



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*

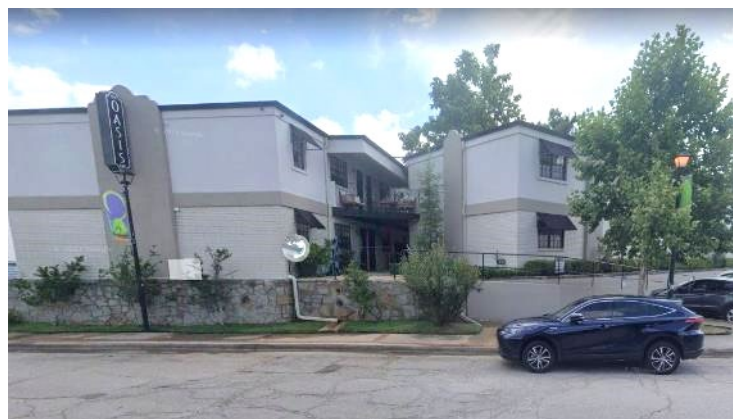


What does density look like?



Various density
in Oklahoma City

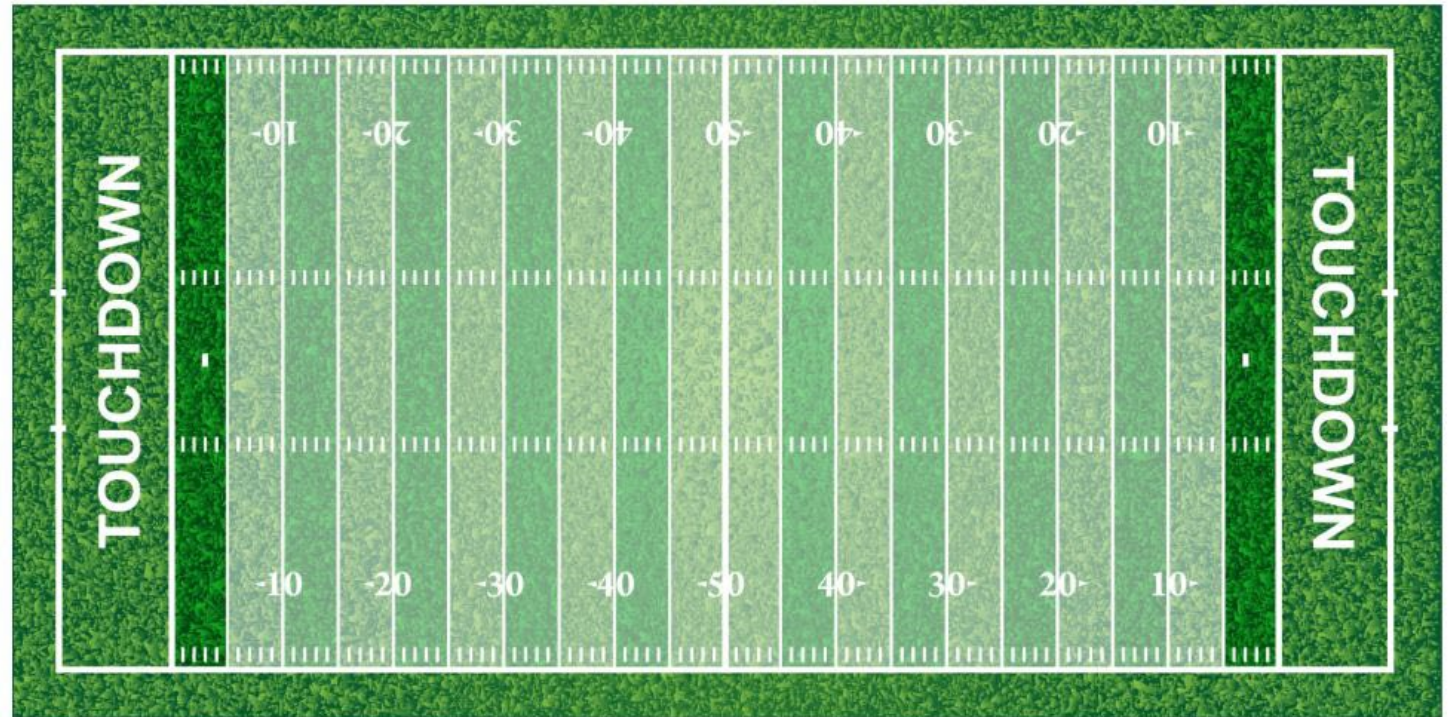
Courtesy of Google Streetview



