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Planning Matters Series:

- **November 9th Emily Talen (Chicago, IL)**
 - “Walkable + Diverse Urbanism: The Complications of an Ideal”
- **January 23rd Eric Avner, Joe Nickol & Kevin Wright (Cincinnati, Ohio)**
 - “The Neighborhood Playbook”
- **March 27th Kristen Jeffers (Washington DC)**
 - “The Black Urbanist”

Planning as if People Mattered: How our Current Approach to Mobility Makes us Fat, Poor, Angry, and Depressed How Technology will Worsen Things and What to Do to Fix It

Agenda

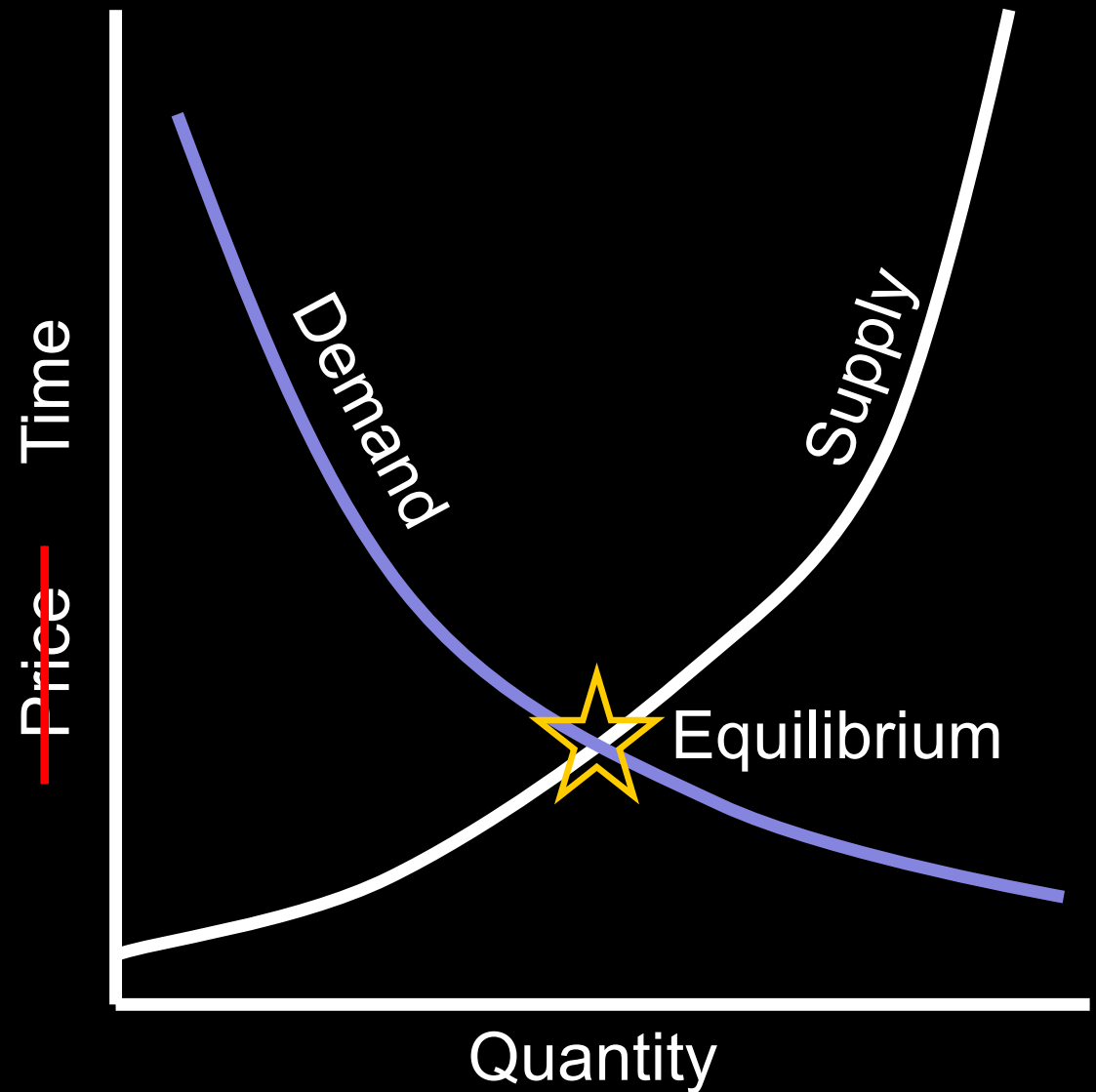
- **Why Transportation?**
- **What is Congestion?**
- **Will Autonomous Vehicles Save Us? (Spoiler: No)**
- **Aligning Values with Governance**
- **Measuring Equity as Tool for Action**

Why Transportation?

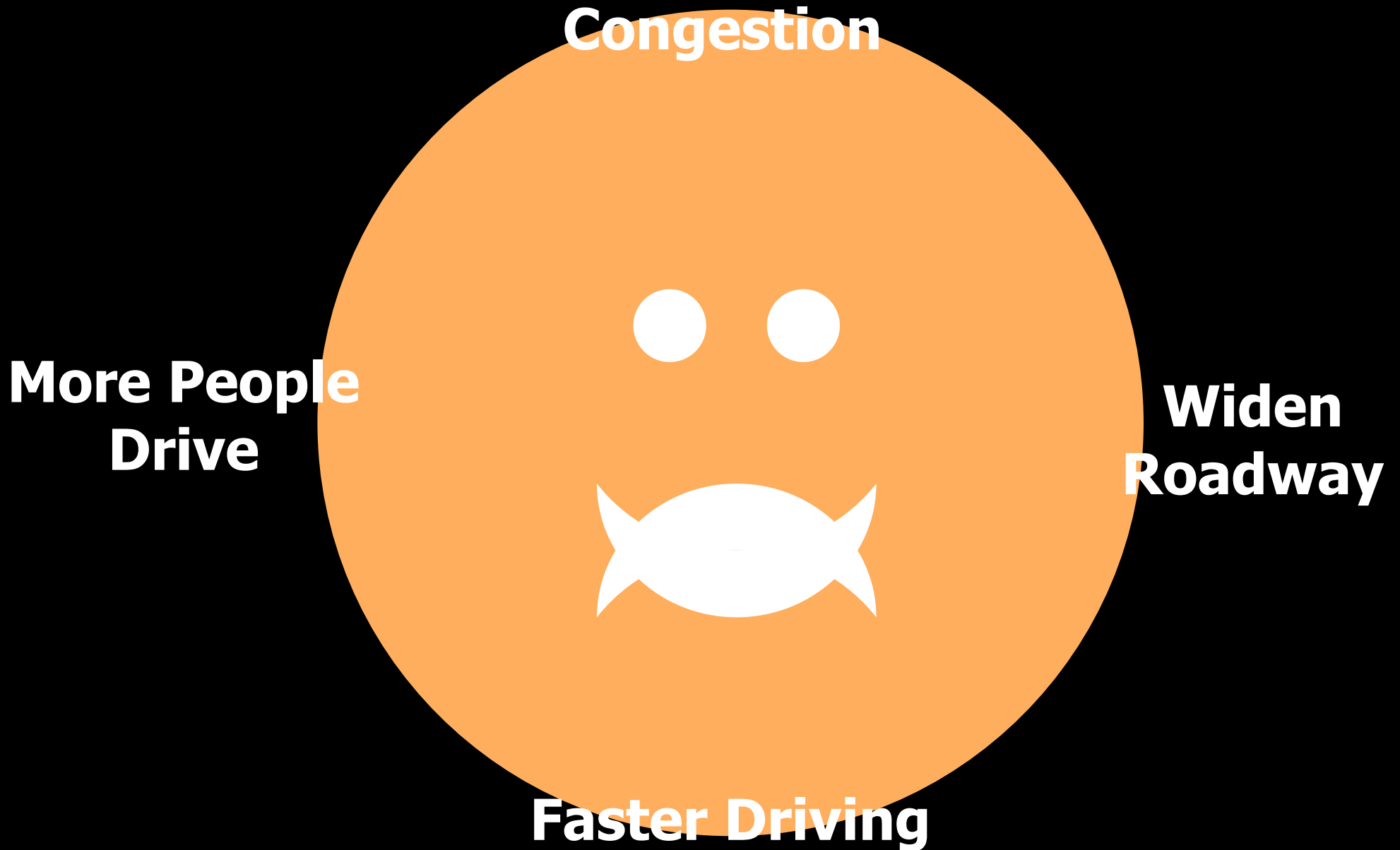


Transportation Demand Management

- Making more efficient use of existing infrastructure
- Making sure mobility is always available, whenever needed



Induced and Latent Demand





What can't we do?

Solve Congestion

Old Speed Paradigm → Roadway LOS

LOS	Average delay in seconds per vehicle	Description of motorist perception
A	< 10	Free-flow traffic: “Good” LOS
B	10.1 – 20	Reasonable free-flow
C	20.1 – 35	Stable but unreasonable delay begins to occur
D	35.1 – 55	Borderline “bad” LOS
E	55.1 – 80	“Bad” LOS: long queues
F	> 80	Unacceptable: very high delay, congestion

