



Affordable Development Patterns

Ryan Wozniak, AICP

2019 ASU Pavements/Materials Conference

11/20/2019



- Senior Planner (2014...)
 - City of Maricopa
- Active Transportation Committee Member (2014...)
 - Maricopa Association of Governments
- Transportation Advisory Board Member (2018...)
 - City of Mesa
- Incoming Director At-Large (2020-21)
 - American Planning Association, AZ Chapter
- Podcast Co-Host (2017...)
 - Main Street Mesa
- Community Organizer (2012...)
 - RAILmesa

Who Am I?

I wear a lot of hats.

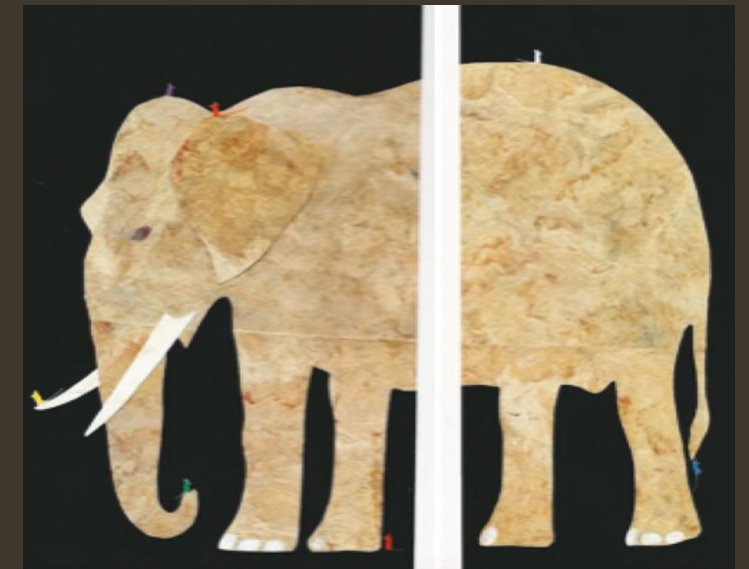
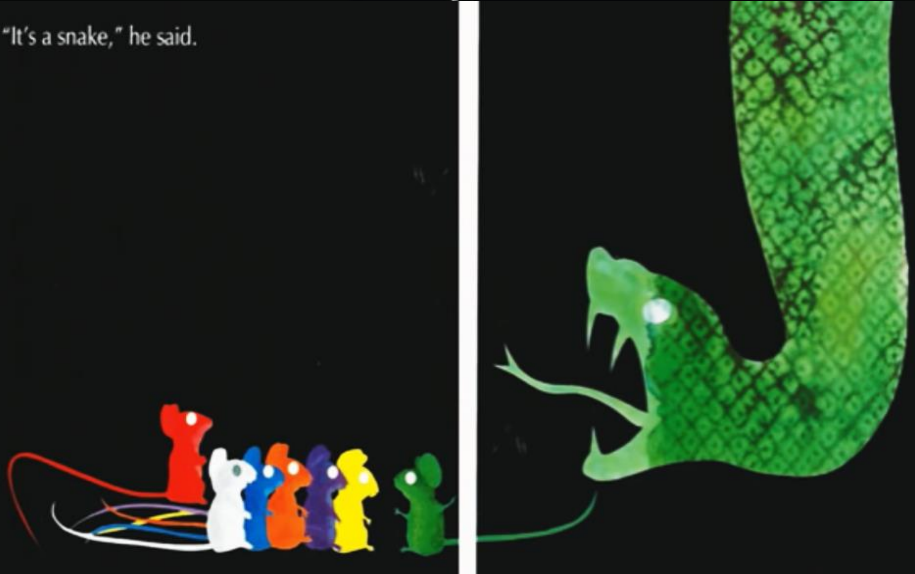
I like to keep learning.

All this affords a lot of opportunities to learn from new perspectives... I can't stop now.

SEVEN blind mice



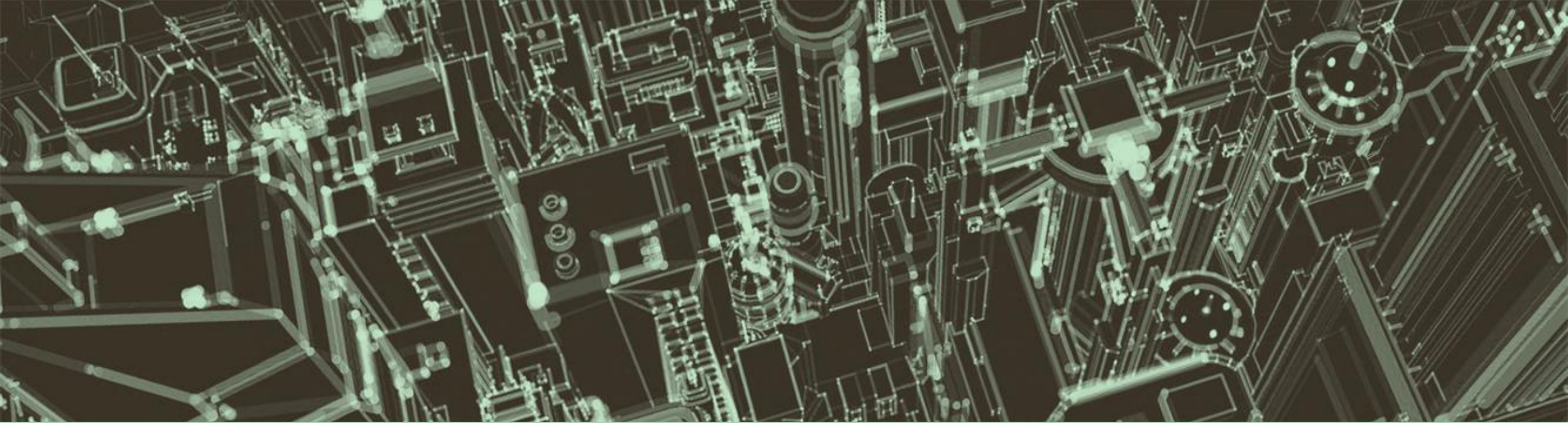
"It's a snake," he said.



Why am I here?

To assemble more perspectives.

**“Knowing in part may
make a fine tale, but
wisdom comes from
seeing the whole.”**
(together)



Unsustainable Development

Land Use + Transportation Policy Perspective



In My Opinion...

Planners: Best when allowed to explore policy

- **Commonly, Planners aren't our best when we are *limited* to:**
 - Review proposed development
 - Ensure it follows a defined public review process
 - Assess how the proposal meets Zoning & Subdivision regulations (and repeat)
- **Industry Standards for Zoning & Subdivision regulations**
 - Allows / Promotes large land areas to have one same use
 - Single-Family Residential covers a lot of land, suburbia rules
 - Provide road capacity for the anticipated vehicle volumes (“solving for traffic”)
 - Oftentimes, results are: unrestricted urban sprawl
- **Urban Sprawl = Runaway Car-Dominated Landscapes over Expansive Areas**
 - Quality of life suffers + Environmental degradation
 - Cost-Burdens (for covering the expansive areas) are high
 - Health/ Job-Access/ Educational/ Social Capital Outcomes suffer



“Solving Traffic”

With just one more lane...

Engineers: We've done the math!

