



Planning Tools: Holistic Needs and Opportunities Assessment

Better Buildings Summit

May 10, 2016

9:45-11:00 AM



U.S. DEPARTMENT OF
ENERGY

Today's Presenters



Erin Christensen Ishizaki
Mithun



Tabitha Harrison
Tenderloin
Neighborhood
Development
Corporation





Holistic Assessments, Planning, and Design

Erin Christensen Ishizaki



HOLISTIC

ASSESSMENTS, PLANNING & DESIGN

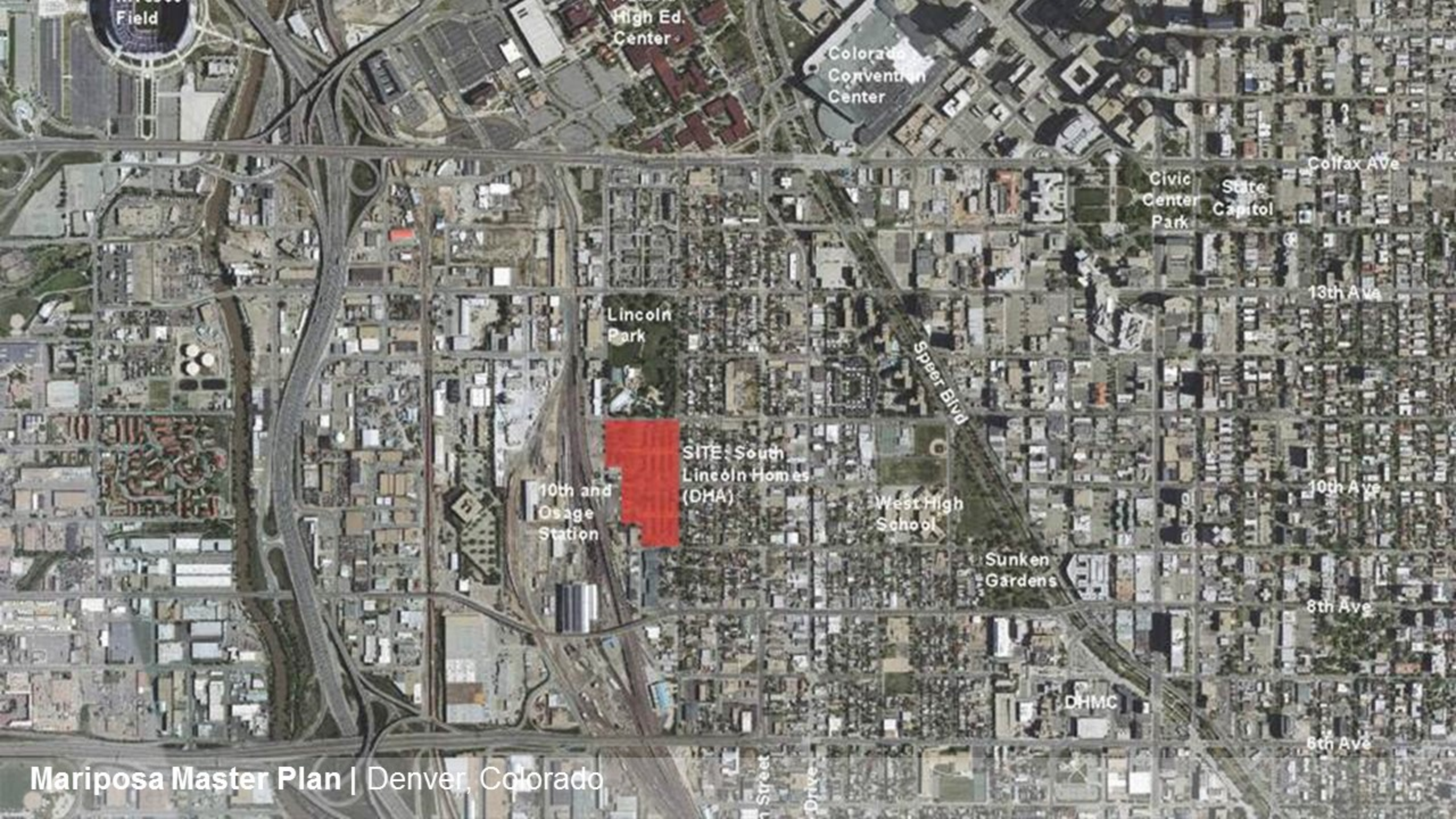
ERIN CHRISTENSEN ISHIZAKI, AIA, LEED ND AP
PARTNER, MITHUN



Broadway Family Apartments | San Francisco, California

THE GOOD LIFE: A HOLISTIC VIEW



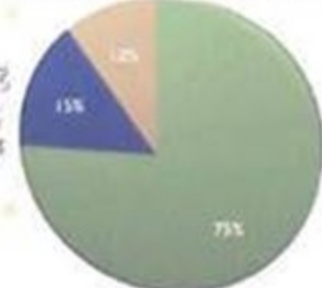




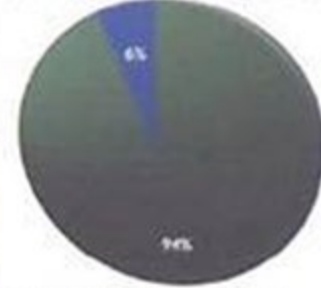
How do you get around?



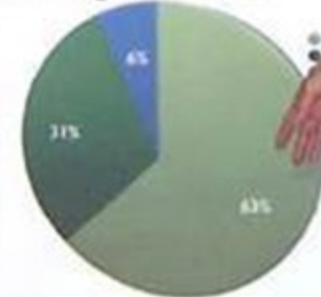
Where do you shop for food?



Is Affordable Housing an Issue?

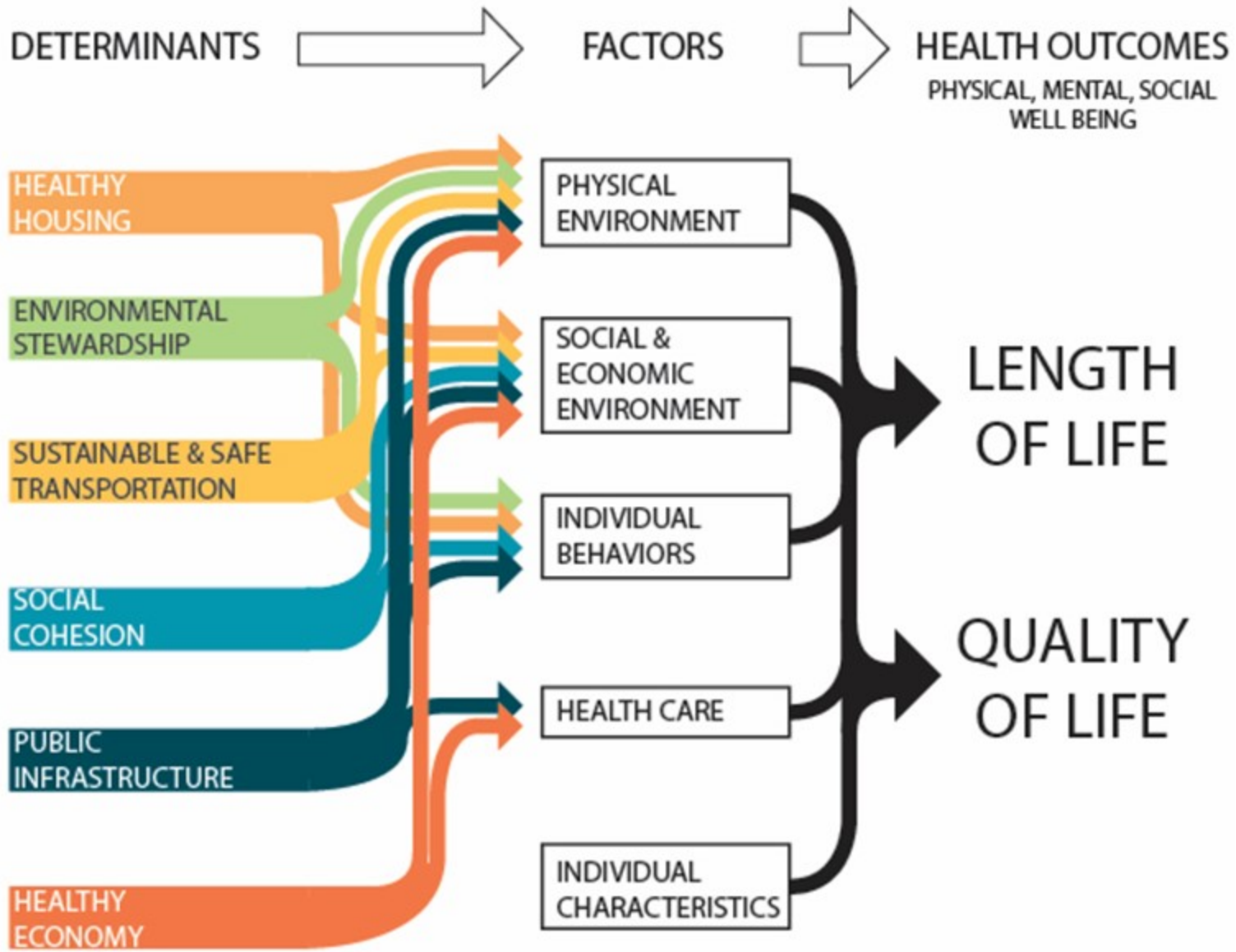


Is finding work an issue?

