

INFRASTRUCTURE • FISCAL SUSTAINABILITY • DECISION-MAKING

Beyond the Squeaky Wheel

Smarter infrastructure decisions for long-term fiscal health

PRESENTERS

Michael Kovacs

City Manager, City of Fate, Texas

Jim Proce

City Manager (Ret.)

Kevin Shepherd

Verdunity



Some Numbers to think about...

- How many lane miles of roadways in Texas?
- How many lane miles of Local& County Roads? TxDOT?
- How much do cost to replace per lane mile?
- What are cost drivers?
- Per capita cost? Per household?
- **Why not???**

700,000

lane miles statewide

500,000 Local & county

200,000 TxDOT

71% of lane miles are managed locally

REPLACEMENT COST PER LANE MILE

\$1.5M – \$7.7M

Cost varies with pavement thickness, demolition, urban conditions, materials, labor, and market timing.

ILLUSTRATIVE SYSTEMWIDE COST

\$1.26T

Using \$1.8M per lane mile

\$41K

per resident

\$113K

per household

Looking at this closer...

HOW THE \$1.25 TRILLION ESTIMATE IS BUILT

State highways On-system	200,000 lane miles × \$2.5M	\$500B
Local & county roads Off-system	500,000 lane miles × \$1.5M	\$750B

700,000 lane miles • weighted average ≈ \$1.8M per lane mile **≈ \$1.25T**

WHY THE VALUE IS SO LARGE

Scale Texas has roughly 700,000 lane miles of roadway.	Whole-system costs Replacement includes pavement, drainage, signage, lighting, utilities, and sublayers.	Urban construction Full-depth reconstruction in growing cities can reach \$4.2M per lane mile.
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FUNDING CONTEXT	\$81B annual local property taxes across nearly 4,000 entities	\$140B TxDOT 10-year program ≈ \$14B annually
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Scale comparison only: property-tax collections and the TxDOT program are not dedicated solely to full roadway replacement.

A Great Example of a Bad Plan Everyone Thought was Good...

600 road miles in poor condition
PCI below 50 suggests reconstruction

PROPOSED 20-YEAR INVESTMENT

\$5M/year × 20 years = \$100M

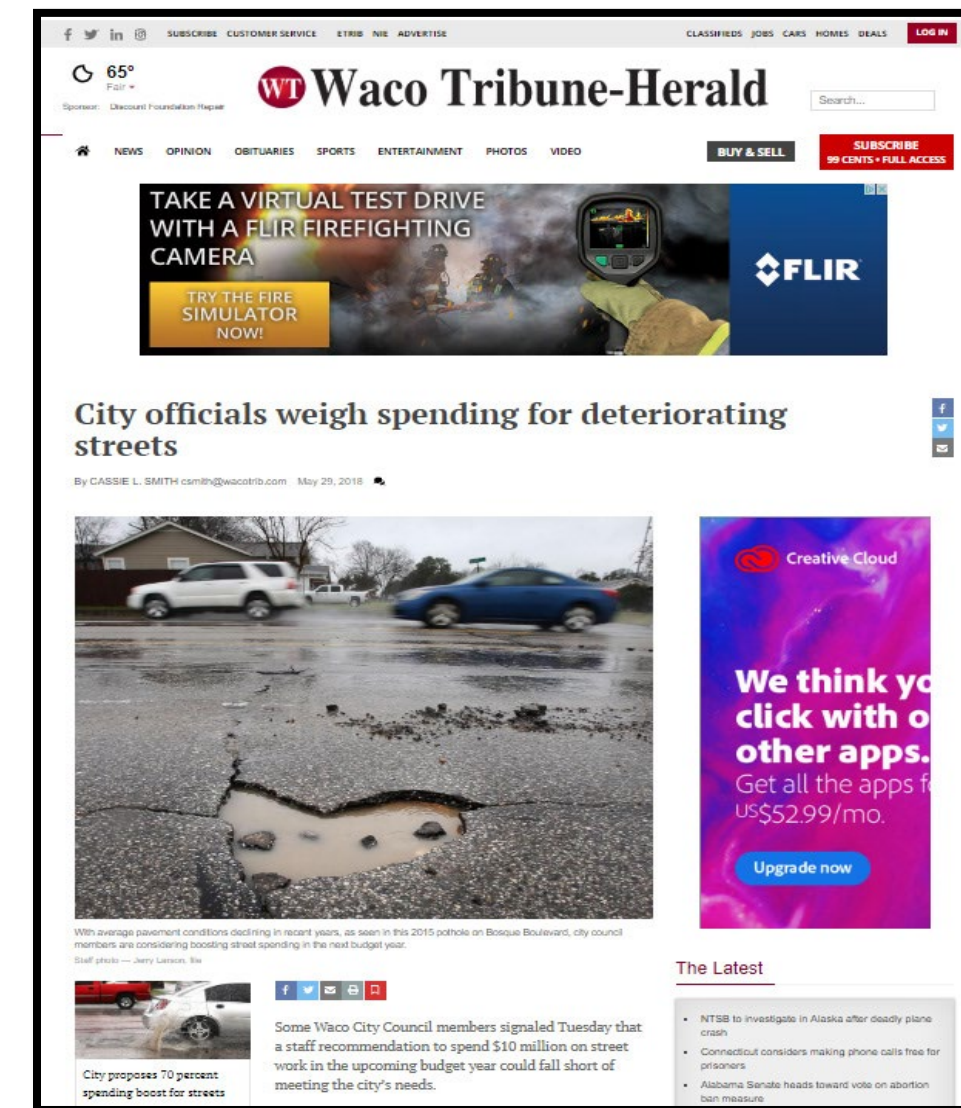
\$100M ÷ 600 miles = about \$167K per road mile

ANNUAL FUNDING COMPARISON

Proposed  **\$5M**

Illustrative need  **≈ \$75M**

15× The assumed annual need is fifteen times the proposed funding level.



WHAT THE SIMPLE PLAN MISSES

- Lane miles and roadway width
- Ongoing deterioration and inflation
- Project type, phasing, and lifecycle costs

Most recent situation... in my last adventure...