*Policy work is required to define
the problem to be solved*



Arizona official: 10 pedestrian deaths...
azcentral.com



Pedestrian deaths: Phoenix slow to fix ...
azcentral.com



Phoenix Built a Crosswalk. Three P...
phoenixnewtimes.com

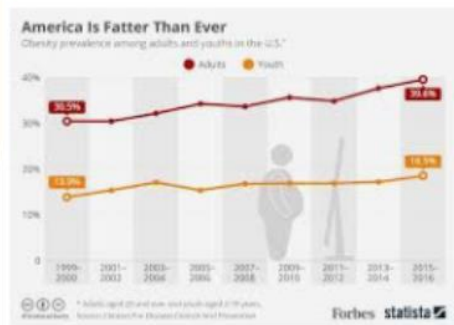


Phoenix pedestrian deaths surged in 2018
azcentral.com

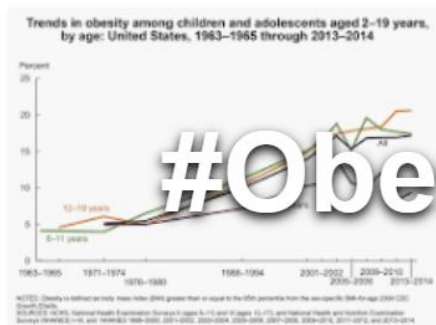


Self-driving vehicle strikes and kills ...
apnews.com

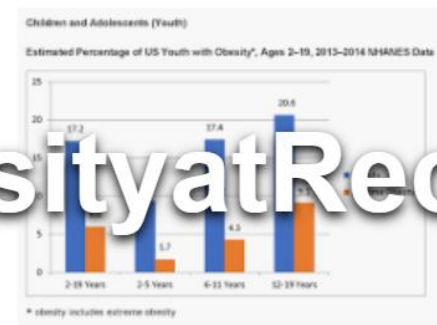
#DangerousByDesign



U.S. Obesity Rates Have Hit An All-Time ...
forbes.com



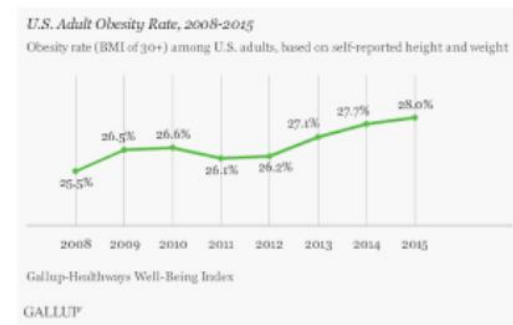
Overweight & Obesity Statistics | NIDDK
nidk.nih.gov



Overweight & Obesity Statistics | NIDDK
nidk.nih.gov

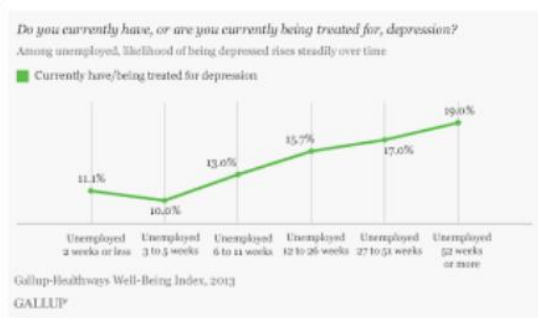


Adult Obesity in the United States ...
stateofobesity.org

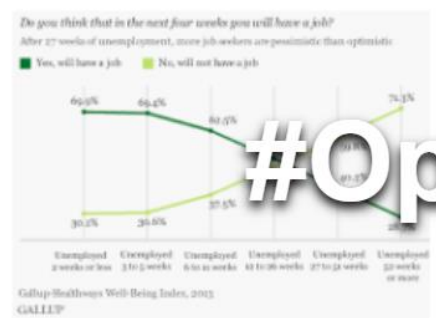


U.S. Obesity Rate Climbs to Record High ...
news.gallup.com

#ObesityatRecordHigh



Rates Higher for Long-Term Unemployed
news.gallup.com

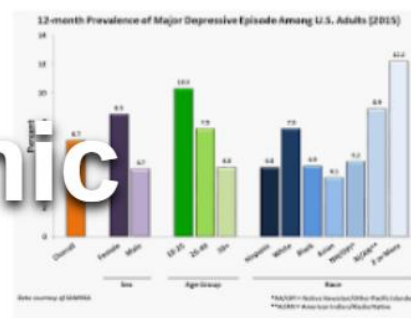


Rates Higher for Long-Term Unemployed
news.gallup.com

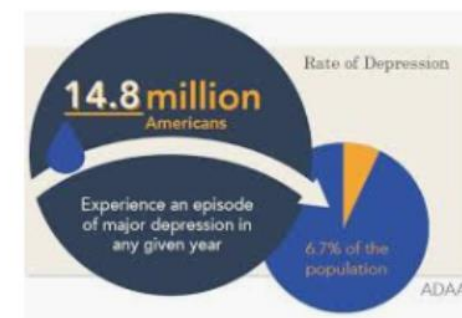
#OpioidEpidemic



Minnesota has one of the highest rates ...
startribune.com

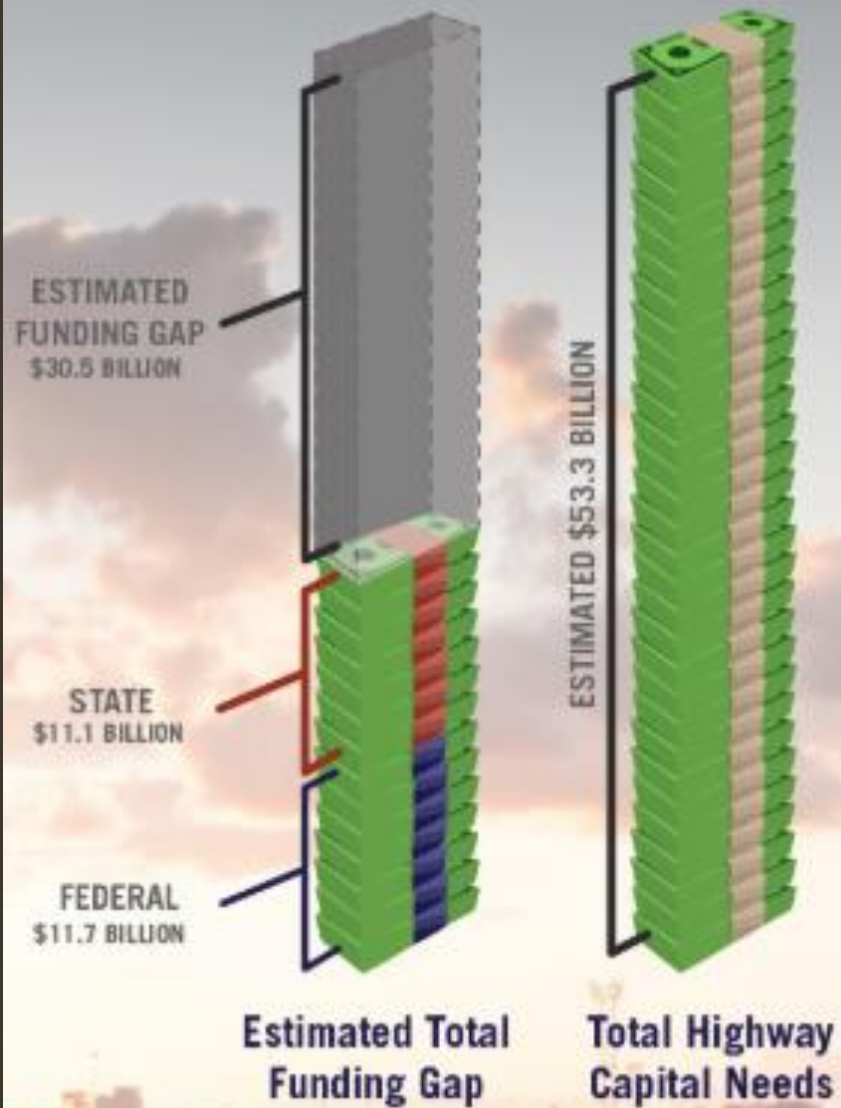


Changing Brain Waves of Depression ...
nwnoggin.org



Depression & Substance Abuse Treatment ...
americanaddictioncenters.org

2016-2040 Revenue Forecast



STATE OF REPAIR

To compete in the global economy, the U.S. needs a world-class transportation system. Some of our most critical transportation infrastructure is crumbling.

58% of U.S. roads are in less than good condition



23% of U.S. bridges need significant repair or can't handle today's traffic



50% of U.S. locks and chambers are more than 50 years old



What if you solve for this?