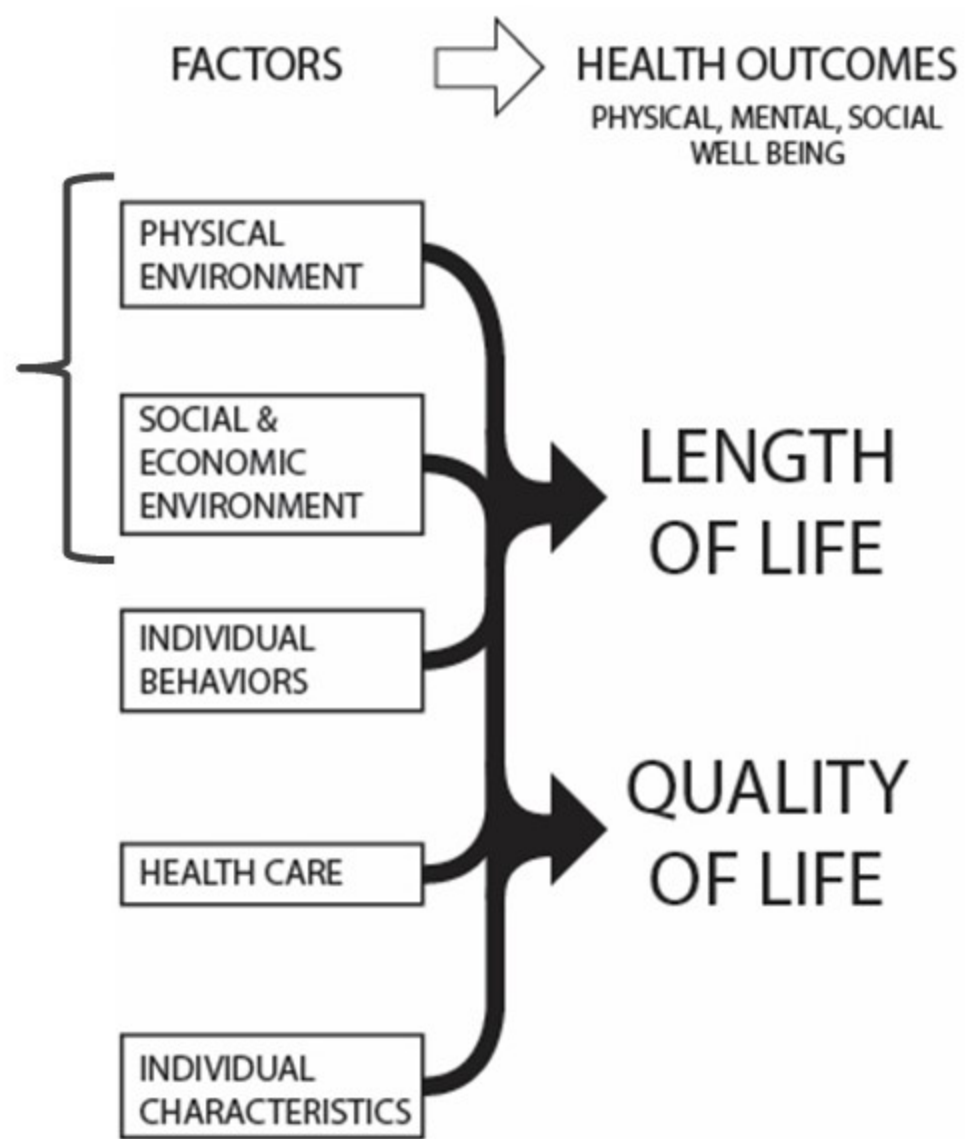


“As we talked to residents, we learned that having new housing would be great, but alone it wouldn’t improve the quality of their lives or create a path to sustainability...”

Ismael Guerrero, DHA Executive Director



40-60%





COMMUNITY ENGAGEMENT AND NEEDS ASSESSMENT

- CulturalAudit™ and use of Health Impact Assessment
- Multi-stakeholder Advisory Committee
- Community Design Workshop (Charrette) Process
- Resident surveys, specialized engagement with youth, elderly, cultural groups



PEQI audit results at South Lincoln Homes

PEQI Intersection and Street Scores

- 0 - 20 Environment not suitable for pedestrians
- 21 - 40 Poor pedestrian conditions
- 41 - 60 Basic pedestrian conditions
- 61 - 80 Reasonable pedestrian conditions
- 81 - 100 Ideal pedestrian conditions







INDICATOR	MARIPOSA PRE-REDEVELOPMENT BASELINE	
HOUSING	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
TRANSPORTATION	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
ENVIRONMENT	PERCENT OF RESIDENTS WITH ACCESS TO OPEN SPACE/ NATURE WITHIN NEIGHBORHOOD	26%
	AIR QUALITY - PARTICULATE MATTER	n/a
	VMT PER CAPITA PER DAY	24.4
SOCIAL COHESION	PROPORTION OF POPULATION WITHIN 1/2 MILE TO COMMUNITY GATHERING SPACE	100%
	TOTAL CRIME RATE PER 1,000 PEOPLE	247.9
	PERCENTAGE OF POPULATION WHO FEEL SAFE ALONE AT NIGHT IN NEIGHBORHOOD	49%
PUBLIC INFRASTRUCTURE	PROPORTION OF POPULATION WITHIN 1/2 MILE KEY RETAIL	100%
	NEIGHBORHOOD SCHOOL PERFORMANCE	n/a
	% PERSONS AGE 25+ WITH LESS THAN 12TH GRADE EDUCATION	38.57%
	# OF HEALTHY FOOD OUTLETS WITHIN 1/2 MILE OF NEIGHBORHOOD	0
ECONOMY	UNEMPLOYMENT RATE	10.63%
	AVERAGE ANNUAL INCOME COMPARED TO THE SELF-SUFFICIENCY WAGE	1.04 / 1.0
	NUMBER OF BUSINESSES AND NUMBER OF JOBS/SQ MI. IN NEIGHBORHOOD	Data Collection in Progress



PRE-REDEVELOPMENT HEALTH BASELINE AND PRIORITY ISSUES

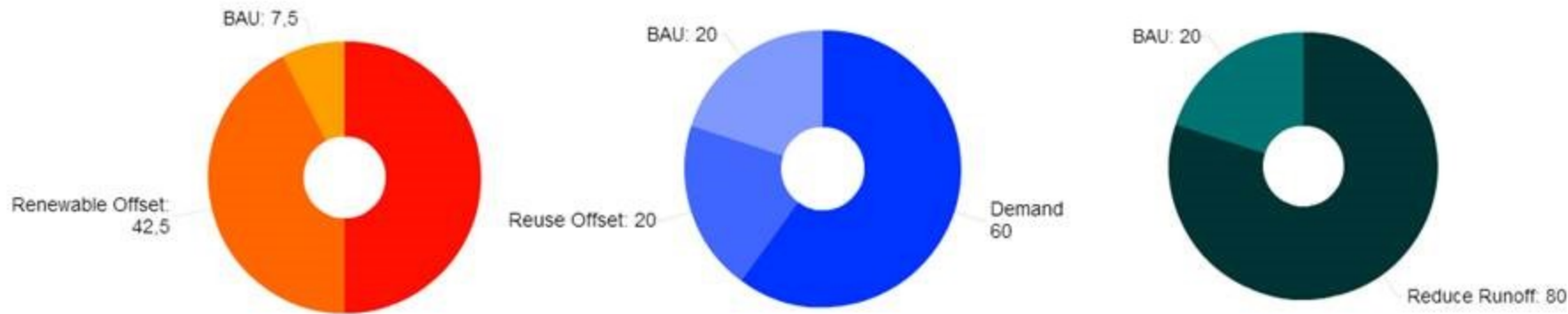
- **Increase Physical Activity:** 55% of community is obese or overweight
- **Increase opportunity for healthy eating:** Only 13% have 5 or more servings of high fiber food
- **Improve ped & bike opportunities:** Only 28% exercise aerobically 3 times a week
- **Improve mobility and traffic safety:** 65% do not have any type of motor vehicle; 54% take the bus
- **Better access to health care:** 41% are not Denver Health patients and 30% don't have a medical home
- **Reduce crime:** 51% don't feel safe alone at night in the neighborhood – violence, gangs, drugs



