Density: What it is and How it Affects You

October 18, 2022

City of Oklahoma City Planning Department

Today’s discussion

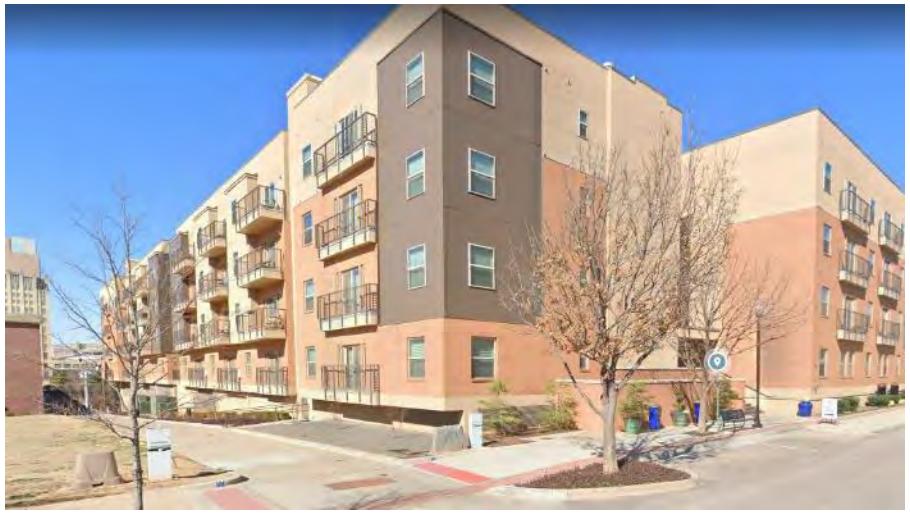
- What is density?
- What can density do for Oklahoma City?

What does density look like?

We may think
Seoul /
New York City

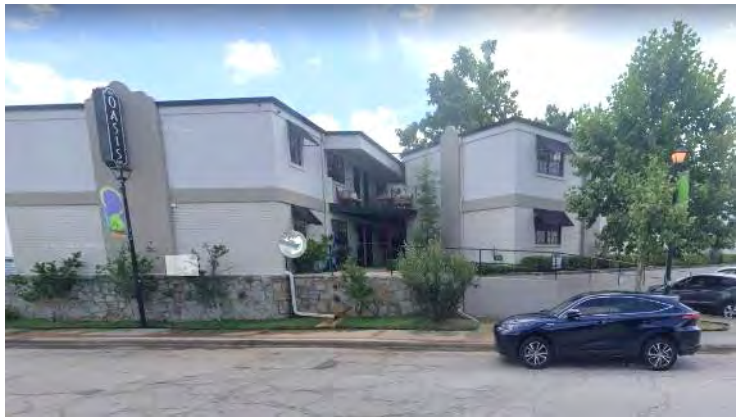
Courtesy of Property Guru and Google Streetview

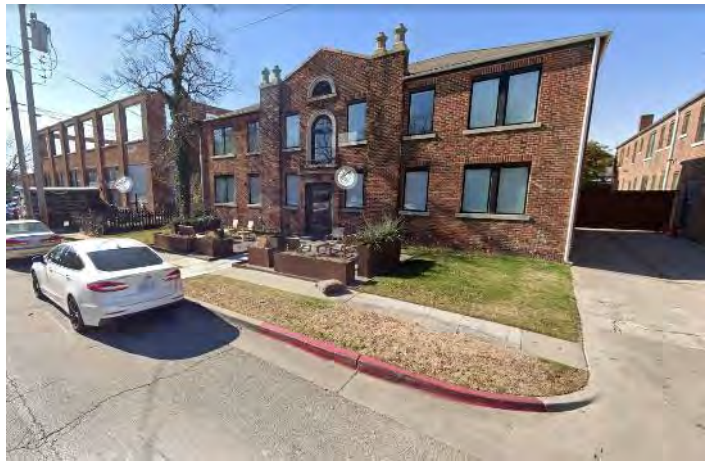
What does density look like?



