

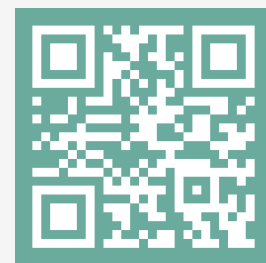


STATE OF PLACE

NATIONAL ACADEMIES ACCELERATING CLIMATE PROGRESS WORKSHOP:

How Data & AI can Harness the Power of
Place to Improve Climate Resilience &
Quality of Life

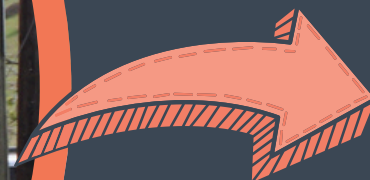
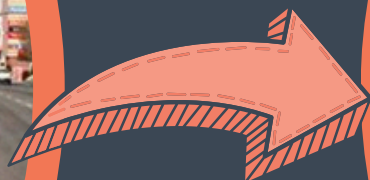
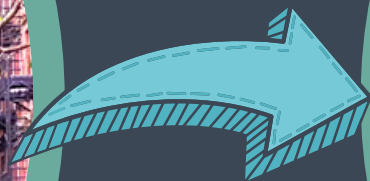
Mariela Alfonzo, Ph.D,
Founder/CEO, State of Place
www.stateofplace.co
mariela@stateofplace.co
Jan 12th, 2026



**WHERE
WE LIVE
PRE-DETERMINES
HOW
WELL
WE LIVE**







POOR URBAN DESIGN COSTS US ALL - EXPONENTIALLY

\$871B
VEHICLE
COLLISIONS



\$ 8 7 B
A I R
POLLUTION



\$2.9T
CHRONIC
DISEASE



\$117B
OBESITY



\$7.2T



\$450B
CRIME &
VIOLENCE



\$ 7 6 3 B
ECONOMIC
OPPORTUNITY



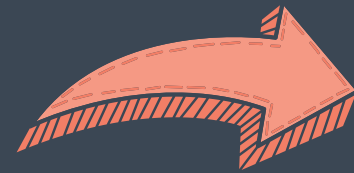
\$2T
CLIMATE
CHANGE



**URBAN
DESIGN**

**BEHAVIORS &
PERCEPTIONS**

QUALITY OF LIFE



STATE OF PLACE

Thriving, Resilient Places

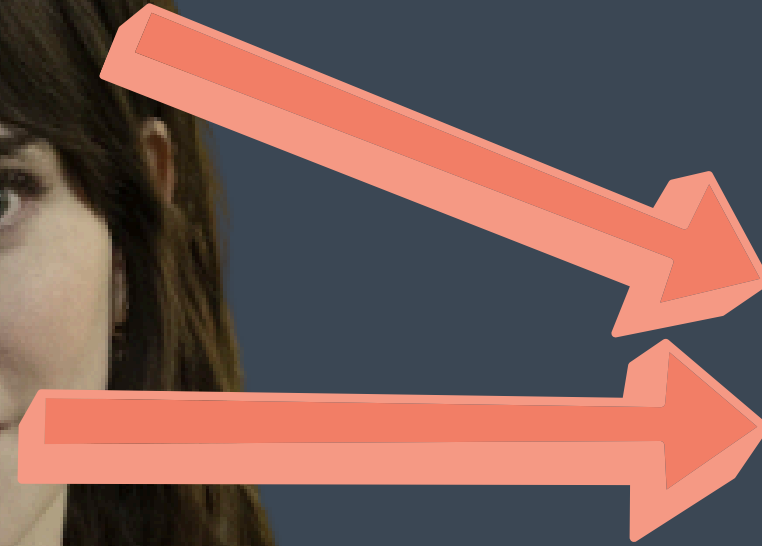
***Machine
Learning***



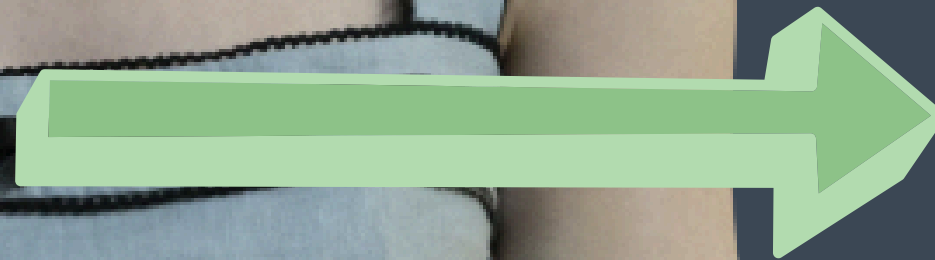
***Computer
Vision***



***Large
Language
Models
(LLMs)***



Generative AI



AI

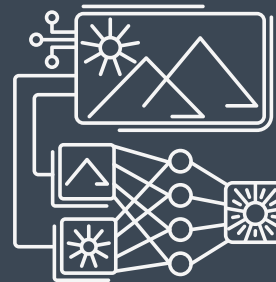


COMPUTER VISION

PURPOSE: *Teach machines to see, interpret, and uncover patterns in visual data — both visible and hidden*

POWERED BY

CNNs



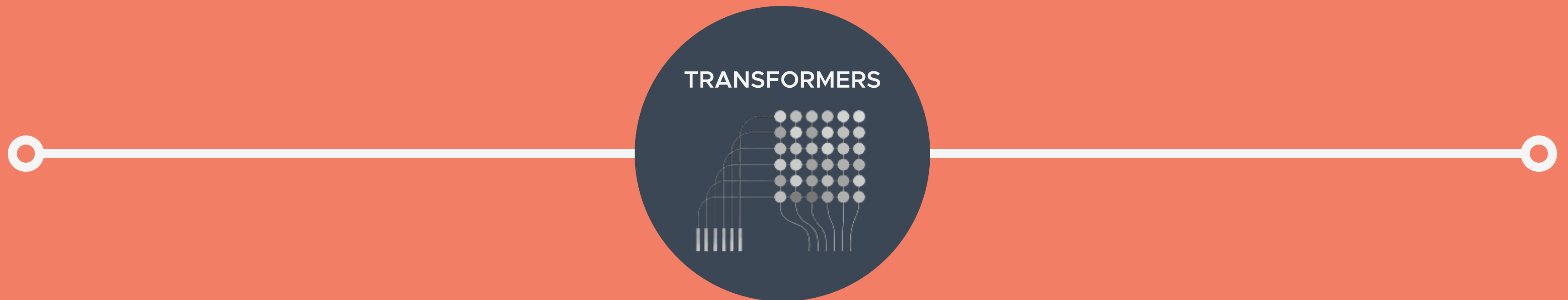
AKA: Convolutional Neural Networks



LARGE LANGUAGE MODELS (LLMS)

PURPOSE: *Understand and generate language - sequences of text, code, speech, etc.*

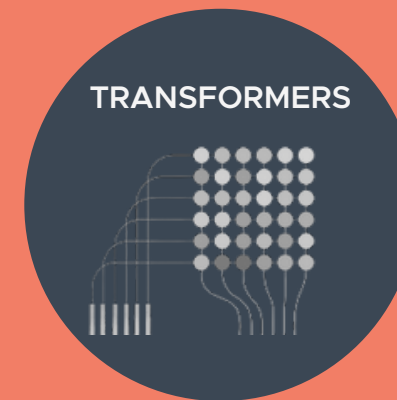
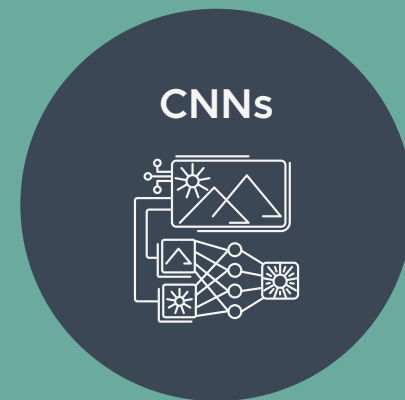
POWERED BY



