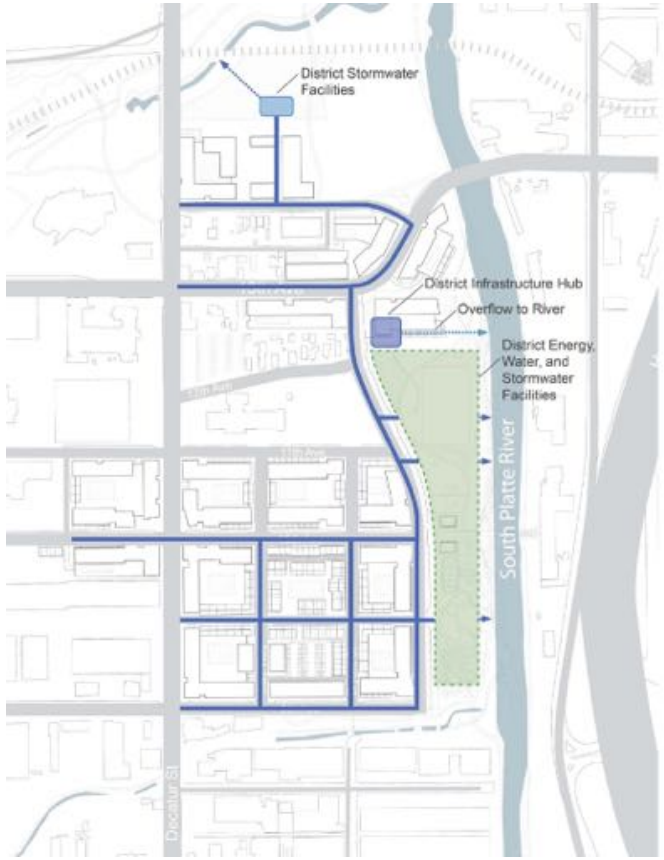


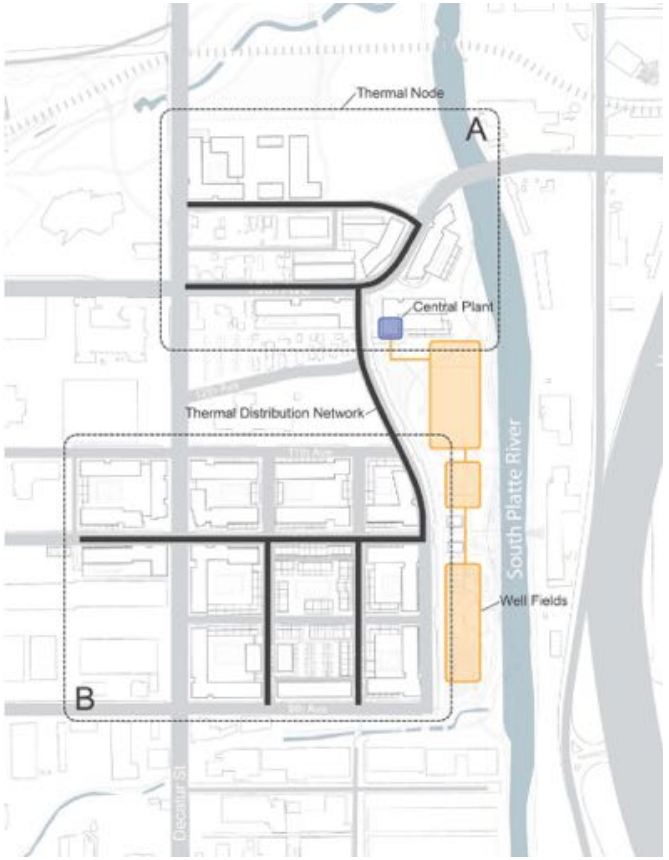
DENVER STANDARD

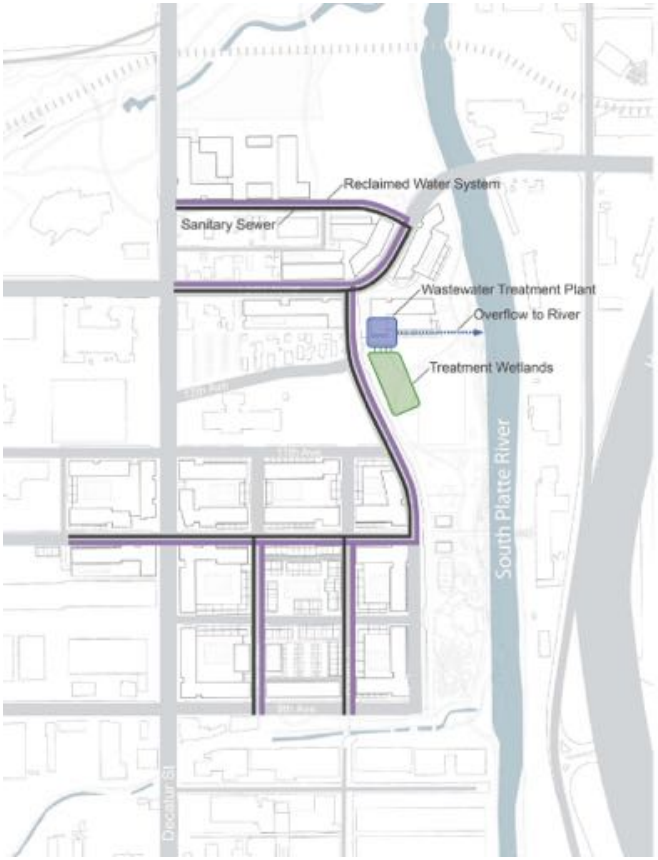


SUSTAINABLE INFRASTRUCTURE

District Infrastructure







Just the Beginning

W 13th Ave Realignment Study

13th Avenue: A Transformative Project

The realignment of 13th Avenue was identified in the Decatur-Federal Station Area Plan as a transformative project to improve connectivity in Sun Valley.

overview

13th Avenue will be a major east-west connection linking Sun Valley to Downtown Denver across the South Platte River.

The realignment will provide greater access and connectivity to a number of key assets, including Auraria Campus, Metro State Recreation Fields, Rude Recreational Center, and the La Alma/Lincoln Park neighborhood.

As a major connection across downtown, 13th Avenue will include a robust multi-modal facility for pedestrians and bikers, as well as higher density development and connection to a new riverfront park.