HDMT Healthy City Elements	Community Priority Issues	Plan Response
 <p>Healthy Housing</p>	<p>HH.4: Healthy, quality housing Median Income is \$38,000 compared to \$55,000 citywide.</p>	<p>800-900 High Performance Units</p>
 <p>Sustainable Transportation</p>	<p>ST.2: Affordable, accessible public transportation options 67% of residents say transportation is an obstacle to employment.</p>	<p>Coordinated Shuttles + Bike Infrastructure</p>
 <p>Social Cohesion</p>	<p>SC.2: Promote personal safety Neighborhood crime rate is 15.2 per 1000 compared to 5.7 per 1000 citywide.</p>	<p>Active Streets + Open Spaces</p>
 <p>Environment</p>	<p>ES.3: Affordable, high-quality food access Only 13% have recommended servings of high fiber food.</p>	<p>New Community Gardens</p>
 <p>Healthy Economy</p>	<p>HE.2: Increase jobs and equity in income and wealth 75% of residents are unemployed.</p>	<p>Job Training Spaces + Partners</p>
 <p>Public Infrastructure</p>	<p>PI.5: Park, open space, rec access 55% of residents are obese or overweight, 77% have high blood pressure.</p>	<p>Variety of Open Spaces + Access/Linkage to Spaces</p>

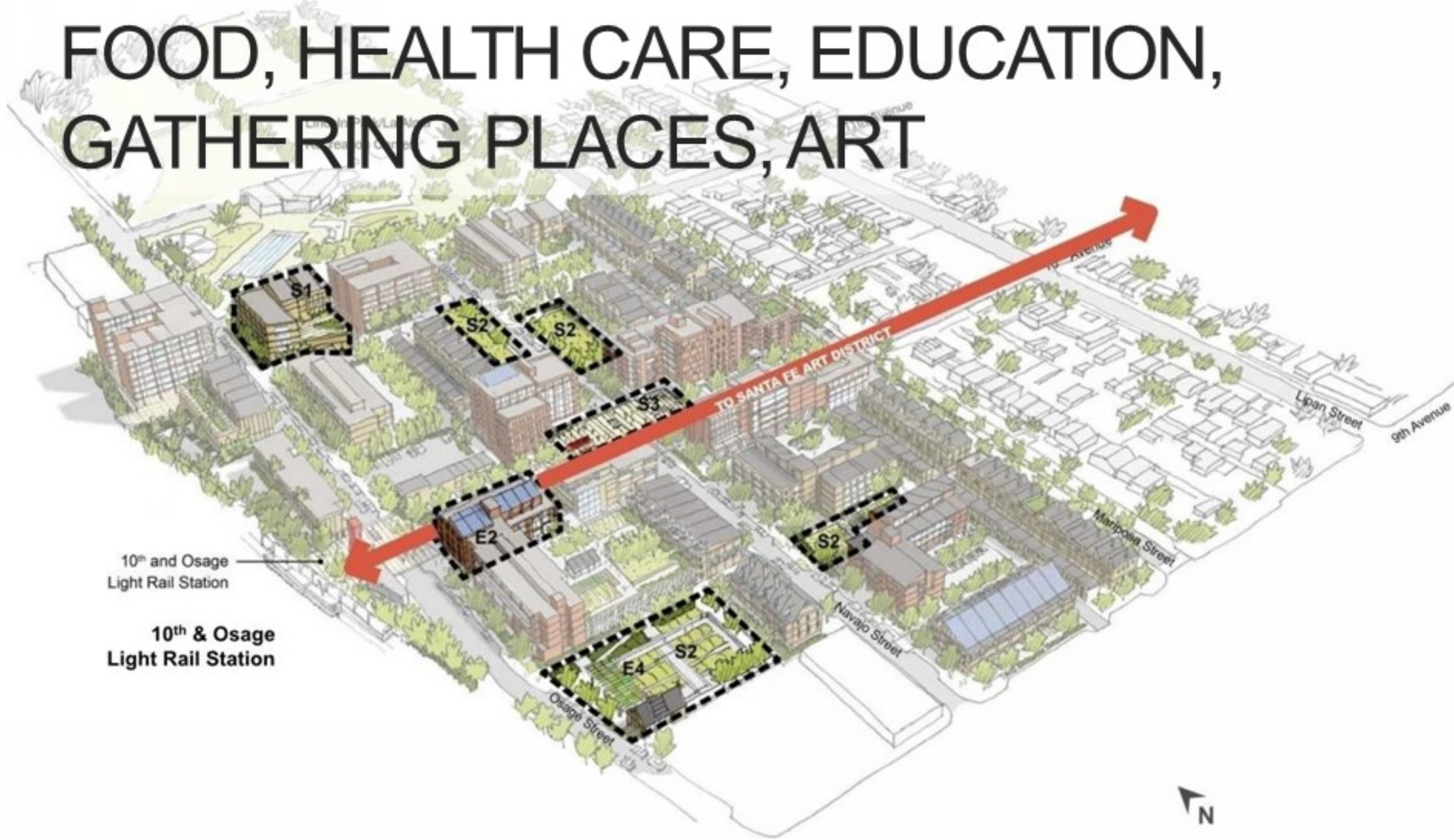
ENVIRONMENTAL SUSTAINABILITY

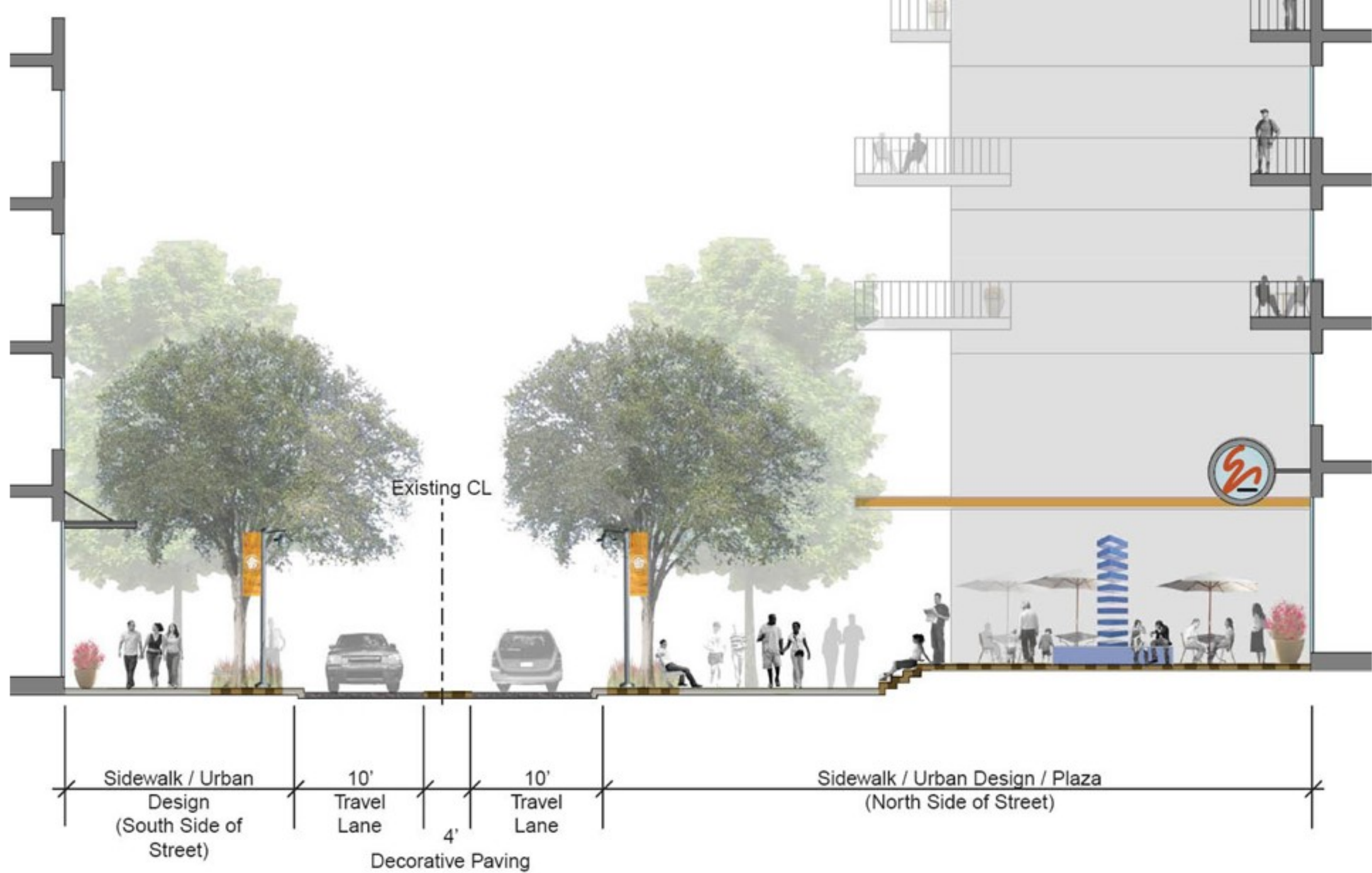
- LEED-ND Gold & Enterprise Green Communities
- CO₂ – capped at 8 lbs / SF
- Energy: 50% demand reduction / 85% renewables
- Potable Water: 40% demand reduction / graywater pilot
- Stormwater: 80% runoff reduction / quality treatment