Various density in Oklahoma City

Courtesy of Google Streetview

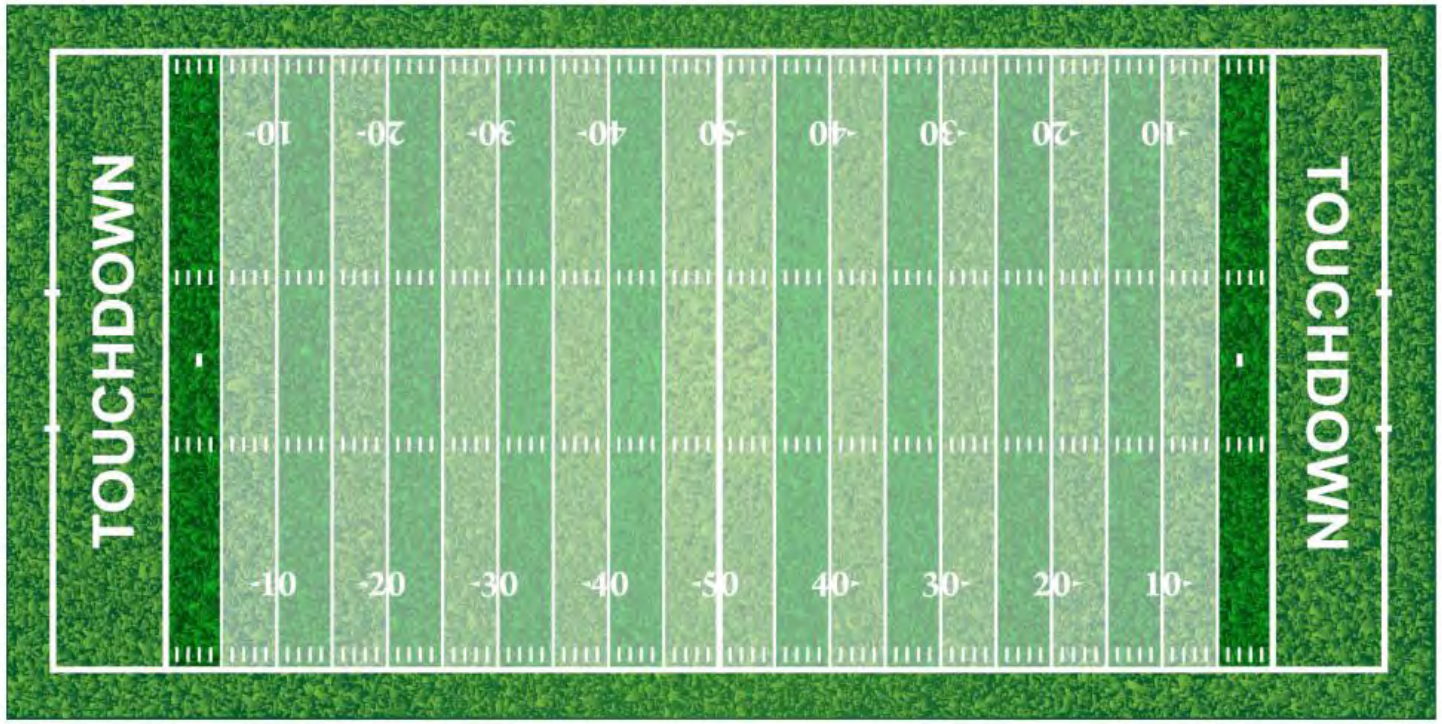




How do we talk about density?

<u>Density:</u> the average number of housing units per parcel of land, generally expressed as <u>dwelling units per acre (du/acre)</u>

<u>Density:</u> What is an acre? roughly the size of a football field without the end zones



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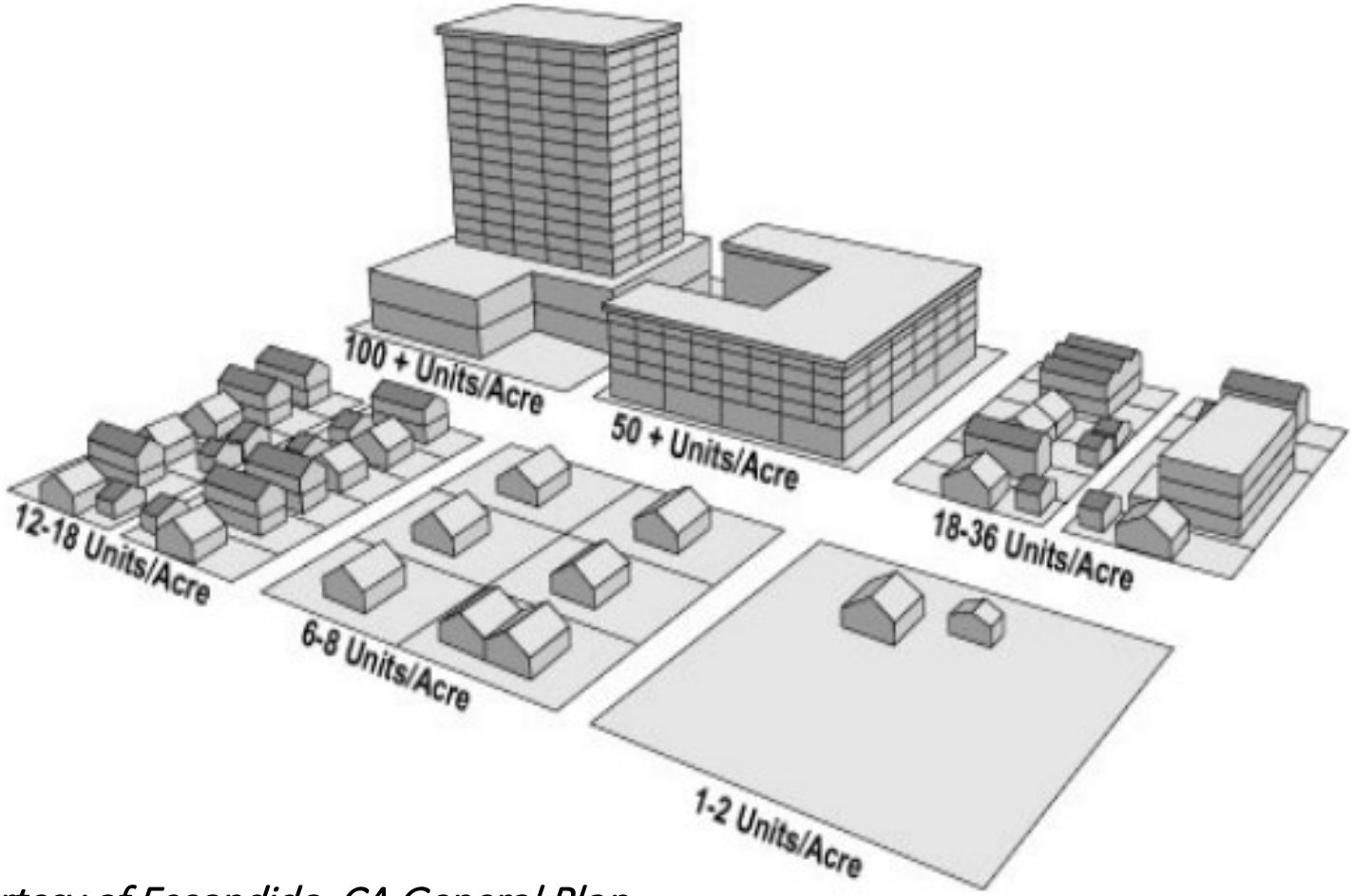
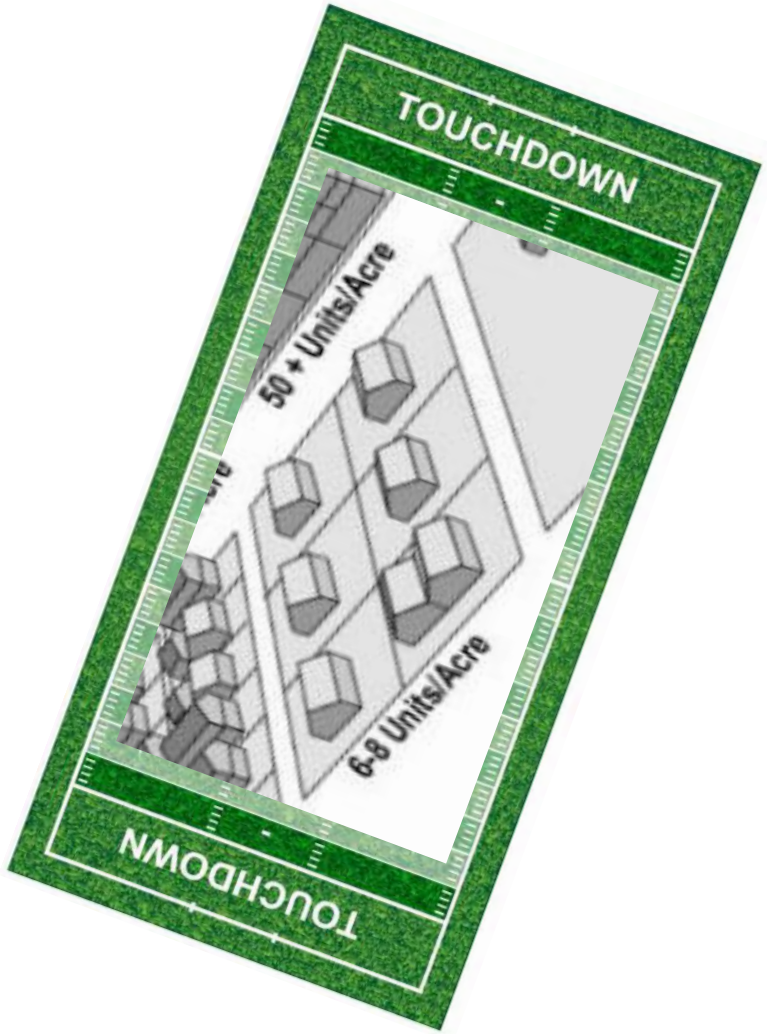