recommendations

- Realign 13th Avenue west of river to connect Federal Boulevard directly to downtown
- Enhance bike and pedestrian connections along 13th Avenue
- Celebrate the South Platte River Crossing by creating a gateway
- Encourage active uses along the street and higher density mixed use to spur reinvestment
- Connect 13th Avenue to new riverfront drive, park and trails
- Evaluate impacts of realignment on BNSF freight line

W 13th Ave Realignment Study

VIEW OF 13TH AVENUE (LOOKING EAST)

FEDERAL BOULEVARD

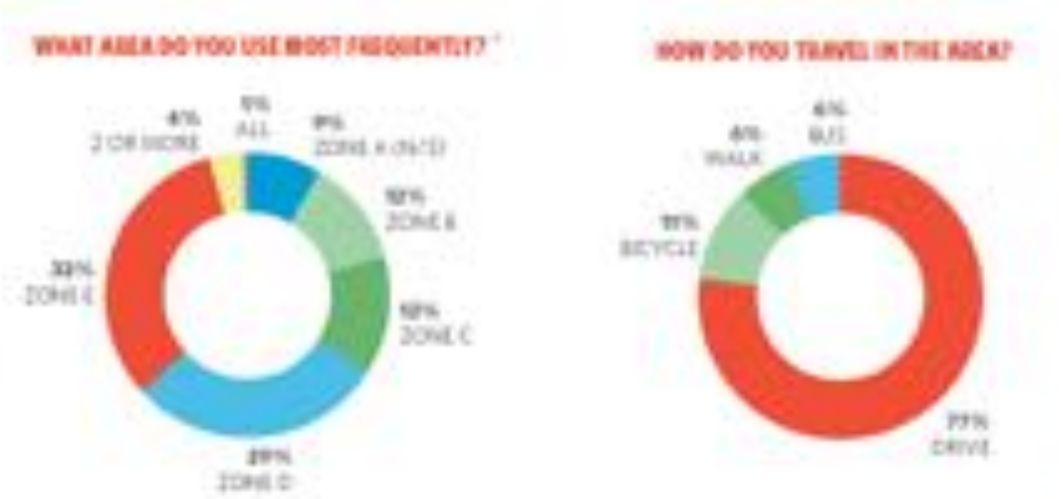
The New Urban Parkway

DENVER'S "F" STREET

THE PARKWAY OF 1920


No Park in the
PARKWAY

[Pre] Project Outreach



Analysis


A
B
C
D
E
A
DRAFT


A
B
C
D
E
A
DRAFT
Existing and Planned Medians
Existing
Existing

ZONE A (SOUTH)