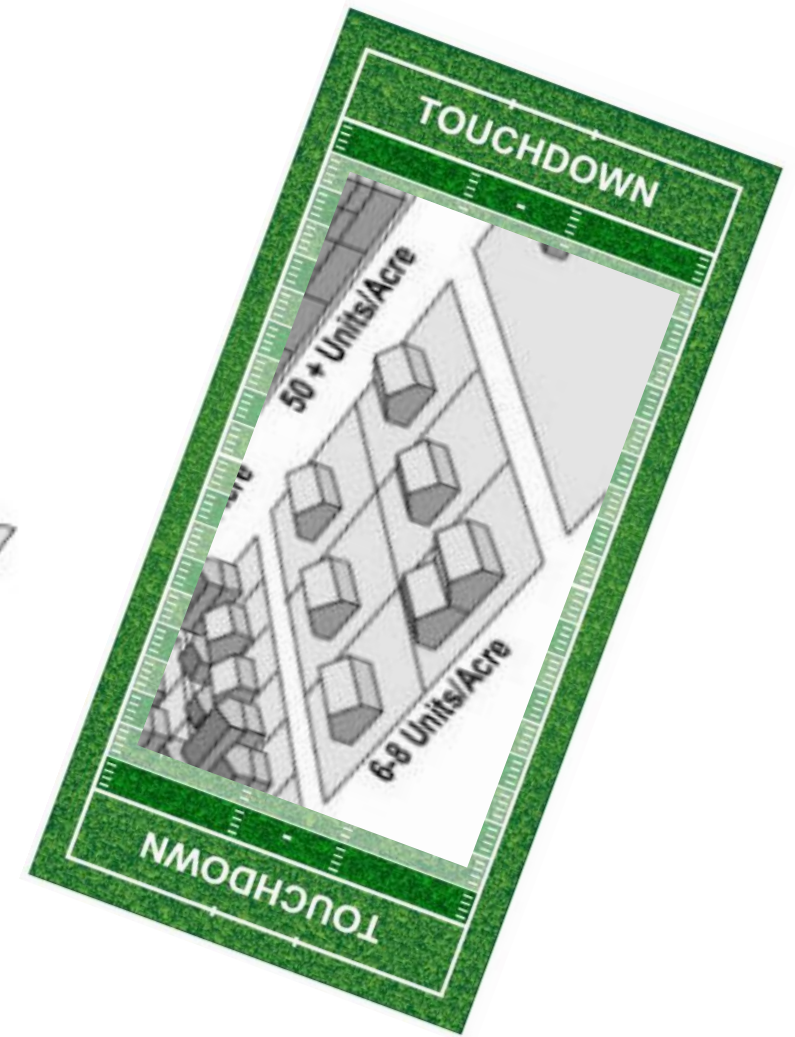
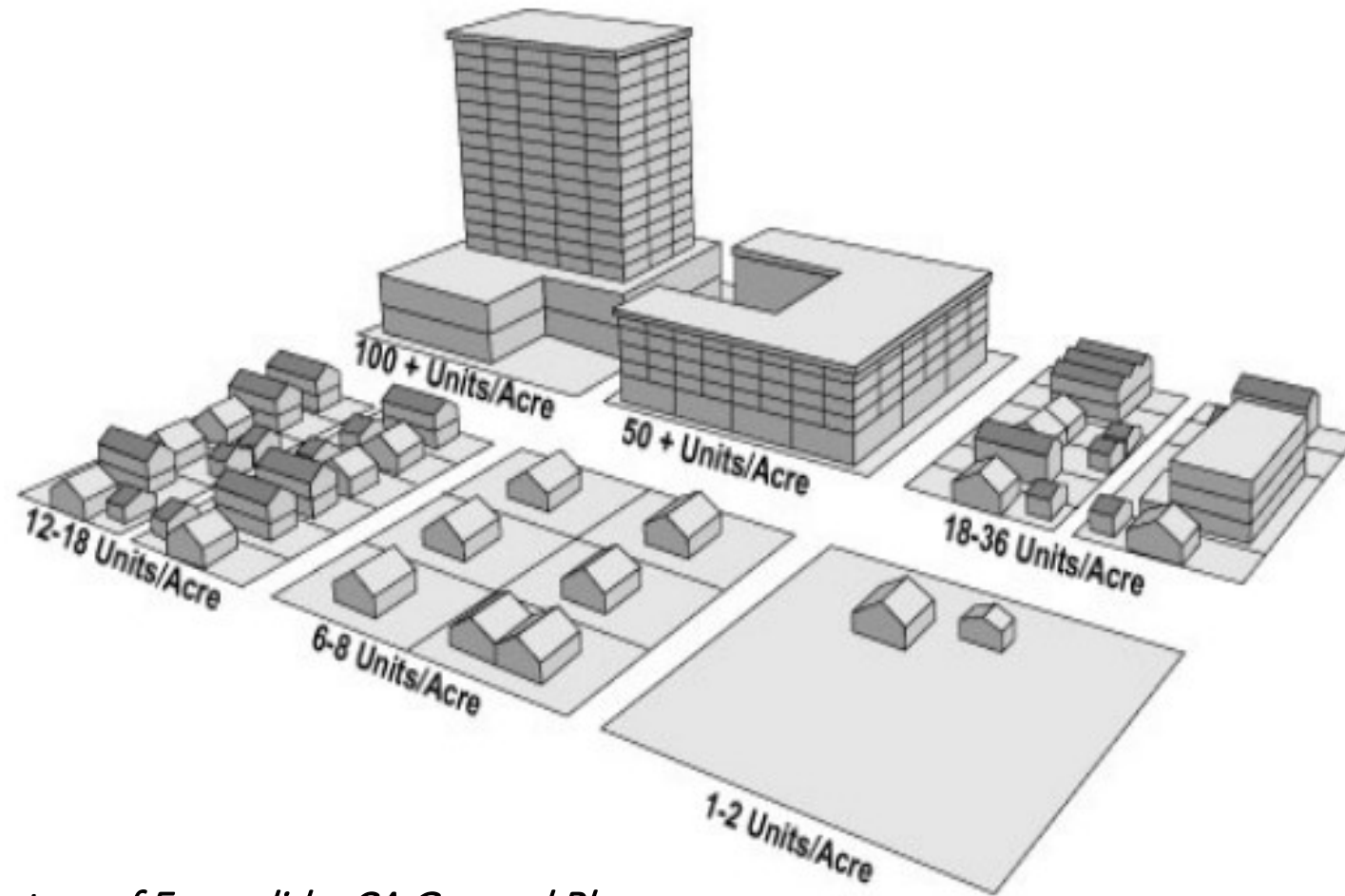
How do we talk about density?