GET CONNECTED

FOOD, HEALTH CARE, EDUCATION,
GATHERING PLACES, ART





Mariposa Master Plan | Denver, Colorado

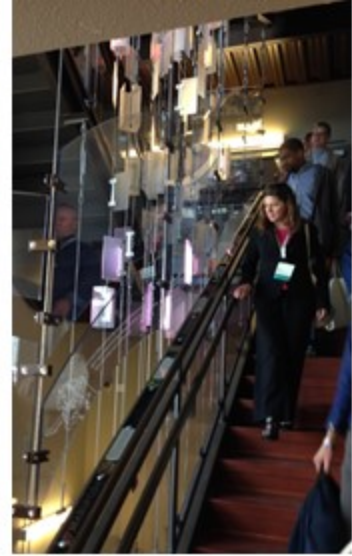
HARDWARE & SOFTWARE

Enhancements to design


- Active Design Staircase
- Community Gardens
- Greenhouse
- Outdoor Adult Exercise Equipment
- Composting
- Accessibility to bicycles

Programming for behavior change

- Health Navigator
- Prevention Training Center Healthy Cooking Classes
- In-Unit Home Energy Monitors



Mariposa 2012 Indicator Report Card

 INDICATOR	CITY OF DENVER BASELINE	MARIPOSA PRE-REDEVELOPMENT BASELINE	MARIPOSA STATUS UPDATE	MARIPOSA TREND	
HOUSING	PERCENT OF POPULATION LIVING BELOW POVERTY LEVEL	14.29%	37.05%	45.05%	▲
	PERCENT OF HOUSEHOLD INCOME SPENT ON HOUSING	28.1%	12.75%	13.44%	▲
	HOUSING INDOOR ENVIRONMENT (AIR QUALITY, TEMPERATURE, HUMIDITY)	n/a	n/a	Monitoring recommended	
TRANSPORTATION	AVERAGE TRANSIT COMMUTE TIME IN MINUTES	27	24.60	20.05	▼
	COST OF TRANSPORTATION AND HOUSING AS % OF AVERAGE INCOME	47.4%	26.18%	29.83%	▼
	NUMBER OF TRAFFIC INJURIES/ COLLISIONS/ FATALITIES	n/a	Data Collection in Progress	Data Collection in Progress	
ENVIRONMENT	PERCENT OF RESIDENTS WITH ACCESS TO OPEN SPACE/ NATURE WITHIN NEIGHBORHOOD	n/a	26%	32%	▲
	AIR QUALITY - PARTICULATE MATTER	n/a	n/a	<2.5 mm	
	VMT PER CAPITA PER DAY	33.6	24.4	14.7	▼
SOCIAL COHESION	PROPORTION OF POPULATION WITHIN 1/2 MILE TO COMMUNITY GATHERING SPACES	n/a	100%	100%	—
	TOTAL CRIME RATE PER 1,000 PEOPLE	68.62	247.9	157	▼
	PERCENTAGE OF POPULATION WHO FEEL SAFE ALONE AT NIGHT IN NEIGHBORHOOD	n/a	49%	Recommended survey	
PUBLIC INFRASTRUCTURE	PROPORTION OF POPULATION WITHIN 1/2 MILE KEY RETAIL	60 <small>Walkscore (Update 2012)</small>	100%	87 <small>Walkscore</small>	—
	NEIGHBORHOOD SCHOOL PERFORMANCE	n/a	n/a	30.8 <small>Greenlee Elementary</small> 38 <small>Martinez Middle School</small>	
	% PERSONS AGE 25+ WITH LESS THAN 12TH GRADE EDUCATION	21.11%	38.57%	n/a	
	# OF HEALTHY FOOD OUTLETS WITHIN 1/2 MILE OF NEIGHBORHOOD	n/a	0	1	▲
ECONOMY	UNEMPLOYMENT RATE	n/a	10.63%	15.2%	▲
	AVERAGE ANNUAL INCOME COMPARED TO THE SELF-SUFFICIENCY WAGE	1.49 / 1.0	1.04 / 1.0	1.06 / 1.0	▲
	NUMBER OF BUSINESSES AND NUMBER OF JOBS/SQ MI. IN NEIGHBORHOOD	n/a	Data Collection in Progress	551/ 308,205	

Blue text represents an indicator that was newly established in 2012.



WELCOME.

At Flobots.org, we believe that young people – those who are both at-risk and written-off – have the potential to turn their lives around. We are committed to bringing our proven methods of empowerment and behavioral modification through music education to youth in Colorado who need it the most. Check out





PEOPLE



PERFORMANCE



PLACE



PEOPLE

A young boy in a red baseball cap and jersey is blowing a bubble. In the background, another child is also blowing a bubble. The scene is brightly lit, suggesting an indoor setting like a school or community center.