Floyd Ave - Jewell Ave

- Gateway into Denver
- Large mixture of Colorado heights
- Long block/face dimensions, shallow parcel depths
- Gateway into Denver
- Large mixture of Colorado heights
- Long block/face dimensions, shallow parcel depths

ZONE B

Jewell Ave - Louisiana Ave

- Suburban look and feel with a mix of commercial, office and residential parcels
- Bike and trail connection at Sweitzer Gulch
- Relatively large block face dimension. Parcel depths are moderate
- Suburban look and feel with a mix of commercial, office and residential parcels
- Bike and trail connection at Sweitzer Gulch
- Relatively large block face dimension. Parcel depths are moderate

ZONE C

Louisiana Ave - W Cedar Ave

- Busy commercial district with unique shopping destinations and ethnic restaurants
- Commercial signage dominates streetscape view
- Blocks and parcels are relatively small for the corridor
- Busy commercial district with unique shopping destinations and ethnic restaurants
- Commercial signage dominates streetscape view
- Blocks and parcels are relatively small for the corridor

ZONE D

W Cedar Ave - W 20th Ave

- Zone divided by two major east-west routes: 6th Avenue and Colfax Avenue
- Good east-west connections for alternative transportation at Weir Gulch, Lakewood Gulch, Decatur-Federal Station
- Blocks and parcels are relatively small for the corridor
- Zone divided by two major east-west routes: 6th Avenue and Colfax Avenue
- Good east-west connections for alternative transportation at Weir Gulch, Lakewood Gulch, Decatur-Federal Station
- Blocks and parcels are relatively small for the corridor

ZONE E

W 20th Ave - I-70

- Most similar aesthetic and layout of a traditional Denver parkway
- Mostly residential parcels with some commercial sites
- Block face and parcel depths are typical for urban residential
- Most similar aesthetic and layout of a traditional Denver parkway
- Mostly residential parcels with some commercial sites
- Block face and parcel depths are typical for urban residential

ZONE A (NORTH)

I-70 - Columbine Rd

- Gateway into Denver
- Regal Cinemas, on the west side dominates portion of the zone
- Streetscape maintenance appears better than other segments
- Gateway into Denver
- Regal Cinemas, on the west side dominates portion of the zone
- Streetscape maintenance appears better than other segments