SYSTEM AT A GLANCE

800

lane miles of roads

\$11M

spent annually

Over \$40M

capital projects over
the next year and a half

85

aggregate system PCI

Trending up 2–3 points annually

HOW THE FUNDING IS BEING USED

Concrete roads

- Foam injection
- Crack seal
- Panel replacement

Asphalt roads

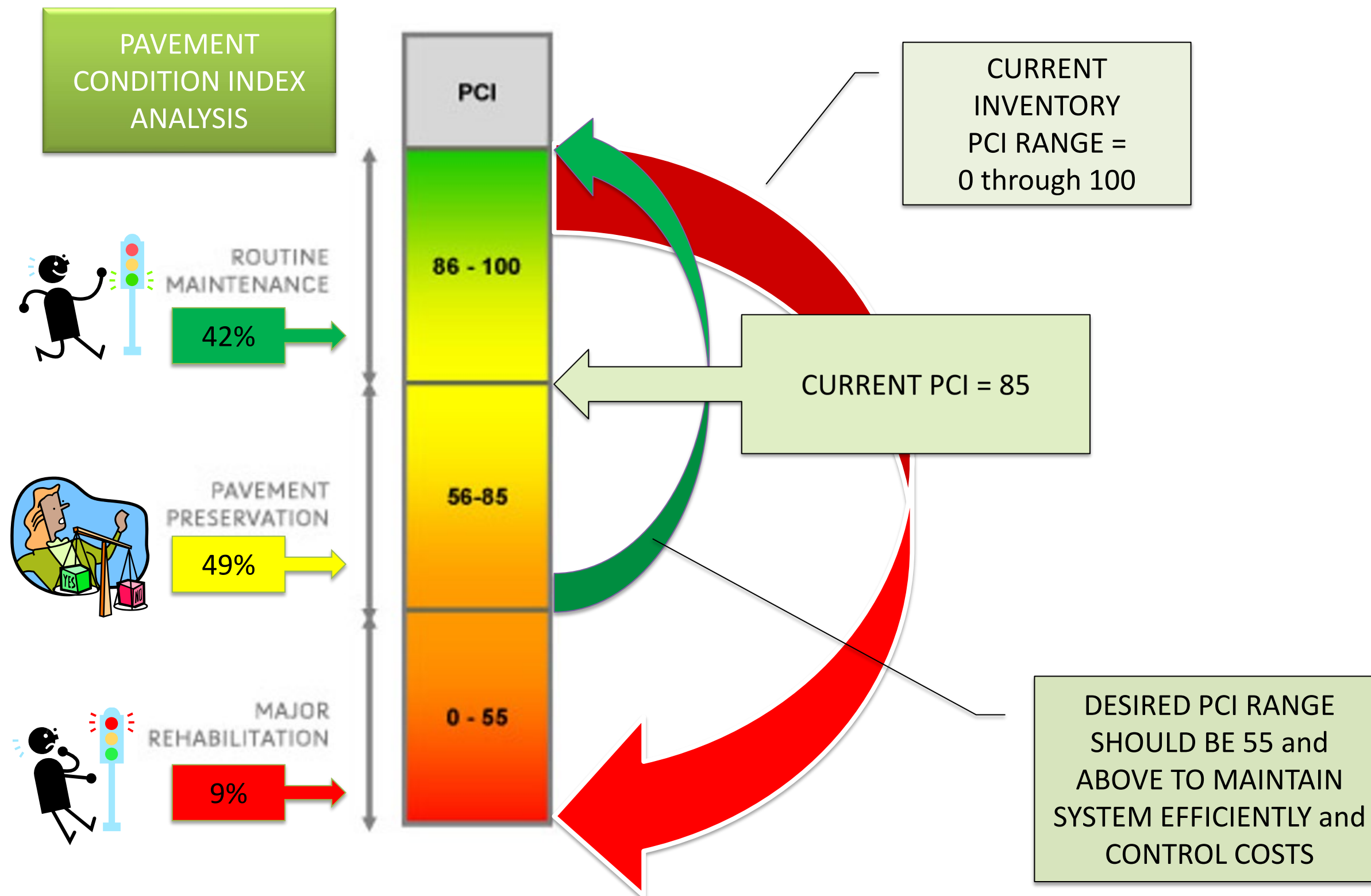
- Mill & overlay
- Rejuvenator
- Crack seal

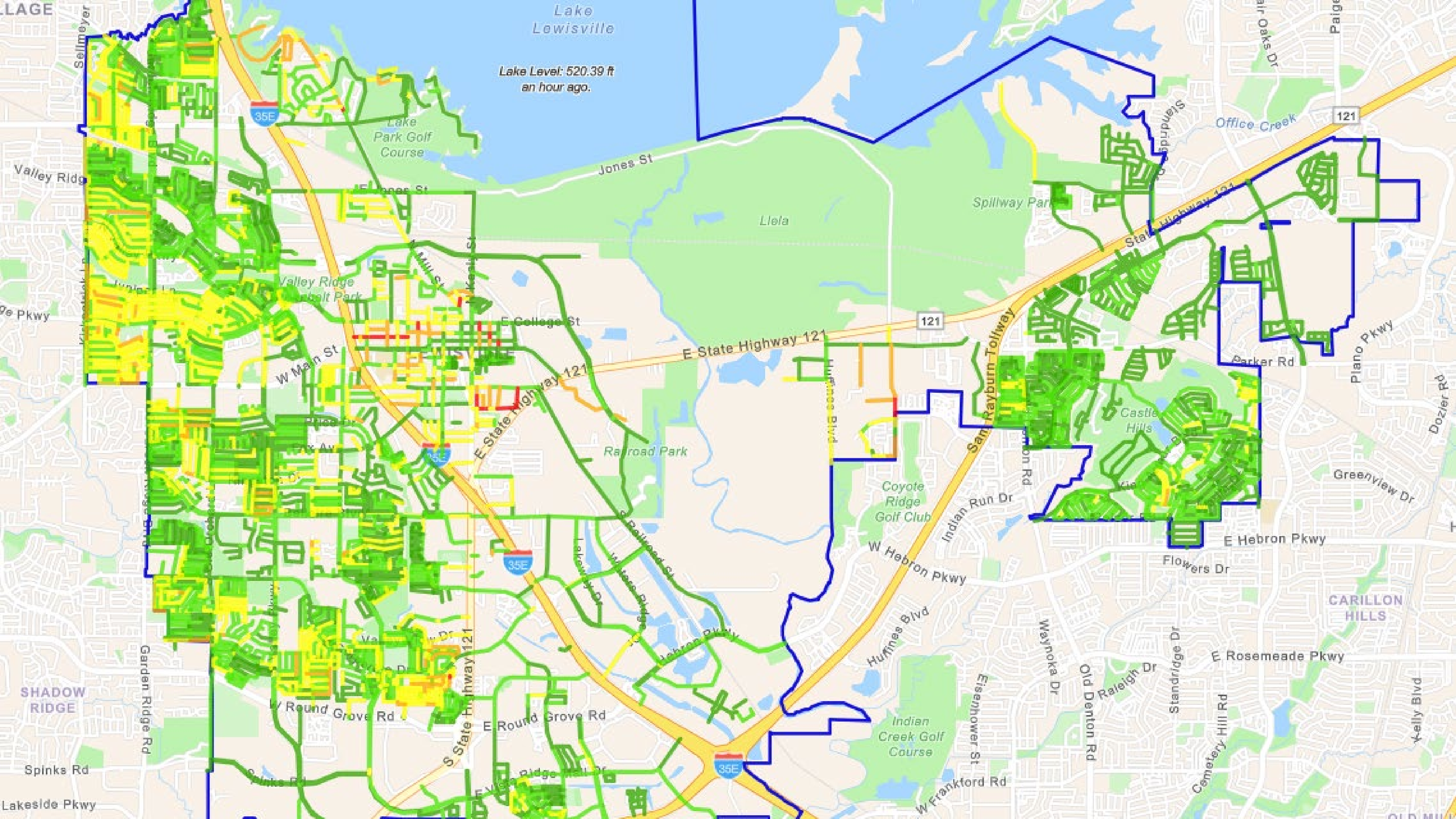
Capital projects

Complete rebuilds

Systemwide PCI is 85 and has steadily trended upward each year.