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

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



How do we talk about density?



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



46 du/acre – 29 apartments on .63 acres



125 du/acre – 300 apartments on 2.4 acres

30 du/acre – 6 condos on .2 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

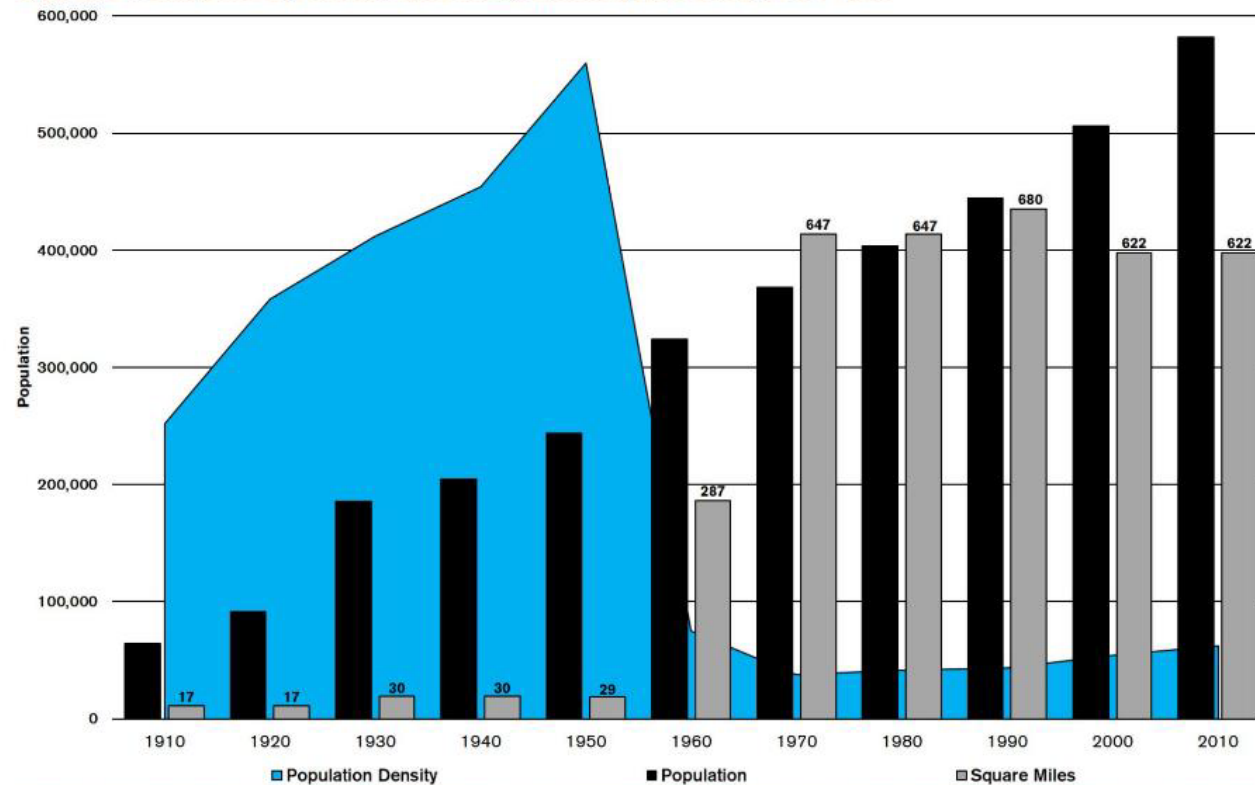
Downtowns –
NYC and OKC

*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

OKLAHOMA ADULTS

37.3% Participated in 150 mins or more of aerobic PA per week.

OKLAHOMA YOUTH

29.2% Active 60min everyday during the past 7 days.