Courtesy of Escondido, CA General Plan

How do we talk about density?

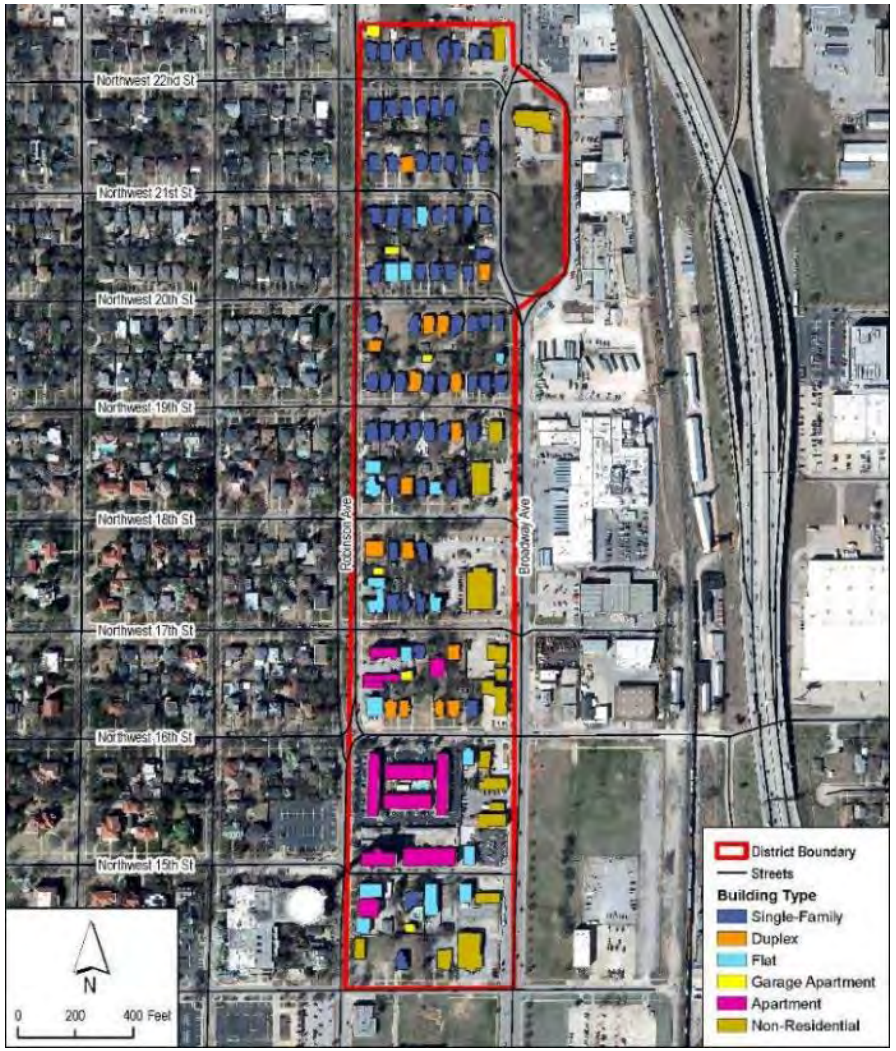
How do we talk about density?

"Missing Middle"
Example: 27 du/acre

3 single homes
3 side duplexes (6)
7 stacked duplexes (14)
4 homes one behind the other