ia

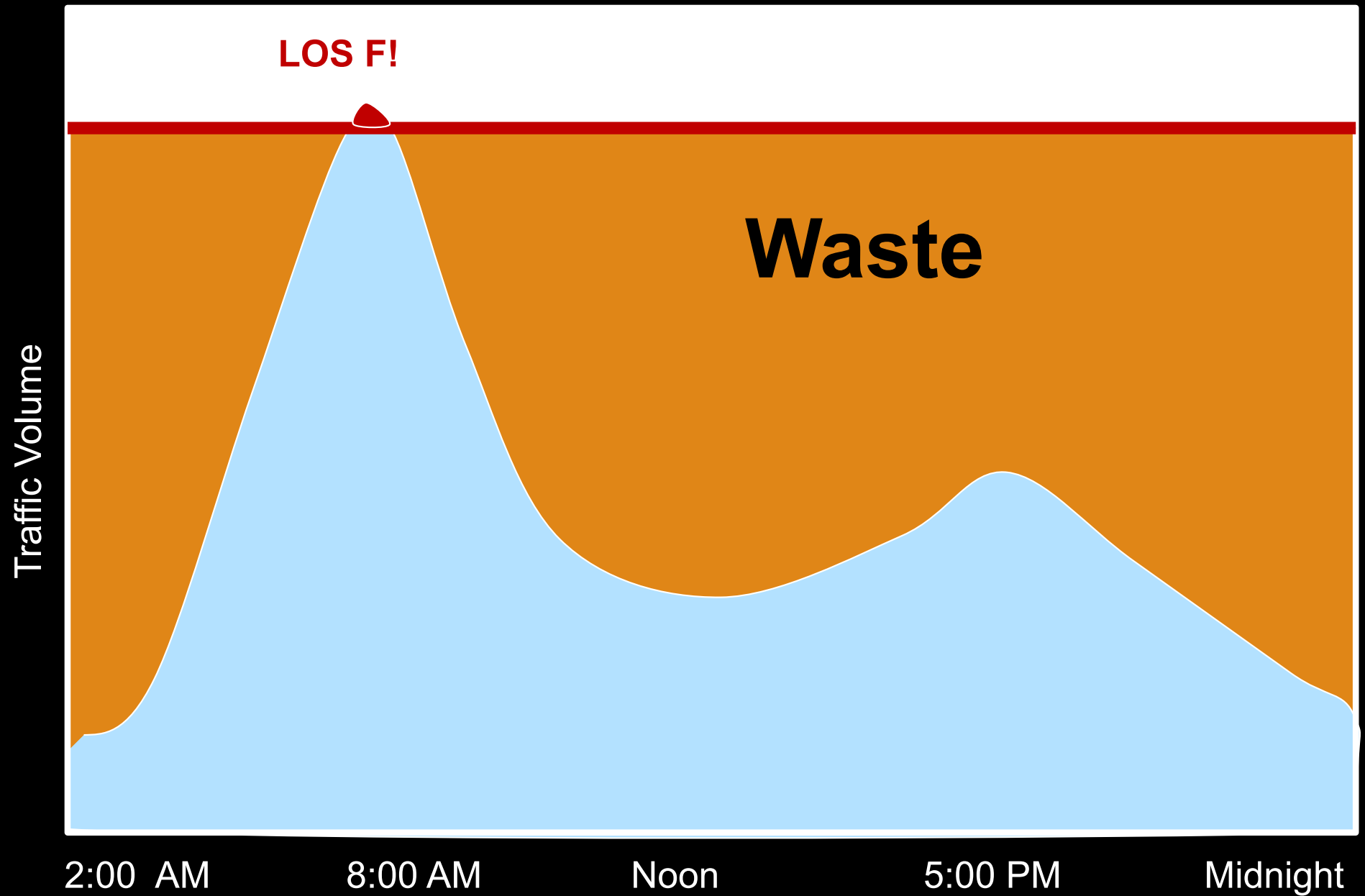
IN:

BEER

ALICIA'S ROOM - EVENING

A, a Mexican American teen, out of
room. She slams the door and throws
which is covered with worn purple

Traffic Economics





Level of Service A



Level of Service F

What's important depends upon perspective



Traffic engineer:

F

A

Economist:

A

F

Vehicle Delay, Not Person Delay

Not Moving

5

20

20

150-400 sq ft

150-400 sq ft

5,000 sq ft

1,500 sq ft

75 sq ft

50

20

Walk at 3
mph

Bike at
10 mph

Bus at 30 mph
with 40-60 pax

Single Occupant
Car at 30 mph

Single Occupant
Car at 60 mph



Other Modes are the Problem



Mitigations – Shrink the Project?



Mitigations – Move the Project?



Mitigations – Widen the Road



**Overreliance on LOS is
Creating the Problems**

It was intended to solve

But
Autonomous
Vehicles
Will save us, right?





Pop Quiz:

**Who's investing the most in
autonomous vehicle technology?**

Pop Quiz:

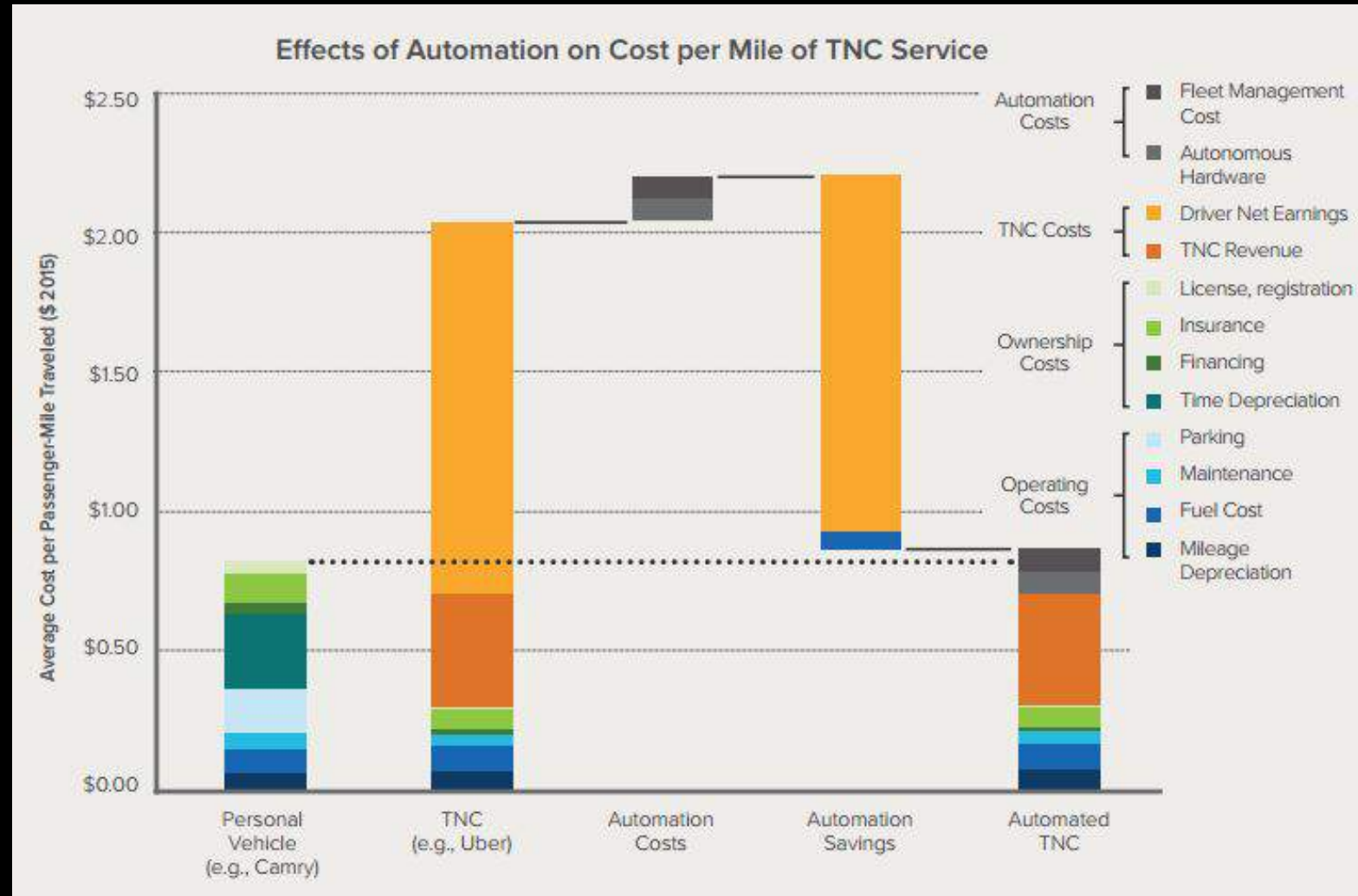
**What's Google's revenue model?
Selling information, right?**

~95%
of Google's revenue is
Advertising

Cost Models

FACTORS THAT MAY DETERMINE ADOPTION MODEL

- Cost per ride: \$1 threshold vs. traditional autos
- Cost of AVs: **Too costly** for vast majority of people?





Minority Report



Effect on Cities – Current Trajectory

- Upside: Parking lots and garages repurposed
- Downside: Stranded parking garages
- Parking revenue collapses
- Induced demand results in severe congestion
- Sprawl
- Public health decline



Image: Victor Dover. Atlanta parking

Effect on Transit Agencies: Current Trajectory

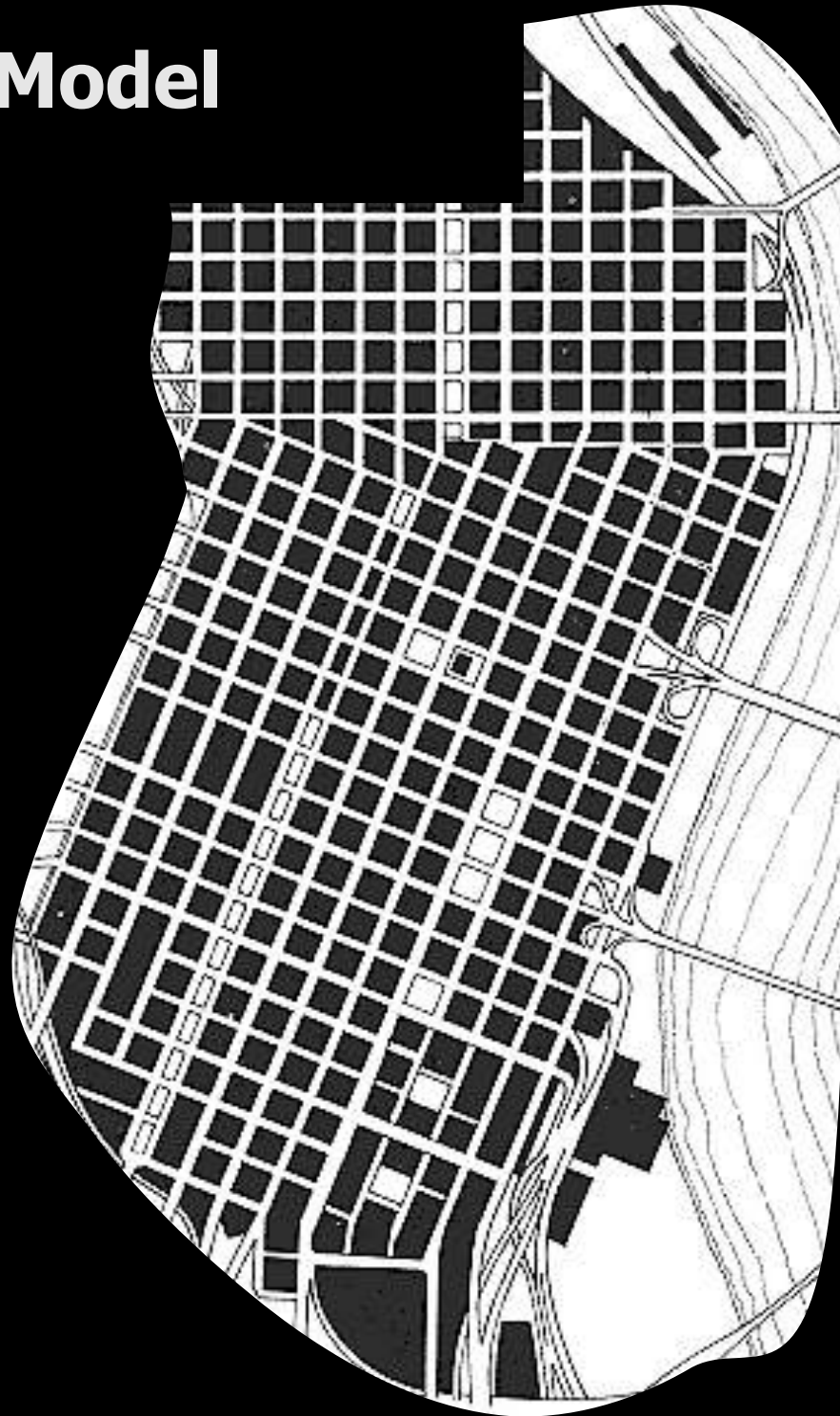
- AV fares cheaper than most transit fares for most trips
- AVs faster except at peak where transit has dedicated right of way
- Complete loss of off-peak and reverse peak revenue
- Transit agencies will seek to preserve operator jobs until retiree healthcare requires agency bankruptcy
- Huge increase in congestion and loss of person capacity
- Cities respond by offering incentives to high-capacity Chariot