HEALTH FOR A LIFETIME



State of Oklahoma
OBESITY PREVENTION PLAN

3 BEHAVIORS



Tobacco Use



Poor Diet



Sedentary Lifestyle

4 CHRONIC CONDITIONS



Cardiovascular Disease



Cancer



Diabetes



Chronic Lower Respiratory Diseases

64% OF DEATHS



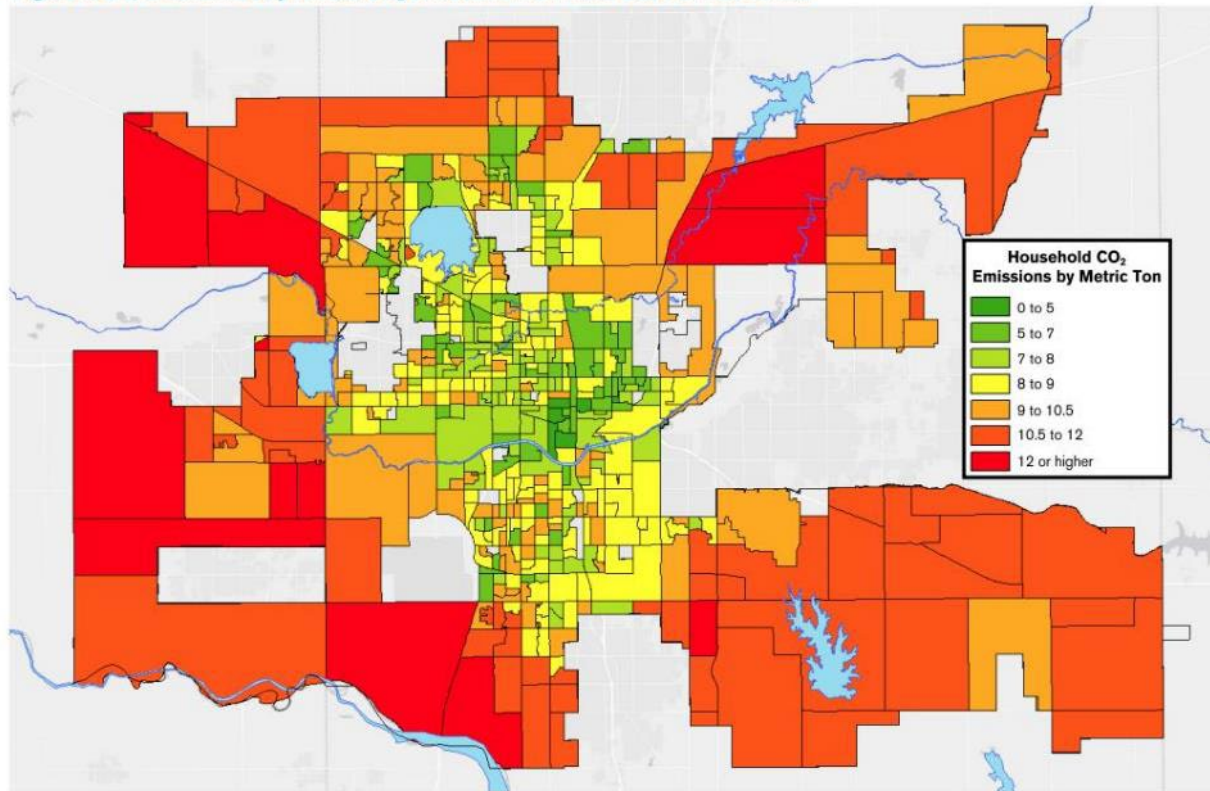
BUILT ENVIRONMENTS

	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 CO₂ Emissions from Auto Use Per Household

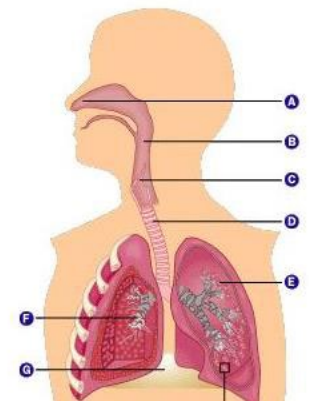


Source: Center for Neighborhood Technology

Within Oklahoma City, the average annual amount of CO₂ 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
- 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
- Households in the core of the city contribute less CO₂ because their car trips are shorter, or they can walk



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?



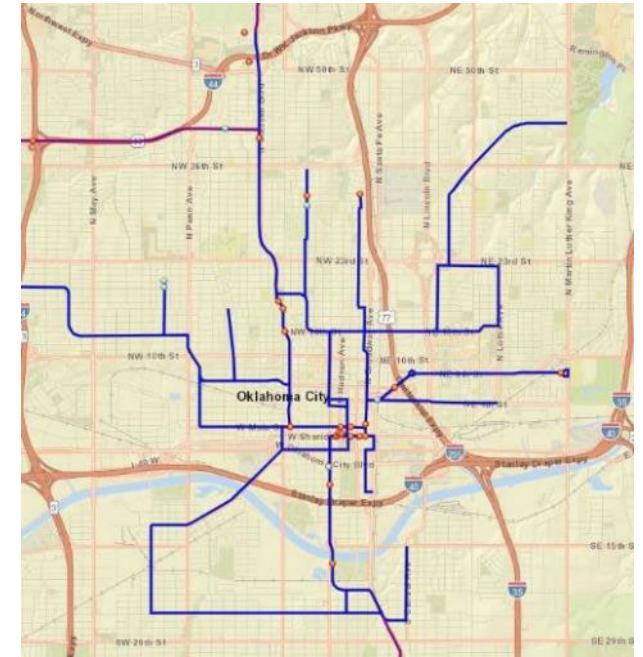
How density affects neighborhood *transportation/walkability*



- 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 \(acogok.org\)](http://acogok.org)

How density affects neighborhood *neighborhood services/ walkability*



- What can you walk to?