+2–3 points annually





Eight questions every infrastructure plan should answer

Before approving, expanding, maintaining, or rebuilding public infrastructure

1 Necessity & design

- 1 Do we really think all of this infrastructure is a good idea? Why?
- 2 Has anyone costed or value engineered this to see if all this infrastructure is really necessary?

2 Lifecycle responsibility

- 3 Who is going to maintain all this stuff once the developers are long gone?
- 4 When these roads fall apart, where is the money coming from to pay for all of this?
- 5 Are we putting away funds for when all this stuff falls apart?

3 Fiscal sustainability

- 6 Does the revenue this development generates pay for ALL of the services required to maintain and rebuild it when needed?

4 Prioritization & accountability

- 7 Are you fixing the right stuff? What strategy do you employ: political pressure, public outcry, or a technically and fiscally sound approach?
- 8 Are you having these conversations with your community, or are you just piecemealing your CIP?

Infrastructure decisions should address the full lifecycle, not only the initial construction.

Start with four numbers, then do the math

THE BASIC LIFECYCLE TEST

- 1 Total inventory** What is the total inventory?
- 2 Replacement cost** What is the total inventory replacement cost?
- 3 Annual spending** How much are you spending annually?
- 4 The gap** What is the gap?

EXAMPLE FROM THE SOURCE

535 miles = \$963M

Assuming \$1.8M per lane mile

How many years will it take to do it all, assuming the roads built are so good they will last forever?



City Manager at City of Anna, Texas

Matt Yager and **Kevin Shepherd** my experience with the life cycle analysis in every city I have every engaged, reviewed or worked for have not looked closely enough at those long term liabilities. I have told folks (more times than I can count) even if you take the snapshot look at it looking at lanes miles in inventory and total replacement costs for that inventory you'll be very surprised at the replacement value of that asset. Start factoring in exponential deterioration, pavement condition index, rising costs of construction labor/materials and time value of \$ and you will see that these numbers get huge fast. The reinvestment in capital just isn't there and with no one interested in paying more taxes the models for future development and redevelopment have to change. That article has some interesting points (some of which make sense) but when I look at the (tax) revenue generating potential of suburban areas it doesn't look sustainable without other considerations: reducing infrastructure costs up front, more dense and diverse housing stock, going vertical, more sustainable construction standards, and active management of the deterioration curves to maximize maintenance service

**However you break it down: it is a huge number.
What are your numbers?**



**Doing nothing
is not an
option!**

Bridging the Resource Gap

Growing revenues, maximizing infrastructure ROI, and closing funding gaps through fiscally informed development decisions.

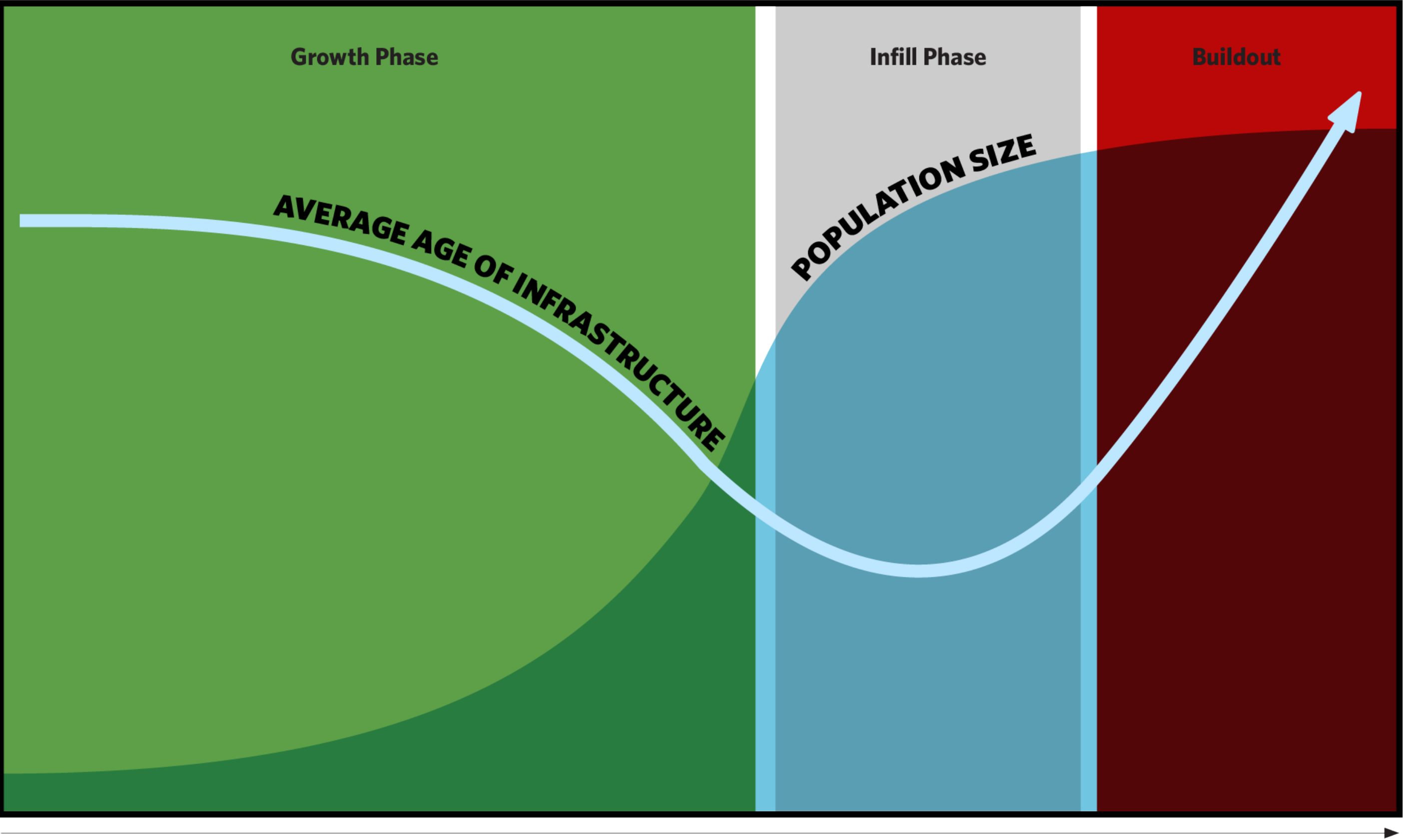
Public Works Roundup

August 20, 2026

Across the country, we're
building cities we can't afford
to live in or maintain .