Alternative Model

Streets are 25-35% of a city's area

They are its most valuable asset



Managed Streets

- Streets are city's most valuable asset
- Manage them for the public good
- Use lowest price that eliminates congestion
- Price empty seats and empty cargo space
- Replace on-street parking with protected bikeways
- Price curb access and manage for pooled rides



Transit Must Lead

- Best contexts for AVs:
 - Long haul trucking
 - Bus Rapid Transit
- Cities must partner with transit operators:
Dedicated right of way in exchange for AV BRT, 24/7 every 2 minutes
- Begin process now to minimize any job loss

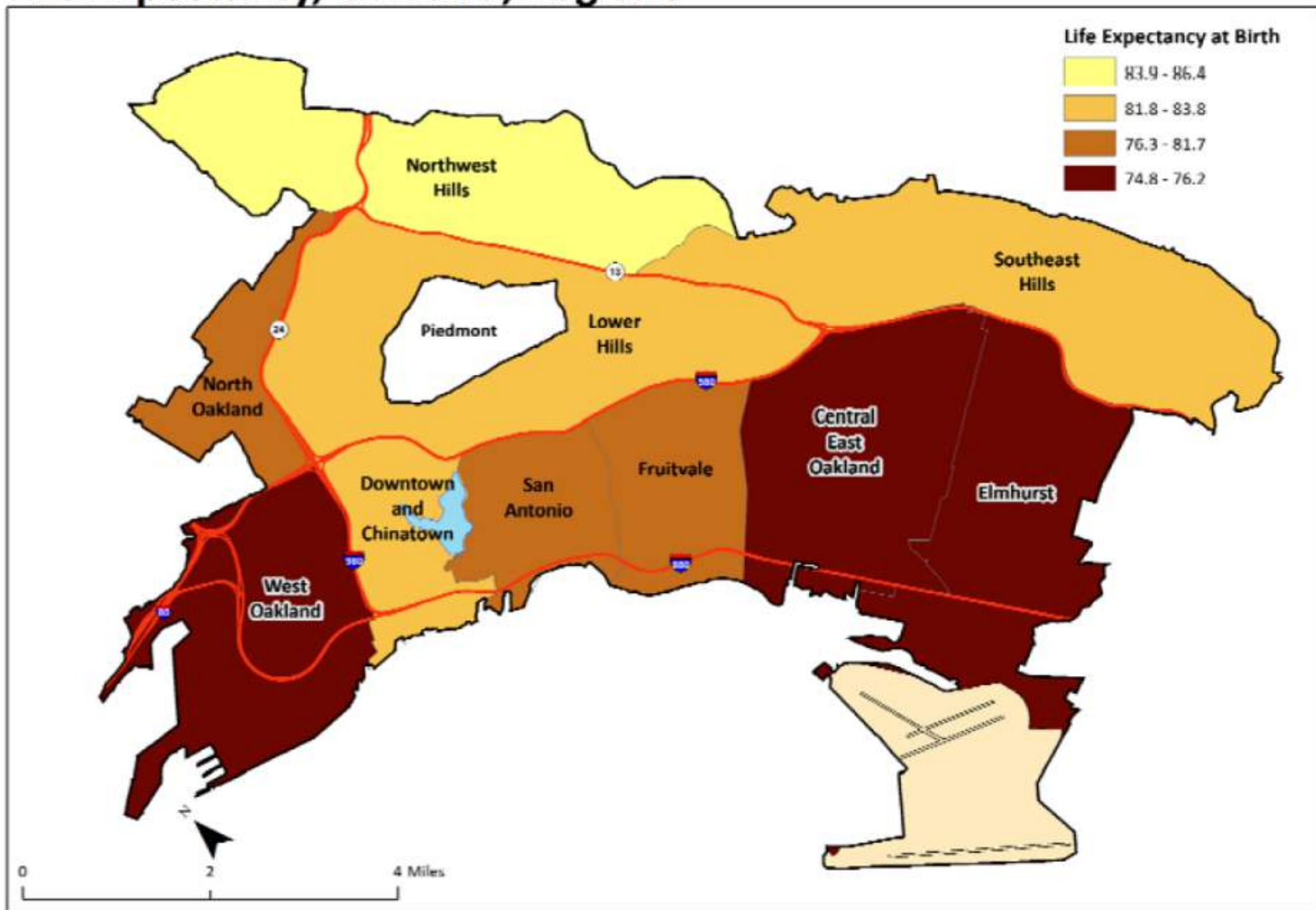


**What else can we
do?**

The background of the image is a reproduction of Leonardo da Vinci's 'Vitruvian Man' drawing. It shows a male figure inscribed within a square and a circle, with arms and legs extended. The drawing is in a sepia tone. The word 'Health' is written in a large, white, sans-serif font, centered over the figure's torso.

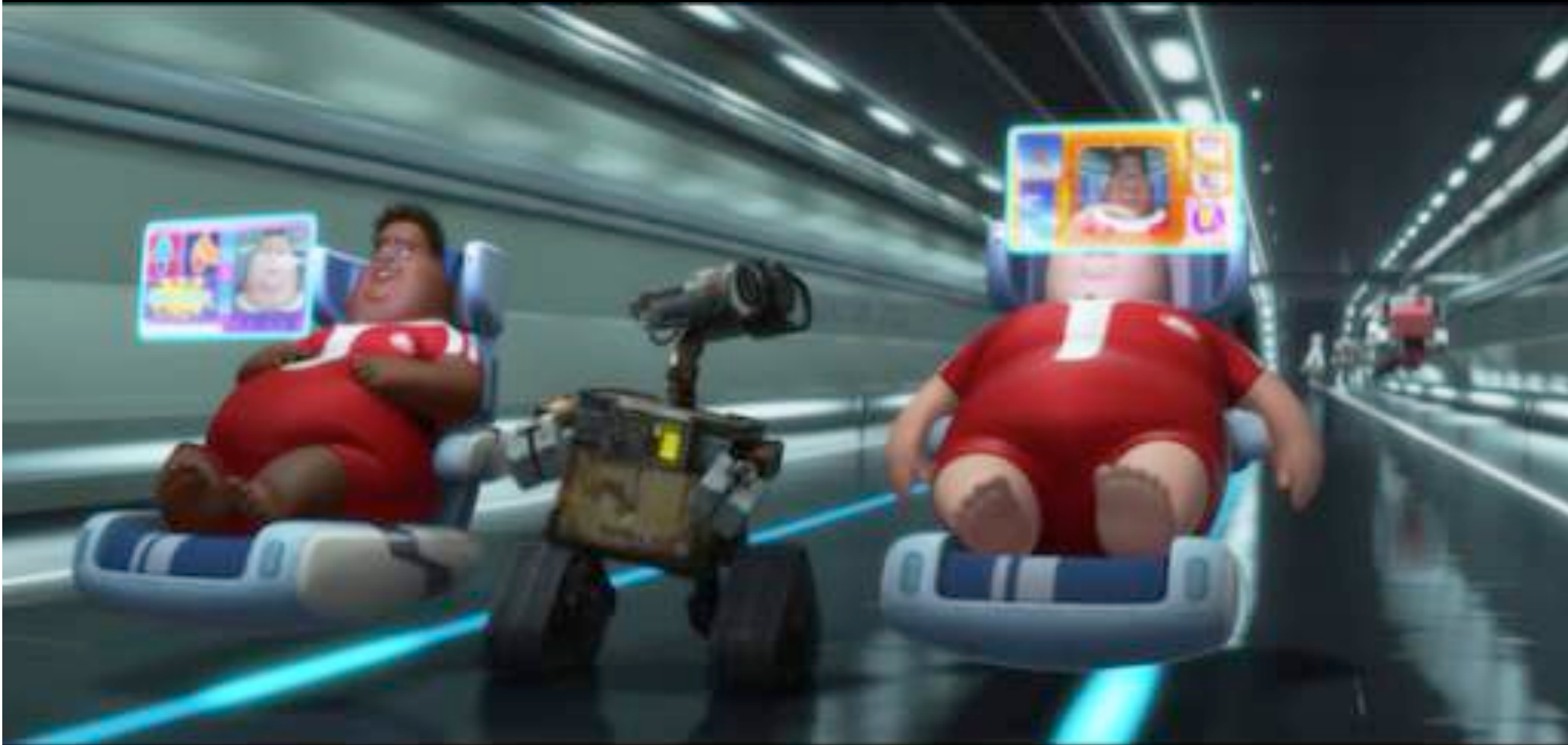
Health

Life Expectancy, Oakland, Regions



Source: CAPE, with data from Alameda County vital statistics files, 2011-2013.