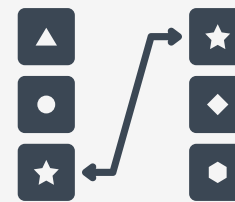
CLIP

PURPOSE: *Connects images and text - model learns visual concepts from natural language; allows computers to “see” through words & “describe” through images*

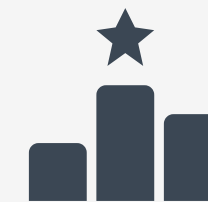
CLIP COMBINES TWO ENCODERS:



Translate inputs (image + text) into mathematical representations



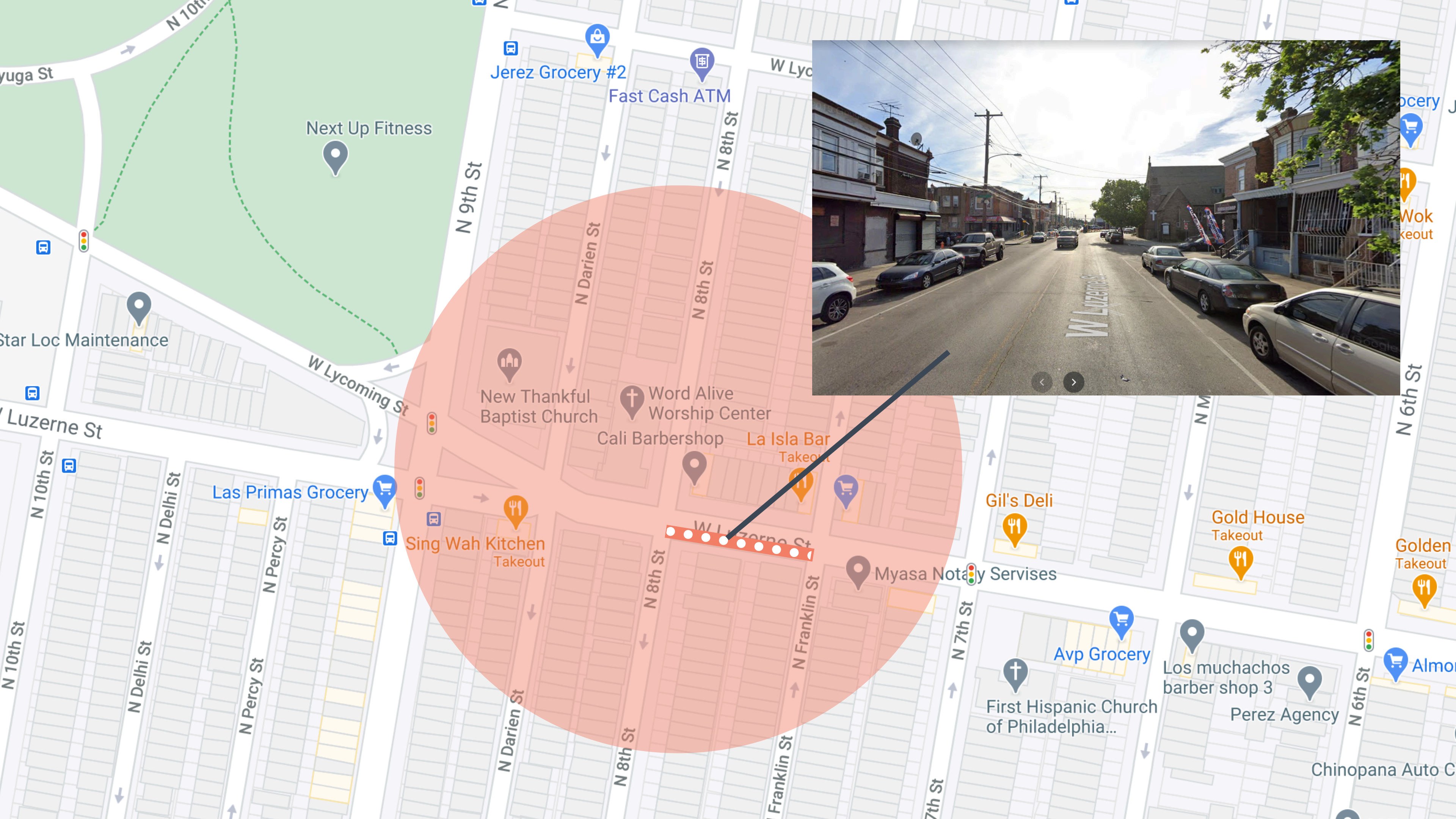
Model matches image-text pairs closer together; pushes non-matching ones apart



Trained model ranks images by how well they match concepts; no manual labeling required.



Meet IRIS!





IMAGES AT 4 ANGLES

*“a sidewalk along
a street”*

TEXT PROMPT



SIDEWALK DETECTED

150+
TOTAL!

...

...

...

15

14

13

12

10

11

8

6

5

3

2

9

7

4

1



15

14

13

12

10

11

8

6

5

3

2

9

7

4

1



BUILT ENVIRONMENT DATA:

STATE OF PLACE INDEX & 10 DIMENSIONS



Density

Building Compactness
& Height



Form

Streetscape Continuity
& Enclosure



Connectivity

Ease of Access; Lack of
Pedestrian/Bike barriers



Proximity

Access to Non-
Residential Destinations
& Diversity of Land Use



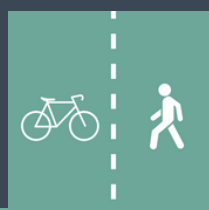
Public Spaces

Presence, Quality, &
Access to Hard & Soft
Scape Public Spaces



Rec. Facilities

Presence of Outdoor &
Indoor Physical Activity
Facilities



Ped/Bike Amenities

Features that Make it
Comfortable for
Pedestrians & Bicyclists



Traffic Safety

Quality & Safety of the
Intersection; Traffic
Calming Features



Aesthetics

Urban Design Features
that Make Places
Dynamic & Inviting



Personal Safety

Features that Influence
Perceptions of Personal
Safety



SELECT LOCATIONS

HEAT MAP

BROWSE DATA

PRIORITIZE

ANALYZE SCENARIOS

FORECAST FINANCIALS

API

Browse data

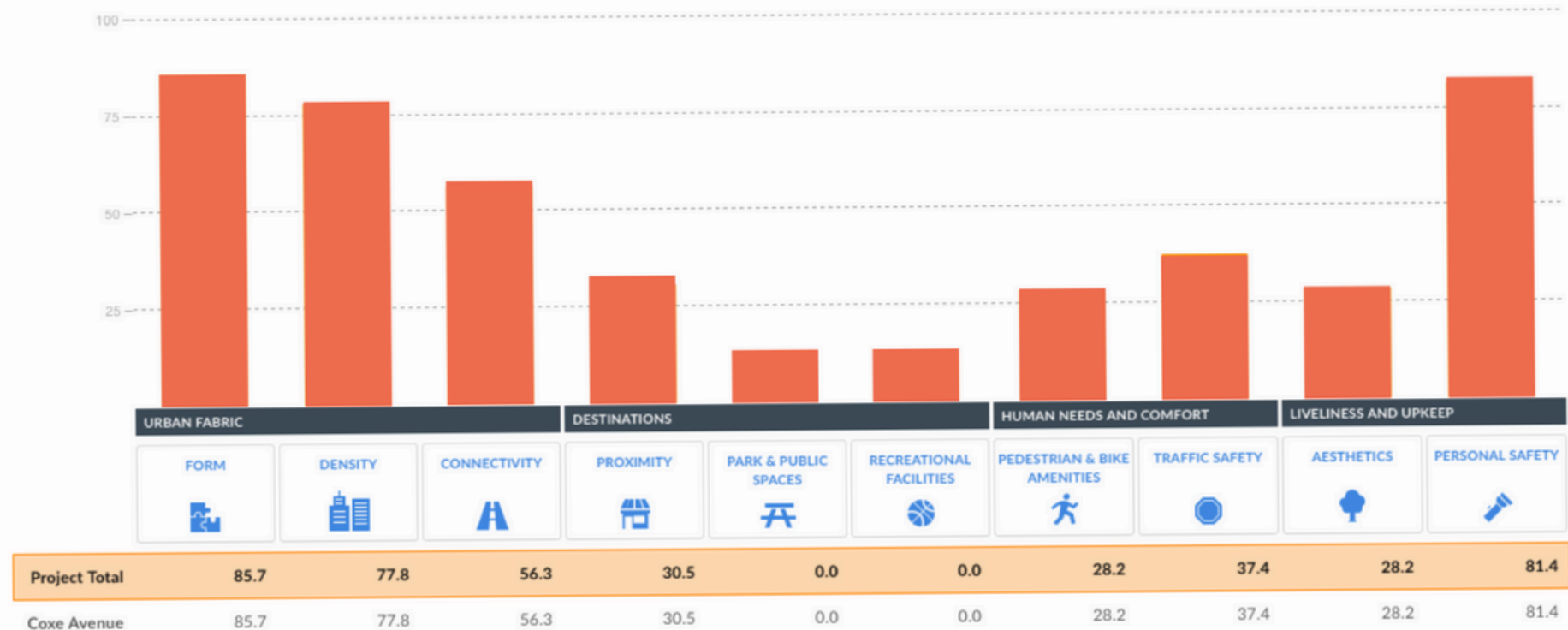
 [Download report](#)