INFRASTRUCTURE AGE AND POPULATION SIZE OVER TIME



Infrastructure is a Liability, not an Asset

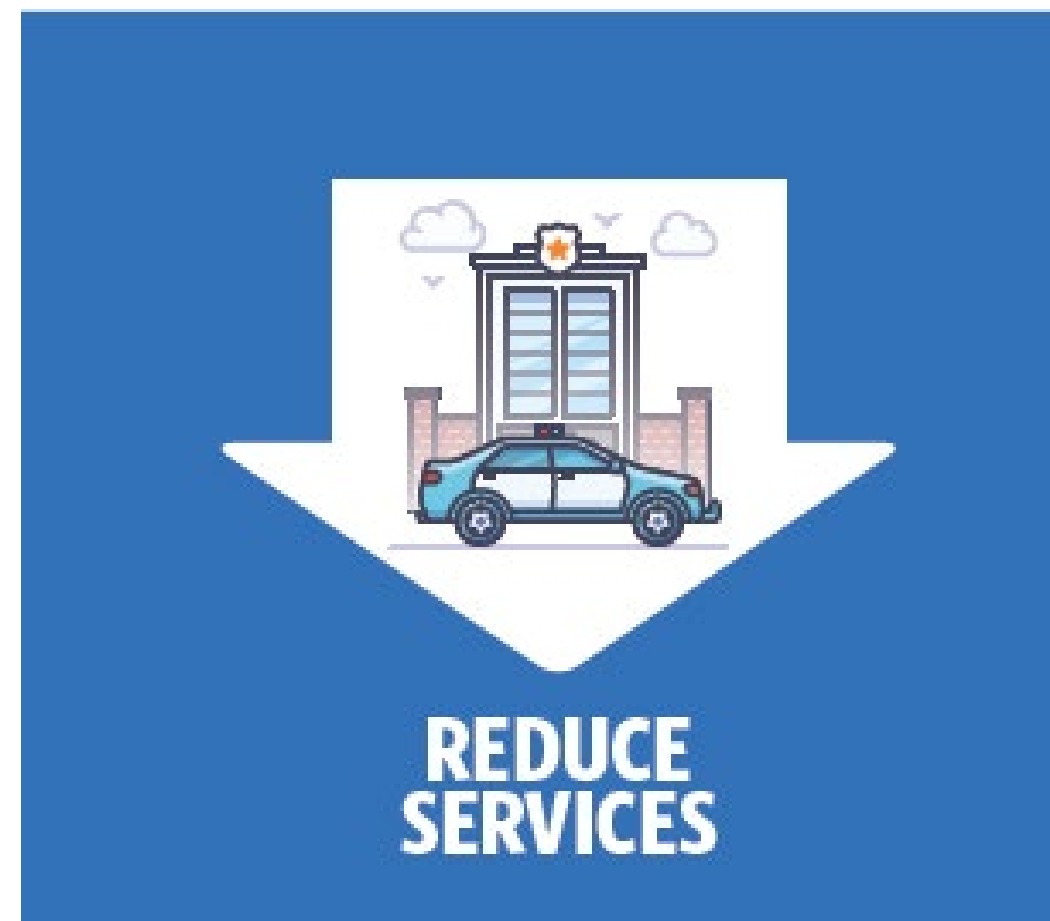
The City's Infrastructure Backlog Has Climbed to \$1.86B

The mayor has touted record investments in infrastructure and a 2016 measure sends more money to pay for projects, yet the city's five-year shortfall to fund projects is \$286 million higher than the previous year.

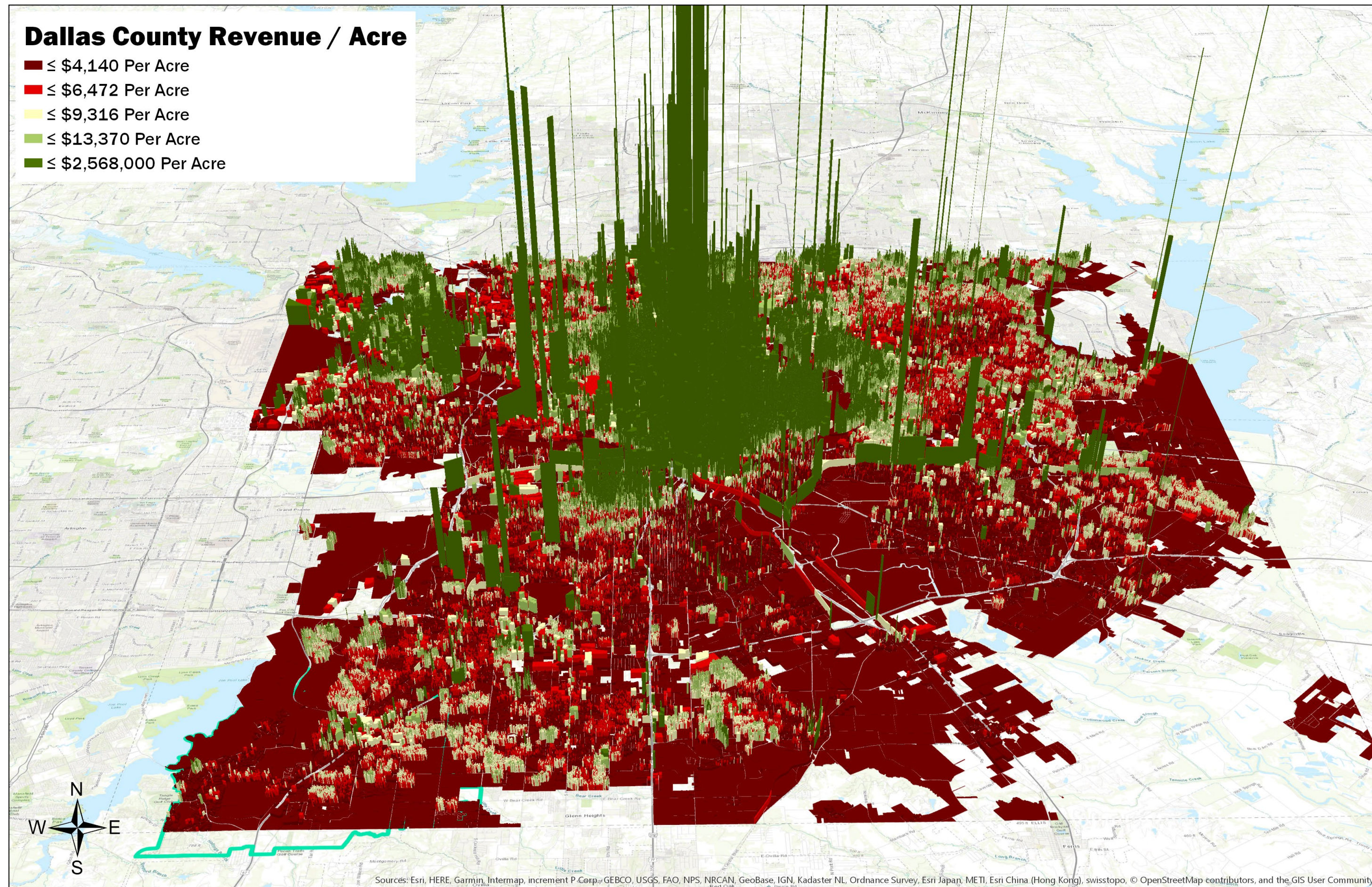
To be financially sustainable,
a City needs to balance
development and services
with what residents are
willing and able to pay for –
now and in the future.