Pavement Landscapes, Everywhere

Phoenix, like many 20th century American cities, is built on the assumption of

1 person = 1 car.

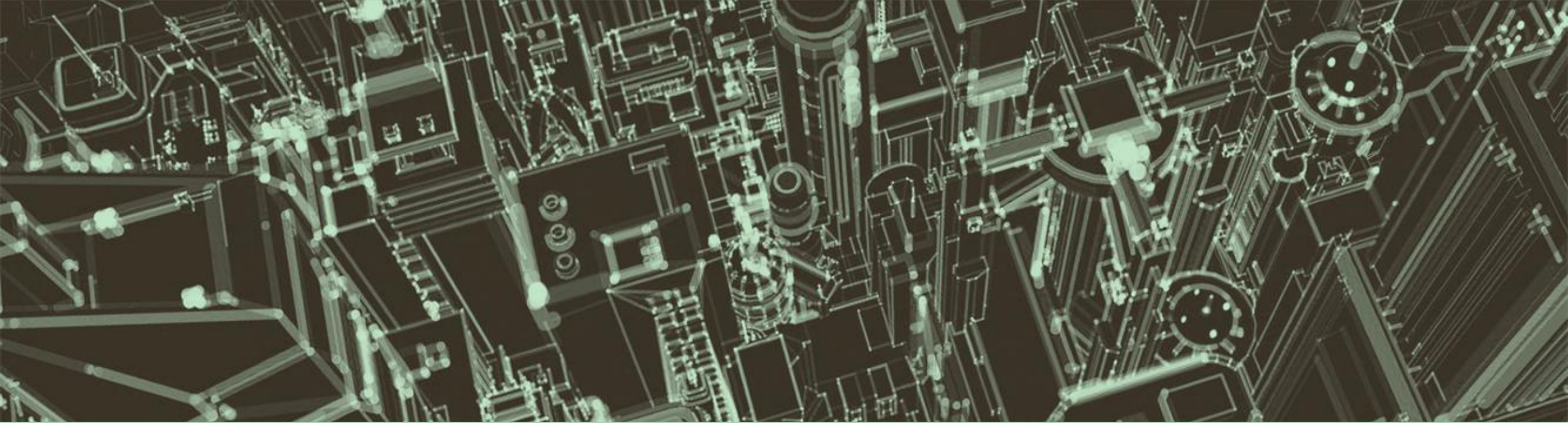
If you/we don't challenge this equation makes cars *exceptionally needy*.

Each car gets 4 parking spaces along with plenty of roadway to move between them.

As a result, >50% of the surface area of car-centric US cities is covered in pavement.

In the desert, this means hot sweltering pavement ...

the “*fry an egg on the sidewalk*” type of pavement.



Better Unsustainable Development

Keep the bad, sprinkle in some good, Policy Perspective



Technology will save us!...?

- Electric Vehicles
 - No more tail pipe emissions
 - Autonomous driving reduces human error
- Pavement performance
 - Recycled materials
 - Longer lasting
 - Lower costs
- “Solutions” without public policy to frame trade-offs / outcomes
 - Measures of success lost in a promotion
 - Horse to Car = Jaywalking
 - Car to Autonomous = Super Jaywalking?



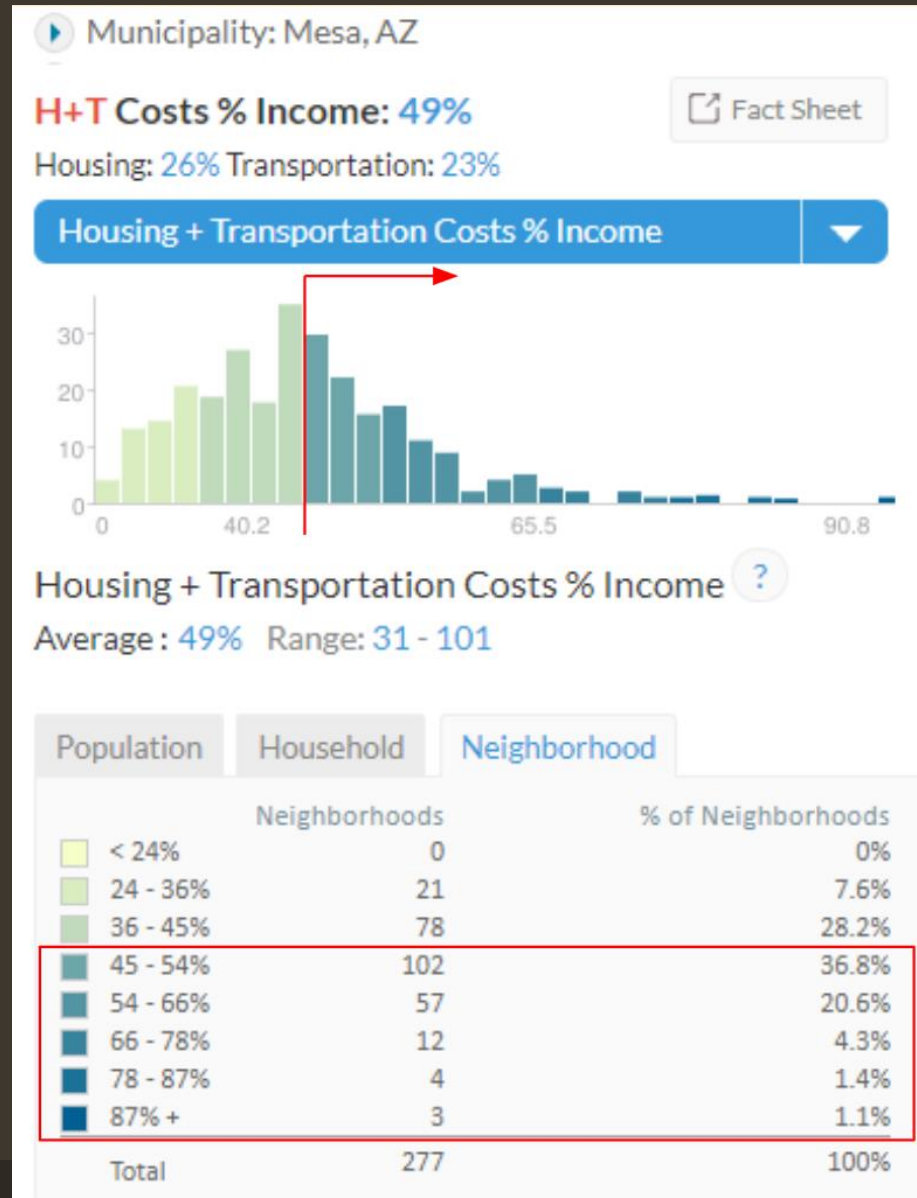
Does it solve the cost-burdens of the typical household?

AMERICAN HOUSEHOLD SPENDING ON TRANSPORTATION

Middle- and low-income American households spend, on average, nearly **20 percent** of their income on transportation and **40 percent** on housing.