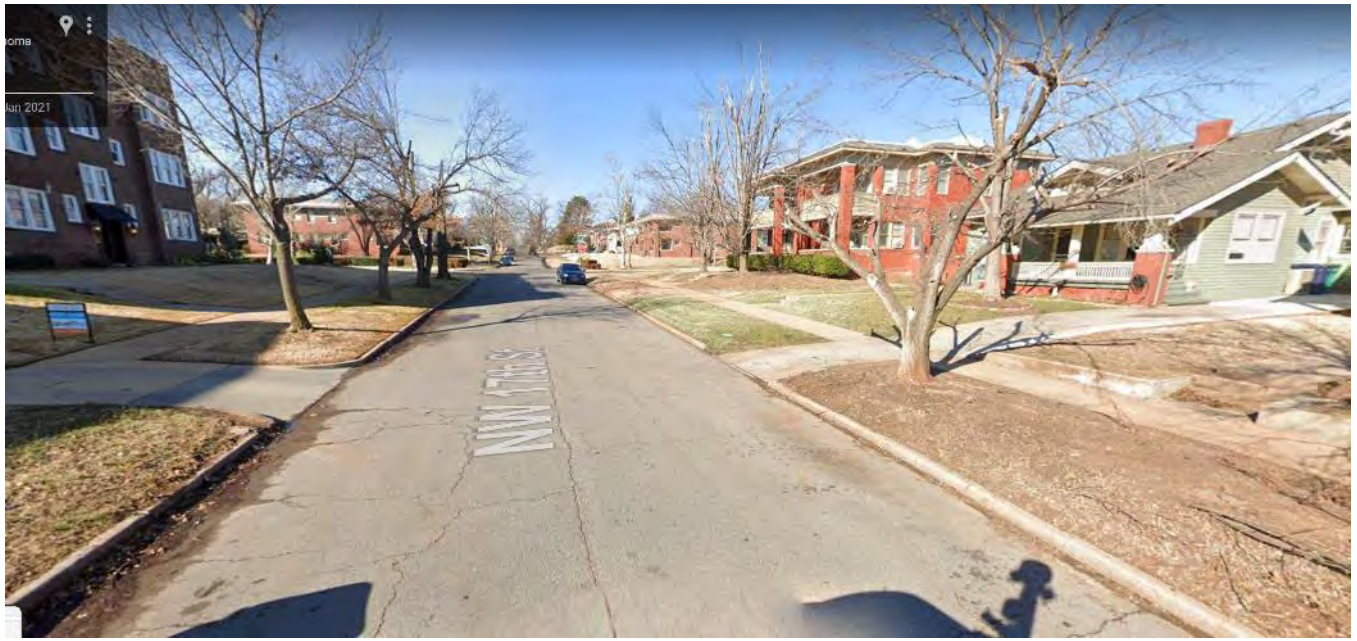
Courtesy of Opticos Design, Berkeley, Ca; Missing Middle Housing book

How do we talk about density?



Example of OKC Missing Middle:
Heritage Hills East
386 dwellings / 13.8 acres = 28 du/acre

Courtesy of City of Oklahoma City Planning, Google Streetview



What densities do we have in OKC – single dwellings?

.3 du/acre – rural home

6 du/acre – single homes

10 du/acre – single homes

16 du/acre – single homes

20 du/acre – townhomes (attached)

21 du/acre – townhomes (detached)

What densities do we have in OKC – multi dwellings?

20 du/acre – apartment complex; 300 apartments on 15 acres

30 du/acre – 6 condos on .2 acres

46 du/acre – 29 apartments on .63 acres

125 du/acre – 300 apartments on 2.4 acres

What does density look like?

300 du/acre – 39 apartments on .13 acres, 15 floors

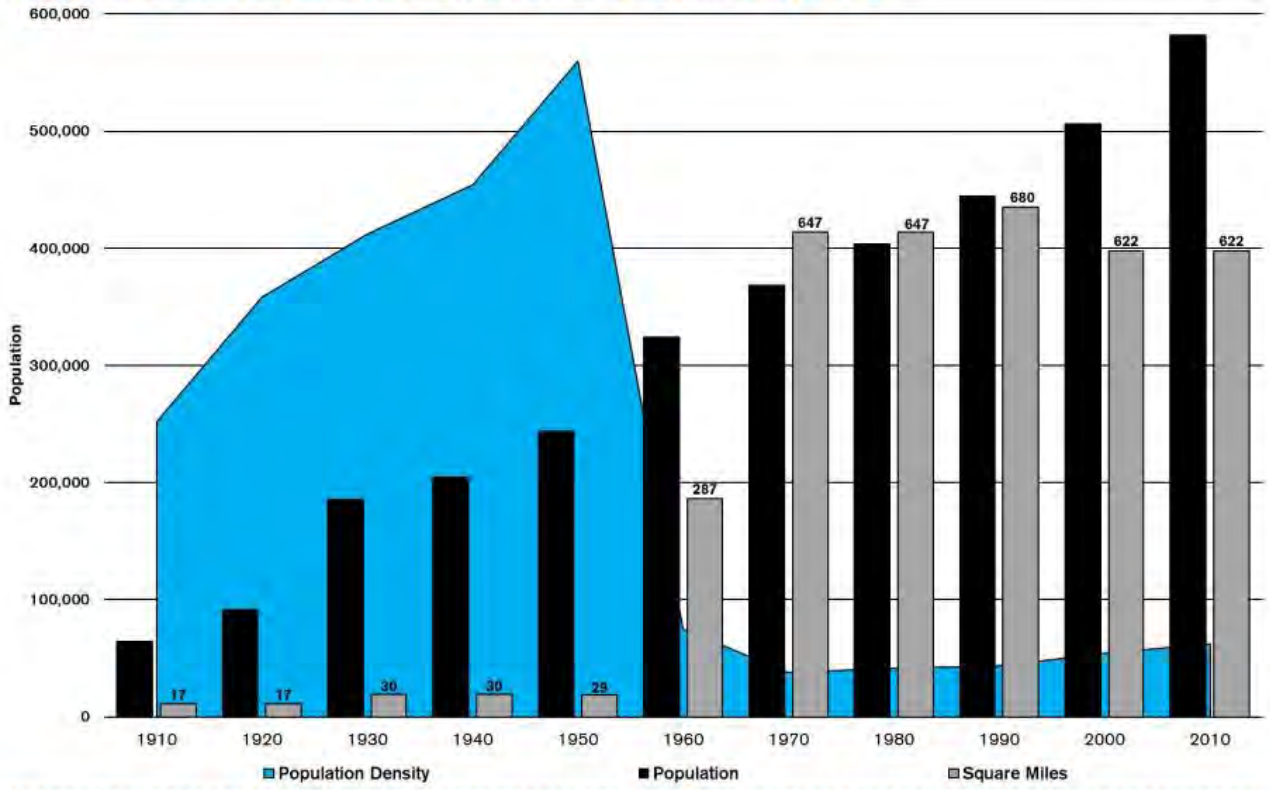
600 du/acre – 193 apartments on .3 acres, 30 floors, + mixed use

Downtowns – NCY and OKC

Courtesy of Property Guru and Google Streetview

What densities do we have in OKC ?