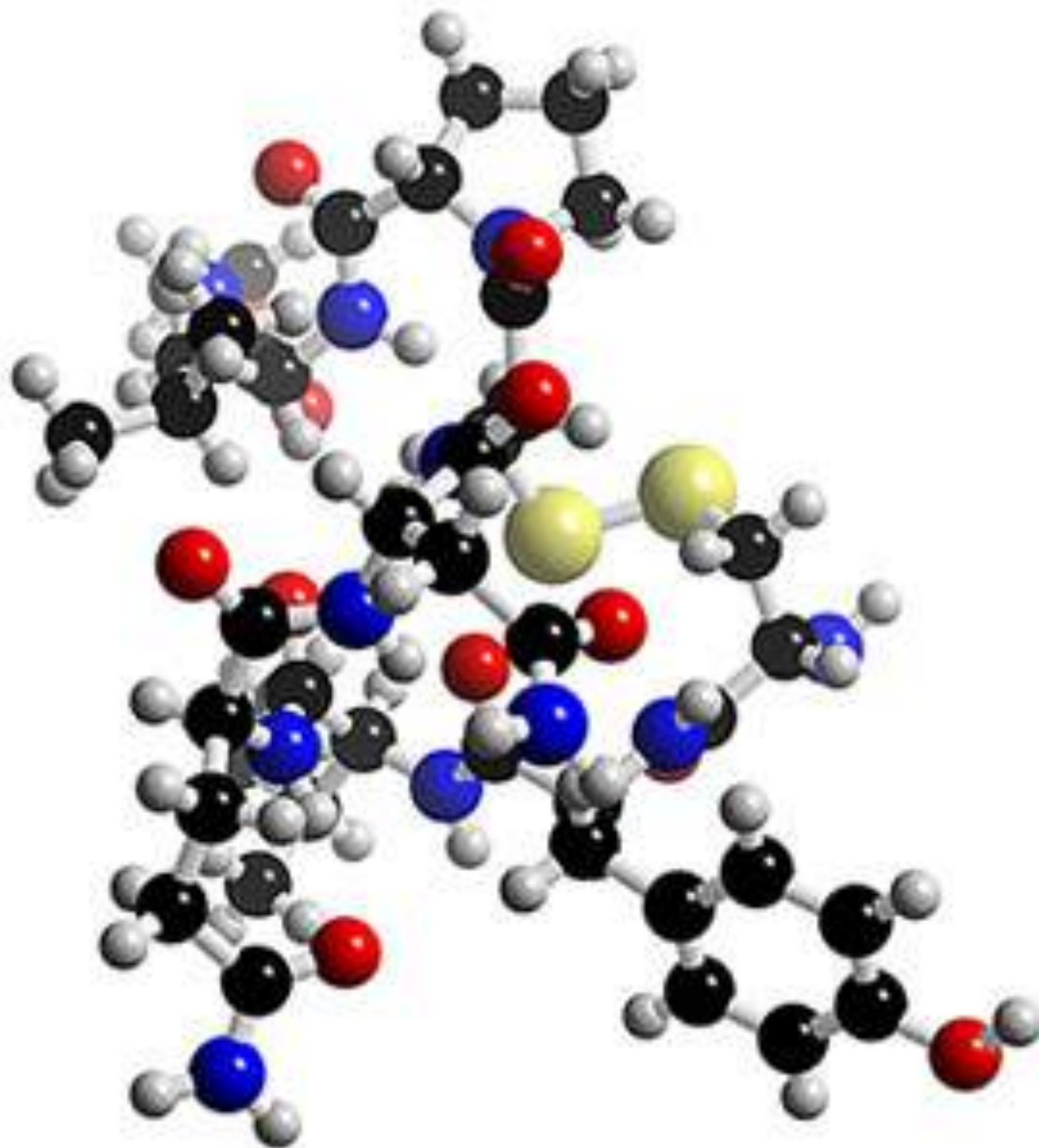
WALL-E







Happiness







A photograph of an older Black man with a mustache, smiling warmly at the camera. He is wearing a light green button-down shirt and a tan apron. He is holding a blue and white 'OPEN' sign with his right hand. The background is a grocery store aisle with shelves stocked with various items, including bags of produce and boxes. The word 'Prosperity' is overlaid in a large, white, serif font across the center of the image.

Prosperity

OPEN

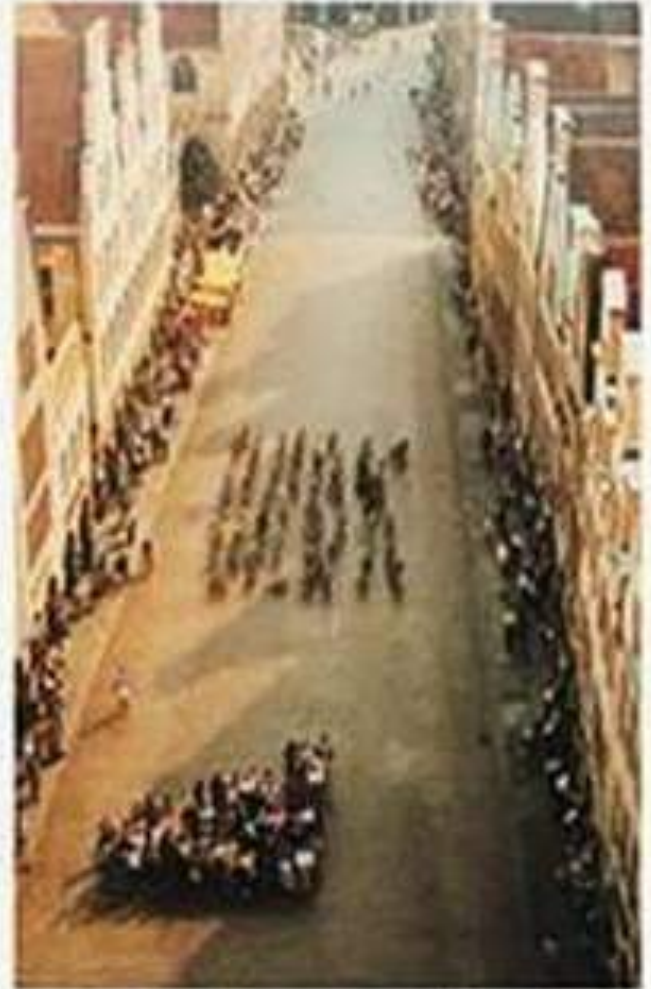
space required to transport 60 people



Car?



Bus?



Bicycle?