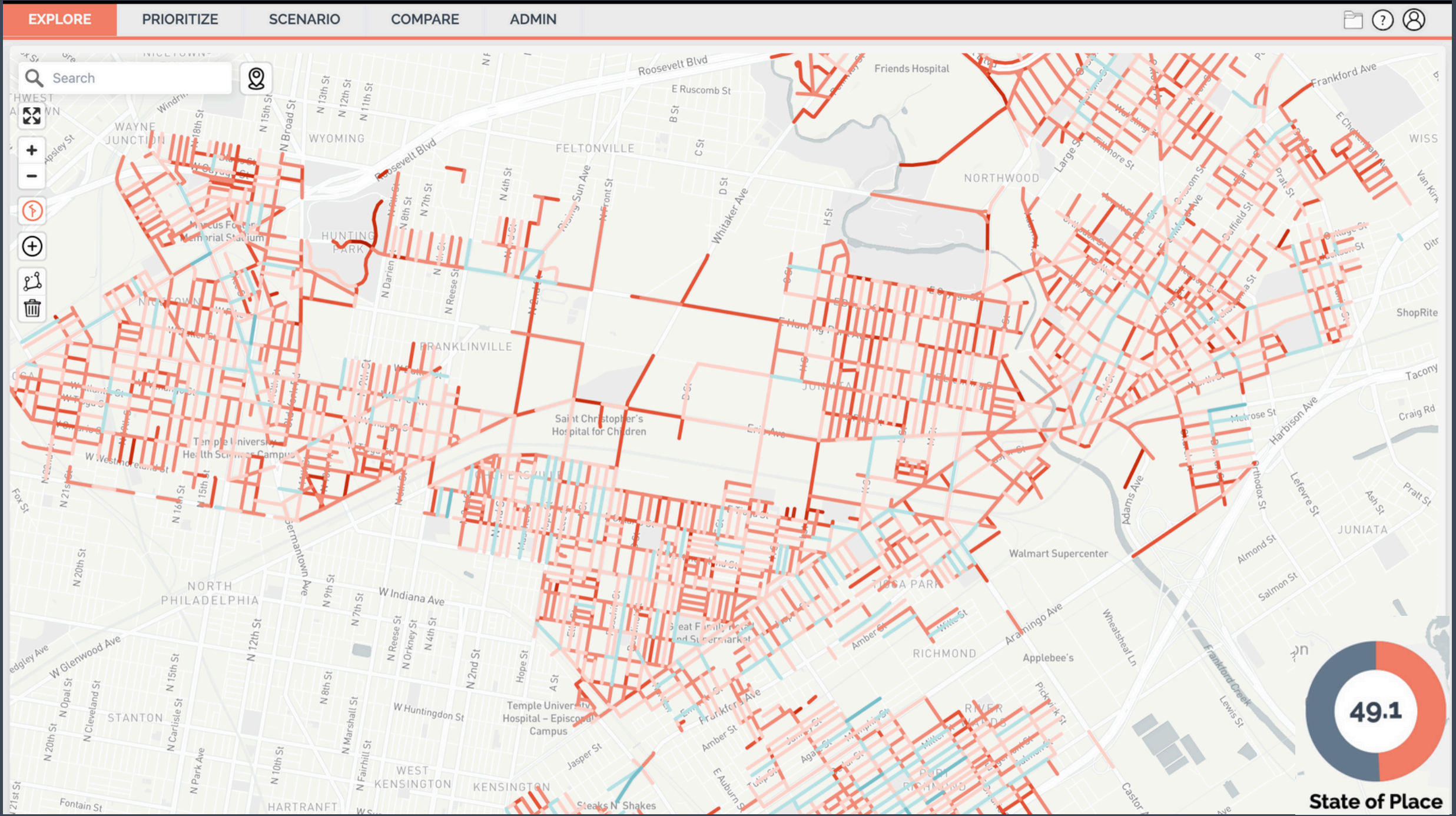
VIEW DATA FOR

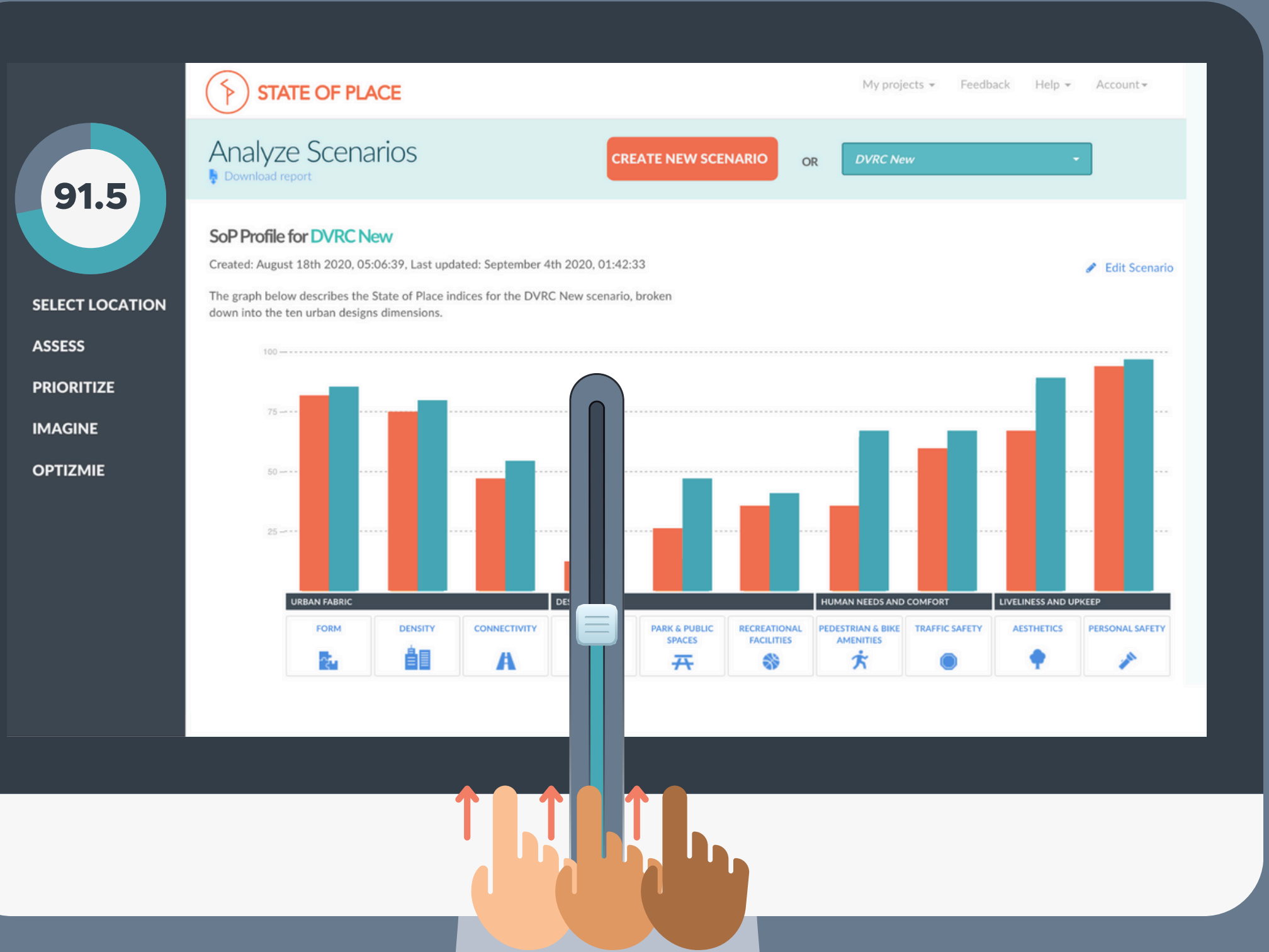
All blocks in the project ▾

SoP Profile for all blocks in the project

The State of Place Index is composed of ten urban design dimensions empirically known to impact people's decisions to walk. Explore each dimension by clicking on it.









SELECT LOCATION

BROWSE DATA

PRIORITIZE

ANALYZE SCENARIOS

FORECAST FINANCIALS

Analyze

SoP Profile

The graph below
down into the te

Existing
Profile

Test 2

Create a New Scenario

3. Edit urban design features for each block

Block

Herisauer Str segment: 3 Biderstrasse to Cul de sac

Recommended Features to Change
(Coming Soon!)

Neighborhood ID	0
Intersection Quality	0
Sidewalks	1
Land Uses - Residential	0
Land Uses - Public	0
Land Uses - Commerical	0
Land Use Mix	0
Public Space & Gathering Places	0
Bicycle Amenities	2
Public Realm	4
Aesthetics	0
Parking	1
Traffic & Roadway Features	0
Personal Safety	0

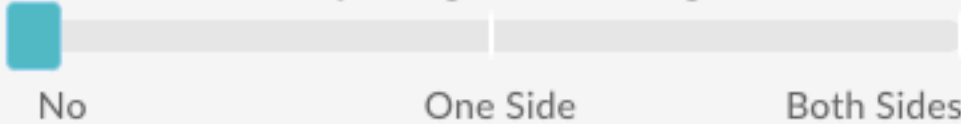


All edits are saved
automatically

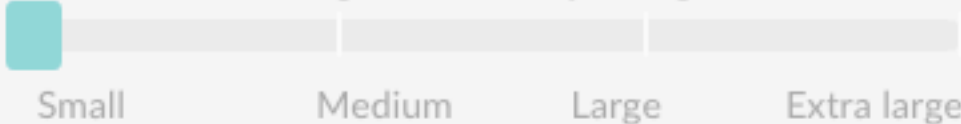
GOT IT

DEFINITIONS

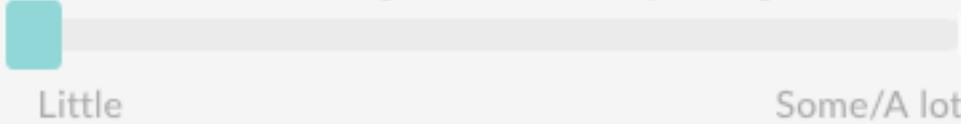
Is there a surface parking lot on the segment?



What is the average size of the parking lot?

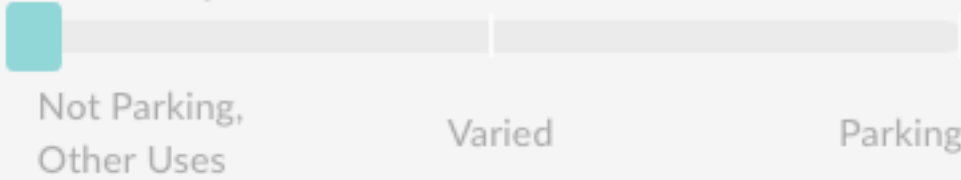


How much of the segment does the parking lot cover?



☐ Is there a parking structure visible on this
segment? Do not include parking structures that
are completely under ground.

Looking at the front of the parking structure on the
street level floor, what is the predominant use that is
visible to you?



How many driveways are visible on the segment?



SAVED SCENARIO

2