Options to Close Resource Gaps



Revenue Per Acre Mapping



Net Revenue Per Acre: Current Budget

What You Have Today

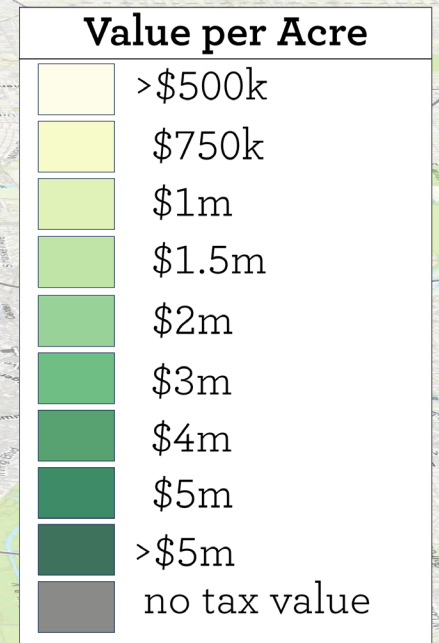
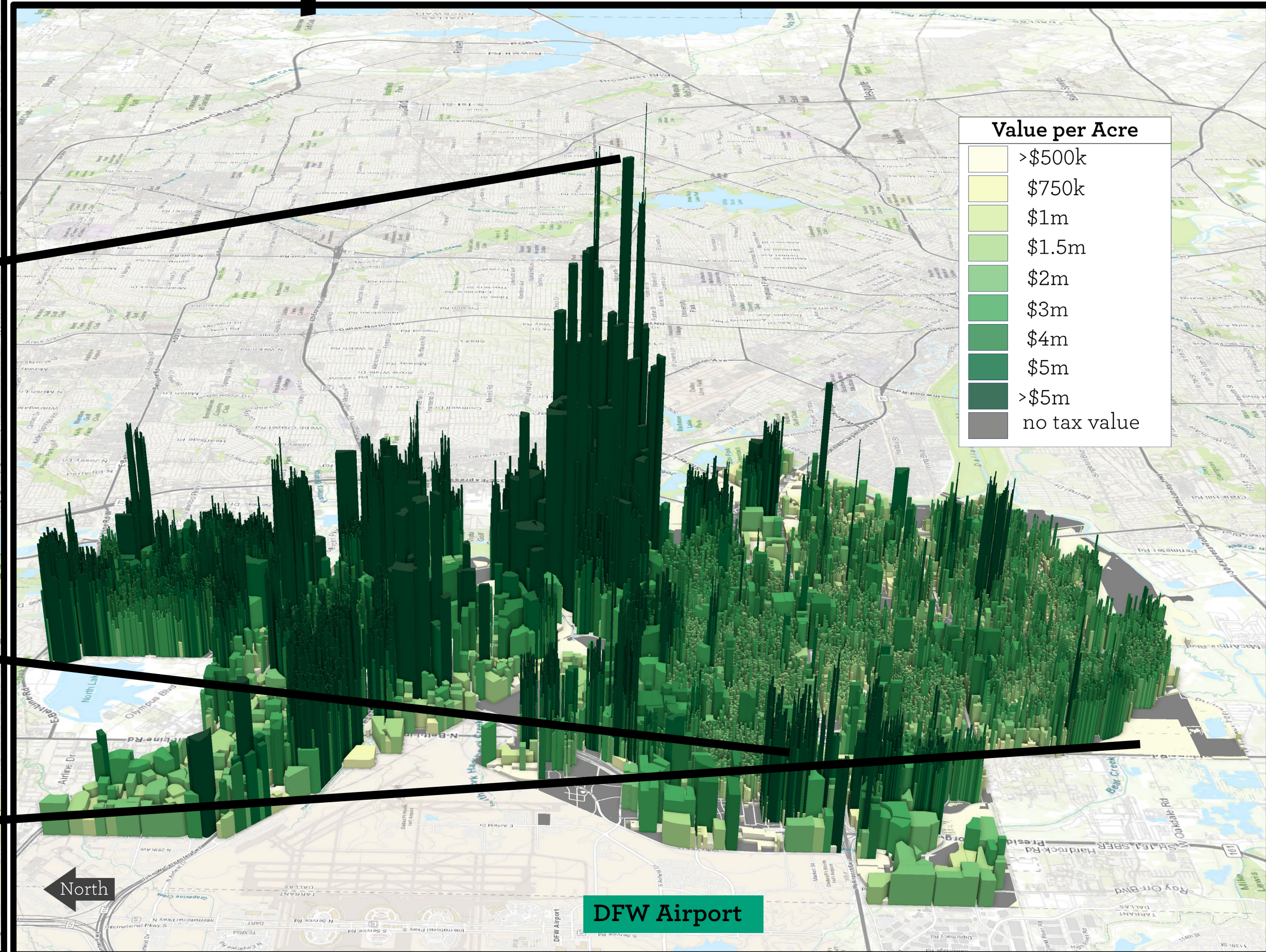
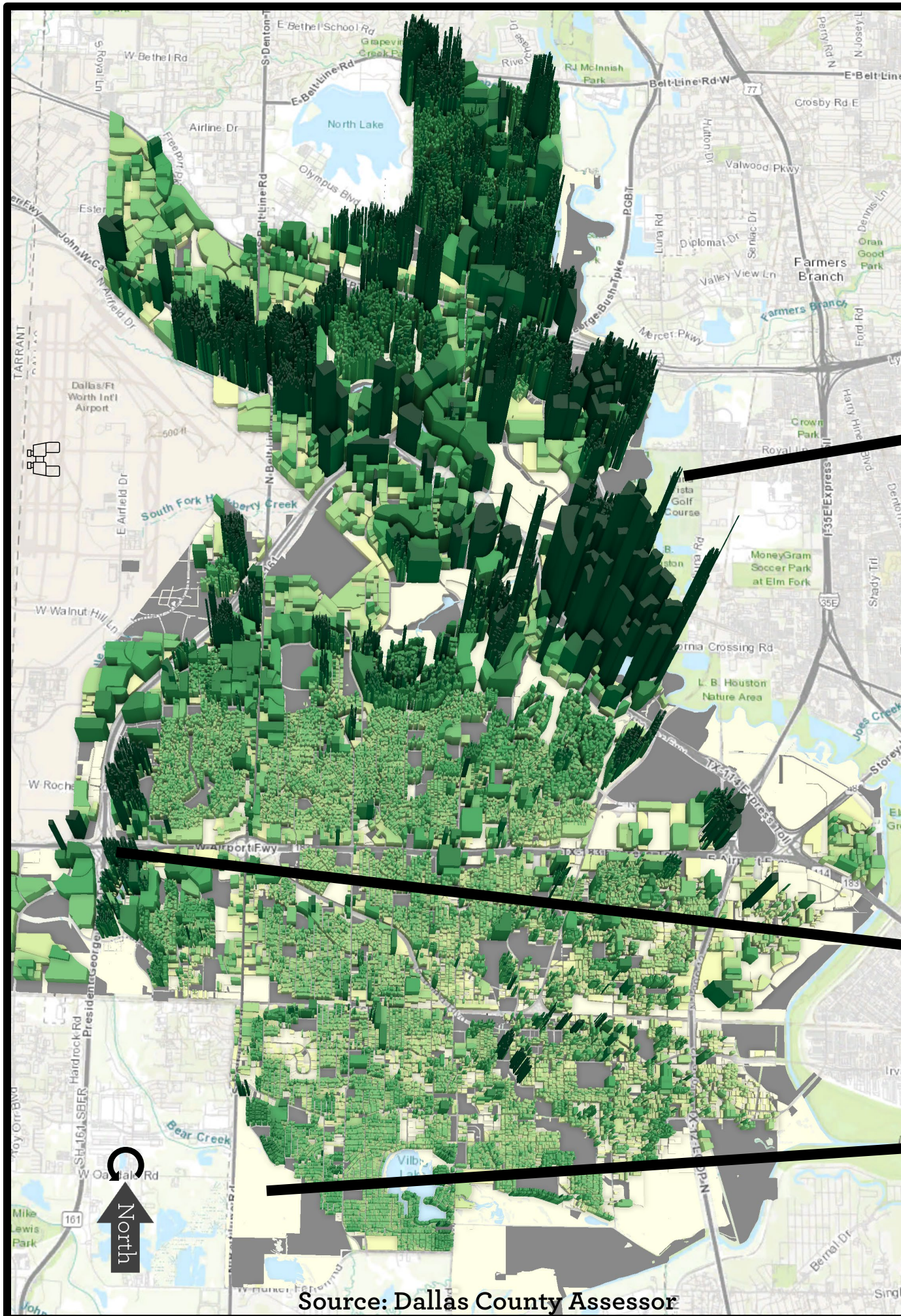