Household Expenditures as Percentage of Household Income

- Other - 4%
- Clothing - 4%
- Entertainment - 6%
- Healthcare - 10%
- Food - 16%
- Transportation - 20%
- Housing - 41%



64%+ of Mesa Neighborhoods per H+T index = cost burdened

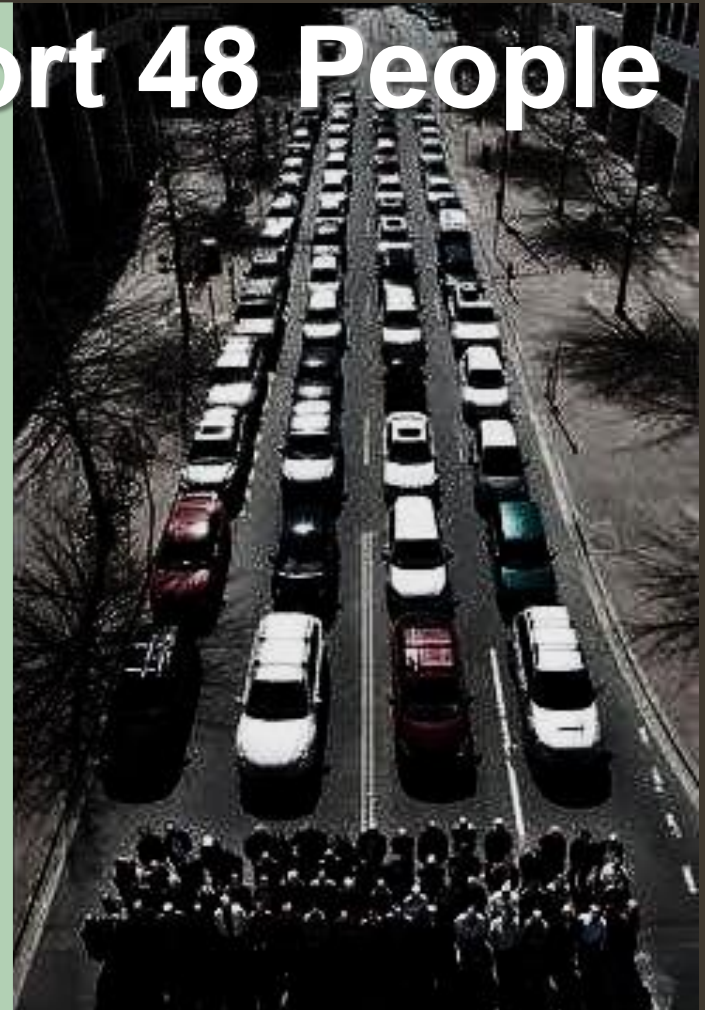
Space Required To Transport 48 People



CARS

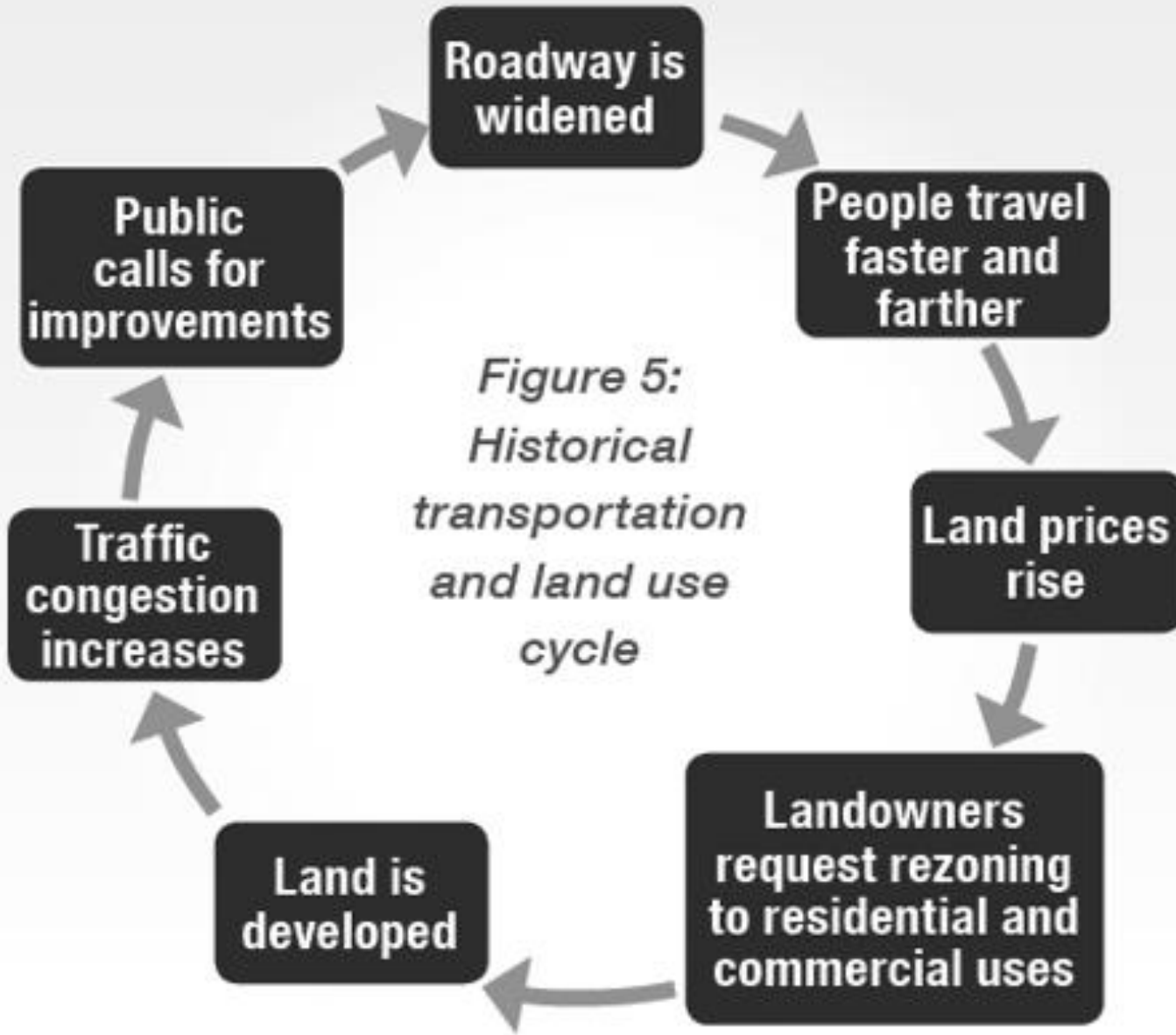


ELECTRIC CARS



AUTONOMOUS CARS

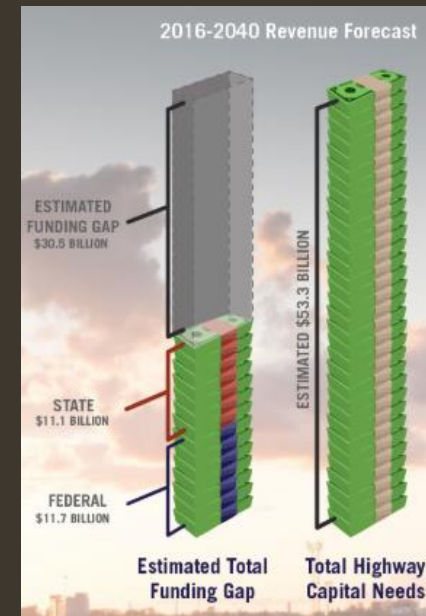
Transportation = Economic Geometry



*Figure 5:
Historical
transportation
and land use
cycle*

“Induced Demand”

Can't solve this with typical inefficient land-use and car-use



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We end up back here

Just one more lane... please!

What if your cardiologist took the same approach?

Dr. McBacon, MD

Tests are back:

High Cholesterol!