FEDERAL BOULEVARD

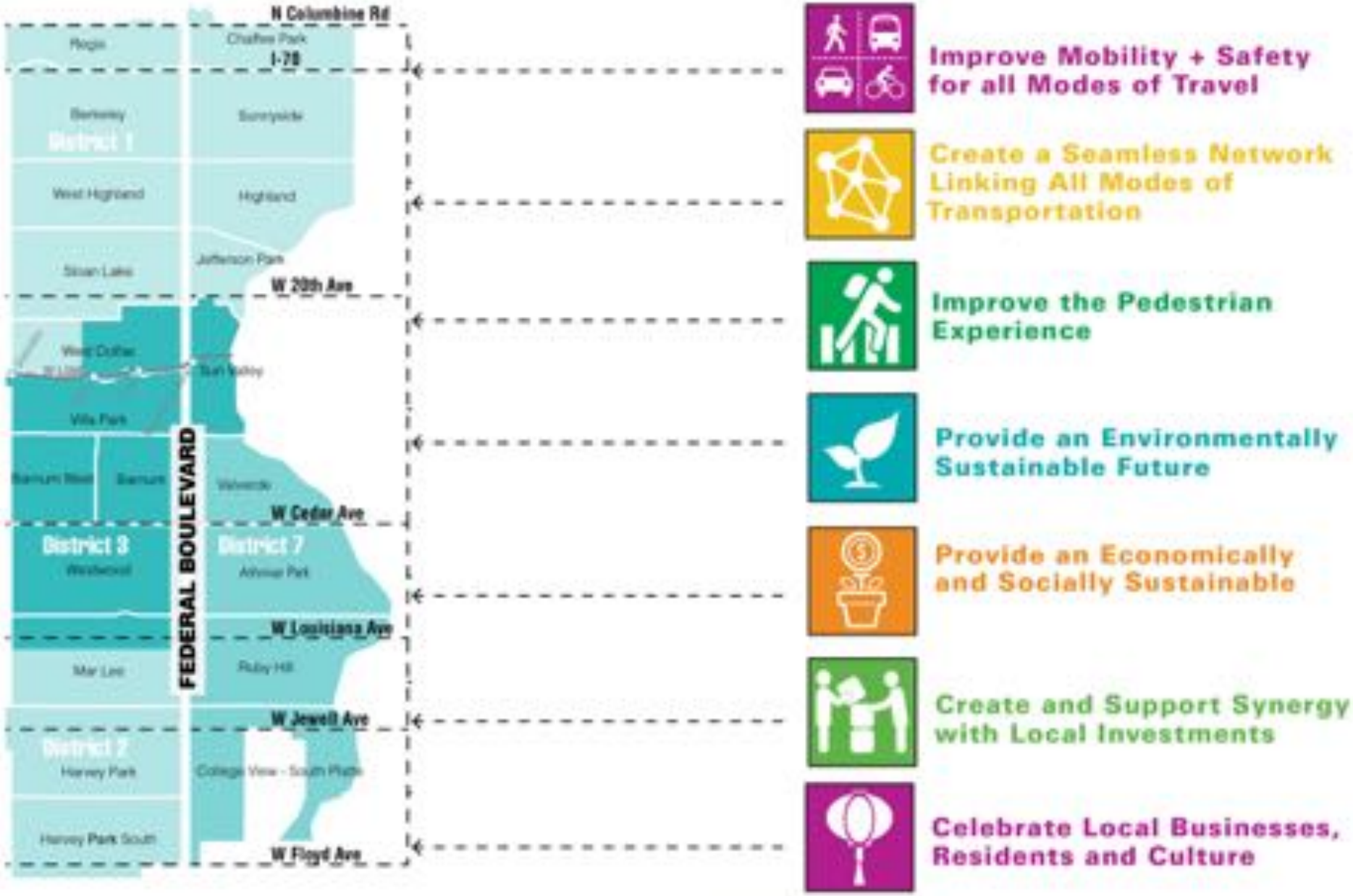
Project Outreach


#FederalForward
I see a future that includes:
Harmony for Pedestrians, Bikes + Cars
SAFETY!
#FederalForward
I see a future that includes:
Medians w/ flowers & Outdoor Seating for Restaurants