Net Revenue Per Acre: Budget + Deferred Liabilities

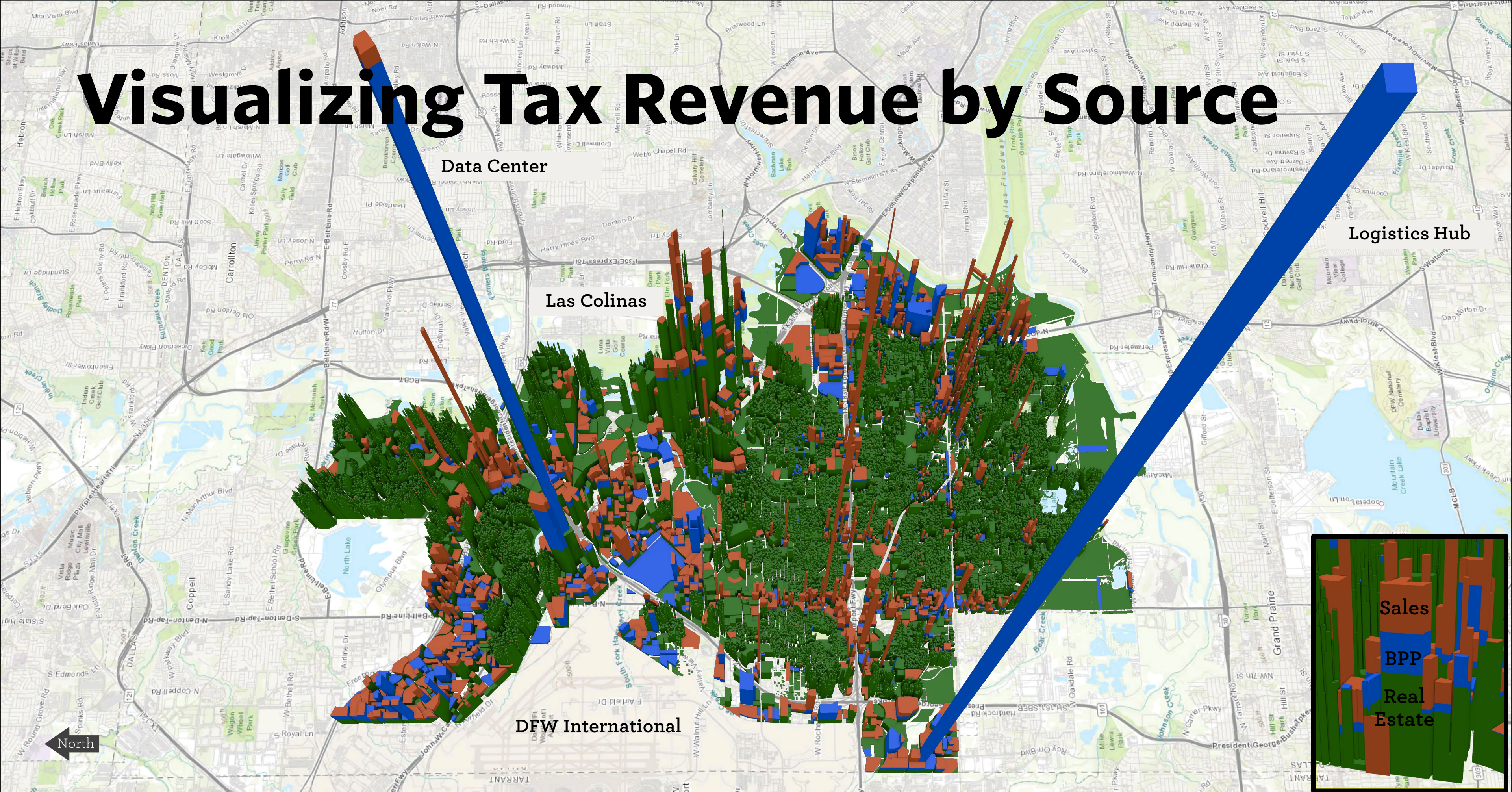
What You Really Need



Value per Acre



Visualizing Tax Revenue by Source



Value per Acre: Land Use

Data Center

Logistics Hub

Las Colinas

Historic
Downtown

Irving Mall

DFW International

Land Use

Residential

- Single Family
- Townhouse
- Duplex
- Multifamily
- Mobile Homes

Commercial

- Office
- Retail
- Automotive Retail
- Lodging
- Medical
- Recreation

Other

- Industrial
- Institutional
- Parking Deck
- Utility
- Vacant

Value per Acre: Year Built

Year Built

Oldest	1920's	30's	40's	50's	60's	70's	80's	90's	00's	10's	20's
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older