A high-cholesterol diet is **approved with conditions**. Patient shall mitigate the impacts by:

1. Widening arteries
2. Increasing heart rate
3. Taking blood thinners to keep things flowing (prescription is refillable weekly)
4. Attempt to make this affordable by taxing all food, *even the vegetables*
5. Ensure a steady supply, no matter the environmental impacts (antibiotics, factory farming, GMOs... go-go-go)

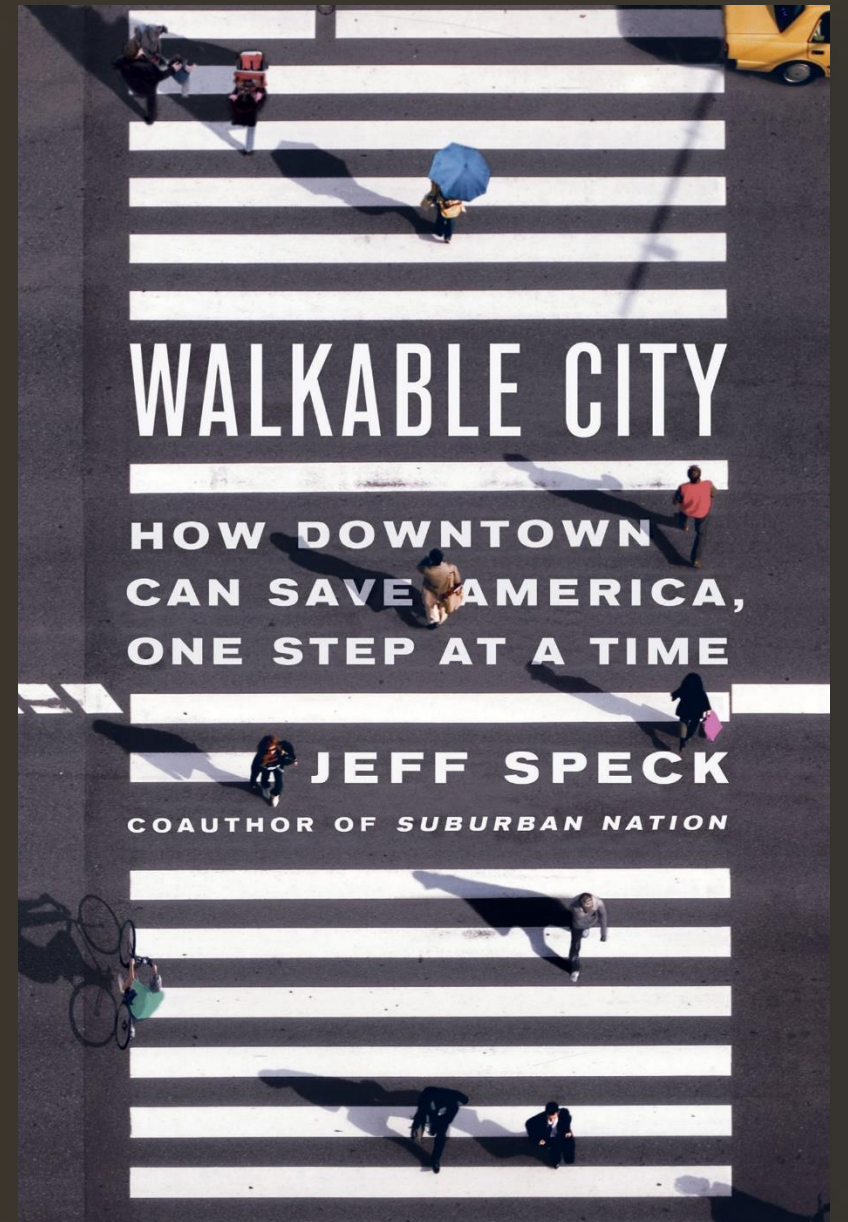


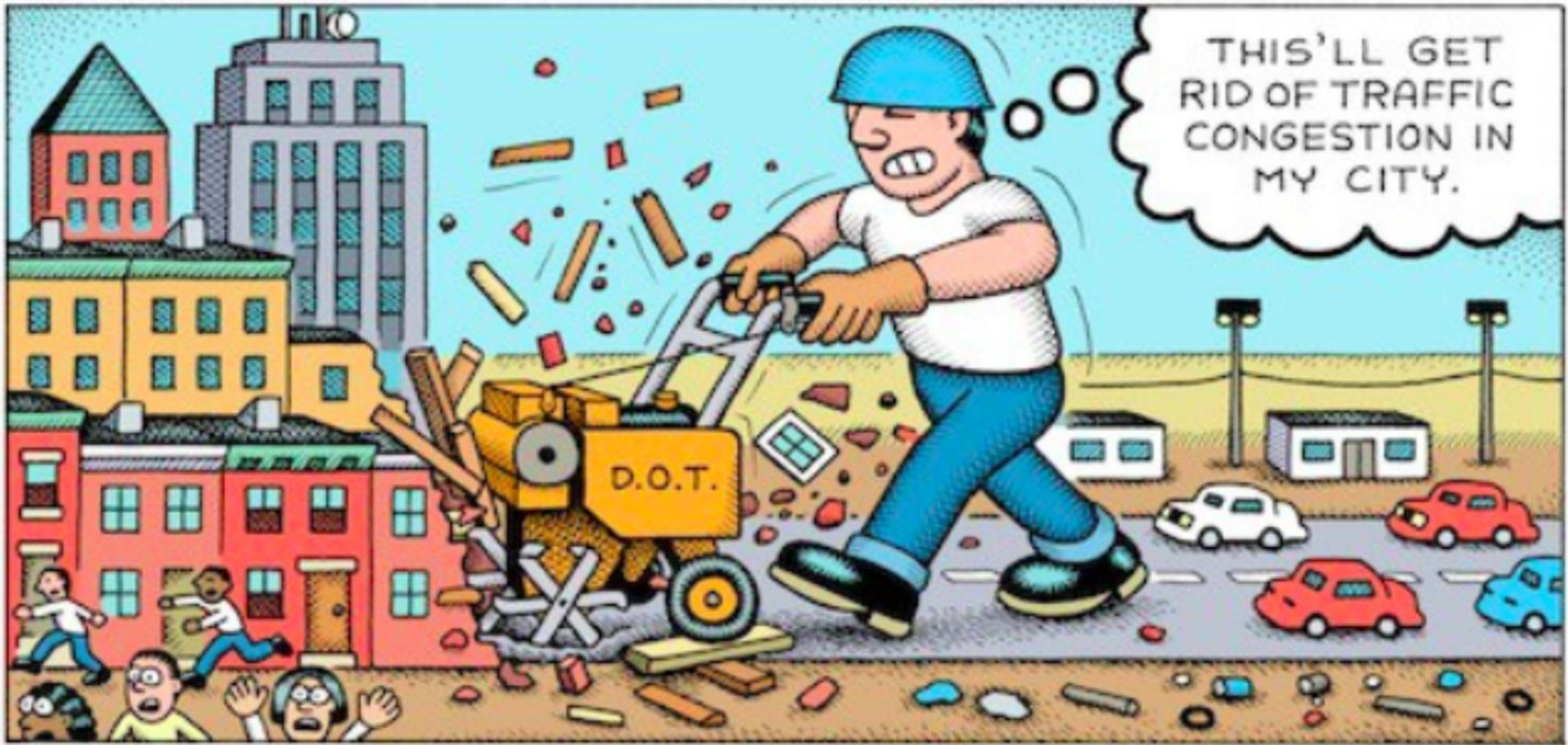
...the automobile has mostly been given free rein to distort our cities and our lives...

*the car has reshaped our landscape and lifestyles around its own needs.**

It is an instrument of freedom that has enslaved us.

** It's done this in less than 3 generations (my note)*

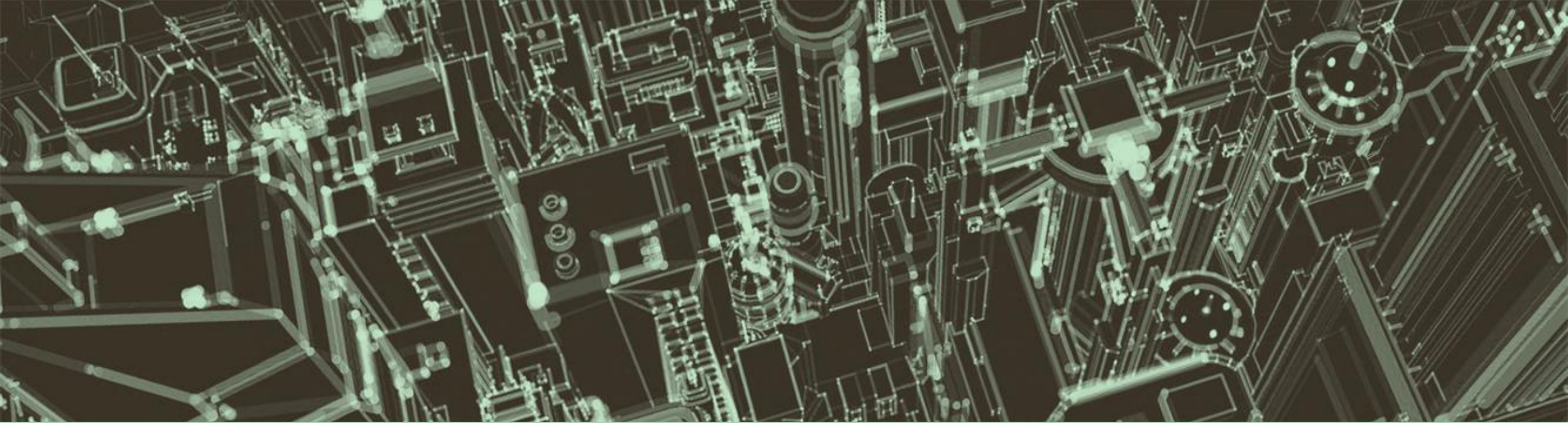




THIS'LL GET
RID OF TRAFFIC
CONGESTION IN
MY CITY.