space required to transport 60 people



car



uber



autonomous car



Environment

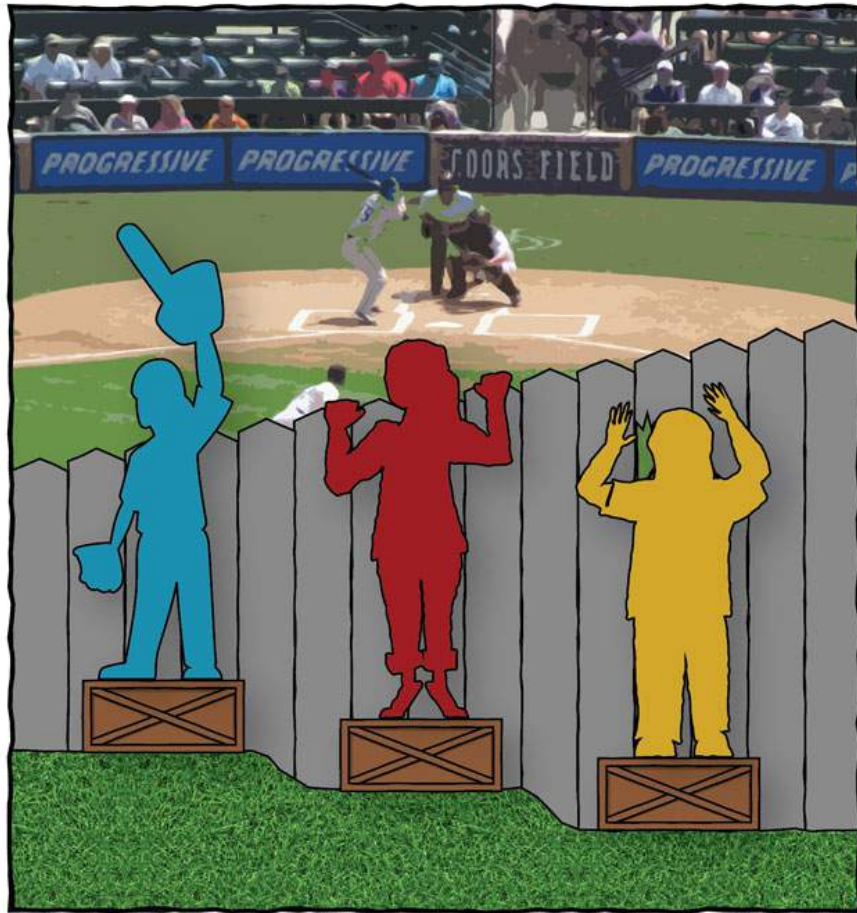
Affordability



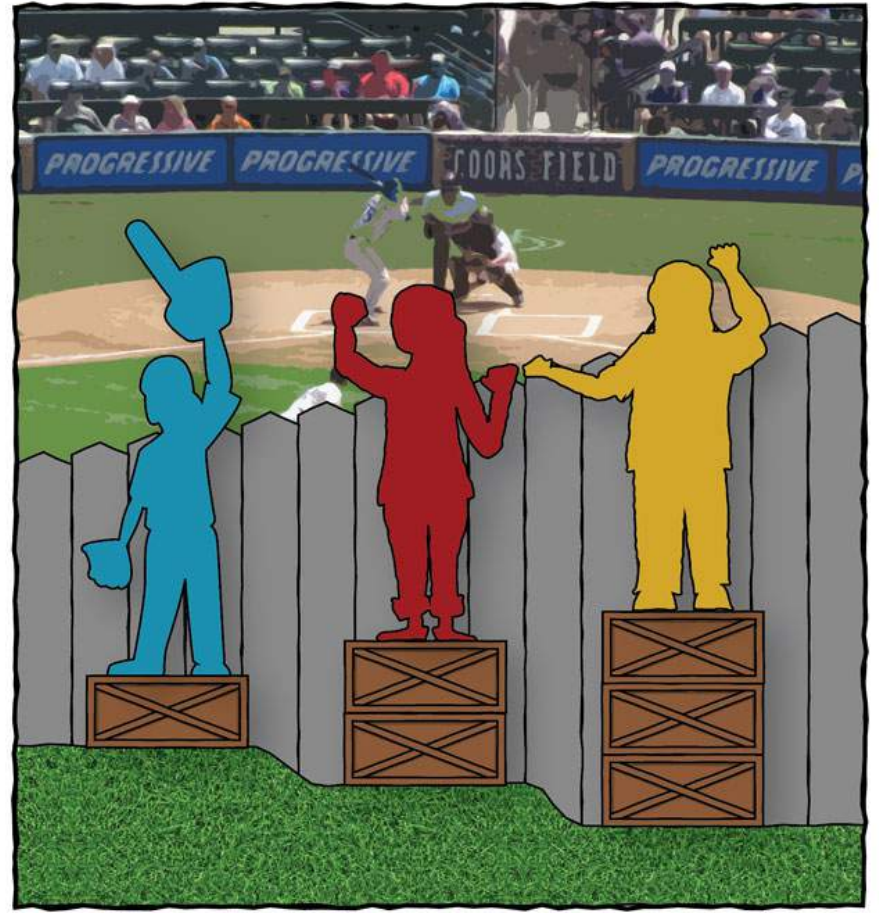
A photograph of a car accident scene. On the left, a dark-colored sedan is parked on a grassy shoulder, its front end crumpled. To its right, a dark-colored SUV is flipped upside down on a paved road, with its wheels pointing towards the sky. Debris is scattered on the road surface. In the background, there are trees, a utility pole, and a yellow crane or lift. The word "Safety" is overlaid in large, bold, black serif font across the center of the image.

Safety

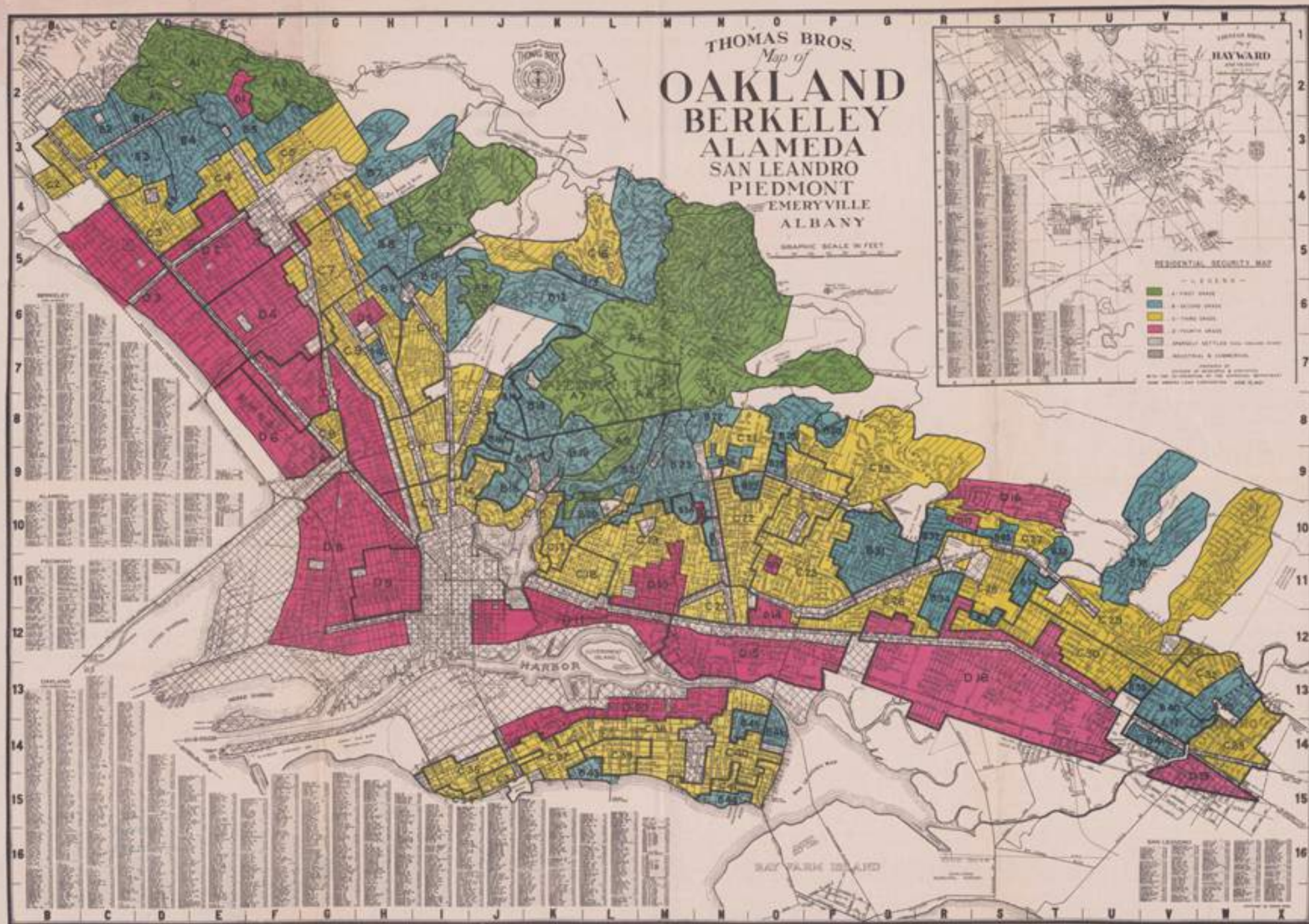
Equity



EQUALITY



EQUITY



**Align the mechanics of
governance
with our
Values**

Values

Goals

Objectives

Strategies

Performance Measures

Budget

Reporting

If your values aren't tied to your

budget

Your values

don't matter

Oakland: Sept 2016 - April 2017:

- ✓ Parking requirement reform
- ✓ Parking management reform
- ✓ Traffic analysis reform – eliminated LOS
- ✓ Formed the DOT
 - Strategic Plan
 - Org Chart
 - Ryan Russo hired
- ✓ Equity analysis tools
- ✓ \$350M Infrastructure bond
- ✓ Construction project impacts rules
- ✓ Pedestrian Master Plan
- ✓ New capital and operating budgets

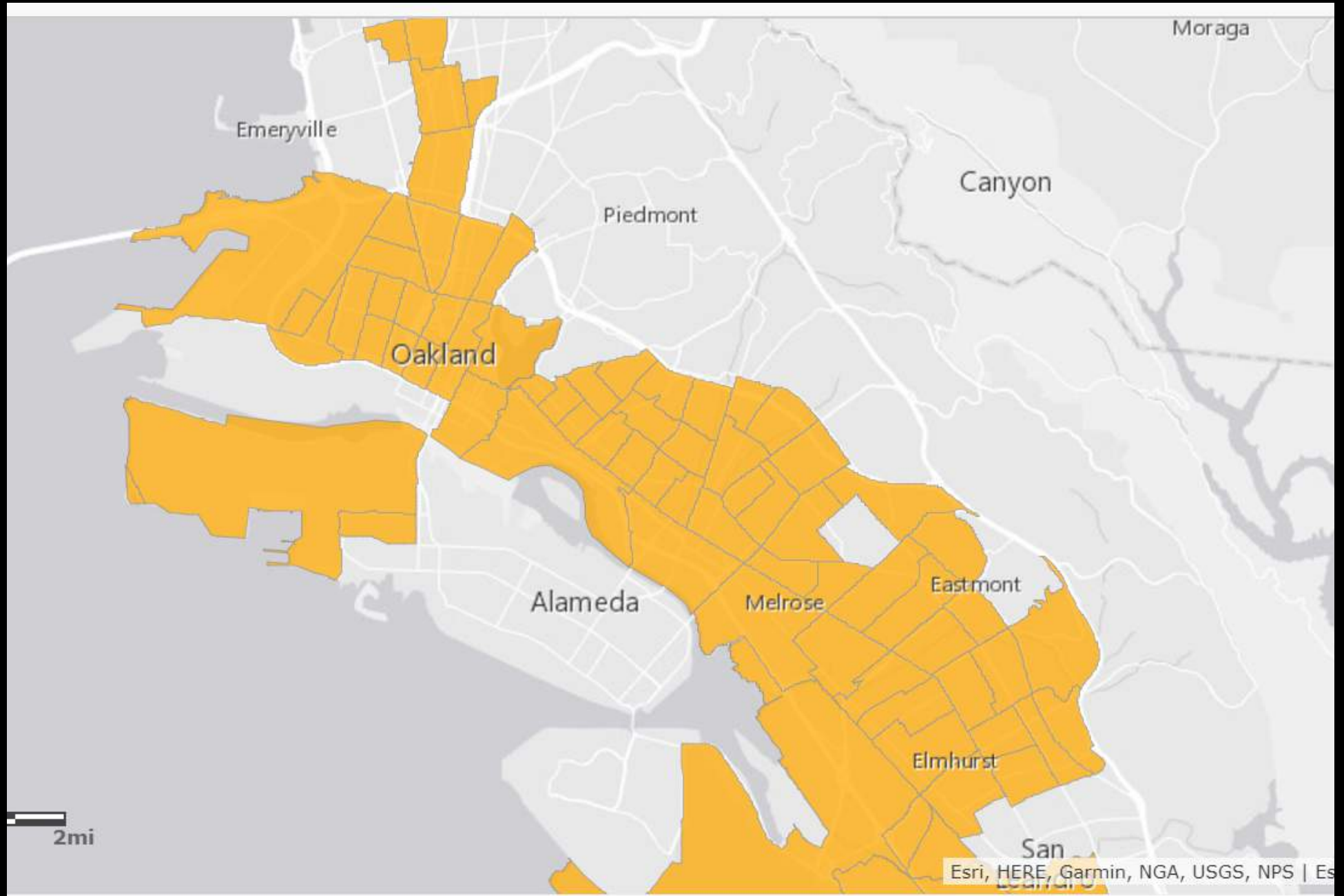
OakDOT Equity Tools Links

- Main Landing Page:
https://oakbec.s3.amazonaws.com/MapLanding/internal_index.html
- Equity Dashboard:
http://oakbec.s3.amazonaws.com/MapLanding/maps/Equity_Dashboard_2.html#
- Capital Improvement Program Equity Analysis:
<http://oakbec.s3.amazonaws.com/MapLanding/maps/CapitalImprovementProjectAnalysis.html>
- Pedestrian Priority for Traffic Control:
<https://oakbec.s3.amazonaws.com/MapLanding/maps/PedestrianPriorityforTemporaryTrafficControl.html>
- DOT Dashboard:
<http://oakbec.s3.amazonaws.com/MapLanding/maps/DOTDashboard.html>