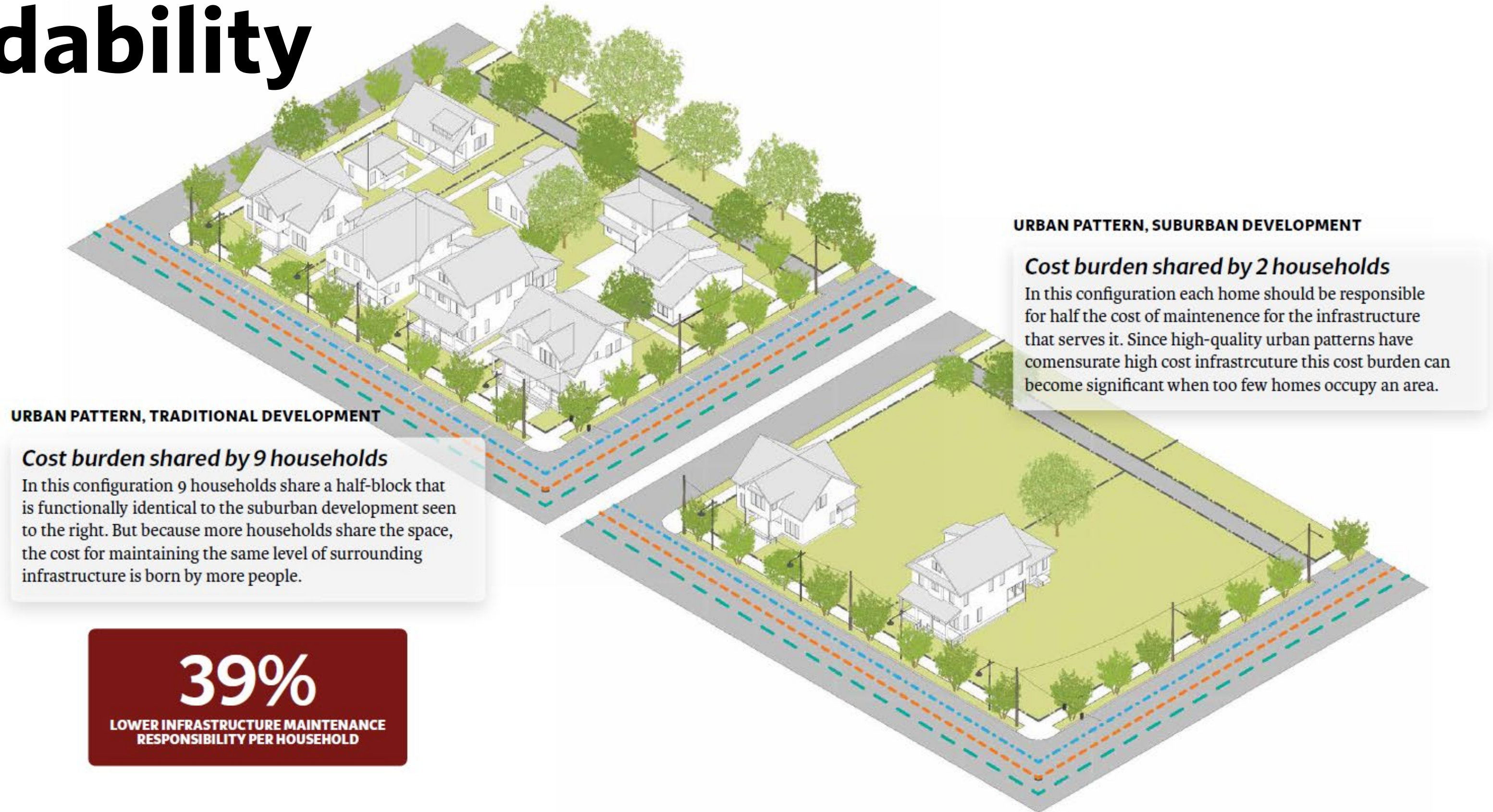
newer

Las
Colinas

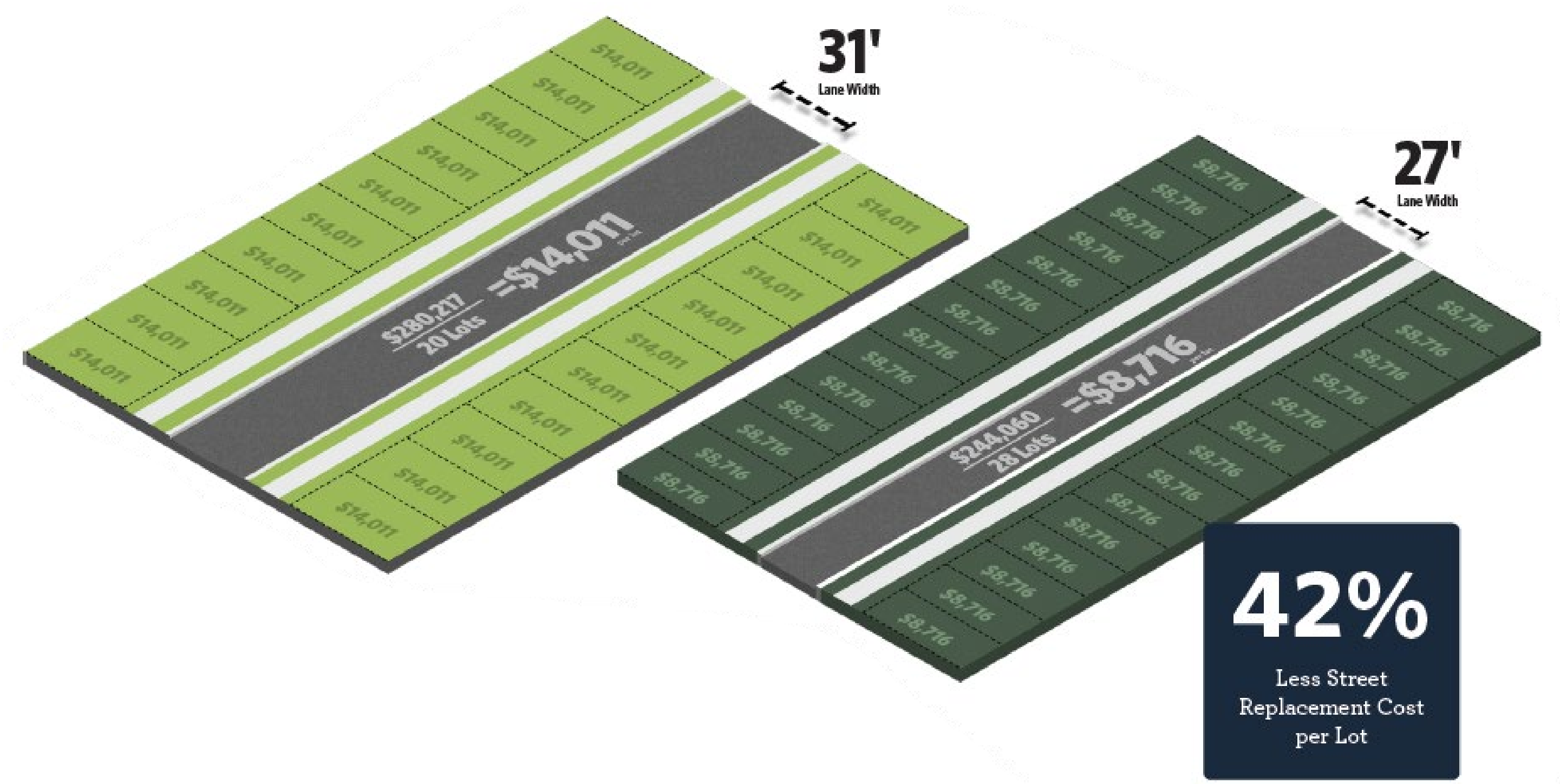
DFW
Airport

Source: Dallas County Assessor

Development Impacts on Costs and Affordability



The Effect of Lot Size & Street Width on Homeowner's Tax Burden



Applying Fiscal Analysis Across Departments



Growing a Community of Change Agents


by VERDUNITY


FRIDAY
news & views

Hey there Kevin. Happy Friday!