Real Solutions
Enhance the Good

NOT BLINDLY
Mitigate the Bad

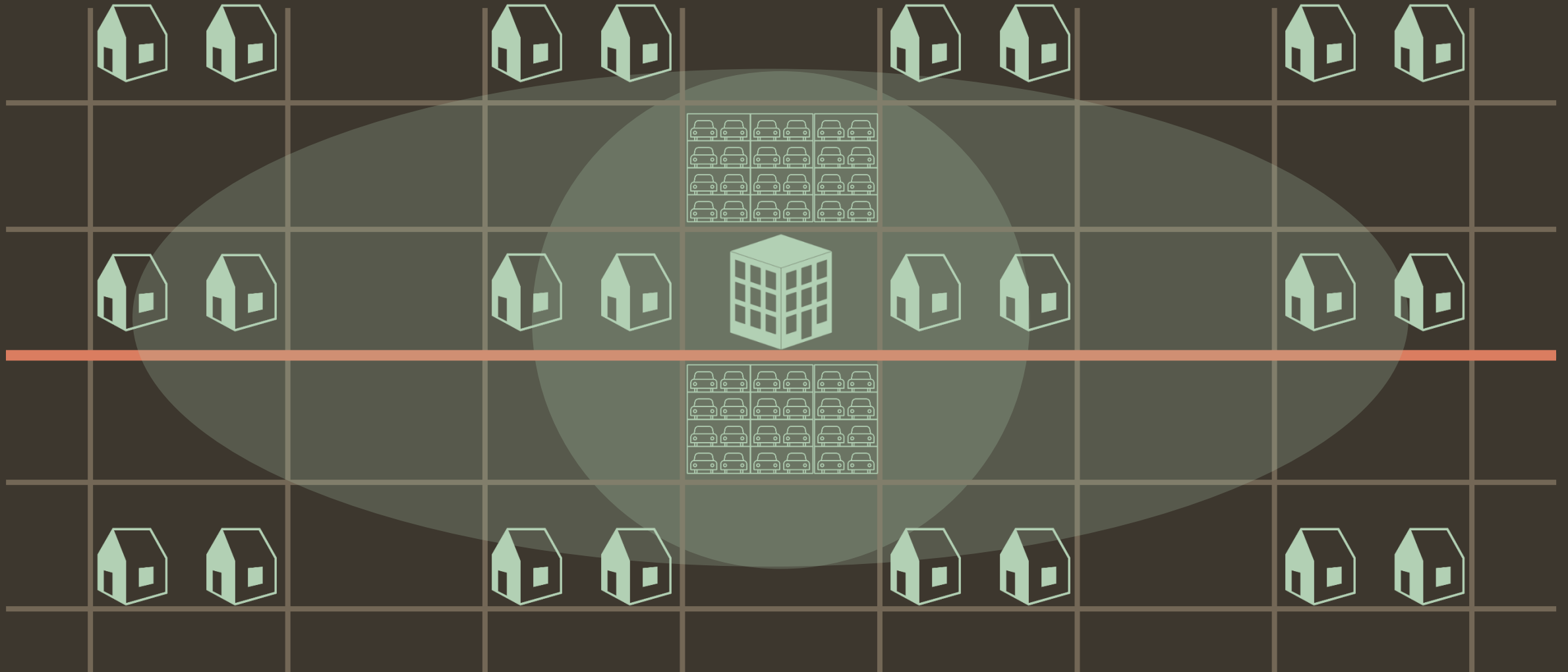


Sustainable Development

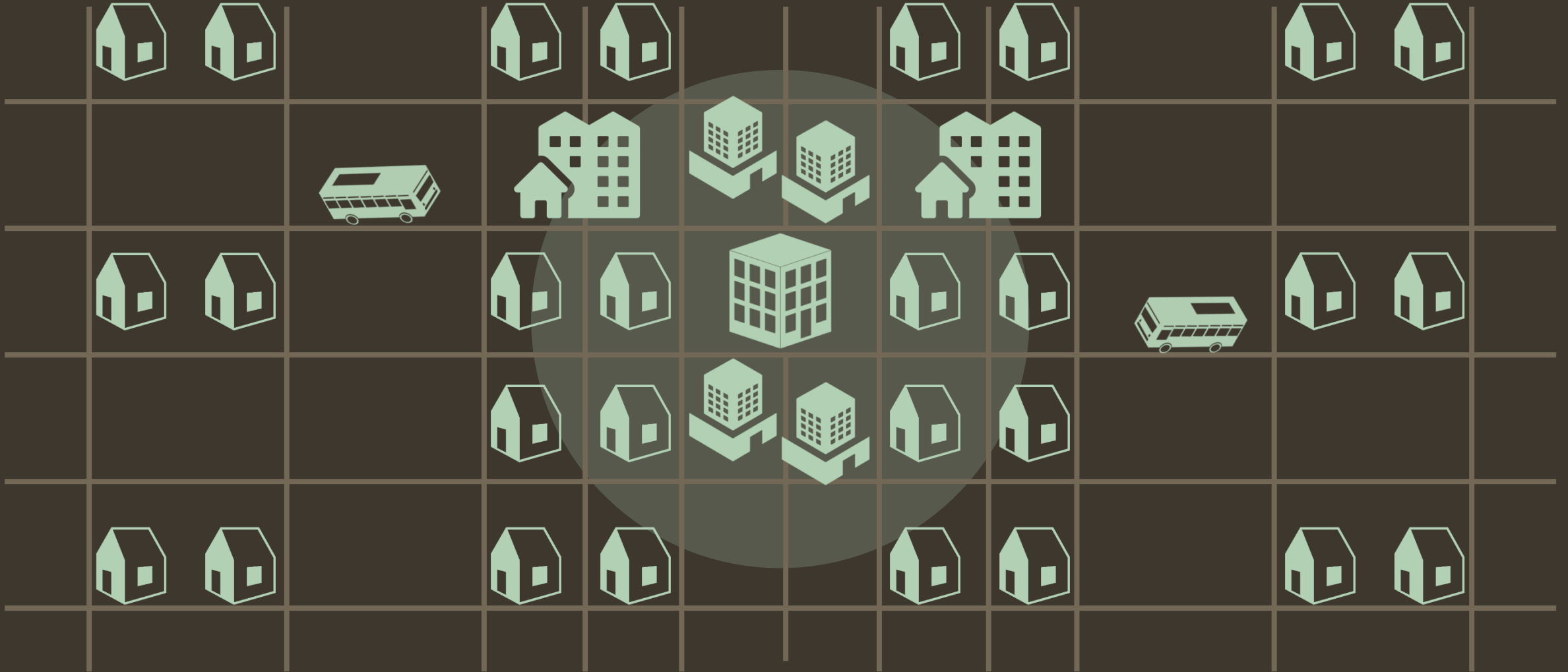
Land Use + Transportation Policy Perspective



“Access-by-Mobility”... typical.



“Access-Rich Areas” (or Corridors)... sustainable.