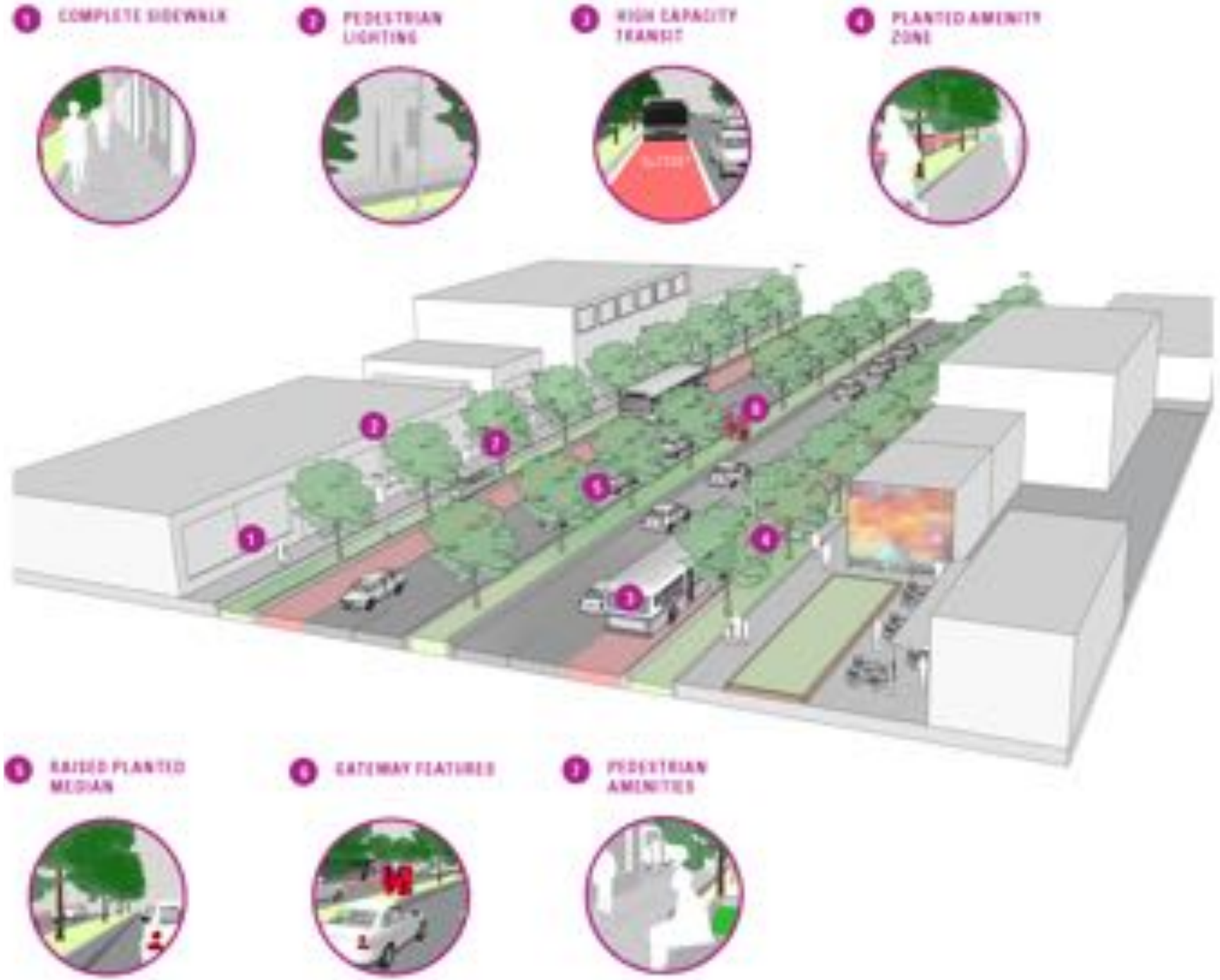
Critical Success Factors

FEDERAL BOULEVARD