Start with Outcome Disparities

- Health:
 - Life expectancy
 - Asthma
 - Diabetes
 - Obesity
- Accessibility
 - Jobs within 30 minutes
 - Access to food and services
- Safety
- Children's Issues
- Seniors' Issues

MTC “Communities of Concern”



Disaggregate Community of Concern Factors

Equity Dashboard

Q Search



Race / Ethnicity

Low Income Population
(< 200% of Poverty)

Limited English Proficiency
Population

Zero-Vehicle Households

Seniors 75 and Over

Population with a Disability

Single-Parent Families

Cost-burdened Renters

Youths between 10 and 19

Youths Under 10

Disadvantage Index

Reset



Examine Factors that Align with Outcomes

Equity Dashboard

Q Search



Race / Ethnicity

Low Income Population
(< 200% of Poverty)

Limited English Proficiency
Population

Zero-Vehicle Households

Seniors 75 and Over

Population with a Disability

Single-Parent Families

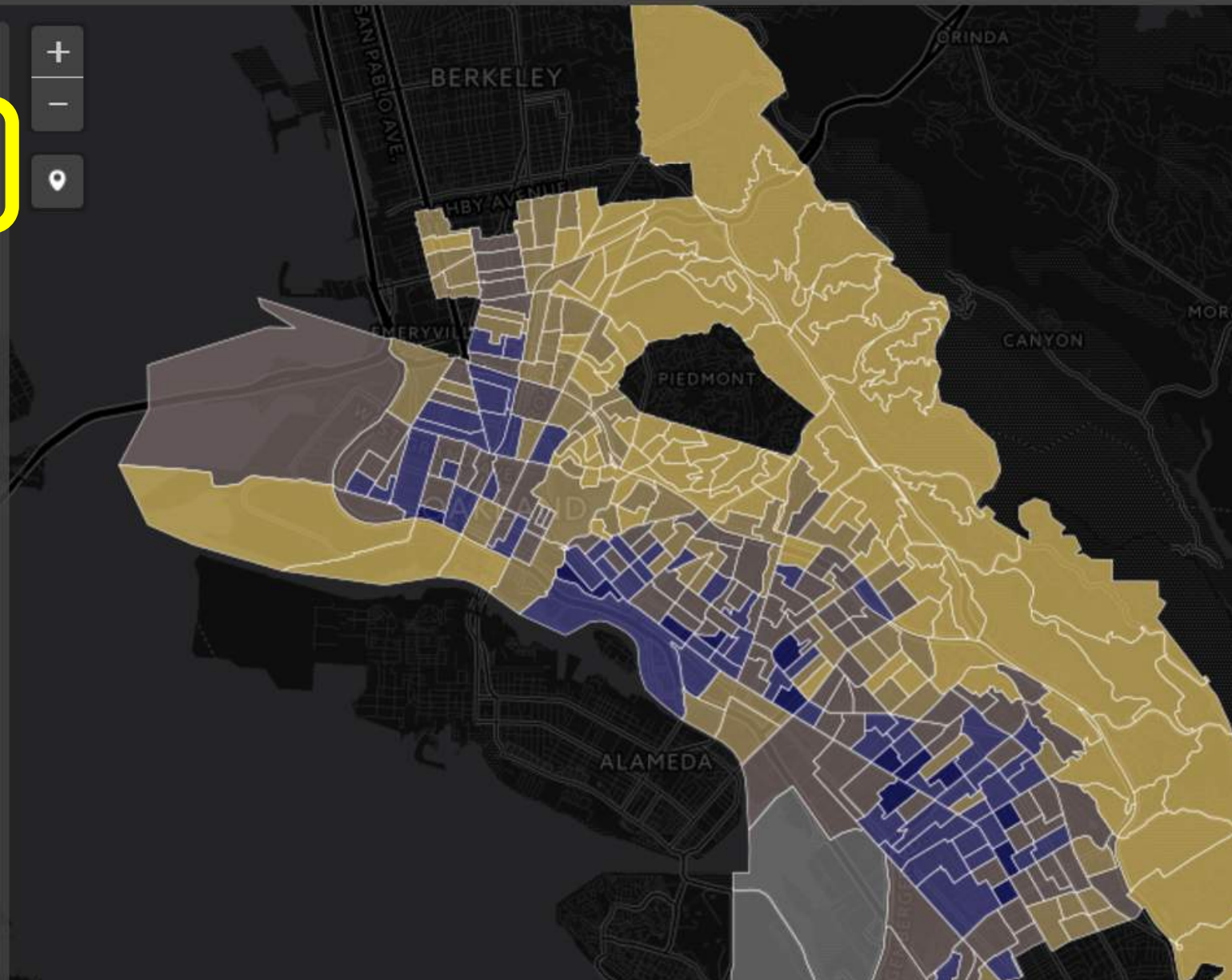
Cost-burdened Renters

Youths between 10 and 19

Youths Under 10

Disadvantage Index

Reset



Examine Factors that Align with Outcomes

Equity Dashboard

Q Search



Race / Ethnicity

Low Income Population
(< 200% of Poverty)

Limited English Proficiency
Population

Low Vehicle Households

Seniors 75 and Over

People with Disability

Single-Parent Families

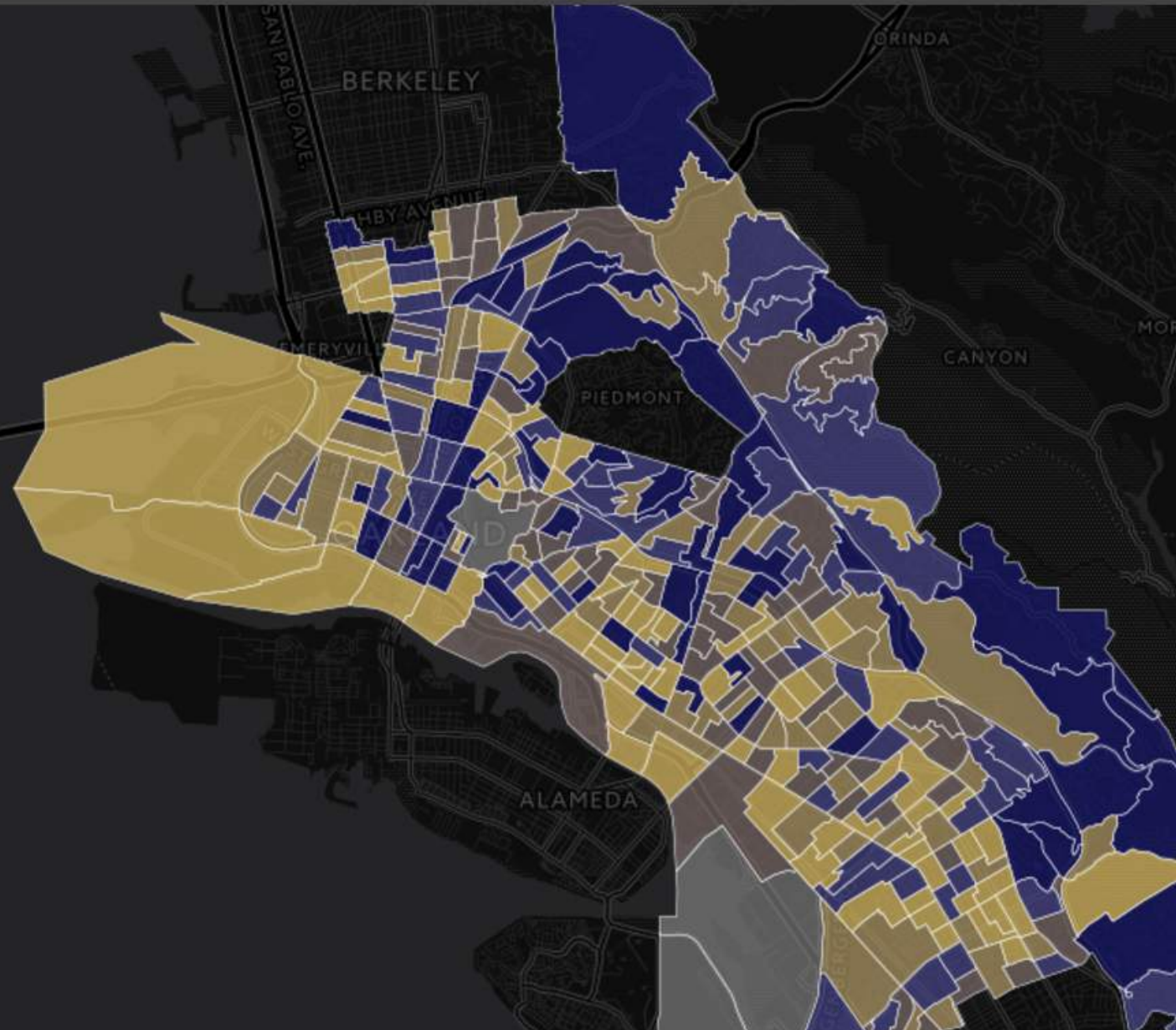
Cost-burdened Renters

Youths between 10 and 19

Youths Under 10

Disadvantage Index

Reset



Convert Flat Map to Heatmap

Equity Dashboard

Q Search



Race / Ethnicity

Low Income Population
(< 200% of Poverty)