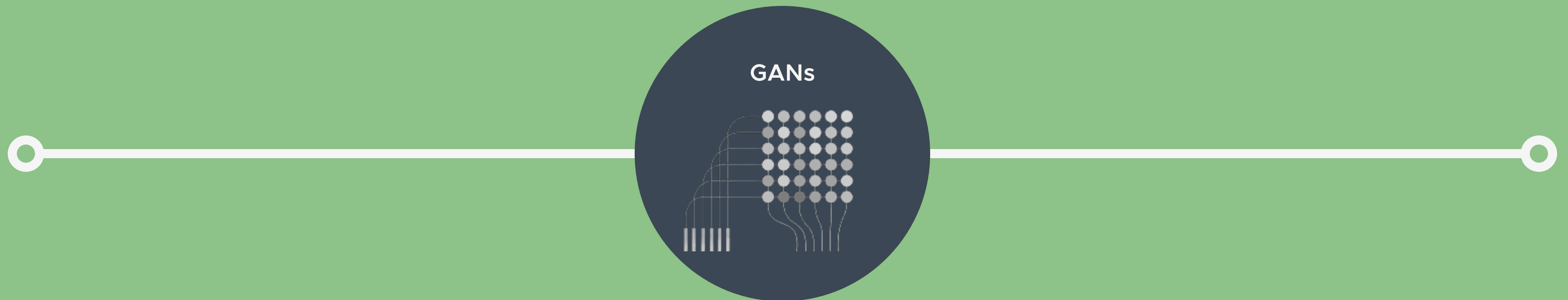
Edit Scenario



GENERATIVE AI

- PURPOSE:
- *Creates new content - text, images, audio, or designs - that resemble the data it learned from*
 - *Gen-AI doesn't predict - it synthesizes something NEW*

POWERED BY



AKA: Generative Adversarial Networks

MACHINE LEARNING

- PURPOSE:**
- *Find statistical relationships in structured, tabular data*
 - *Algorithms use data and optimization to minimize prediction error*

POWERED BY





- SELECT LOCATION
- ASSESS
- PRIORITIZE
- IMAGINE
- OPTIZMIE

STATE OF PLACE

My projectsFeedbackHelpAccount

Prioritize Goals

Download report

VIEW DATA FOR

All blocks in the project

What are this project's most important goals?

☒ Walkability

☐ Office Rents

☐ Retail Rents

☐ Retail Revenues

☐ Commercial Property Values

☒ Job Creation

☒ Visitor Satisfaction

☐ Visits

☐ Chronic Disease Reduction

☐ Vehicle Collision Mitigation

☐ Vehicle Miles Traveled

☐ Flood Mitigation

Relative importance of each dimension

All blocks in the project

1. Pedestrian & Bike Amenities

2. Proximity

3. Park & Public Spaces

4. Traffic Safety

5. Density

6. Aesthetics

7. Recreational Facilities

8. Connectivity

9. Form

10. Personal Safety

Relative importance of each dimension

State of Place prioritization identifies which urban design dimensions should be emphasized, considering three key factors:

The project area's current performance across the ten dimensions (SoP Index)

Predicted impact on key goals

The feasibility (level of difficulty) in improving each of the ten dimensions

ADJUST FEASIBILITY

ADD

MODIFY



Prioritize G

Download report

What are this project's goals?