- Dining
- Parks
- Shopping
- Errands
- Schools
- Entertainment

Walk Score	Transit Score	Bike Score
Score Details	What is Walk Score	
Walk Score measures the walkability of any address based on the distance to nearby places and pedestrian friendliness.		
90-100	Walker's Paradise	Daily errands do not require a car
70-89	Very Walkable	Most errands can be accomplished on foot
50-69	Somewhat Walkable	Some errands can be accomplished on foot
25-49	Car-Dependent	Most errands require a car
0-24	Car-Dependent	Almost all errands require a car

walkscore.com



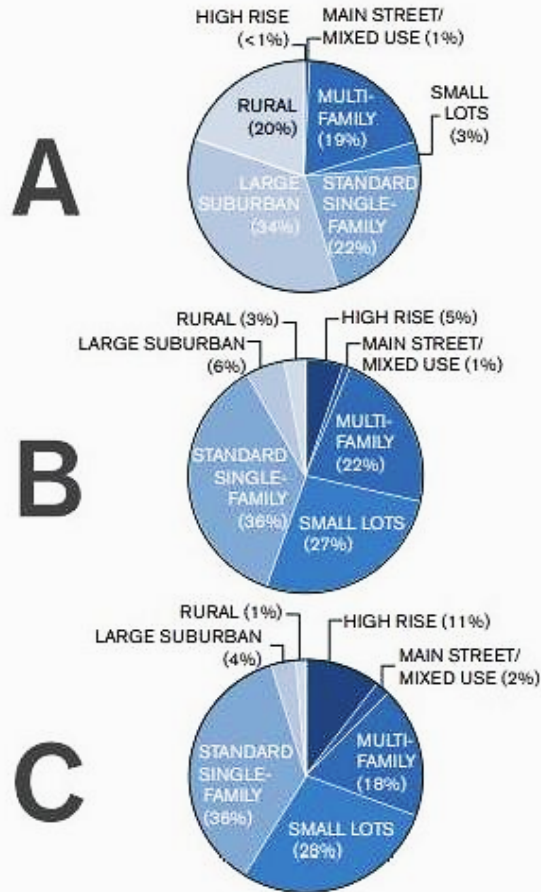
Rating: 86: Very Walkable

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*



plan**ok** 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)	+7.75	-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
🏠 X 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**

SCENARIO PERFORMANCE		A	B	C
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How the need for density may *change throughout your life*

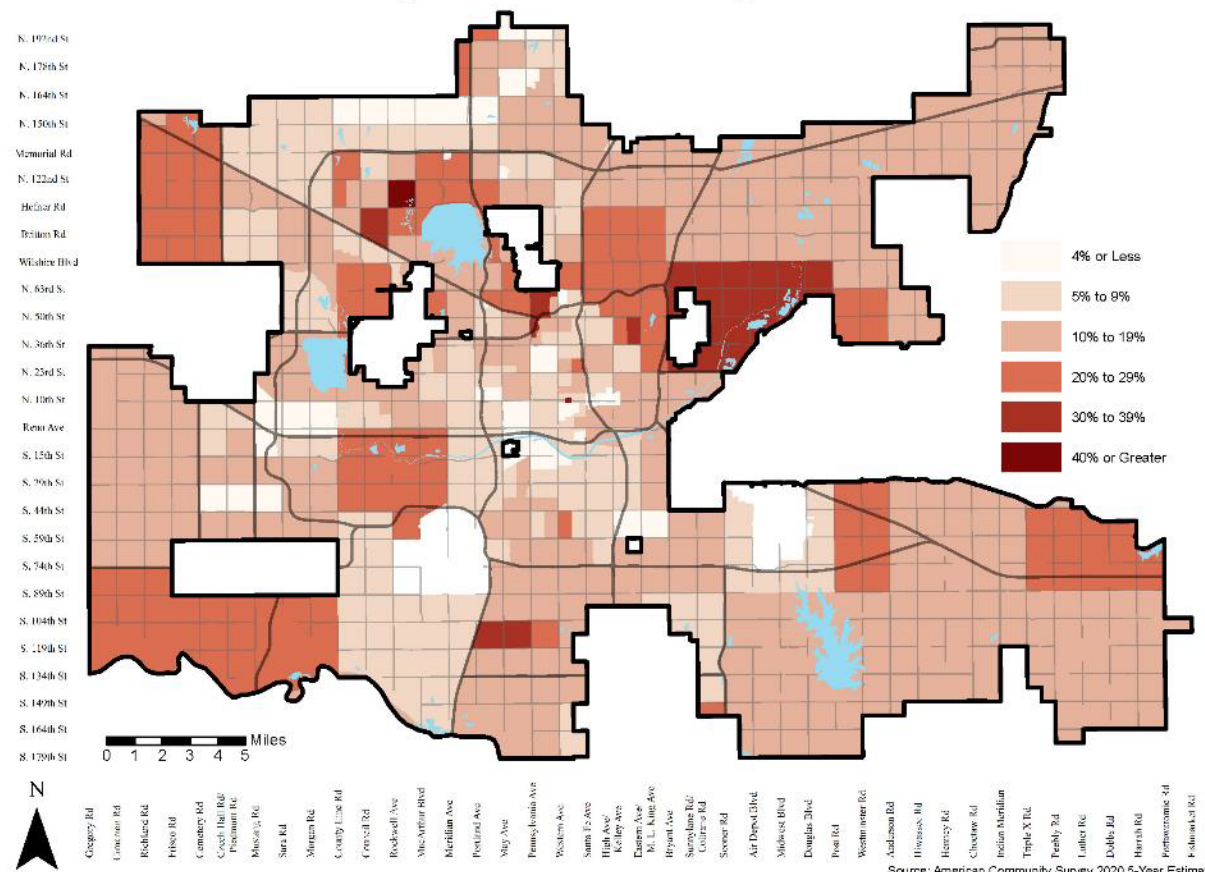
- Housing choice depends on
 - Priorities in your life/Access to schools, jobs, parks, services, transportation
 - Cultural experiences
 - Personal preferences
 - Financial situation
 - Social interaction with family and friends