Limited English Proficiency
Population

Zero-Vehicle Households

Seniors 75 and Over

Population with a Disability

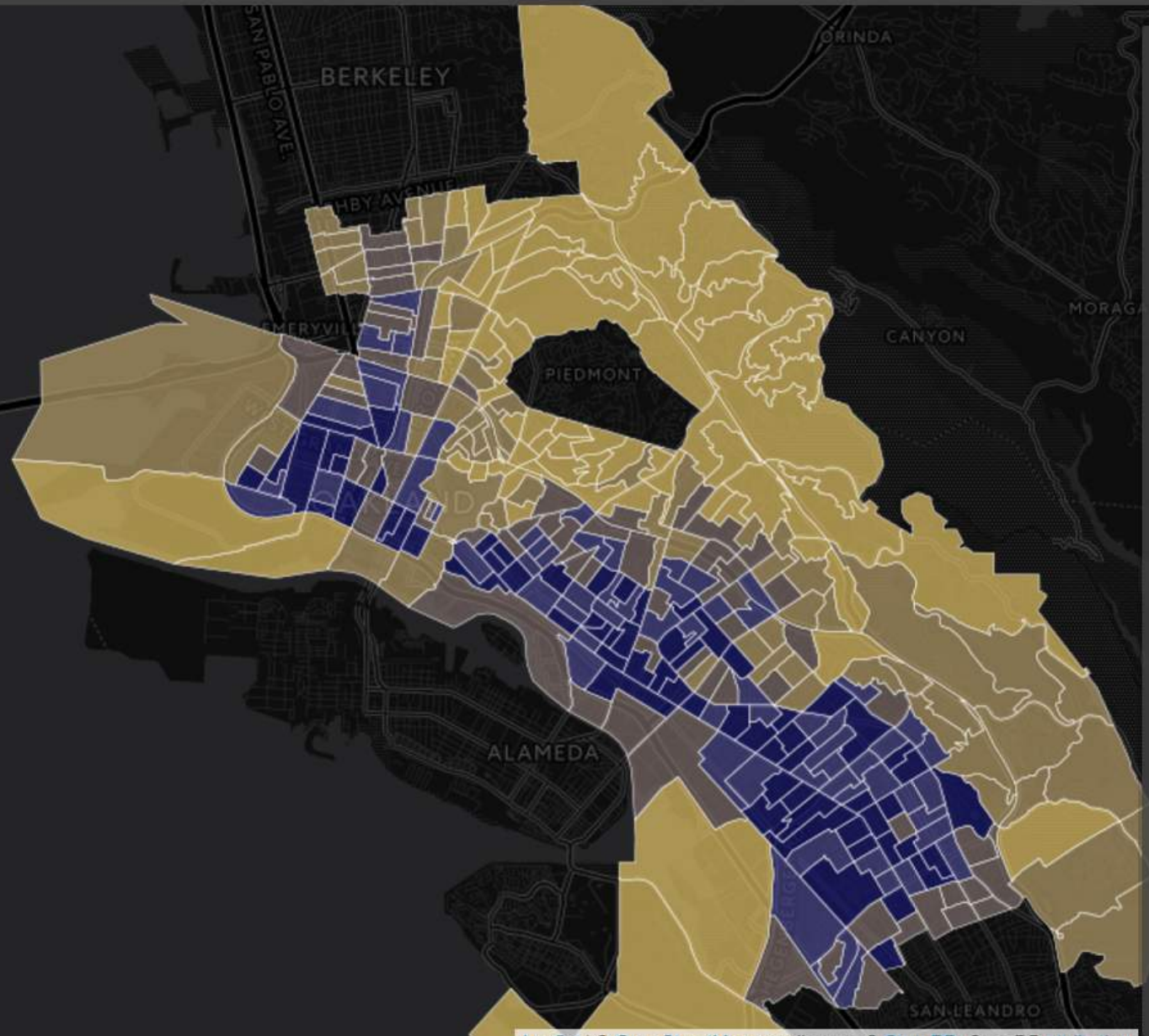
Single-Parent Families

Cost-burdened Renters

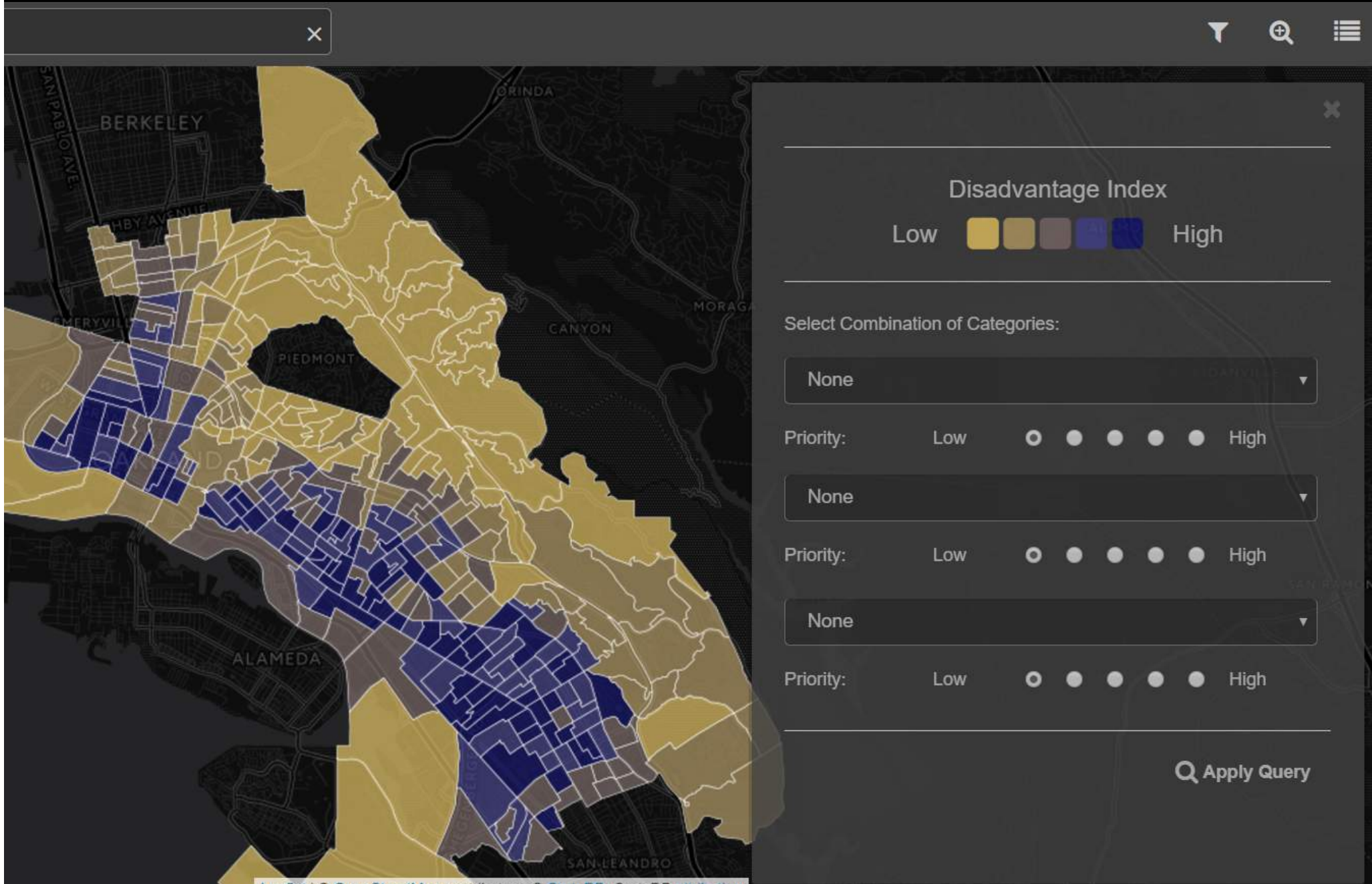
Youths between 10 and 19

Disadvantage Index

Reset



Weight Different Factors



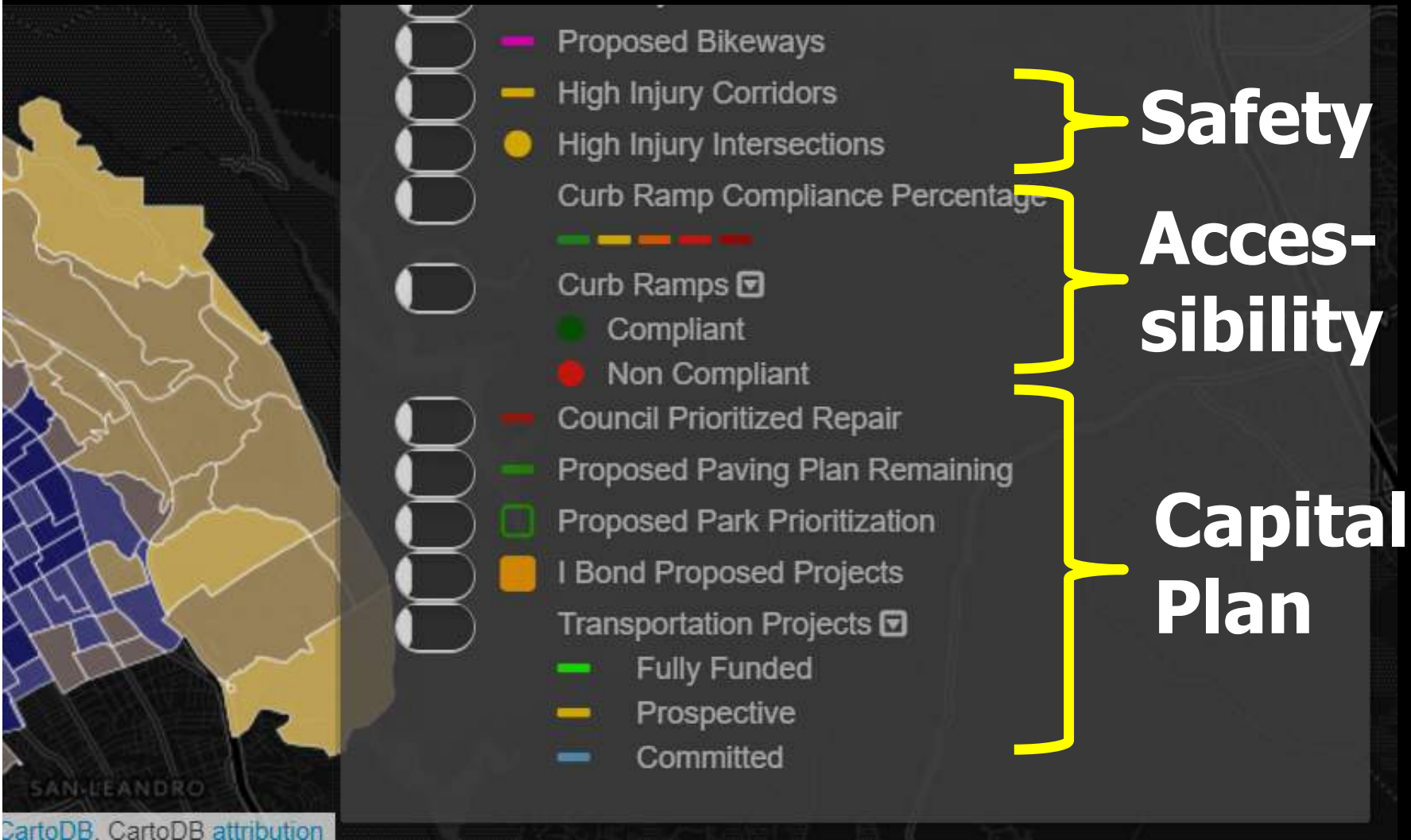
Analysis

- 
- A map interface with a legend overlay. The legend lists several layers with corresponding icons and colors. The layers are: Oakland Equity Index (toggle), Council Districts (blue outline), Liquefaction Susceptibility (toggle, dropdown), Fire Severity Zone (red outline), Sea Level Rise (blue outline), Buses Per Hour (toggle, dropdown), Planned Paving (blue line), Paving 2017 (red line), Bikeways (purple line), Proposed Bikeways (pink line), and High Injury Corridors (yellow line). The map background shows a geographical area with labels like MORAGA, ANYON, DANVILLE, and SAN RAMON.