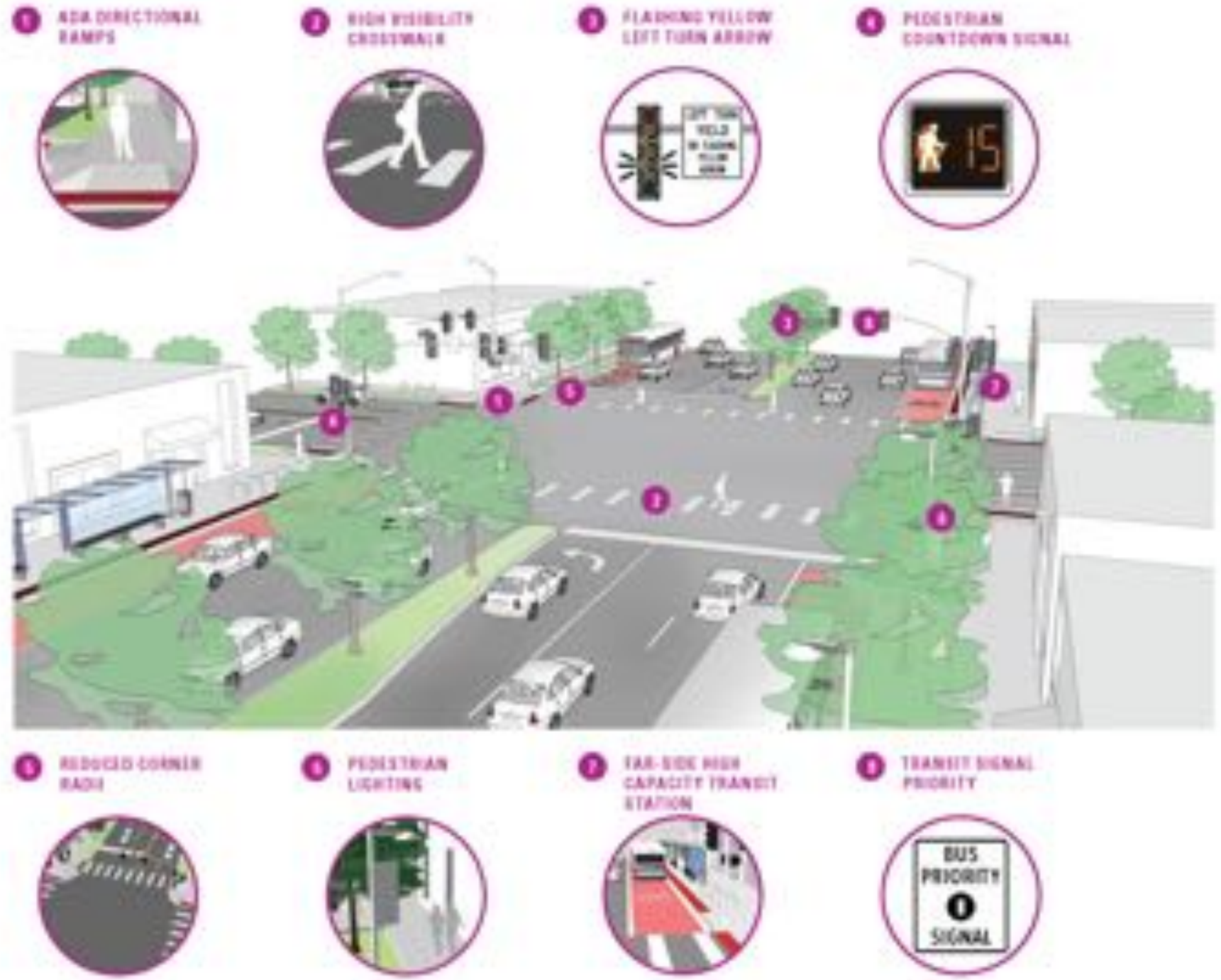
NEW URBAN PARKWAY CRITICAL SUCCESS FACTORS