City of Bastrop 2017:
ROI Weighted Current
Operating Budget

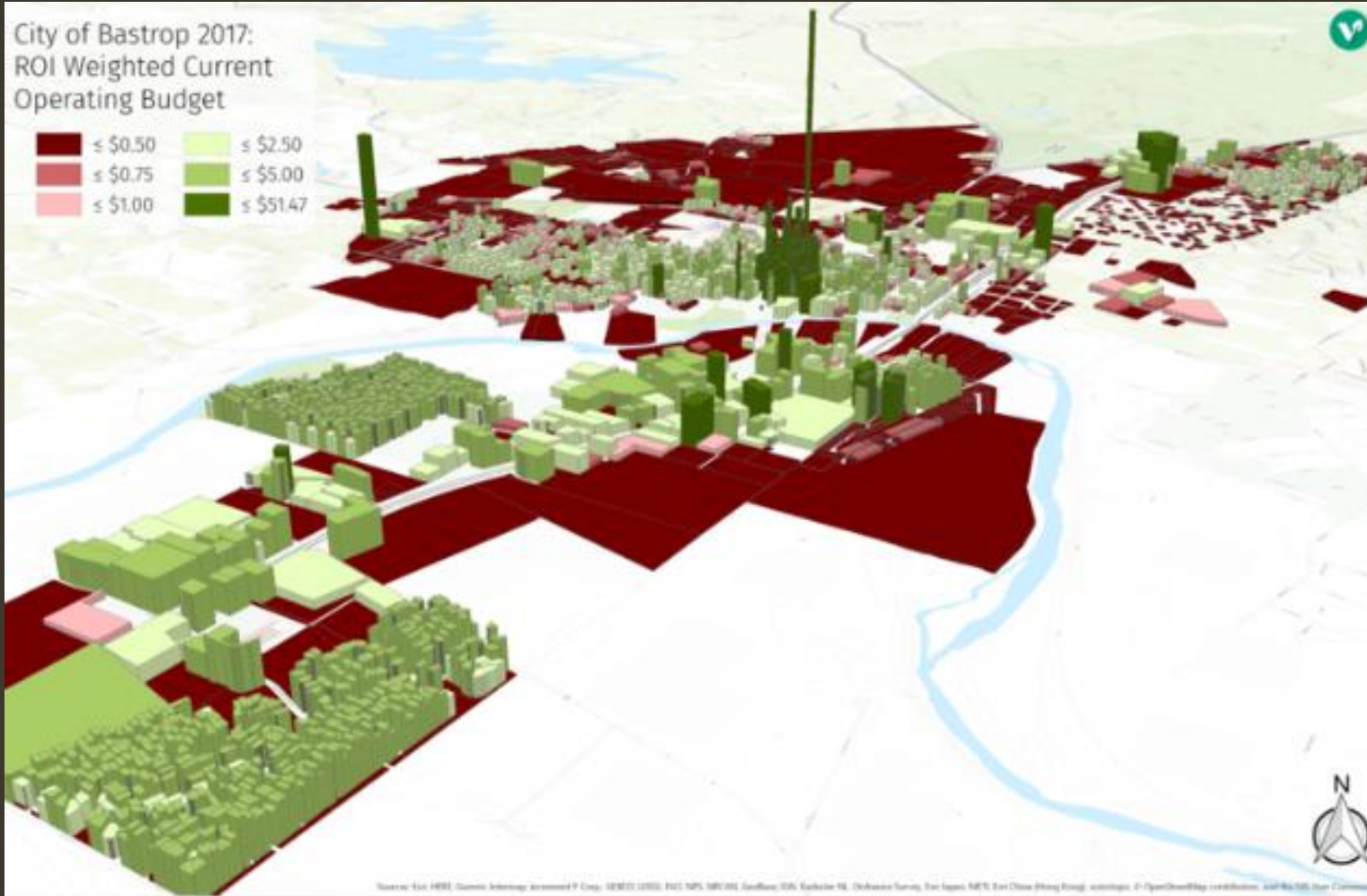
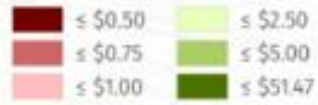
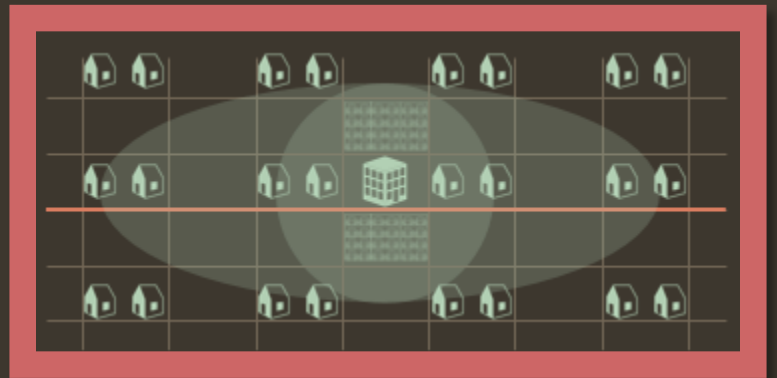


Figure 4: A weighted ROI map for Bastrop's existing development, relative to its current operating budget. Numbers **below \$1.00 (red)** indicate the City is losing money by serving these properties. A property with a value **greater than \$1.00 (green)** generates more revenue than the City spends to serve it. **The more compact development pattern of Bastrop's downtown performs significantly better than the rest of the city.** (Image: Felix Landry/Verdunity)

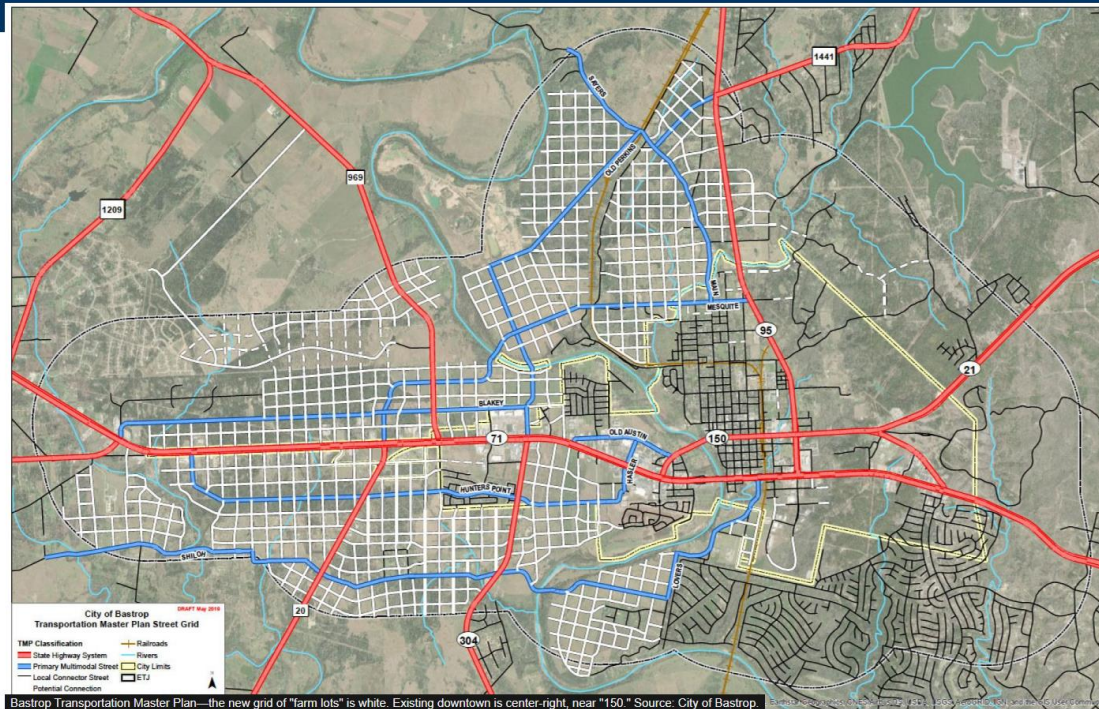


A good paving project offers RIO

The pavement industry, to have a healthy place in the market, should be concerned about the part they play in the marketplace of city-building.