Figure NB-1: Oklahoma City Growth in Land Area, Population, and Density, 1910 - 2010



The chart above illustrates the dramatic rise and fall of Oklahoma City's population density. Since 1910, Oklahoma City's population has steadily increased, underscored by adding more than 80,000 people from 1950 to 1960. This influx of new residents into already tight confines caused city leaders to subsequently add nearly 400 square miles to the city's area in the 1960s to accommodate our rapid growth rate. After peaking in 1950 with more than 8,300 people per square mile (ppsm) and dropping to fewer than 600 ppsm in 1970, Oklahoma City's population density had only climbed to an estimated 1,036 ppsm in 2017.

- In 1950, when the City limits was "the core", OKC had **8,300** people per square mile (640 acres)
- As of 2020, **in "the core"** we had **3,309** people per square mile (calc by OKC Planning Department)
- To compare: New York City has **27,000** people per square mile

How density affects health outcomes

How density affects transportation and walkability

How density affects neighborhood interactions

How density affects the cost of city services

How density may change throughout your life

All about **density**

….Or why is density good for us

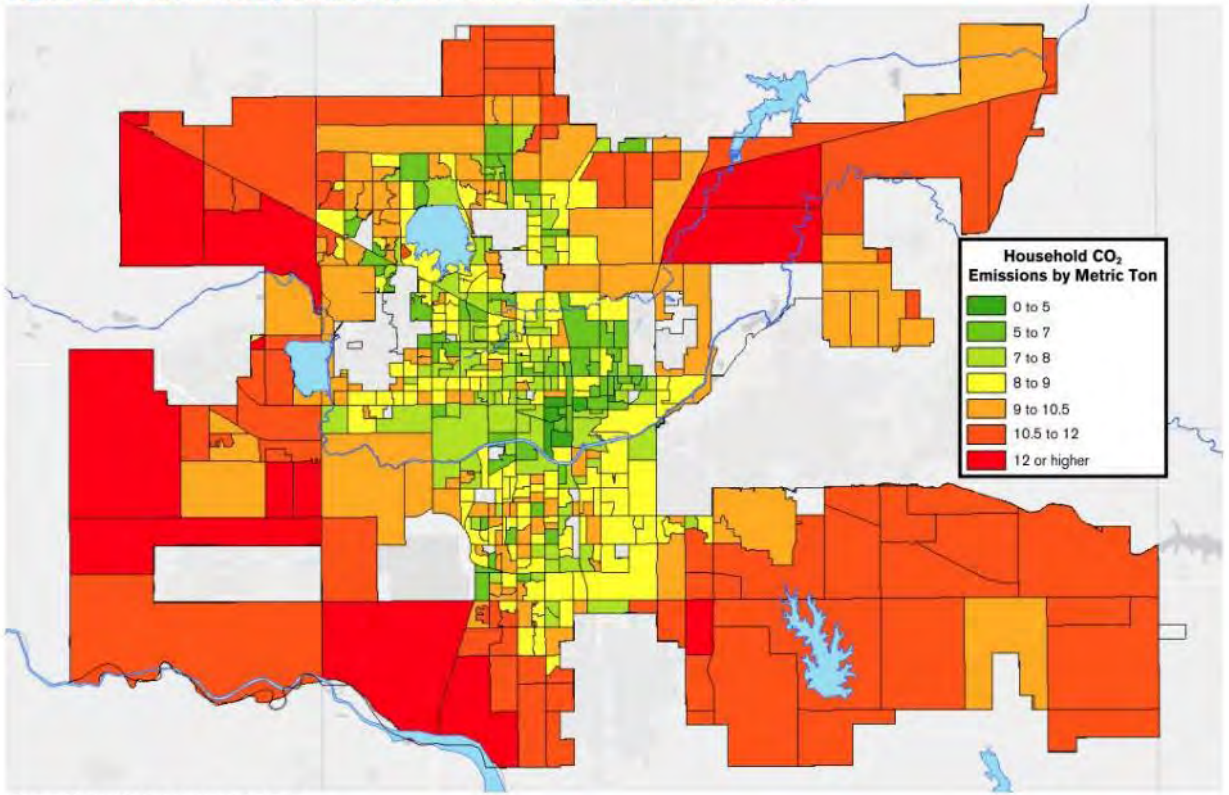
How density affects neighborhood *health*

BUILT ENVIRONMENTS	OK	STATUS	US
CHILDREN LIVE IN NEIGHBORHOODS WITH SIDEWALKS OR WALKING PATHS[4]	55.6%		75.4%
CHILDREN LIVE IN NEIGHBORHOODS WITH A PARK OR PLAYGROUND[4]	62.8%		74.9%
CHILDREN LIVE IN NEIGHBORHOODS WITH RECREATION CENTER, COMMUNITY CENTER[4]	25.3%		48.0%
CHILDREN LIVE IN NEIGHBORHOODS WITH A LIBRARY[4]	44.3%		66.9%
OKLAHOMA NEIGHBORHOODS WITH SIDEWALK[6]	48.6%		N/A
OKLAHOMA NEIGHBORHOODS WITH SIDEWALK THAT ARE VERY WELL MAINTAINED[6]	51.1%		N/A

- Oklahoma is 10th most obese state in the country; state plan to prevent obesity, 2020
- One of three contributing factors is sedentary lifestyle
- Only 1/3 of Oklahomans get the necessary exercise they need to prevent obesity
- If you have less reason to walk, you don't

How density affects neighborhood *health*

Figure AQ-1, Oklahoma City Annual CO_2 Emissions from Auto Use Per Household

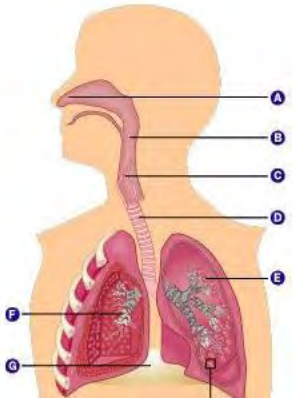


Source: Center for Neighborhood Technology

Within Oklahoma City, the average annual amount of CO_2 emissions from transportation per household is estimated to be 8.78 metric tons. Block groups nearer to city center demonstrate a smaller per household emissions rate, anecdotally demonstrating the efficiency of dense development in emissions reduction and the role land use can play in diminishing emissions.

