car ? freedom

OU Urban Design Studio Presents Tulsa Without Cars

Car-Free Tulsa

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Acknowledgements

The Urban Design Studio would like to thank the following:

Tim Armer, Transportation Planning Manager, INCOG
Jack Crowley, Special Advisor to the Mayor on Urban Planning, City of Tulsa
Susan Neal, Director of Community Development and Education Initiatives, City of Tulsa
INCOG (for GIS Data)

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OUUDS
The University of Oklahoma Urban Design Studio

Introduction

Little boxes made of ticky-tacky,
Little boxes, little boxes,
Little boxes, all the same.
There's a green one and a pink one
And a blue one and a yellow one
And they're all made out of ticky-tacky
And they all look just the same.

Lyrics from Malvina Reynolds 1962 song Little Boxes paint an accurate picture of the spread of suburbia in modern day Tulsa. With an over abundance of land, space has never been an issue for Tulsa developers. The Tulsa metro area is canvassed with low density single family residential subdivisions and massive retail parking lots. Suburbia's ticky-tacky houses and the neighborhoods they make up are a direct result of automobile based design.

People love their cars; they allow us to go where we want when we want, they are a form of entertainment, a form of art, and a source of pride. They are so much of who we are, we tend to ignore their impact on our lives. The social, environmental, health, and financial costs of driving are, in our culture, nothing more than a cost of doing business. To imagine an alternative to the private automobile is not considered a viable option in our society. In fact, it is not even considered. With this in mind, the Univeristy of Oklahoma Urban Design Studio decided to investigate the possibility of a car-free Tulsa.

Throughout the project, we had numerous and extensive discussions and debate regarding the scope and scale of our final product, but the consensus was that the City of Tulsa's current trajectory, suburban sprawl and its attendant car-dependancy, is unsustainable and that changing the trend is essential for the long-term viability of the city.

The original concept was to envision a completely "Car Free Tulsa." Some explanations were offered as to what would cause such a complete overhaul of the city's transportation landscape such as a cataclysmic event in the Middle East caused gasoline to skyrocket to $25.00 per gallon overnight, or a collapse of the entire automobile industry.

However, the concept was quickly refocused to a more long-term retrofitting of the city. How can we, through infill development, create neighborhoods and districts which are dense, compact, walkable, and transit-oriented? What existing districts in Tulsa are already suited for experimentation - cutting off vehicular access and creating car-free nodes.

Certain areas were immediately identified: Downtown, Brookside, and Cherry Street. These areas have one thing in common - some degree of walkability in their present state.

One of the questions such a proposal raises is, would such car-free nodes be at a competitive disadvantage to the balance of the areas of Tulsa which are automobile-dependent? Can we experiment with such nodes, or do we have to go 'all the way,' and if we did and the entire city was car-free, would the surrounding suburbs also be entirely car-free?

This project is an attempt to answer some of these questions. More important, though, it is meant to start a conversation about the future of Tulsa's transportation system.