- ☒ Increase walkability
- ☐ Increase office rents
- ☒ Increase retail rents
- ☐ Increase retail revenue
- ☐ Increase residential density
- ☐ Increase residential amenity

- SELECT LOCATION
- BROWSE DATA
- PRIORITIZE
- ANALYZE SCENARIOS
- FORECAST FINANCIALS

Adjust Feasibility



How difficult is to make changes in the following areas? Adjust the sliders for each dimension below.

Definitions

DIMENSION	HARDEST TO CHANGE	EASIEST TO CHANGE
Form		
Density		
Connectivity		
Proximity		
Park & Public Spaces		
Recreational Facilities		
Pedestrian & Bike Amenities		
Traffic Safety		
Aesthetics		
Personal Safety		

CANCEL

SAVE CHANGES

erisauer Str segment: 3 Biderstrasse to Cul de sac

de sac



sign dimensions should be

ten dimensions (SoP Index)

of the ten dimensions

ADJUST FEASIBILITY



SELECT LOCATIONS

HEAT MAP

BROWSE DATA

PRIORITIZE

ANALYZE SCENARIOS

FORECAST FINANCIALS

3. Financial Forecast for **Philly**

Total value captured

\$377,401,453.40

ROI (Total Value/Dollar)

\$3.77

Office Rent

STATE OF PLACE PREMIUM

\$11.51/sq. foot

\$2.52 Additional transit premium

VALUE CAPTURED

\$22,059,550.35

\$23,820,307.98 Additional transit premium

Retail Rent

STATE OF PLACE PREMIUM

\$8.76/sq. foot

\$7.30 Additional transit premium

VALUE CAPTURED

\$8,054,060.17

\$10,096,746.09 Additional transit premium

Retail Revenues

STATE OF PLACE PREMIUM

\$185.24/sq. foot

\$101.04 Additional transit premium

VALUE CAPTURED

\$134,834,000.00

\$170,198,000.00 Additional transit premium

Residential Rent

STATE OF PLACE PREMIUM

\$409.37/unit

\$10.10 Additional transit premium

VALUE CAPTURED

\$986,560.75

\$11,923,603.80 Additional transit premium

Residential For Sale

STATE OF PLACE PREMIUM

\$610.48/sq. foot

\$53.39 Additional transit premium

VALUE CAPTURED

\$211,467,282.13

\$218,942,084.28 Additional transit premium

Durham Guess Road



Guess Street
Scenario(+51.8)

SELECT LOCATION

BROWSE DATA

PRIORITIZE

ANALYZE SCENARIOS

FORECAST VALUE-ADD

Benefits Forecast for **Guess Street Scenario**

Total value captured

\$7,388,129.96

ROI (Total Value/Dollar)

\$9.85

ESTIMATED HEALTH IMPACTS



42.7%



21.9%



34.6%



ESTIMATED ENVIRONMENTAL IMPACT



32.5%



33.6%



43.1%



ESTIMATED ECONOMIC IMPACT



35.2%



23.4%



29.9%





STATE OF PLACE

High Vulnerability

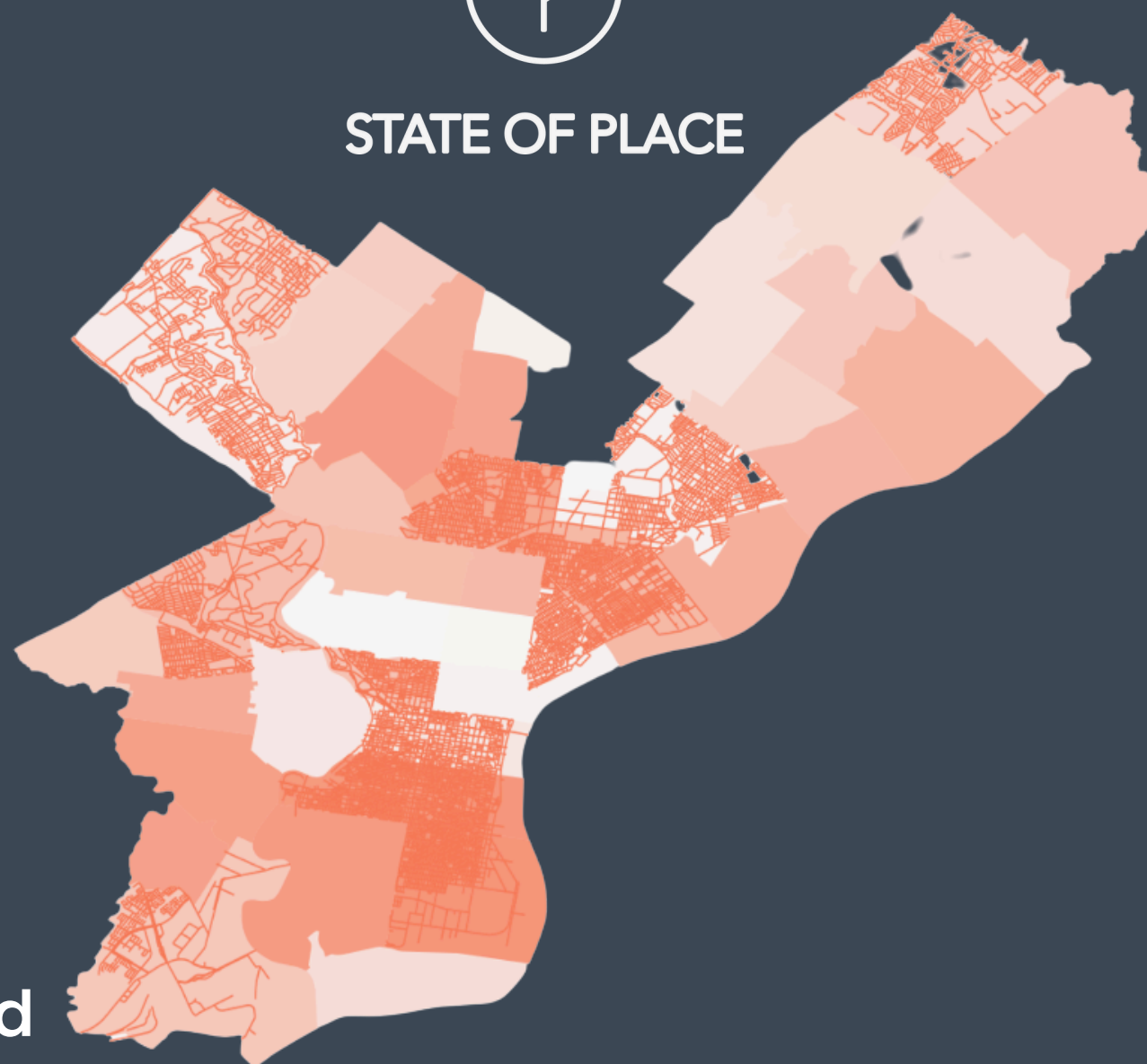
- 19116 Somerton
- 19124 Juanita, Frankford
- 19131 Parkside
- 19140 Hunting Park
- 19153 Southwest
- 19134 Kensington, Port Richmond