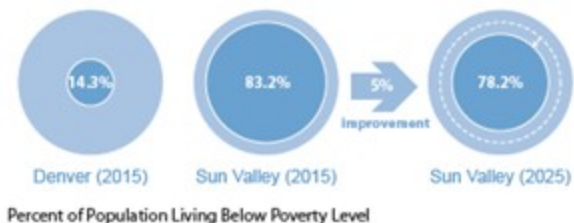
ASSESSMENT TO UNCOVER USER NEEDS
AND OPPORTUNITIES FOR HEALTH

PRIORITIZE NEEDS

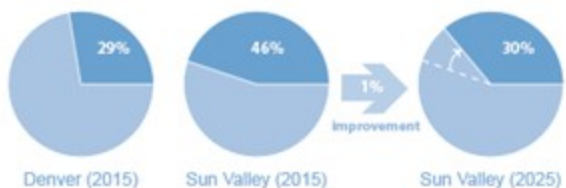


Sun Valley Redevelopment Plan | Denver, Colorado

Measuring Success



Percent of Population Living Below Poverty Level



Cost of Transportation and Housing as a Percentage of Income

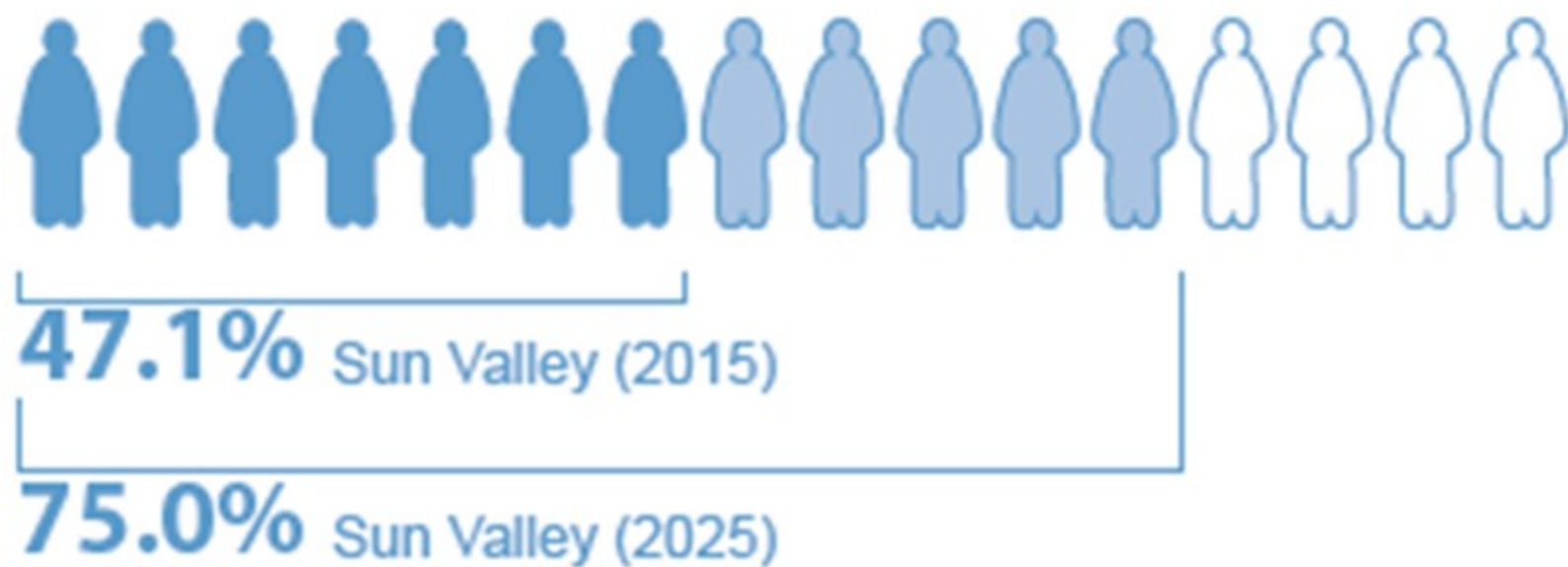


Percentage of Population Who Feel Safe Alone at Night in Neighborhood

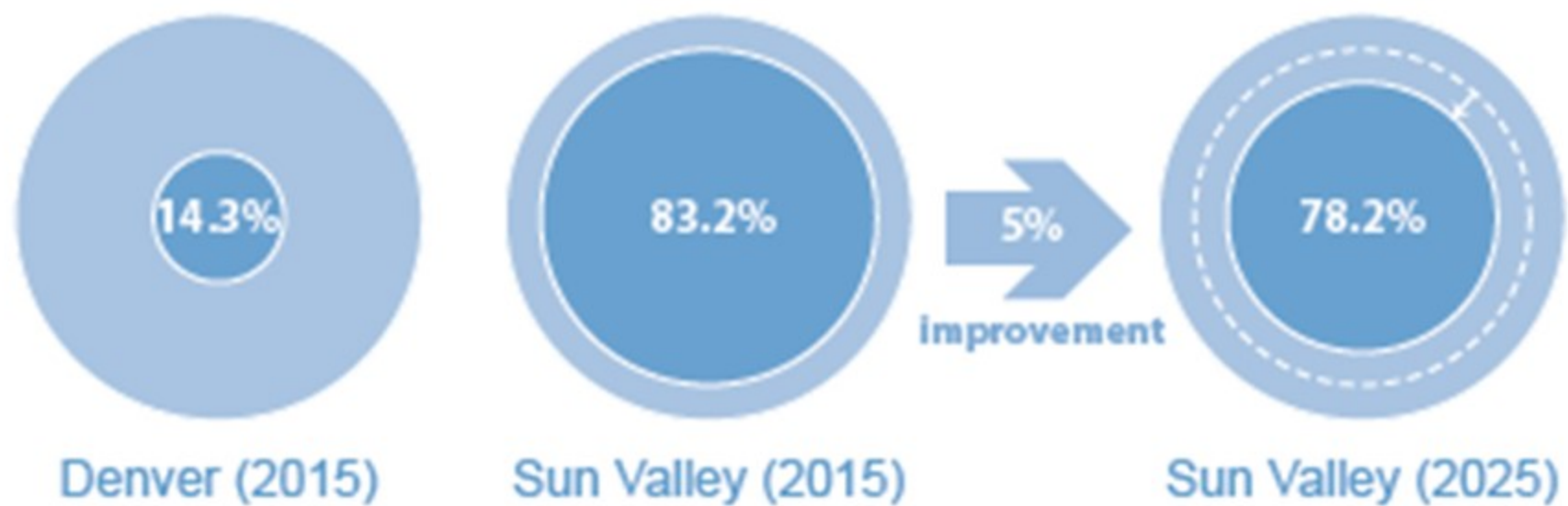
	SV MP Baseline	City of Denver Baseline	Draft MP Target by 2025	Data Source
Neighborhood School Performance*	38.2	54.4	10% improvement	Colorado Department of Education
Percent of persons age 25+ with less than 12th grade education*	33.6%	21.10%	5% improvement	—
Number of healthy food outlets within 1/2 mile of neighborhood*	0-3	—	50% improvement or 90% of units have access	Geospatial mapping and analysis performed by Mithun (verify)
Percent of population living below poverty level*	83.20%	14.20%	5% improvement	www.census.gov
Unemployment rate, including by race*	23.60%	4.20%	5% improvement	www.factfinder.census.gov
Average annual income as a percentage of the self-sufficient wage*	31%	140%	5% improvement	www.selfsufficiencystandard.org www.colponline.org
Cost of transportation and housing as a percentage of income*	29%	46%	30%	http://www.locationaffordability.info/lai.aspx
Percentage of population who feel safe alone at night in neighborhood*	47.10%	—	75%	DHA 2014 SV Resident Survey
Total crime rate per 1,000 people	267	66.4	100	Denver Police Department
Average commute time in minutes (all modes: transit and vehicular)	36.2	27	10% improvement	American Community Survey / www.ASAPfehrandpeers.com
Percent stormwater infiltrated in district**	—	—	75%	Baseline may be available from CityCraft report
% Urban tree canopy**	—	—	40%	Baseline may be available from CityCraft report
% Demand reduction for potable water**	—	—	50%	—
% Waste water diverted from sewer**	—	—	100%	—
Percentage of waste diverted from landfill/ recycled within the district**	—	—	75%	—

DRAFT: For internal coordination only, not for publication or distribution.

	SV MP Baseline	City of Denver Baseline	Draft MP Target by 2025	Data Source
Neighborhood School Performance*	38.2	54.4	10% improvement	Colorado Department of Education
Percent of persons age 25+ with less than 12th grade education*	33.8%	21.10%	5% improvement	—
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Percentage of Population Who Feel Safe Alone at Night in Neighborhood



Percent of Population Living Below Poverty Level



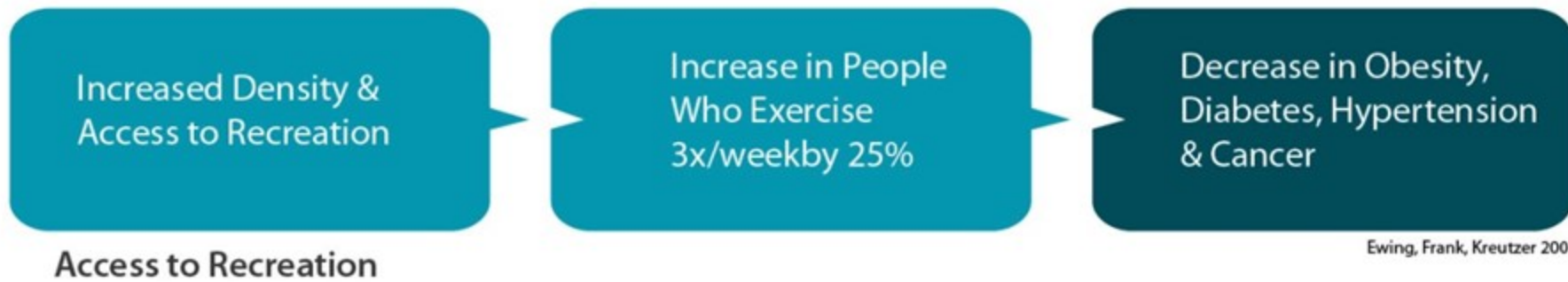
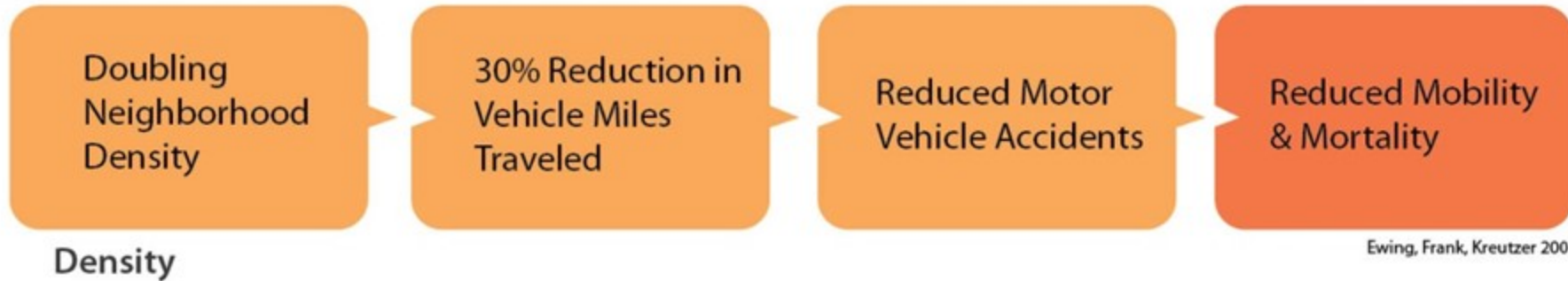
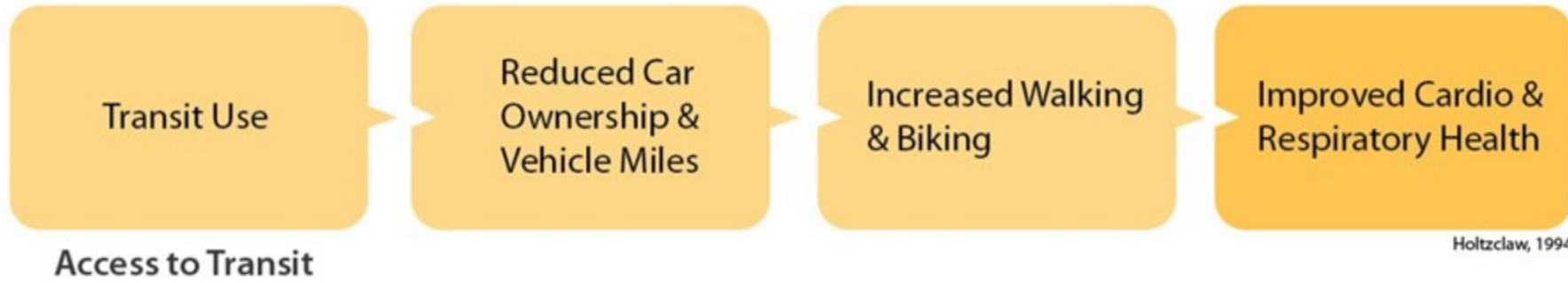
Sun Valley Redevelopment Plan | Denver, Colorado