- ☐ Oakland Equity Index
 - Yellow
 - Orange
 - Grey
 - Dark Blue
 - Blue
 - ☐ Council Districts
 - ☐ Liquefaction Susceptibility ☐
 - ☐ Very High
 - ☐ High
 - ☐ Medium
 - ☐ Low
 - ☐ Fire Severity Zone
 - ☐ Sea Level Rise
 - ☐ Buses Per Hour ☐
 - Low
 - Medium
 - High
 - Very High
 - ☐ Planned Paving
 - ☐ Paving 2017
 - ☐ Bikeways
 - ☐ Proposed Bikeways
 - ☐ High Injury Corridors

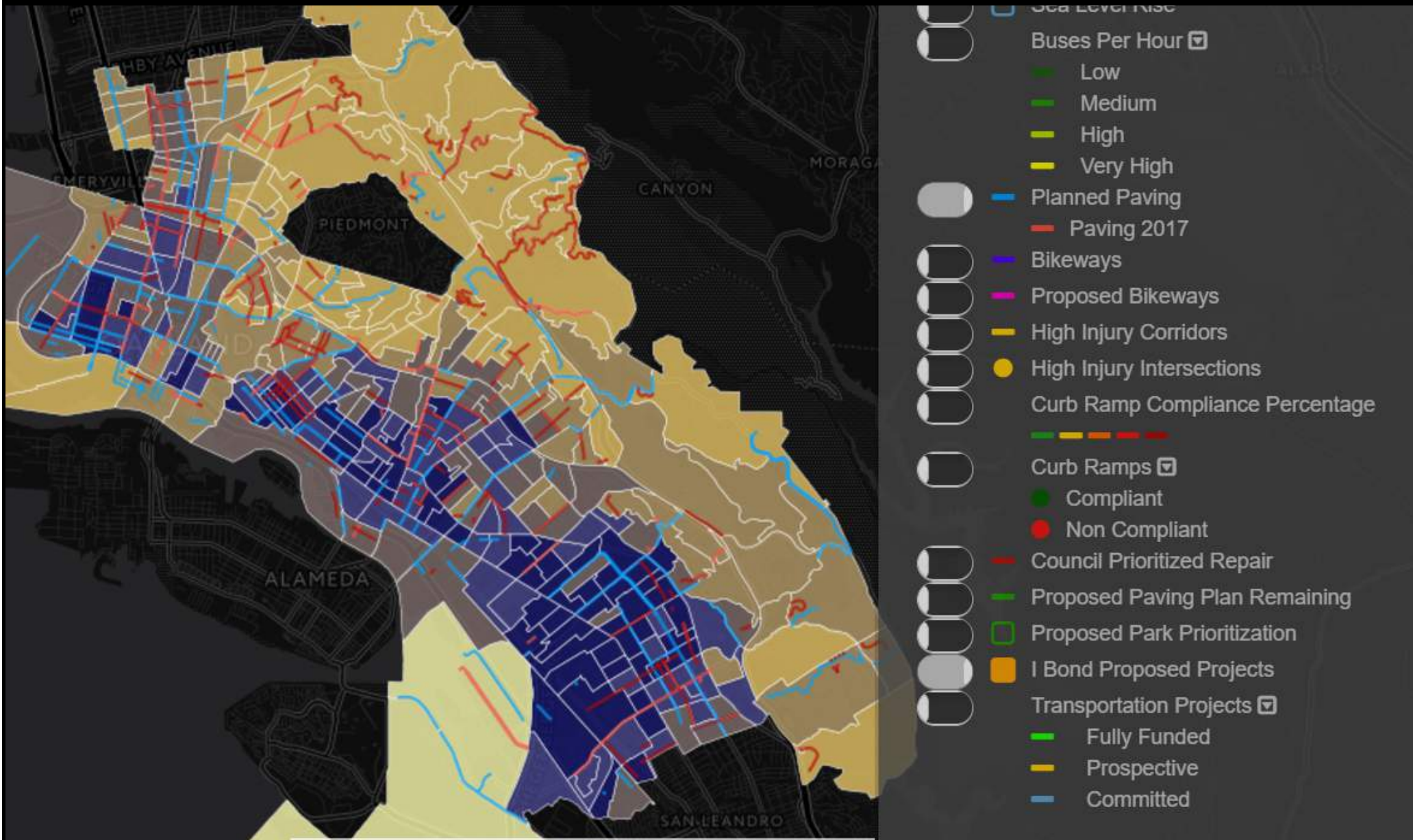
**Resilience
Analysis**

**Mobility
Analysis**

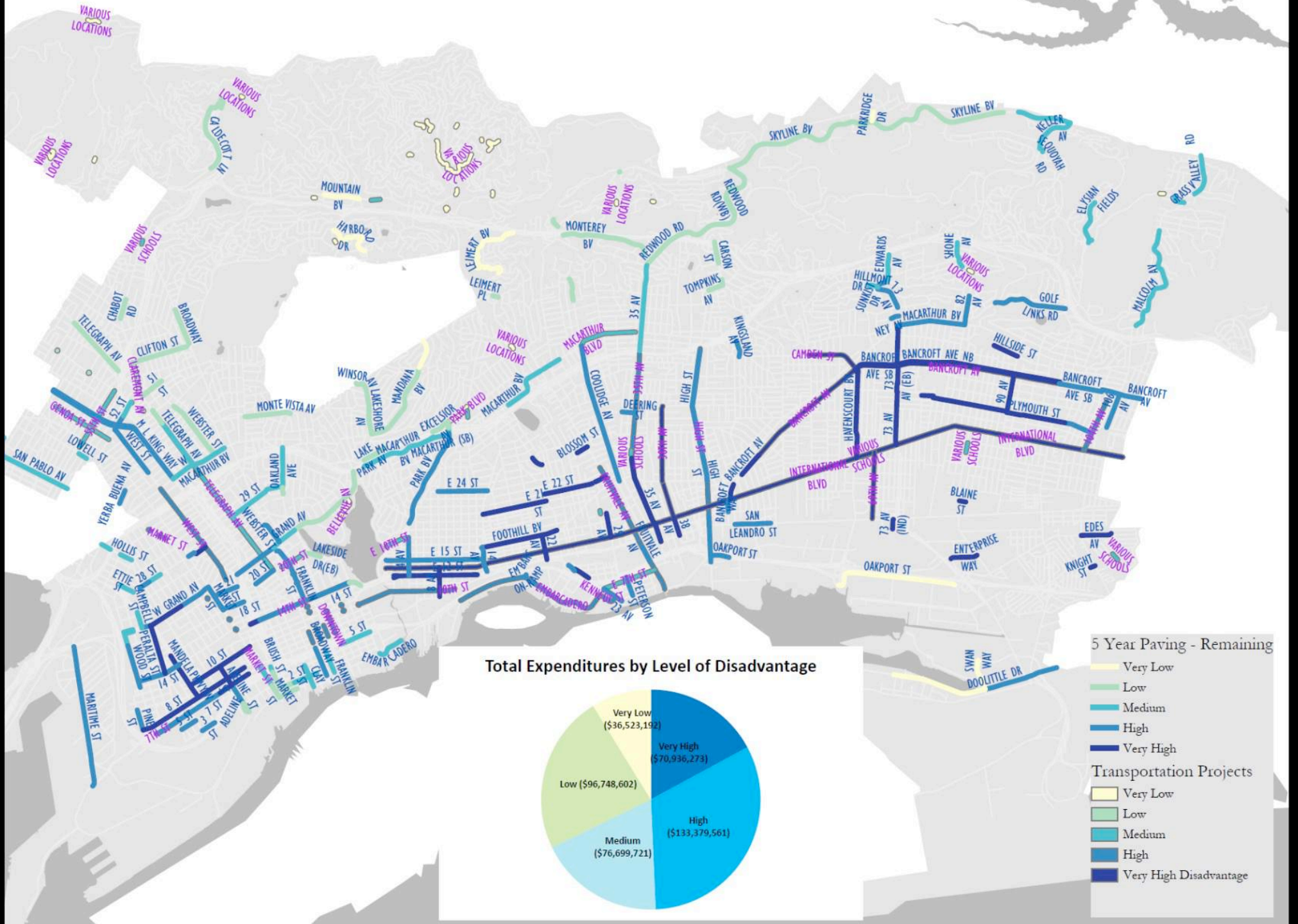
Analysis



Project Analysis



Expenditure and Equity



Values

Goals

Objectives

Strategies

Performance Measures

Budget

Reporting



Special thanks:

Brian Kimball: IT

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Wlad Wlassowsky, Bruce Williams, Sarah Fine,
Menaka Mohan and many others: DOT

Christine Daniel: City Administrator's Office

Darlene Flynn: Dept of Race and Equity



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