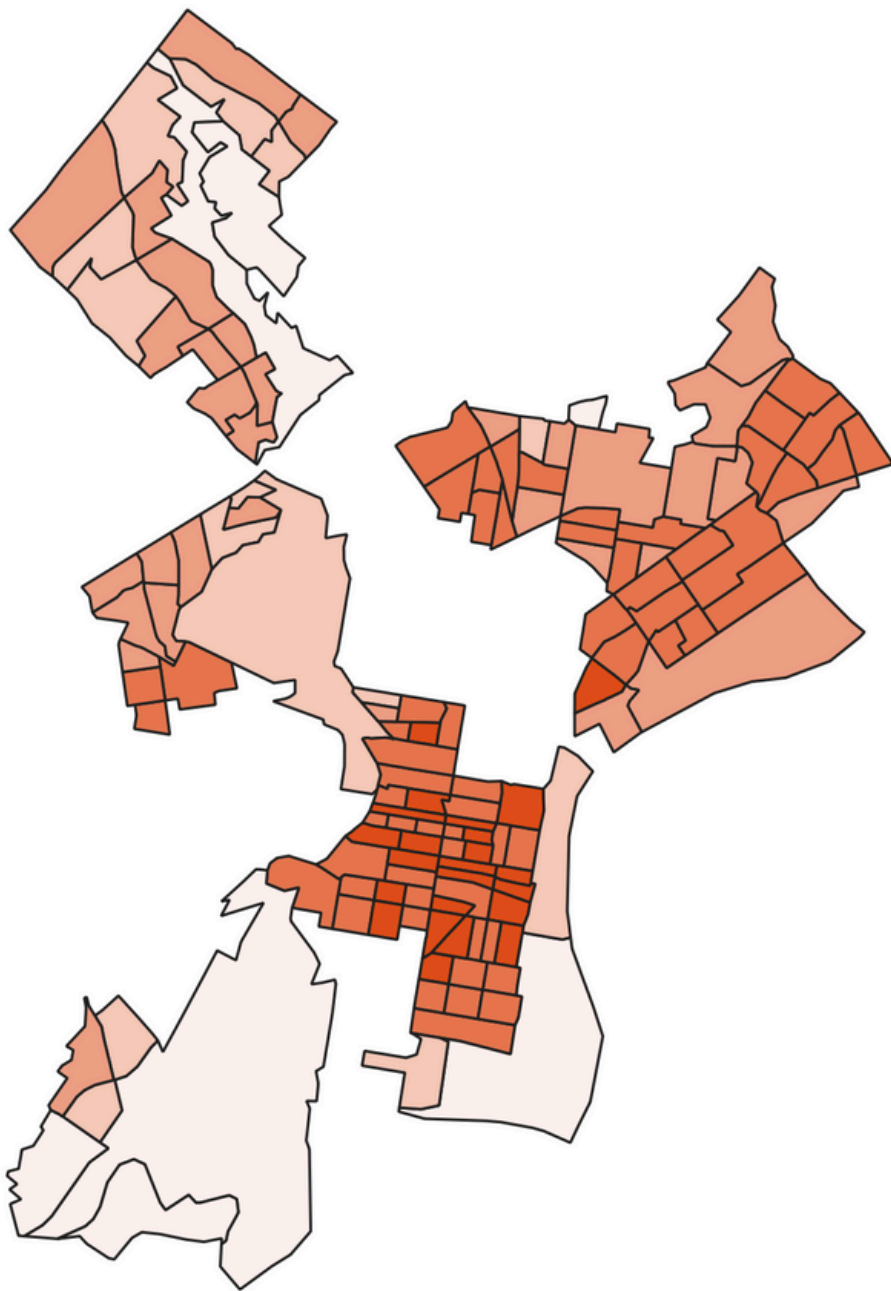
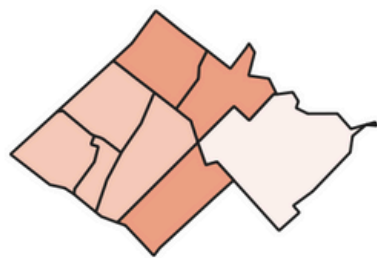
Mixed Vulnerability

- Roxborough 19128
- Greys Ferry/Forgotten 19146
- Bottom 19148
- Pennsport/Lower 19125
- Moyamensing
- Fishtown

Low Vulnerability

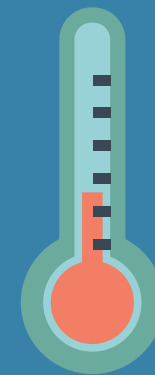
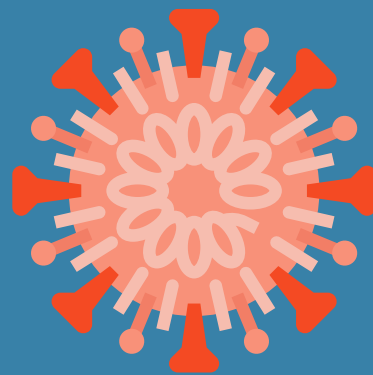
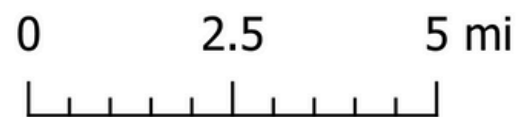
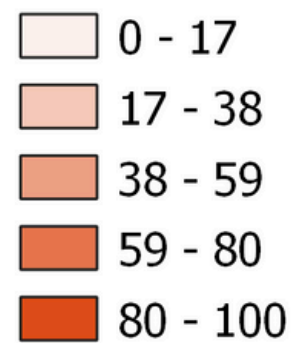
- 19102,19103,19106,19107 Center City
- 19130 Fairmount
- 19147 Queen Village/ Bella Vista/ Passyunk Square
- 19118 Chestnut Hill

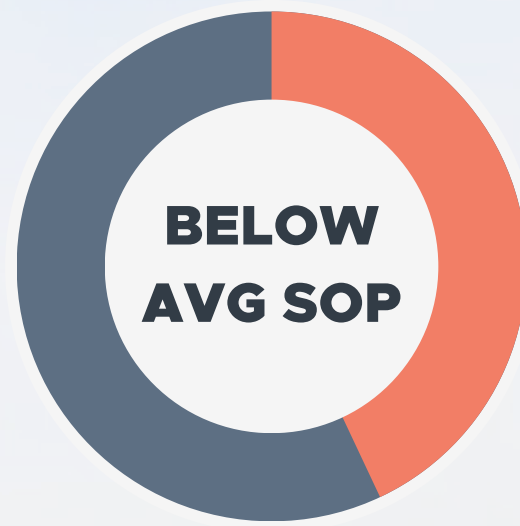




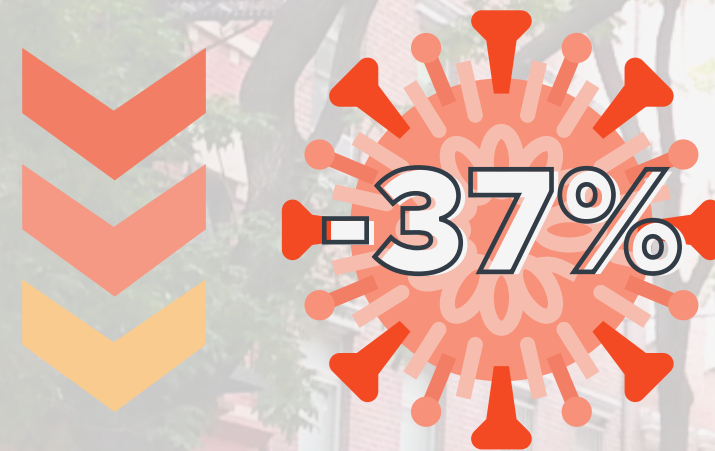
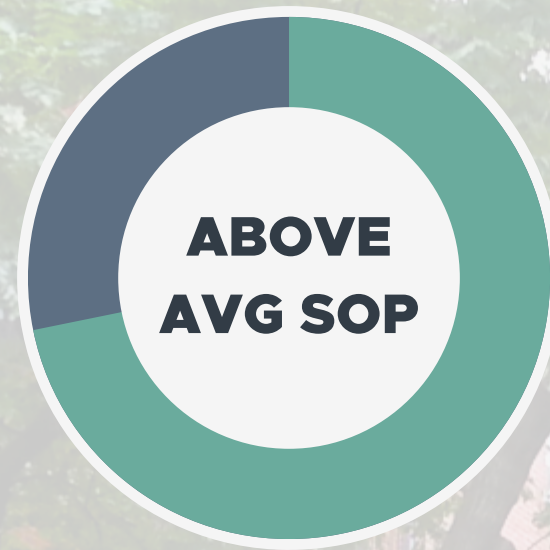
Census Tracts