ASSESSMENT METRICS: QUESTIONS TO ASK

1. Relevant to this context
2. Measurable and trackable data
3. Leads to strategies and actions
4. Influences plans and programs
- 5. One** Metric **Many** Benefits

PERFORMANCE





Ten Principles for Building Healthy Places



ACTIVE DESIGN GUIDELINES

PROMOTING PHYSICAL ACTIVITY AND HEALTH IN DESIGN



MARIPOSA HEALTHY LIVING TOOLKIT

- HEALTHY HOUSING
- SUSTAINABLE, SAFE
- ENVIRONMENTAL ST
- SOCIAL COHESION
- PUBLIC INFRASTRUC
- HEALTHY ECONOMY

10 THE MARIPOSA HEALTHY LIVING INITIATIVE

THE WELL BUILDING STANDARD®

VERSION 2.0



BUILDING HEALTHY PLACES TOOLKIT

STRATEGIES FOR ENHANCING HEALTH IN THE BUILT ENVIRONMENT



2015 ENTERPRISE GREEN COMMUNITIES CRITERIA



MARIPOSA HEALTHY LIVING TOOLKIT





USING THE TOOLKIT

SELECT THE FACTS

Mariposa 20

INDICATOR
PERCENT OF POPULATION LIVING IN HOUSING
PERCENT OF HOUSEHOLD IN HOUSING INDOOR ENVIRONMENT
PERCENT OF RESIDENTS WITH AIR QUALITY - PARTICULATE
VMT PER CAPITA PER DAY
AVERAGE COMMUTE TIME
COST OF TRANSPORTATION A
NUMBER OF TRAFFIC INJURIES
PROPORTION OF POPULATION WITH PUBLIC INFRASTRUCTURE USE
NEIGHBORHOOD SCHOOL PERFORMANCE
OF HEALTHY FOOD OUTLETS
PROPORTION OF POPULATION WITH SOCIAL COHESION
TOTAL CRIME RATE PER 1,000
PERCENTAGE OF ELIGIBLE ADULTS
PERCENTAGE OF POPULATION WITH ECONOMIC WELL-BEING
UNEMPLOYMENT RATE
AVERAGE ANNUAL INCOME
NUMBER OF BUSINESSES AND EMPLOYMENT

50 THE MARIPOSA HEALTHY LIVING INITIATIVE

EXPLORE DESIGN SOLUTIONS

HEALTHY COMMUNITY

HEALTHY HOUSING

HEALTHY HOUSING INDICATORS

- Percent of population living below poverty level
- Housing supply and options index and match of need
- Percent of household income spent on housing and transportation
- Housing health & safety

Why is this a health determinant? Adverse housing environments can be substandard, overcrowded, or undesirably located; high costs may leave fewer resources for food, transportation, health care. ** Homeownership positively impacts social cohesion and civic participation. *

Desired objectives: Provide a range of housing options; size, tenure, affordability; protect from involuntary displacement; decrease concentrated poverty; ensure access to healthy, quality housing and home environment

HEALTHY HOUSING STRATEGIES

- Support a housing "hub" in the neighborhood through educational and support programs and by increasing the available range of housing types and affordability levels. Support residents moving from deeply subsidized to middle income housing to homeownership. *
- Install a ventilation system for the dwelling unit capable of providing fresh air per ASHRAE requirements to ensure indoor air quality. *
- Construct energy efficient housing to reduce utility costs and to improve outdoor air quality. *
- Include casual, everyday opportunities for physical activity in indoor spaces as well as in the neighborhood. *

Functionality of commercial workplaces and residential buildings. **

- Implement and enforce a no smoking policy within buildings and 25 feet around all residential buildings. *
- Provide interior daylighting in 90% of common areas and 75% of all areas. *
- Provide access to views of nature in 90% of common areas and 75% of all areas. *
- Within multi-family and mixed-use buildings, provide closely adjoining environments along hallways and paths of travel. *
- Design a minimum of 10% of the dwelling units to be "green" than standard in accordance with ICC, International Accessible Guidelines. *

51 THE MARIPOSA HEALTHY LIVING INITIATIVE

HEALTHY HOUSING RESOURCES

- LEED ND - NPOC4 - Mixed Income Developments: enabling new household sizes, and age groups to live together.
- LEED ND - GIB2: Building Energy Efficient: energy-efficient buildings that reduce effects from energy production and use.
- Enterprise Green Communities Criteria: building energy performance result in hot water, lights and appliances, which costs.
- NYC Active Design Guidelines - 2.1.1: developments, provide for a mix of uses (stores, cultural and community spaces).
- Enterprise Green Communities - Criteria: a no-smoking policy in all common and around the exterior of all residential projects in these locations and specify that it applies to all owners, tenants, guests, and visitors.
- LEED NC - EQ4.1-2: Daylight and Views: connection between indoor spaces and views into the regularly occupied areas.
- NYC Active Design Guidelines 2.9 - 0: and sidewalks toward interesting view open views from a path encourages active walking.
- Enterprise Green Communities - Criteria: of the dwelling units (no fewer than one) Accessible guidelines. LEED ND NPOC4.

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CAMPAIGN CHECKLIST - 1. GET CONNECTED

STRATEGY	ACTIONS	TEAM	TIMELINE	SUCCESS
Improve access to and provide safe pedestrian routes to health care, providers, and counselors	a. Improve access, safe pedestrian routes, and transportation to Denver Health. Coordinate a free shuttle to Denver Health.	Denver Health	NOV 2015	See pg. 40, P. 4
Encourage key retail and neighborhood amenities within walking distance of Mariposa	a. Seek and encourage community supporting tenants for new ground level spaces and in the Art District on Santa Fe b. Support existing retail and amenities in the neighborhood	Entrepreneurship and microfinancing business support entities		
Provide a dedicated central community location for information sharing	a. Provide interactive book for real time transit information, transportation options, and community event information b. Consider community ambassador to serve as conduit for community information c. Provide community forum on the internet, or coordinate with existing neighborhood association	Santa Fe Arts District, RTD; Transit Alliance Group; Bike Denver The Denver Office of Economic Development (ODED)		
Enhance and build safe, appealing bicycle and pedestrian networks and connect with neighborhood and city-wide networks and destinations.	a. Work with the City to improve traffic safety through traffic calming, traffic safety enforcement, intersection, roadway and sidewalk design. Support measures at 10th and Kalamuth and periodically conduct pedestrian audits to identify problem areas. b. Focus improvements on 10th Avenue as a primary connection to the La Alma/Lincoln Park neighborhood c. Support neighborhood walking groups to destinations (schools, arts district First Friday) and for leisure d. Support trails and trail connections - support a walking trail at the planned playing fields in Auraria and a connection to those as well as to the Cherry Creek Trail. e. Install pedestrian and bicycle pathways where streets are disconnected and enhance existing pedestrian and bicycle networks f. Incorporate wayfinding along established bike routes and paths g. Provide safe, convenient bicycle storage, and parking garages.	City of Denver; Public Works, Bike Denver, B-Cycle; UC Denver School of Public Health Public Works, Santa Fe Arts District, the Task Force Let's Move Denver; Roberts, Jolt, Denver Environmental Health City of Denver Public Works, Bike Denver, B-Cycle, Auraria City of Denver Public Works, Bike Denver, B-Cycle		See pg. 42, P. 3
				DENVER HOUSING AUTHORITY

26 THE MARIPOSA HEALTHY LIVING INITIATIVE



HEALTHY HOUSING STRATEGIES

-  Support a housing “ladder” in the neighborhood through educational and support programs and by increasing the available range of housing types and affordability levels. Support residents moving from deeply subsidized to middle income housing to homeownership ^a.
-  Install a ventilation system for the dwelling unit capable of providing fresh air per ASHRAE requirements to ensure indoor air quality ^b.
-  Construct energy efficient housing to reduce utility costs and to improve outdoor air quality ^c.
-  Include casual, everyday opportunities for physical activity in indoor spaces as well as in the functionality of commercial workplaces and residential buildings ^{6-7, d}.
-  Implement and enforce a no smoking policy within buildings and 25 feet around all residential buildings ^e.
-  Provide interior daylighting in 90% of common areas and 75% of all areas ^f.
-  Provide access to views of nature in 90% of common areas and 75% of all areas ^f.
-  Within multi-family and mixed-use buildings, provide visually appealing environments along hallways and paths of travel ^g.
-  Design a minimum of 15% of the dwelling units (no fewer than one) in accordance with ICC /ANSI A117.1, Type A, Fully Accessible guidelines ^h.

(#) - See page x for reference

(x) - See resources opposing page



Indicates strategies linked to health evidence and academic research.



Menlo Park Gateway | Menlo Park, California

PLACE



TRANSFORM COMMUNITIES,
TRANSFORM THE INDUSTRY.

EVALUATE, COMMUNICATE, IMPROVE!