See okc.gov/adaptokc

- The more we drive the worse our air quality is; vehicle emissions are the largest contributor to CO2 in our atmosphere
- Households in the core of the city contribute less CO2 because their car trips are shorter, or they can walk
- Increasing CO2 levels create ozone which causes inflammation and irritation of the respiratory tract, and results in chest tightness, coughing and worsening of asthma symptoms



How density affects neighborhood *health*

- When we build more densely, we drive less, because the distances are shorter
- We have more opportunity to walk to activities and build exercise into our day; contributes to lower obesity rates in a region

How density affects neighborhood *walkability*

- **Where would you rather walk?**

Nice trail, nothing to look at

Doorfronts, waive hello to neighbors

Wider sidewalk, landscaping, buildings close to the street

Sidewalk next to parking lot

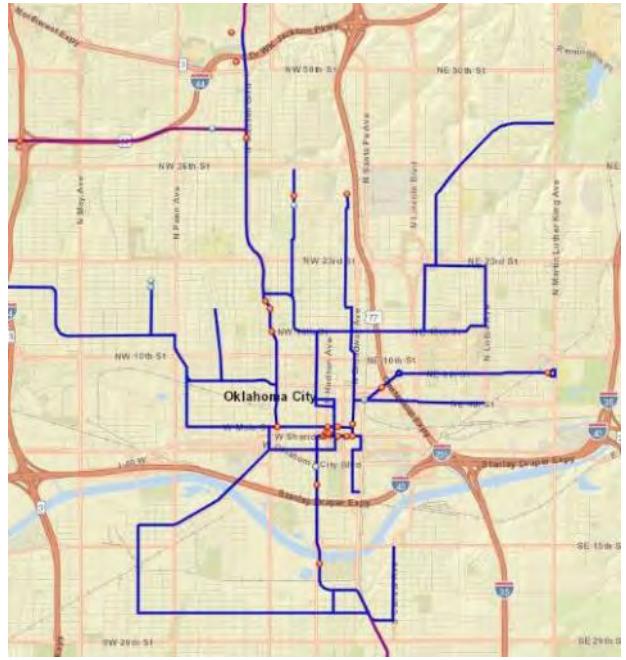
Sidewalk next to shops

Narrow sidewalk, blank walls

How density affects neighborhood *transportation/ walkability*

- When you have more people per square mile, you have enough people to:
  - Build transit/streetcar stops
  - Use bike lanes
  - Support retail stores
  - Support schools and parks

1930 – streetcar at N Robinson and NW 33rd Street



[Historical Streetcar Routes | ACOG (acogok.org)]

How density affects neighborhood *neighborhood services/ walkability*

- What can you walk to?
  - Dining
  - Parks
  - Shopping
  - Errands
  - Schools
  - Entertainment

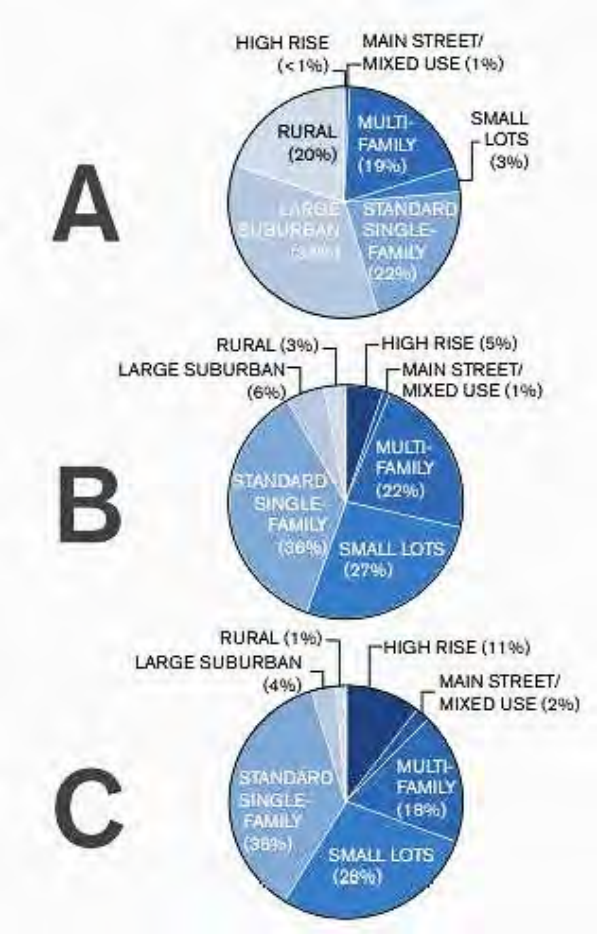
walkscore.com

Rating: 86: Very Walkable

How density affects neighborhood *interaction*

- Promotes the redevelopment of vacant properties and abandoned buildings, which decreases crime
- Creates mixed-income neighborhoods by supporting a variety of housing types, which can decrease concentrations of poverty
- Revitalizes local schools, churches, and community organizations as people move back to neighborhoods
- Creates opportunity for generations to live near one another, which increases social interaction and social support

How density affects *cost of city services*



planokc scenarios,

A: current patterns, ending at 29% rural

B: Slightly more density, ending at 38% rural

C: More density, ending at 44% rural

SCENARIO PERFORMANCE

	A	B	C
CITY SERVICES AND INFRASTRUCTURE (ANNUAL IN MILLIONS)	353	305	271
MORE/LESS AUTOMOBILE EXPENSE (PER HOUSEHOLD PER MONTH)	+36	6	-53
MORE/LESS TIME SPENT IN VEHICLE (HOURS PER PERSON PER MONTH)	+.75	-2	-5.5
NEW DEVELOPED SQUARE MILES	195	139	76
% OF NEW HOMES THAT ARE SINGLE-FAMILY	78	70	67
NEW ROADS BUILT (THOUSANDS OF LANE MILES)	4	3	2
NEW (INFILL) HOMES IN EXISTING NEIGHBORHOODS (THOUSANDS)	15	31	64
INCREASE IN ABANDONED HOMES (THOUSANDS)	8.9	3.9	0
PERCENT CHANGE IN DAILY PHYSICAL ACTIVITY (AS PART OF DAILY ROUTINE)	-9	60	139
WALKING, BICYCLING, OR TRANSIT USAGE (PERCENT CHANGE FROM 2010)	3	5.5	8
WATER USE FOR LANDSCAPING (GAL/DAY PER HOUSEHOLD)	348	178	158
PERCENT INCREASE IN CARBON EMISSIONS (OVER TODAY)	57	46	34