State of Place Index





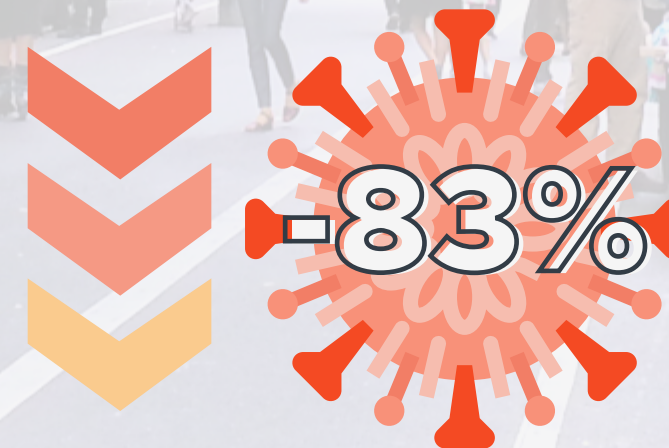
VS



**POSITIVITY
RATE**



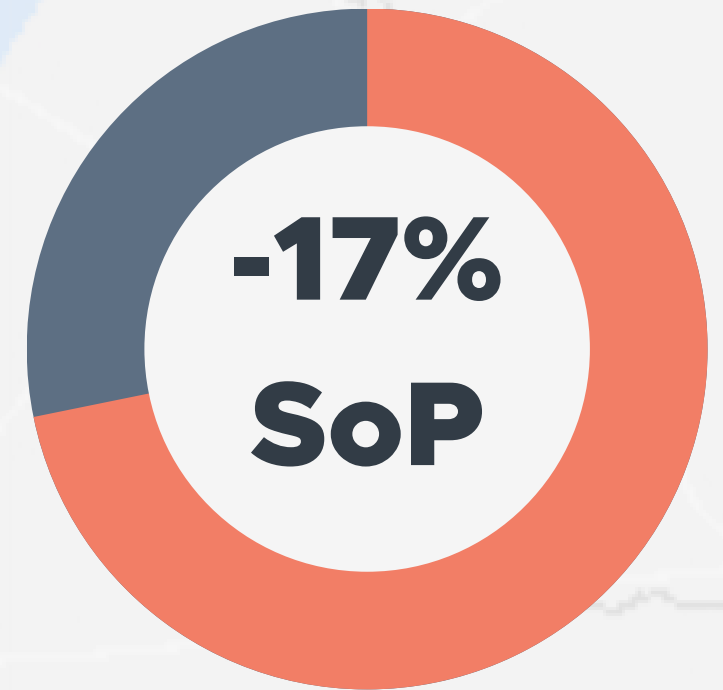
**HOSPITALIZATION
RATE**

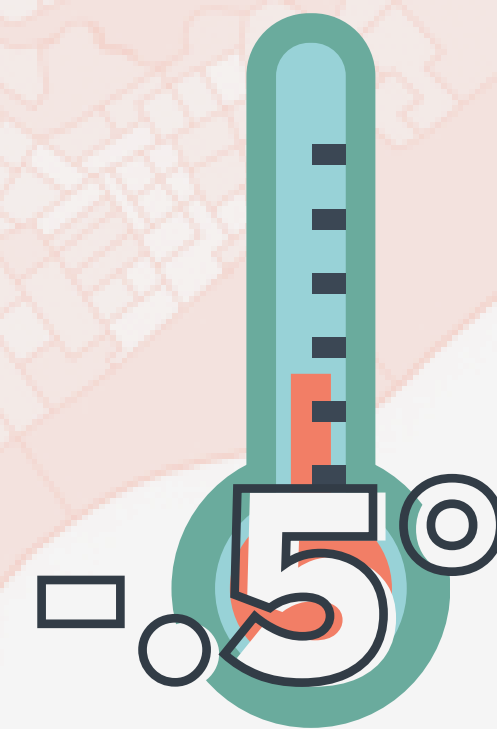
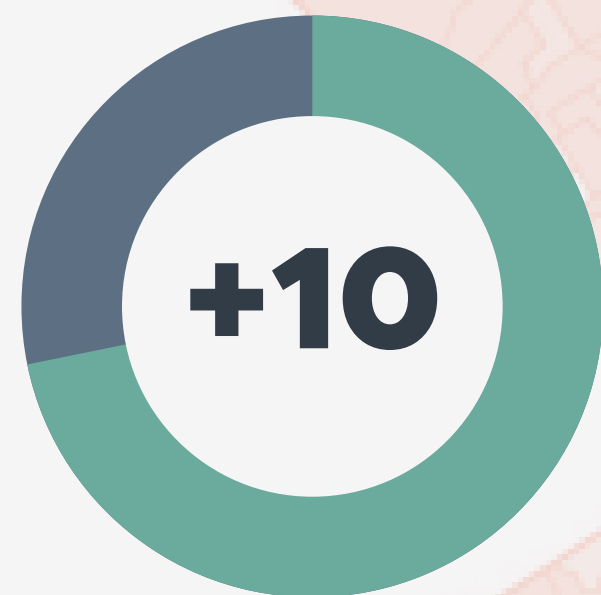


**FATALITY
RATE**

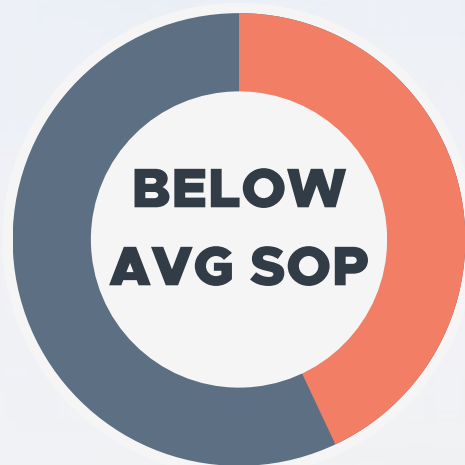


**FLOOD
PLAIN**

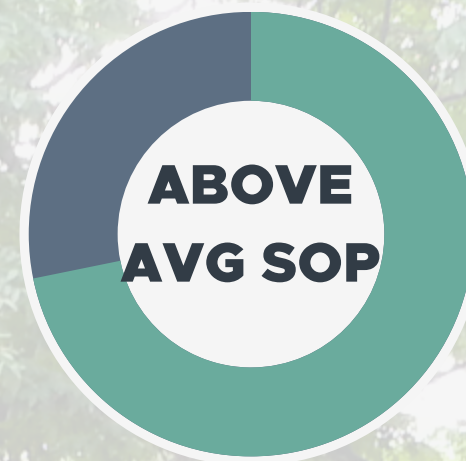




**HEAT
DIFFERENTIAL**



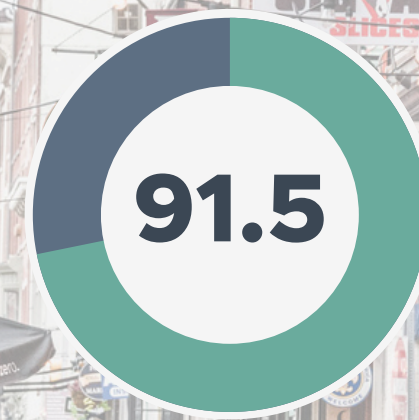
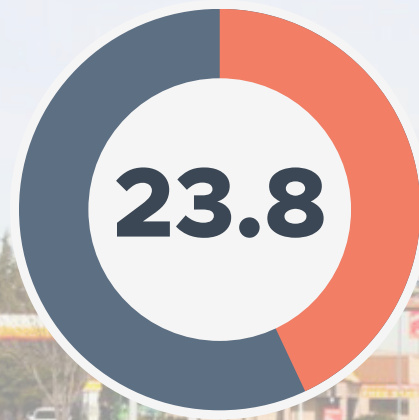
VS