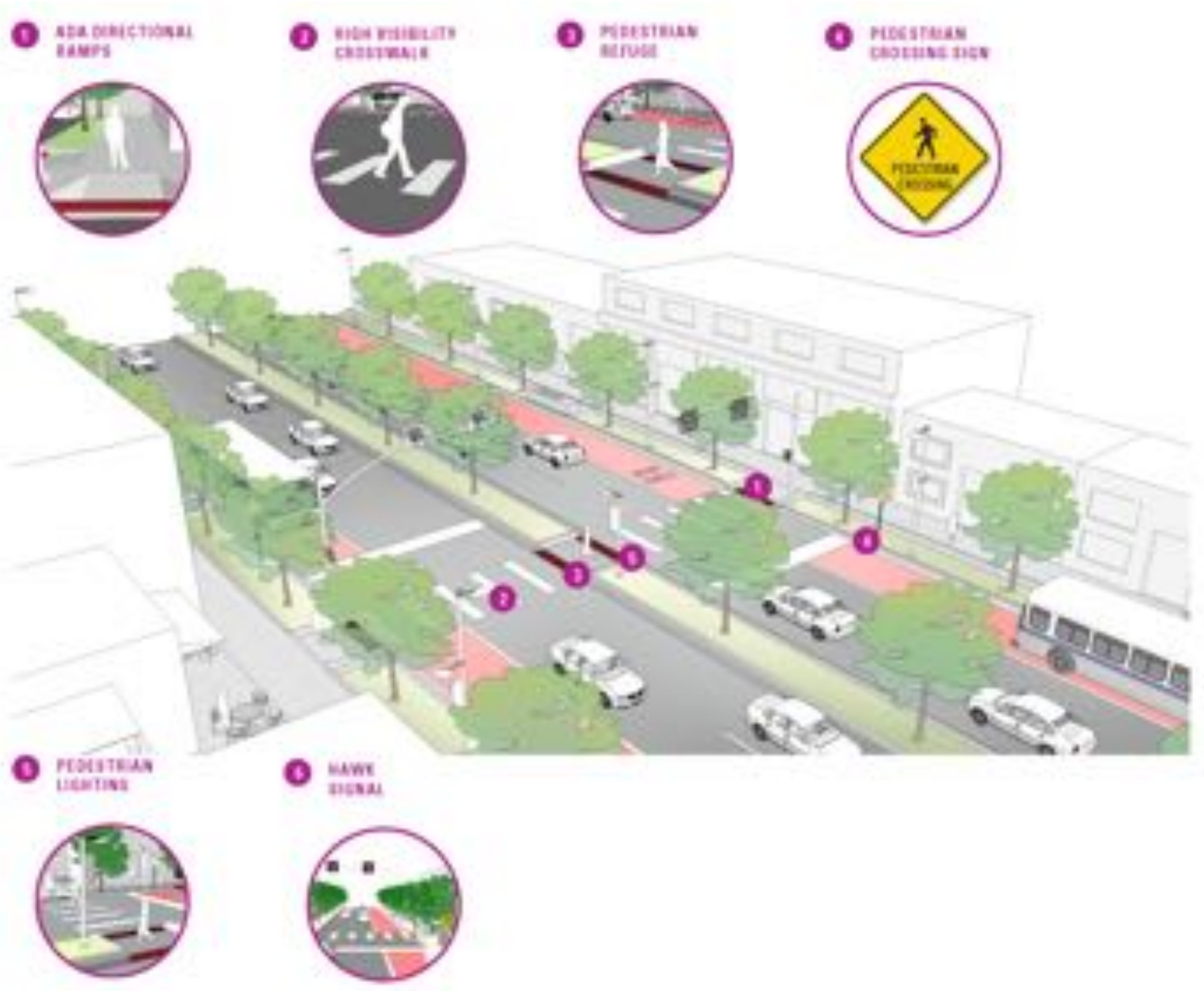
Cross-Section



Primary Intersection



Mid-Block Crossing



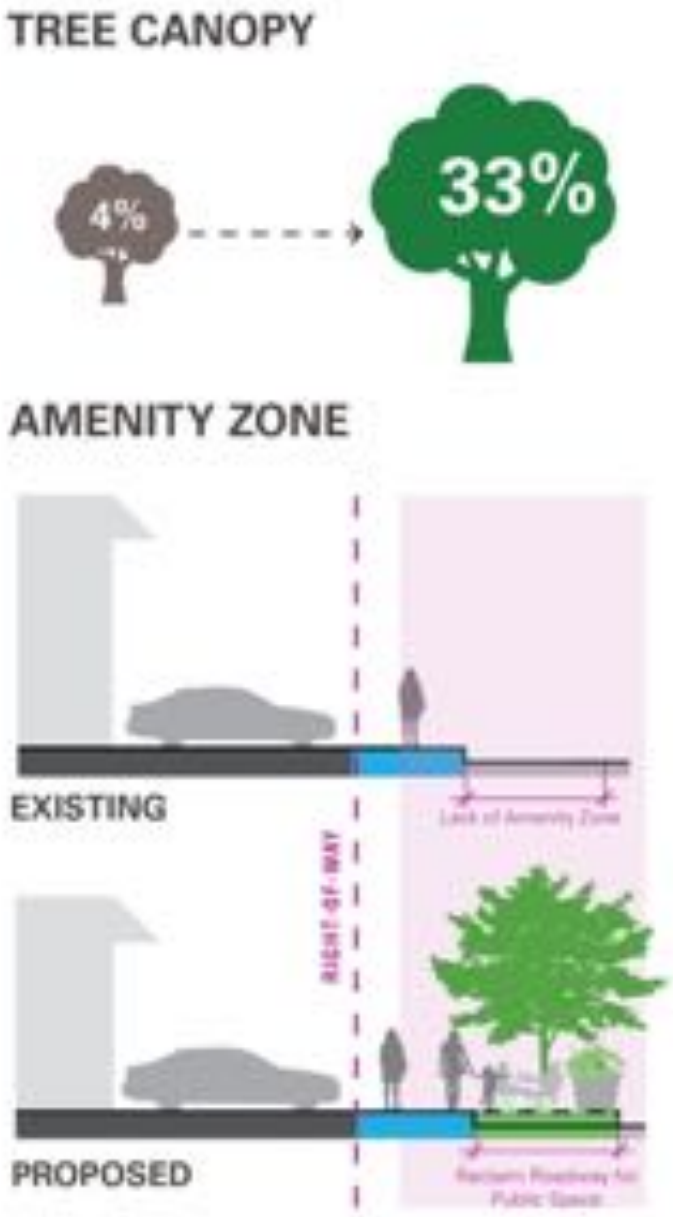
Community Input

CSFs Filter

Feasibility Filter

Projects

Metrics that Matter



FEDERAL BOULEVARD CROSSES 4 REGIONAL TRAILS!