Hunters View (before) | San Francisco, California



Hunters View | San Francisco, California



Hunters View | San Francisco, California

PEOPLE



PERFORMANCE



PLACE



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keywords: health, Mariposa



MITHŪN

Seattle | San Francisco



Portfolio-Wide Energy Benchmarking: Tools, Challenges, and Benefits

Tabitha Harrison

TENDERLOIN NEIGHBORHOOD
DEVELOPMENT CORPORATION

Portfolio-Wide Energy Benchmarking: Tools, Challenges, and Benefits



TENDERLOIN
NEIGHBORHOOD
DEVELOPMENT

© Tenderloin Neighborhood Development Corporation, 2015.





Monitoring

- Monthly Utility Analysis
- Water Audits, Leak Detection

Improvements

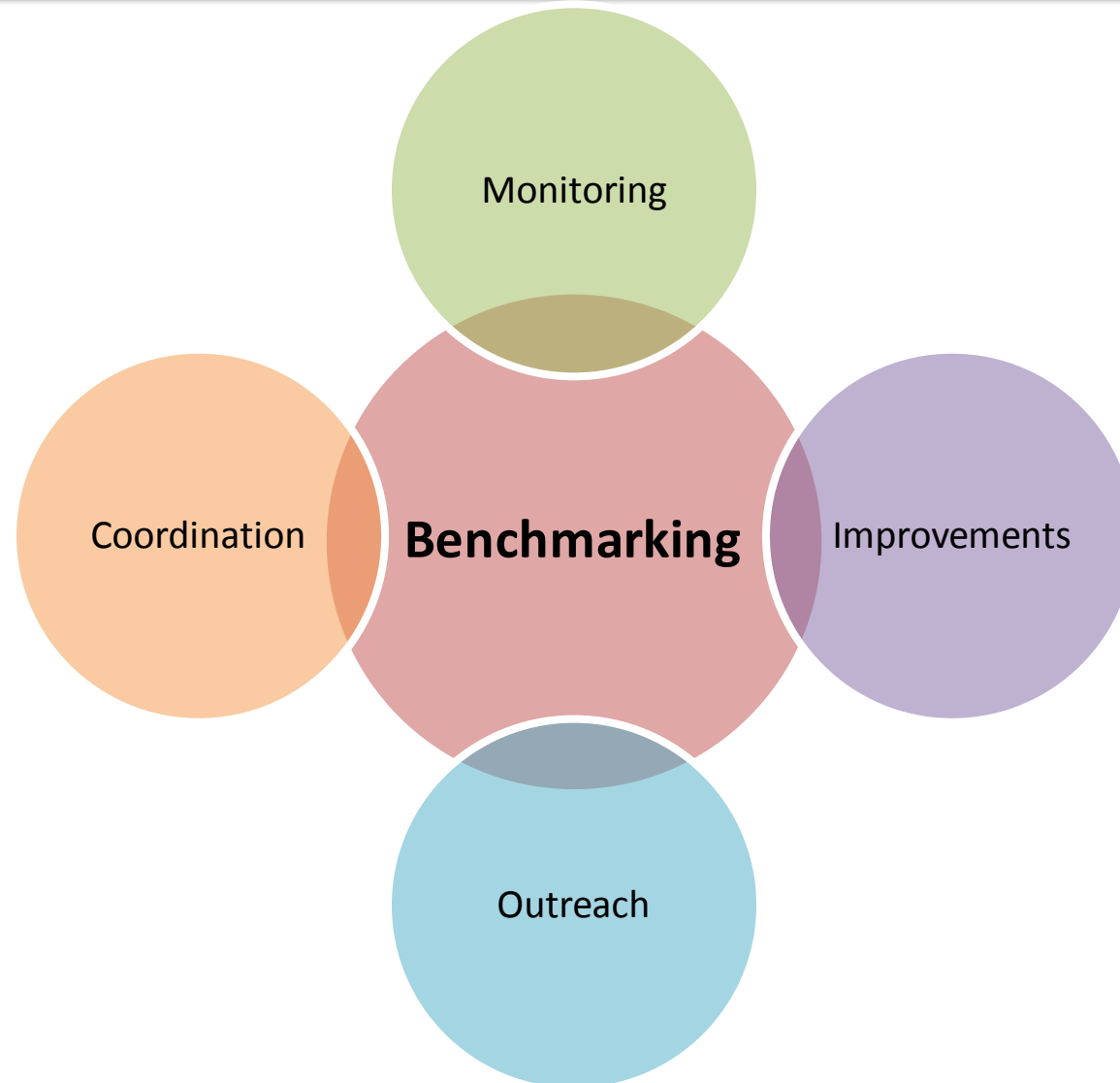
- Lighting Improvements & Assessments
- Solar Assessments & Repair/Replacement

Outreach

- Green Committee
- Staff Events & Newsletter
- Tenant Education Sessions

Coordination

- Housing Development
- Asset Management
- Tenant Services





- What is it?
 - Comparing apples to apples
 - Normalized data
 - “Intensity” (per-square-foot)
 - Weather
- Types
 - Building-level
 - Compare to peers* and self
 - Portfolio-level
 - Holistic
 - Granular

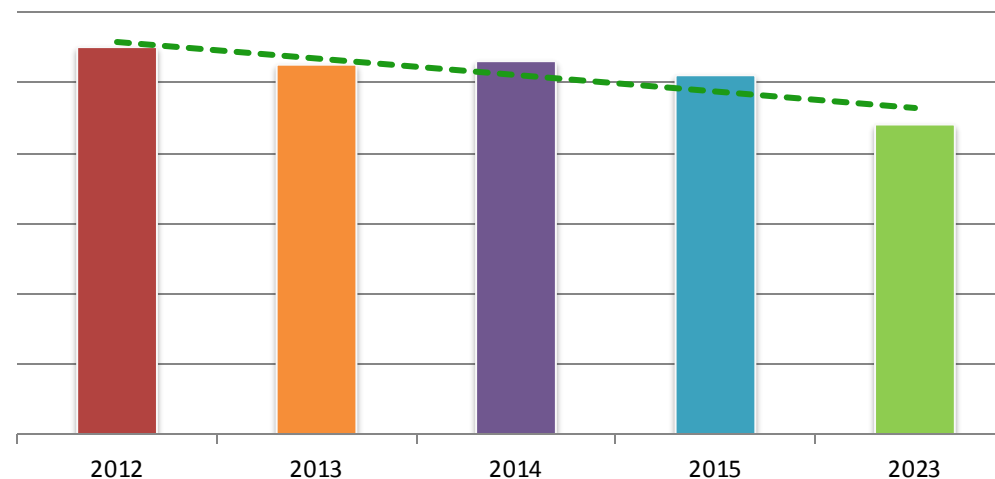


* Dependent on benchmarking platform. Portfolio Manager uses CBECS.



- Why should I care?

- Better Buildings Challenge
- Support goals with data
- Understand where you are (and where you've been)
- Develop an improvement map, spot priorities and trends





TNDC Benchmarking_Annual Electricity Use						
Date Generated: 04/26/2016 07:49 PM EDT						
Number of properties in report: 30						
Property Id	Property Name	Year Built	Year Ending	Property GFA - EPA Calculated (Buildings) (ft ²)	Electricity Use Intensity (kBtu/SF)	Electricity Use - Grid Purchase (kWh)
4371761	Civic Center Residence	1924	12/31/2015	58,608	40.75	699,959.90
4371748	Ambassador	1910	12/31/2015	53,909	29.27	462,392.40
4371765	Dalt Hotel	1919	12/31/2015	65,033	26.81	511,050.50
4371750	Polk St.	2008	12/31/2015	74,065	26.29	570,669.30
4371772	Maria Manor	1914	12/31/2015	46,800	25.24	346,206.90
4371749	West Hotel	1907	12/31/2015	37,687	24.67	272,514.50
4371756	Kelly Cullen Community	1910	12/31/2015	117,898	24.34	840,896.80



- **Common Pitfalls**

- Incomplete or incorrect data
- Time commitment
- Lack of knowledge or understanding





- **Plan first, act later**
 - What are your goals?
 - Think long-term
 - Benchmarking is more than a reporting tool
 - Balance detail with clutter
 - Track related information and notes in a master spreadsheet or database



- **Collect building data**
 - As-built plans
 - Do it once, do it right
- **Collect energy data**
 - Understand each building's metering configuration
 - Track what you can, even if it's not complete (yet)
 - Explore utility provider offerings, websites



Summary

2 Meters representing the energy consumption of **combination of common and tenant areas** for [Pierce St. Apts](#) (a single building).

About Sub-meters

If you have sub-meters to measure energy or water consumption for a specific purpose, and you also have a master meter (which measures total consumption), counting both of those meters would double count your consumption and skew your metrics (e.g., artificially increase your Site Energy Use Intensity). [Learn More about configuring meters for performance metrics.](#)

Energy Meters

Select all meters to be included in your Energy metrics. (Hint: All meters should be included unless they are [sub-meters](#).)