8.7X



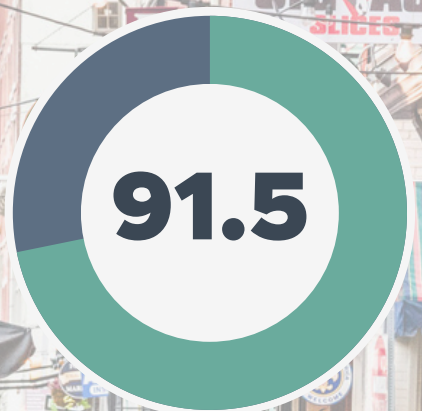
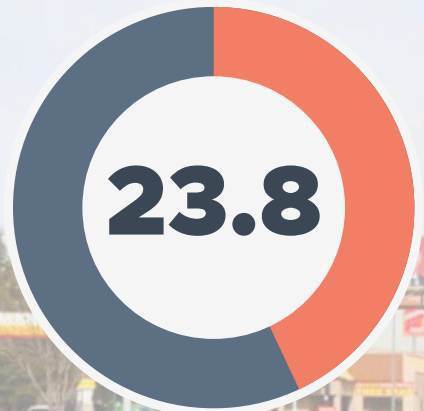
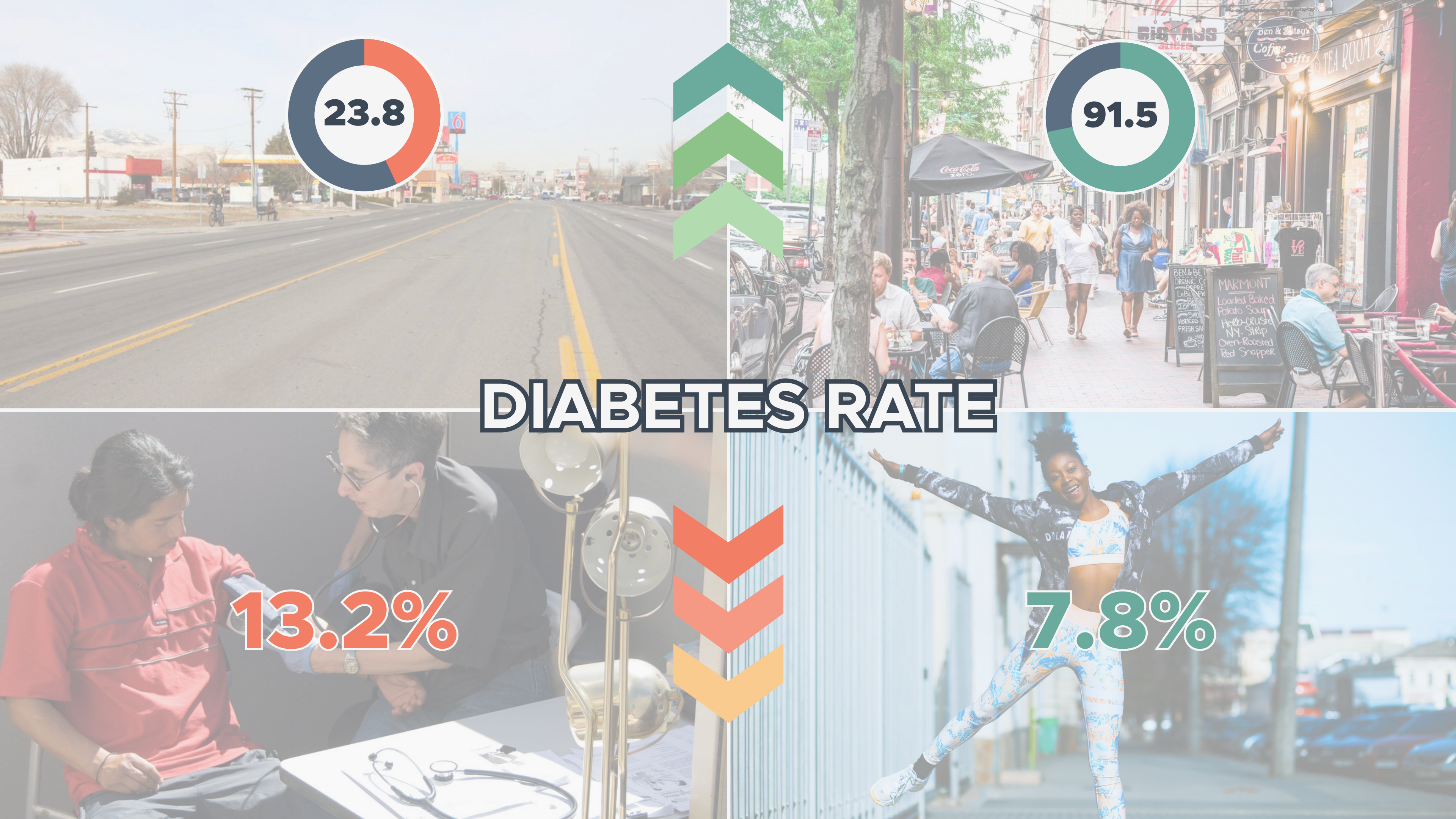
FEWER
HOMICIDES



AVG PROPERTY TAXES

\$83,651

\$169,787

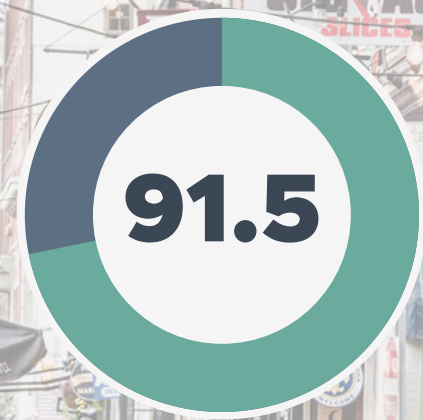
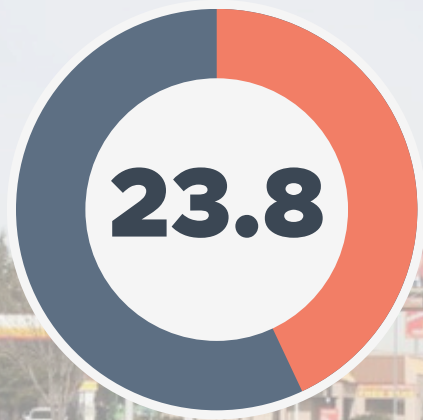


DIABETES RATE

13.2%



7.8%

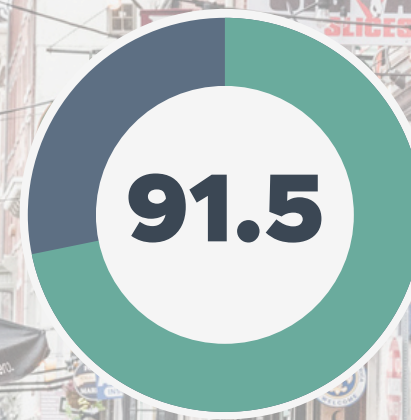
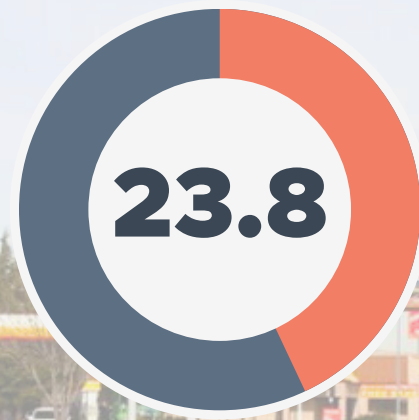


VEHICLE COLLISION RISK

73.5%



Near 0%



VEHICLE MILES TRAVELED

20,000/Year
Avg VMT



75%
Decrease



KEY POINTS:

THE WHOLE IS BIGGER THAN THE SUM OF ITS PARTS

KNOW YOUR AUDIENCE

THANK YOU!



STATE OF PLACE



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MARIELA@STATEOFPLACE.CO