It's our weekly roundup of interesting things we've seen on the internet with a little opinion from the Verdunity Team!



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The Alameda bike bus has more than doubled in size in just four months

via BIKE PORTLAND

HELPING CULTIVATE PROSPERITY

KEVIN SHEPHERD PE
Founder & CEO

kevin@verdunity.com
214.430.4450 EXT. 200
214.425.6720 CELL



 VERDUNITY.COM

Street Replacement Plan: Long-Term Funding Strategy

Michael W. Kovacs, City Manager

Public Works Roundup, 2026



RECOMMENDED BUDGET COST FOR RECONSTRUCTION

2025

\$4.35M

per lane mile

Recommended reconstruction budget

2025 COST ADJUSTMENT

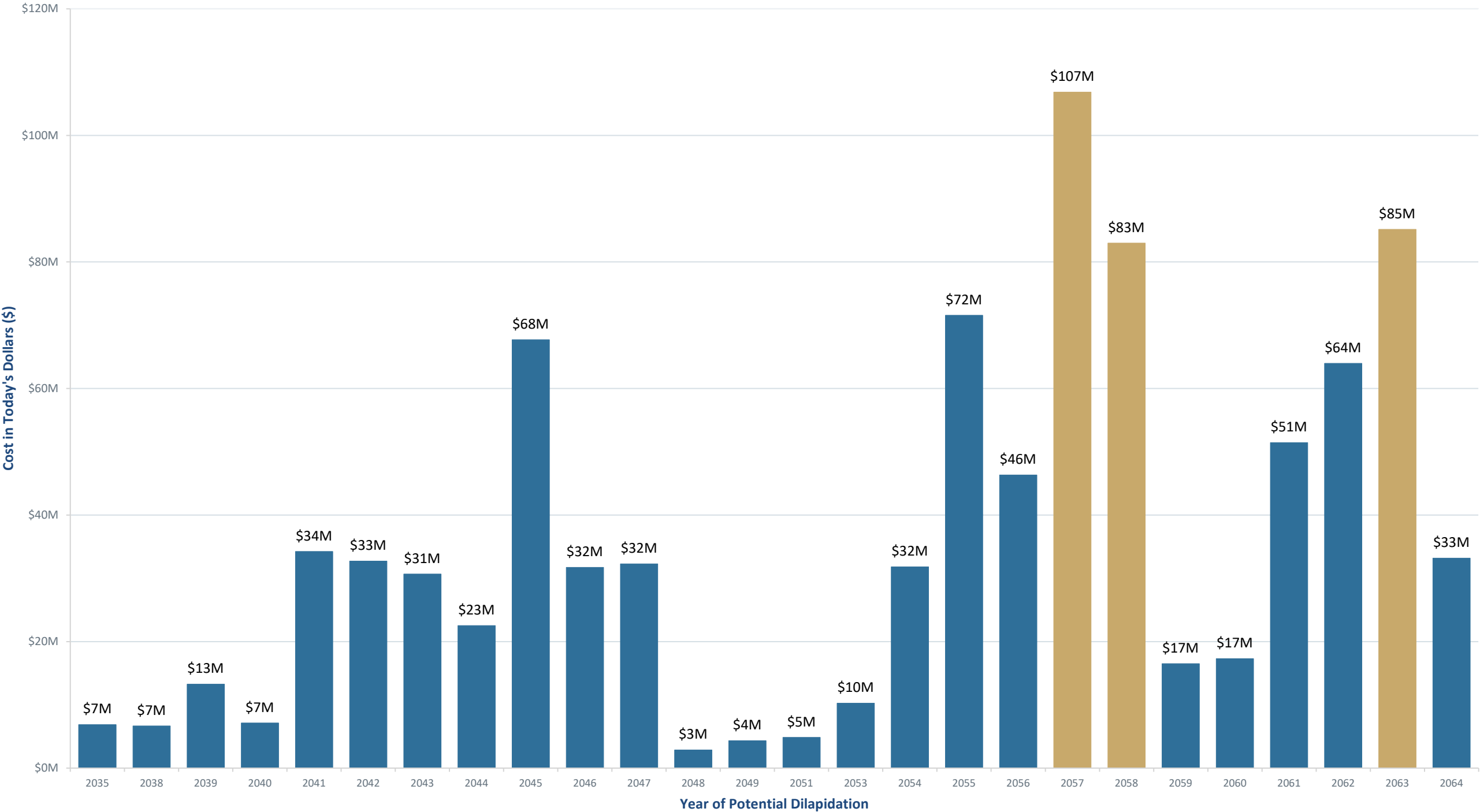
Adjusted using the Engineering News-Record (ENR)
Construction Cost Index (CCI).

≈ 3.5%

CCI increase between 2024 and 2025



Replacement needs are significant and unevenly timed



TOTAL REPLACEMENT COST

\$973.6M

\$973,584,729

103 road miles

LARGEST OBLIGATION YEARS

2057 \$106,846,573

2063 \$85,155,828

2058 \$82,983,151

Values shown in today's dollars. Highlighted columns identify the three largest years displayed.

Street Replacement Funding Scenarios

Three approaches to generate sustainable revenue and manage peak replacement years

Scenario 1

Pay-As-You-Go

Conservative (No Debt)

- Higher recurring revenue (tax cents + fee)
- Utility participation supports annual needs
- Builds reserves ahead of peak years
- Avoids long-term debt

Tradeoff

Higher annual cost today but lowest long-term financial risk.

Scenario 2

Balanced Strategy

Most Practical Planning Approach

- Blend of tax cents, street fee, and utility
- Periodic bond issues smooth replacement spikes
- Creates more stable annual funding levels
- Balances near-term impact and long-term risk

Tradeoff

Moderate debt use with predictable funding over time.

Scenario 3

Debt-Heavy

Lowest Near-Term Revenue

- Lower recurring revenue levels
- Heavier reliance on bond proceeds
- Short-term affordability emphasis
- Higher long-term obligations and risk

Tradeoff

Lowest immediate impact but highest long-term burden.

Note: Scenarios compare funding mix and timing. The model is a planning tool and does not include debt service schedules.

Street Replacement Scenario Builder

Models long term street replacement obligations using the City's replacement schedule. Shows revenue accumulation and interest earnings. Debt service is not modeled.

v1.1 brand colors, no logo

Scenario Controls

Bonds are proceeds only

Start fiscal year

2026

Recurring revenue growth %

2.0

Reserve earnings %

2.5

Horizon (years)

39

Locked to schedule length (FY 2026 to FY 2064).

Replacement cost escalation %

4.0

Funding levers

Households (or accounts)

9450

Street fee per household per month

0

MDD contribution per year

0

Other recurring revenue per year

0

Utility share of that year's street obligation

0%

Utility contribution = Utility % × replacement obligation (same FY).

Property tax dedication (cents per \$100 of taxable value)

Starting taxable value (FY start)

3255607802

Tax base growth %

11.0

Dedicated cents per \$100

0.0¢

Results

Hover chart for exact values



Street Replacement Funding Model | Fate, TX