PUBLIC SQUARE

A CNU Journal



POLICY

Texas city adopts street grid and code

New, lean code deals with flooding issues and fiscal sustainability for fast-growing historic city in the Austin area.

ROBERT STEUTEVILLE NOV. 15, 2019



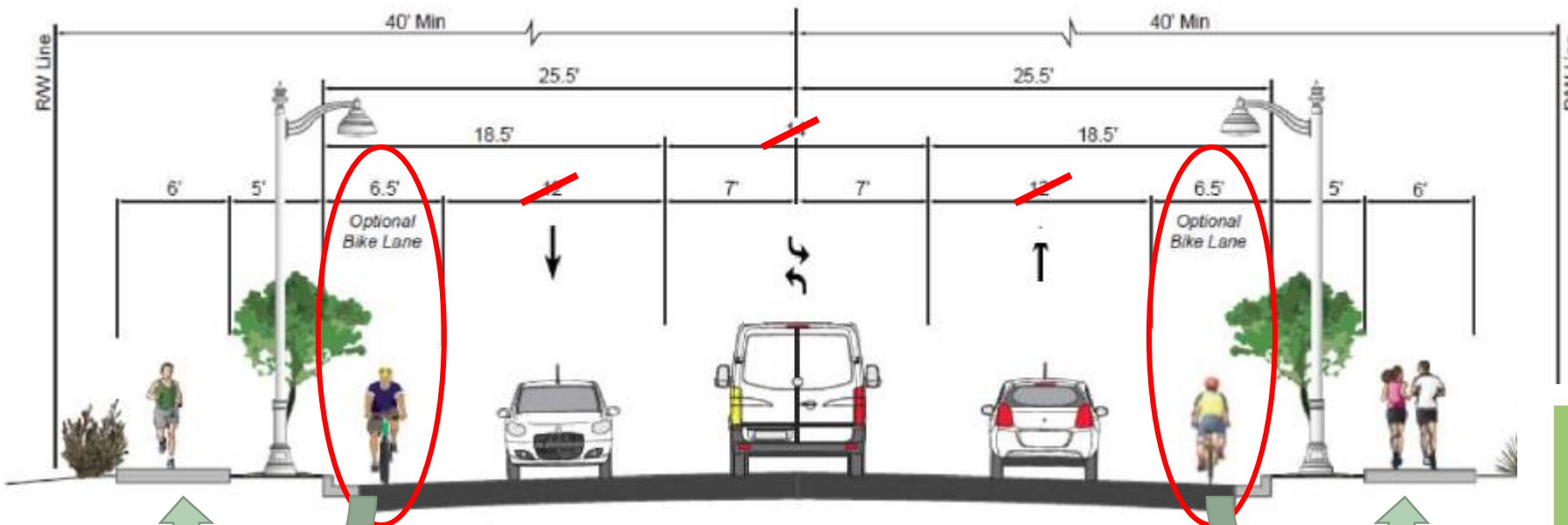
Bastrop, Texas, adopted new, groundbreaking land-use regulations this week that address flooding and establish a street grid as a framework for growth—one of the first cities in the US to do so since the middle of the 20th Century. The [Bastrop Building Block \(B3\) code](#) is the result of the Building Bastrop initiative, launched in August 2018 with the goal of creating fiscally sustainable, geographically-sensitive development that is authentic to the city.

Once a city knows what provides ROI they can regulate towards that outcome*

**Unless prohibited by state law*

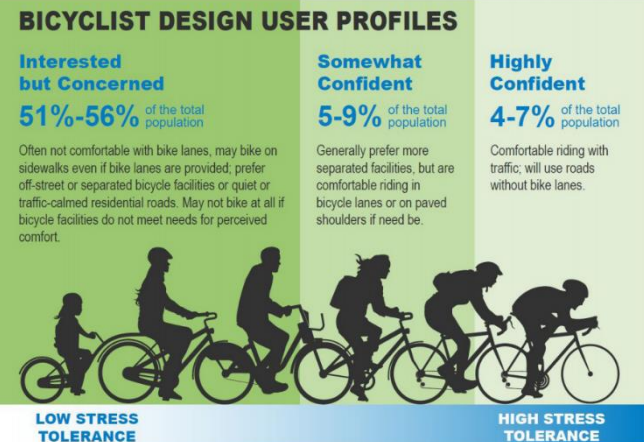
City of Maricopa: trying/doing the little things... (pending update)

Figure No 10 - Collector Road Section



- **Narrow curb to curb**
 - 10-11' travel lanes
 - Omit center turn lane, if possible
- **Comfort for walking/biking**
 - Shared-Use Path

Figure 6: Bicyclist Design User Profiles



Note: the percentages above reflect only adults who have stated an interest in bicycling.

Know the **difference** between Mitigating a Problem vs. Measure(s) of Success

Solve for traffic/mobility

- Highly convenient, if affordable (often subsidized)
- Spatially inefficient
- Pushes development out
- Distorts land economics
- Environmental impacts
- Speed = Fatalities
- Cost-burdensome, fiscally straining

Solve for access

- Less distance driving, less cause for speed
- Spatially efficient
- Promotes diverse communities
- Walking, biking, transit becomes useful
- Lower Environmental impact opportunities
- Land market at the edge less desirable
- Equitable, fiscally productive

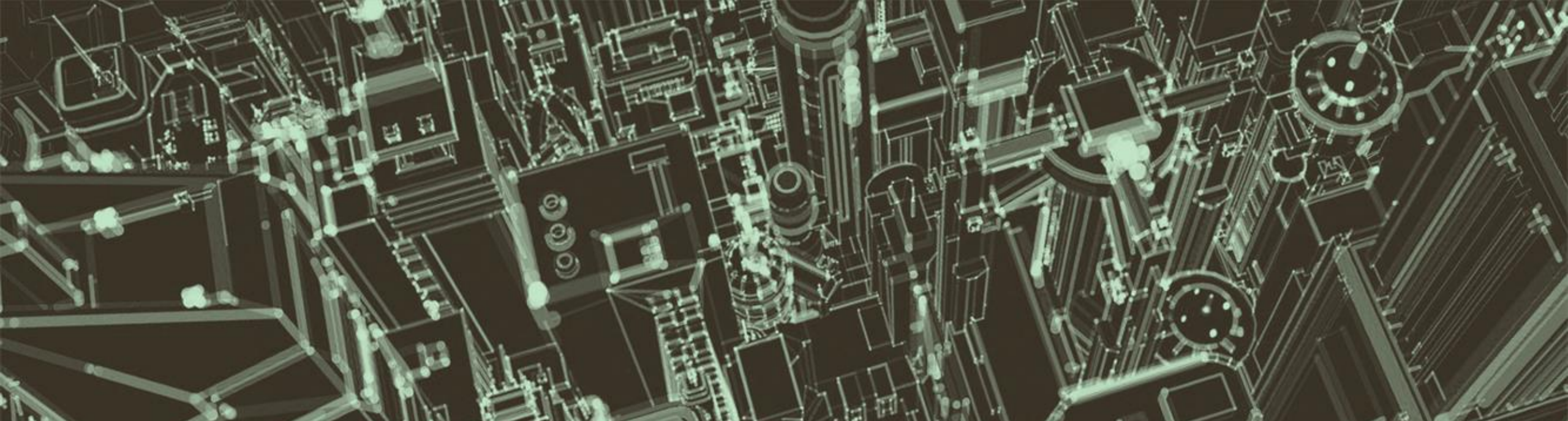
A Sustainable Development transition requires a broad coalition

- Firmly recognize the limitations of unsustainable development
- Recognize the goals of sustainable development
- Be skeptical of “gizmo green solutions”
- A Sustainable solution is a stable marketplace that provides a quadruple-bottom-line benefit

1. People
2. Place
3. Planet
4. Profit

Mutual Benefits = Returning Customers





Thank You!

A. Ryan Wozniak, AICP

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