How density affects *cost of city services*

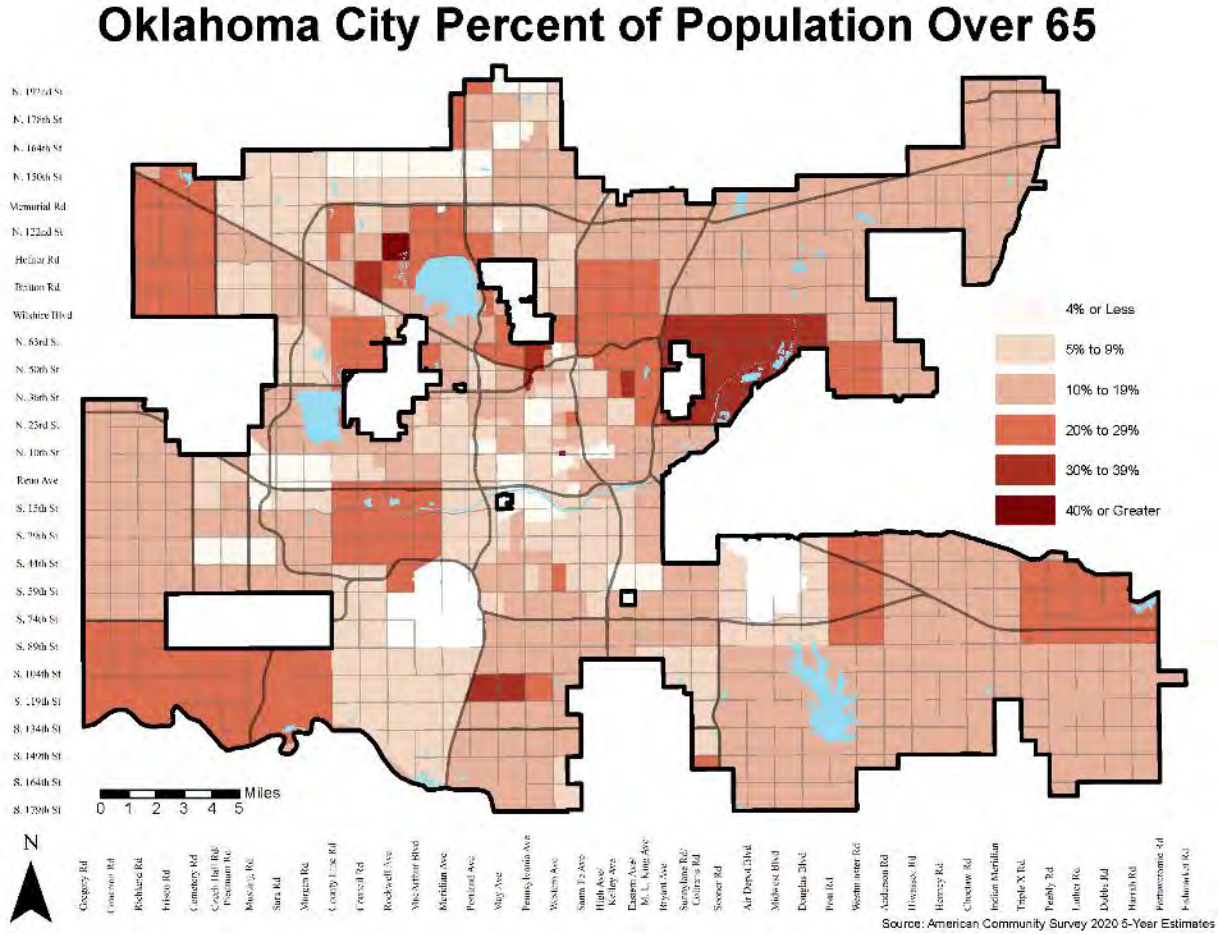
- Cost of maintaining roads:
  - Under Scenario A (current pattern): $1.6 billion for roads
  - Under Scenario C (more dense): $800 million
    - **Savings of $800 million**
- Operating costs for fire services
  - $270,000 per square mile
  - Under Scenario A: + $50 million
  - Under Scenario C: + 20 million
    - **Savings of $30 million**

How the need for density may *change throughout your life*

- Housing choice depends on
  - Priorities in your life/Access to schools, jobs, parks, services, transportation
  - Cultural experiences
  - Personal preferences
  - Financial situation
  - Social interaction with family and friends

How the need for density may *change throughout your life*

- One example: seniors
  - Seniors are concentrated outside the core where public transportation is not easily available
  - They may not be located in proximity to younger family/friends



- Location of senior concentrations: not in the core

How the need for density may *change throughout your life*

Existing: “Senior Independent Living”, must have a car or other transportation

Other options:

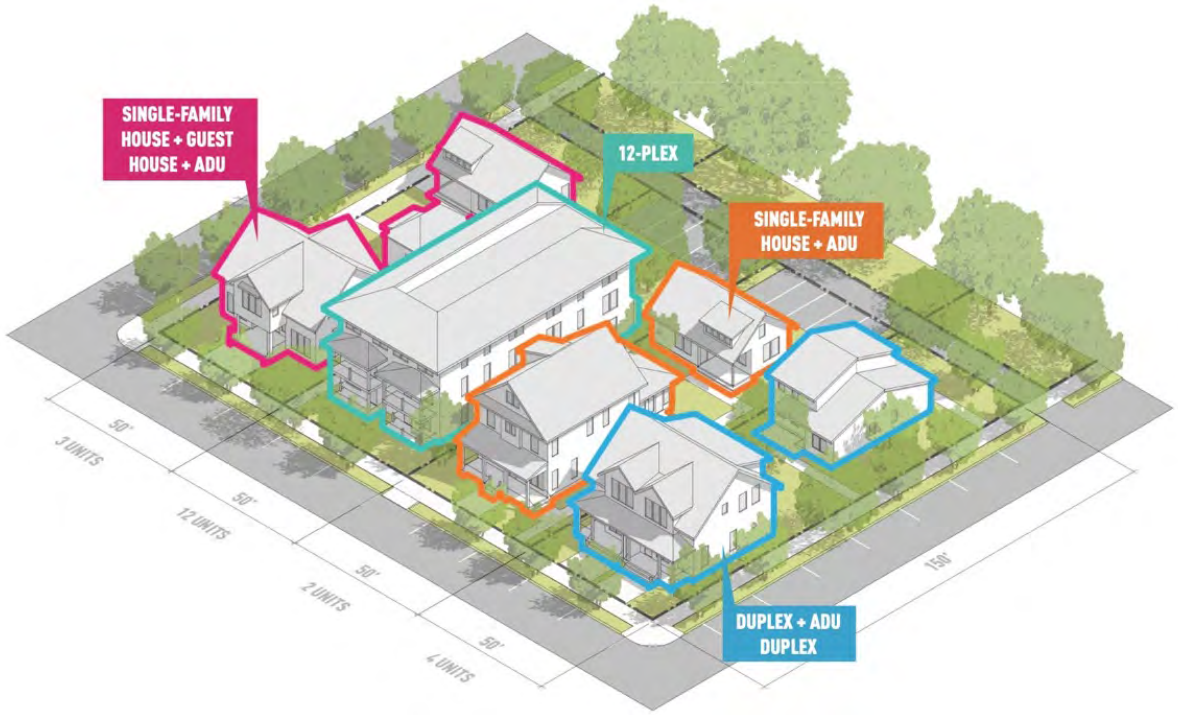
Smaller homes no yards

Cottage courts for community

Mixed Use: Walkable

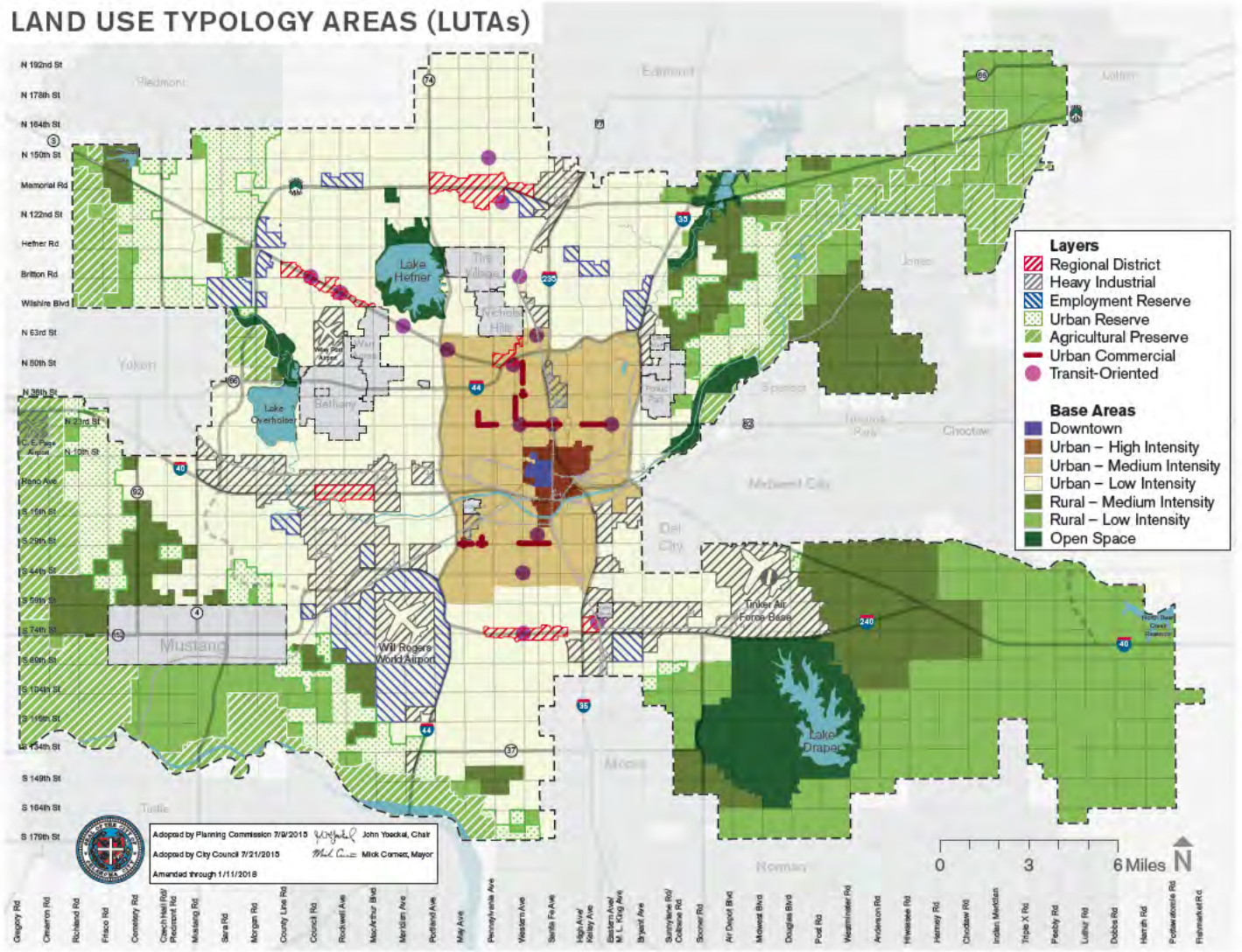
Takeaways about density

- **Form matters**, not necessarily du/acre
- **Housing choice matters**, to meet needs throughout people's lives
- **Vehicle Miles Traveled (VMT) matters**, for the air we breath



Density and the comprehensive plan

- Desired rural intensity density = .2 to .5 du/acre
- Desired urban low intensity density = 4 to 8 du/acre for single-family
- Desired urban medium intensity = 10 to 40 du/acre
- Desired urban high intensity = 40 to 100 du/acre



planokc.org

Take the survey

- Please make sure to take our survey about housing choices in your neighborhood

OKC Code Update Contact Information

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https://www.okc.gov/departments/planning/current-projects/development-codes-update