WEST HARVARD GULCH TRAIL

SANDERSON GULCH TRAIL

WEIR GULCH TRAIL

LAKEWOOD GULCH TRAIL

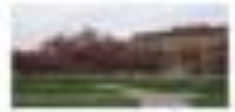
YOU CAN WALK TO 10 PARKS IN 5 MINUTES FROM FEDERAL BOULEVARD!

BARNUM PARK

RUDE PARK

HARVARD GULCH WEST PARK

BARNUM EAST PARK



VIKING PARK

SANCHEZ PARK

JEFFERSON PARK

MCDONOUGH PARK

ROCKY MOUNTAIN LAKE PARK

HIGHLAND PARK

FEDERAL BOULEVARD IS A DESIGNATED PARKWAY!

Federal Boulevard has served as a parkway/boulevard since the 1870s when it was a dirt road lined with trees. Federal Boulevard has served as a parkway/boulevard since the 1870s when it was a dirt road lined with trees.

1907

1920

1960

TODAY

LEGEND LEGEND

Park / Open Space
Park / Open Space

Water Body
Water Body

Bicycle Facility
Bicycle Facility

Trail
Trail

FEDERAL BOULEVARD

Park Access

CHARACTER ZONE A: FLOYD AVENUE TO JEWELL AVENUE

MAP KEY

QUICK WIN PROJECT | NEAR-TERM PROJECT | LONG-TERM PROJECT | CATALYTIC PARCEL | EXISTING PARK

CHARACTER ZONE A: FLOYD AVENUE TO JEWELL AVENUE

Project ID	Project Description	Project Type	Cost Range	Key Implementation Strategies	Potential Funding Source
6	Consolidate southbound transit stops at Cornell and Girard and northbound at Bates, Warren, and Girard	BIKE/PED/TRANSIT	$0 - $100,000	Coordinate with RTD Service Planning to make announcements about closures at an upcoming schedule update cycle	RTD Annual Budget
7	Install a bench for transit customers southbound at Dartmouth	BIKE/PED/TRANSIT	$0 - $100,000	Prioritize request through Denver's Transit Amenity Program before January 1st	Private advertisers
8	Install a High-Intensity Activate Crosswalk (HAWK) beacon at Cornell to improve access to Colorado Heights University	BIKE/PED/TRANSIT	$100,000 - $500,000	Coordinate with Denver Public Works, then CDOT to determine appropriate "warrants" and design considerations	Public Works CIP or CDOT Safety Funding
9	Reassign northbound accel/decel lane between Iliff and Warren south of the transit stop for increased public space and placemaking opportunities	BIKE/PED/TRANSIT	$100,000 - $500,000	Coordinate with Denver Public Works, then CDOT to develop pilot test design considerations and duration	DRCOG TIP grant, Public Works CIP
10	Install a transit shelter at northbound Cornell (over 100 boardings per day)	BIKE/PED/TRANSIT	$0 - $100,000	Prioritize request through Denver's Transit Amenity Program before January 1st	Private advertisers
11	Identify pedestrian safety and access improvements at Yale	BIKE/PED/TRANSIT	$100,000 - $500,000 (Initial study $0 - $100,000)	Coordinate with Denver Public Works and CDOT to study safety needs and develop design plans. Could be done by Denver staff or through a task-order contract	Public Works CIP or CDOT Safety Funding

Character Area Projects 70 major recommendations resulted from the scoring process of over 1,600 community responses. 24 quick wins, 28 short-term and 18 long-term projects were dispersed along the six character areas for the 9-mile boulevard.

Vision Sheets

CRITICAL SUCCESS FACTORS MET

THE NEW URBAN PARKWAY IS
POSSIBLE TODAY

DISCUSSION