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

Oklahoma City Percent of Population Over 65



Source: American Community Survey 2020 5-Year Estimates

- 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



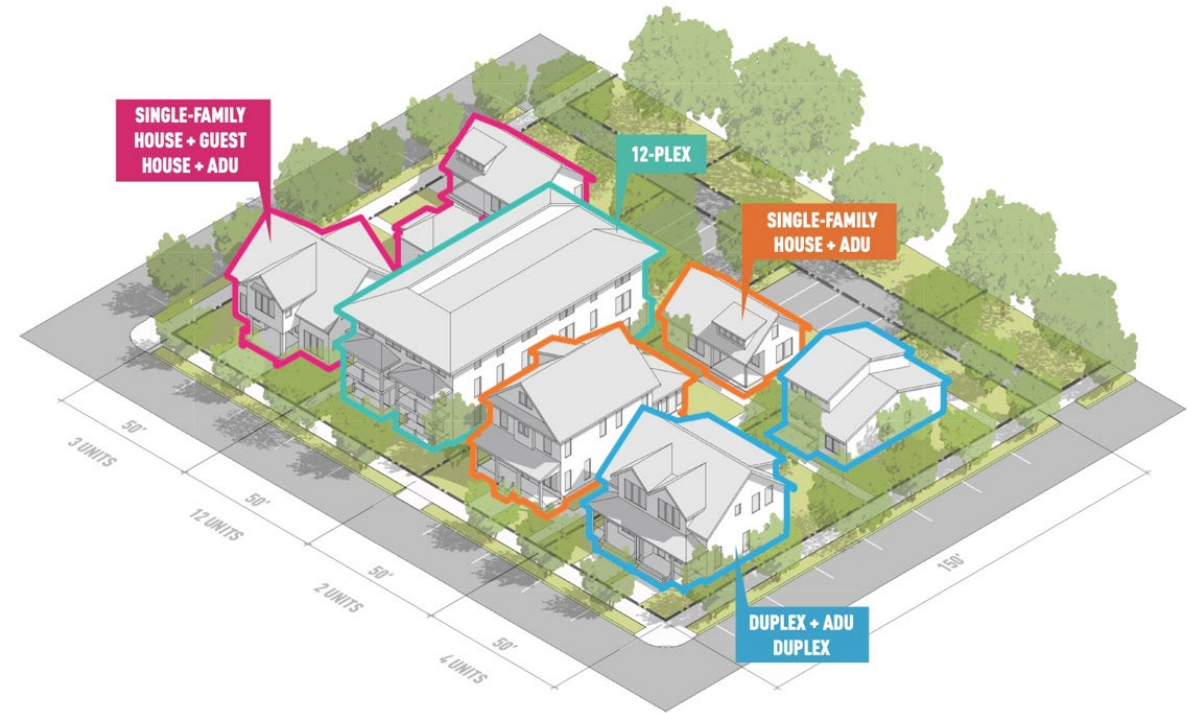
Cottage courts for community



Mixed Use: Walkable

Takeaways about density

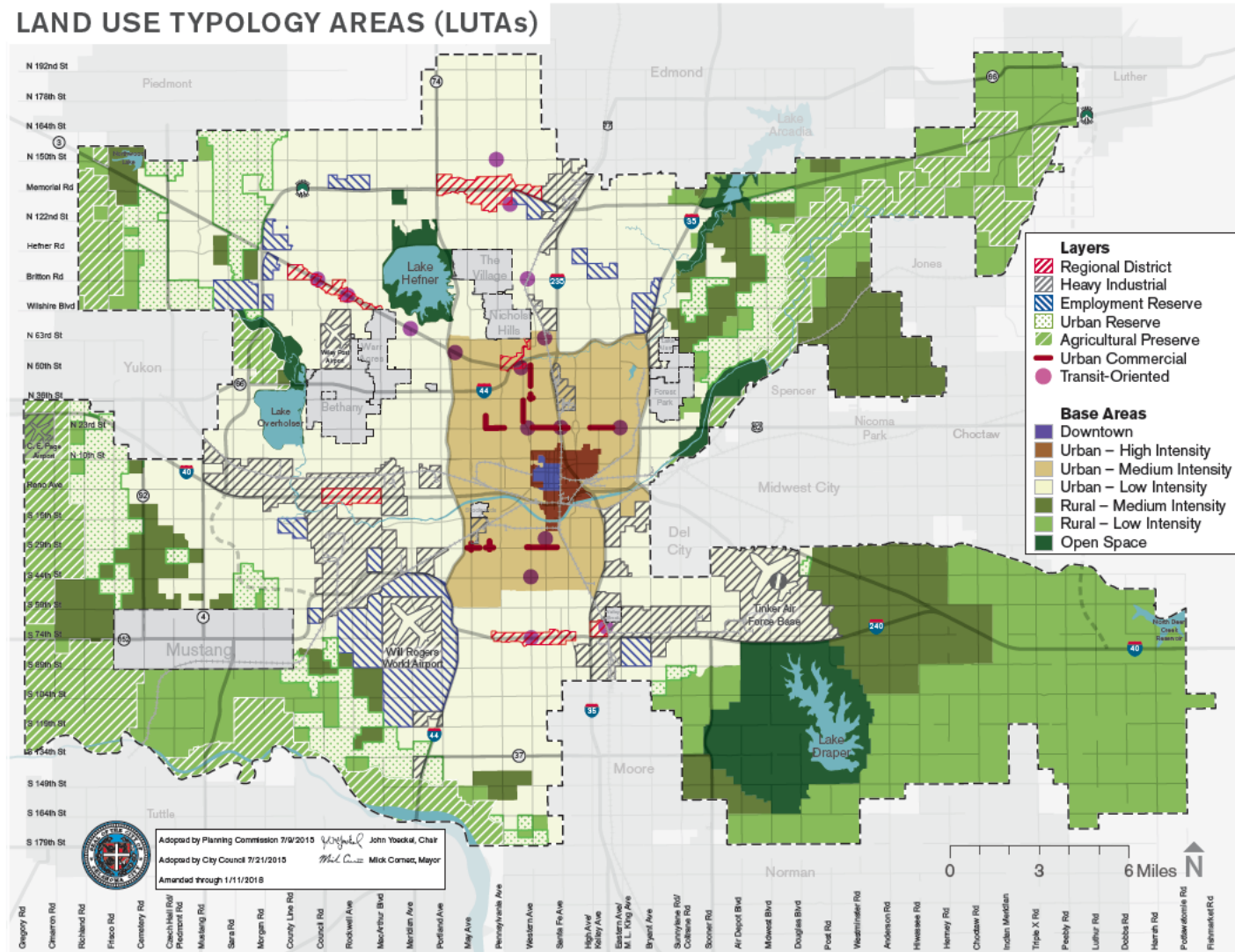
- **Form matters**, not necessarily du/acre
- **Housing choice matters**, to meet needs throughout people's lives
- **Vehicle Miles Traveled (VMT) matters**, for the air we breath



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

LAND USE TYPOLOGY AREAS (LUTAs)





Take the survey

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

Get Involved: OKC Code Update

Watch videos and presentations and stay up to date at okc.gov/codeupdate

Tell us about your hopes and dreams for your neighborhood at:
www.surveymonkey.com/r/okczoning



For more information, contact:
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OKC Code Update Contact Information

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