<input type="checkbox"/>	Name Meter ID	Type
<input checked="" type="checkbox"/>	PierceG1 19163328	Natural Gas
<input checked="" type="checkbox"/>	PierceE1 19163320	Electric - Grid

Total of 2 meter(s). Tell us what this represents:

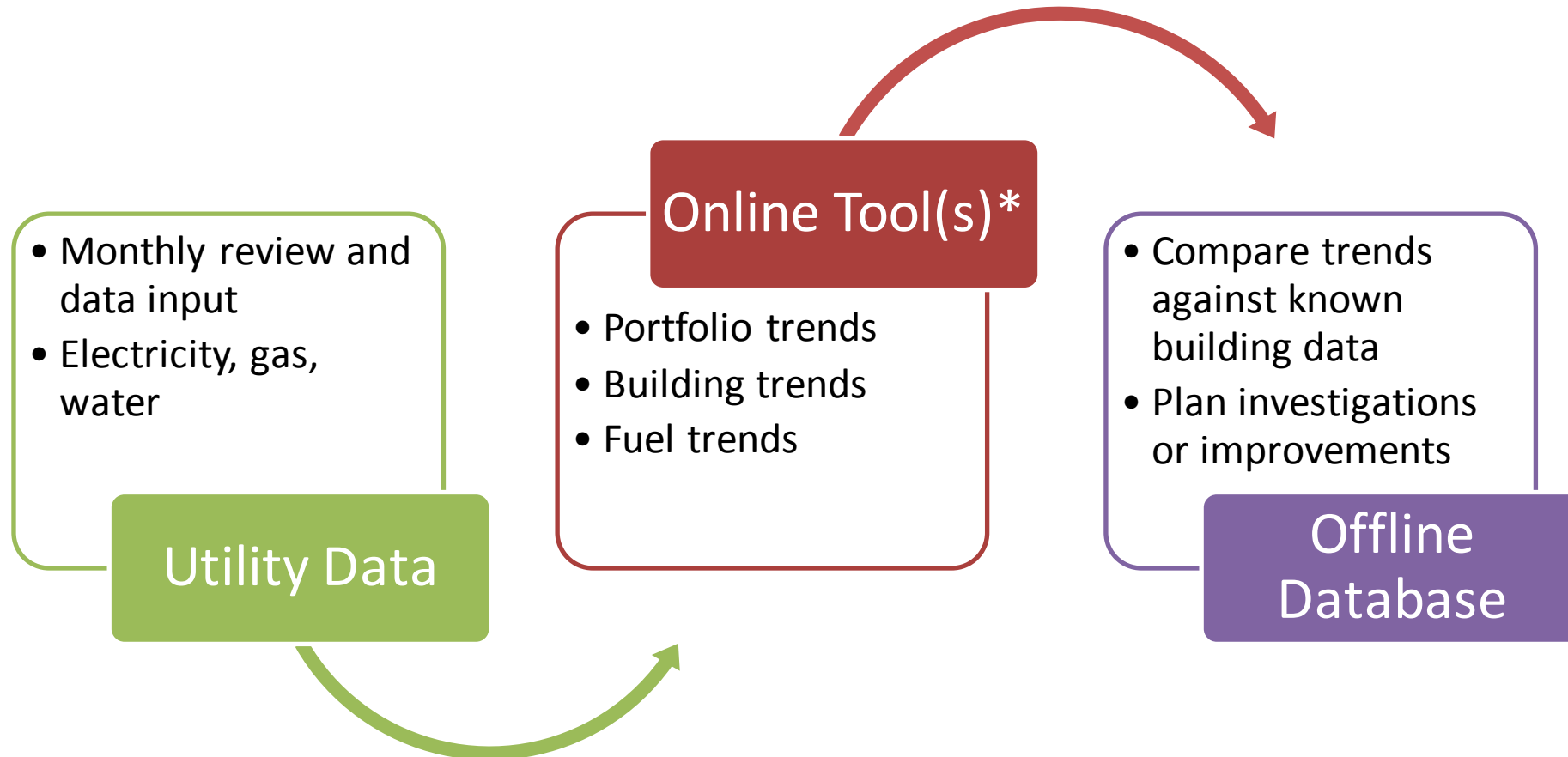
- * These meter(s) account for the total energy consumption for [Pierce St. Apts](#) (a single building).
- These meter(s) do not account for the total energy consumption for [Pierce St. Apts](#) (a single building).

These meters only account for:

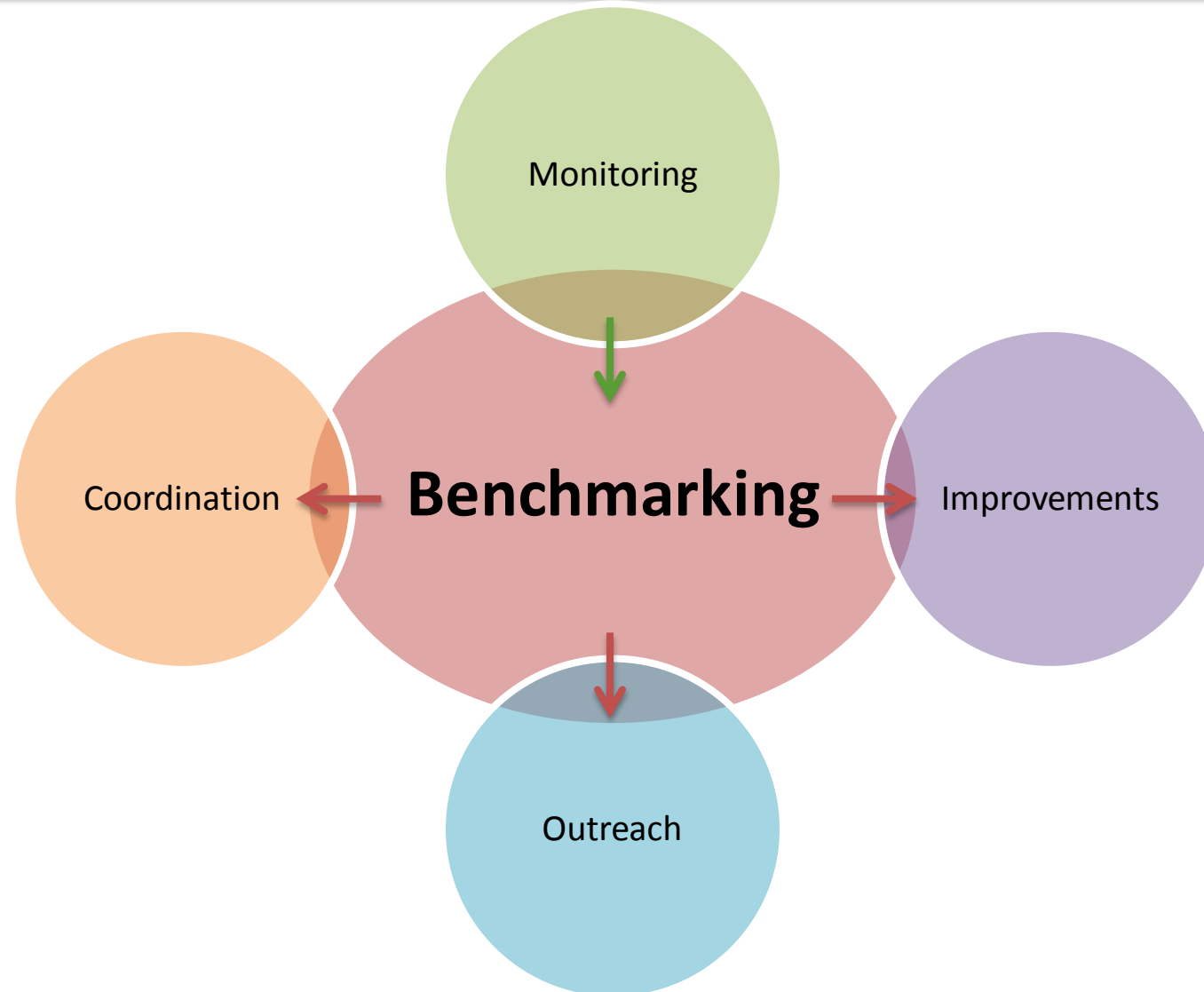
- * Common areas only
- Tenant areas only
- Combination of common and tenant areas
 - * Tenant Heating
 - Tenant Cooling
 - Tenant Hot Water
 - Tenant Plug Load/Electricity
 - Common Area Heating
 - Common Area Cooling
 - Common Area Hot Water
 - Common Area Plug Load/Electricity
- Another configuration



- **Be realistic**
 - Who will “own” the process?
 - Form internal partnerships to fill building science gaps
 - Consider seeking outside help
- **Develop habits**
 - Update energy data monthly
 - Establish data-driven program and project management



*Examples: Portfolio Manager, EnergyScoreCards, WegoWise, etc.





- Use benchmarking data to identify potential capital improvement projects
- Consider grouping similar projects together
 - Economies of scale
 - Reduced project management effort
 - Quicker turnaround



Use benchmarking data to inform outreach and coordination efforts



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Questions





Discussion