$500,000,000

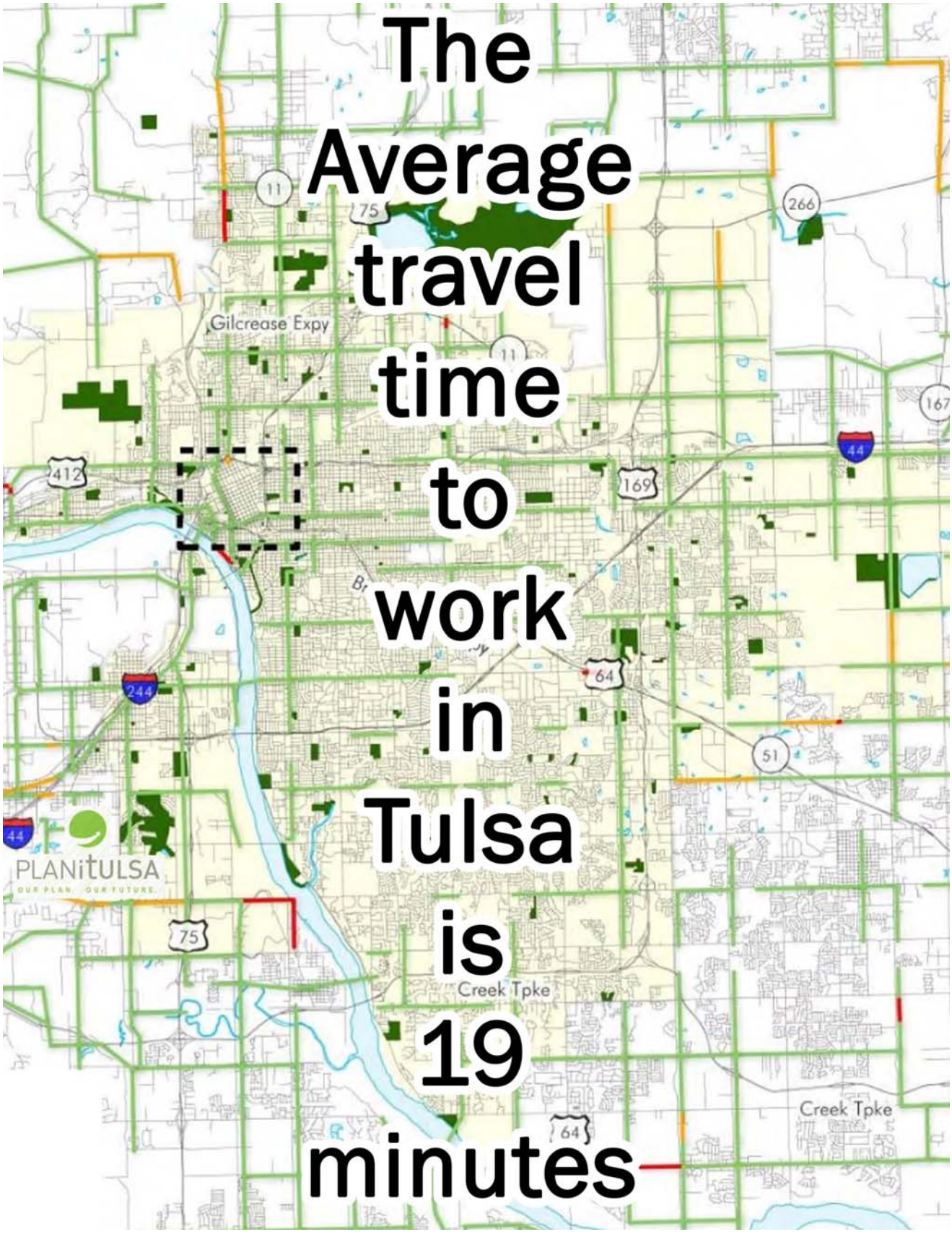
bond issue recently passed by Tulsa voters

How much bang... do you get for your buck?

3%

of lane miles repaved
with funds from this bond

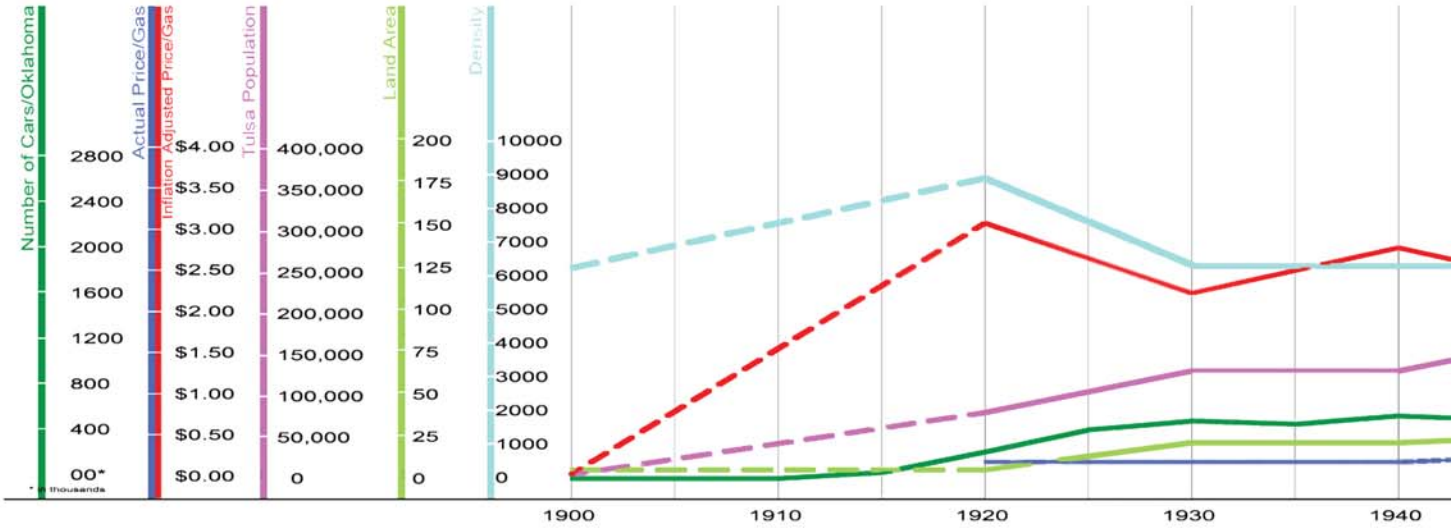
In 2005 Americans consumed 32 meals in their cars.
Only 33% of families share daily family meals together.


The Average travel time to work in Tulsa is 19 minutes
Gilcrease Expy
Creek Tpke
Creek Tpke
PLANiTULSA
OUR PLAN. OUR FUTURE.

Tulsa Transportation Timeline

A brief chronology of important local & national transportation events

Tulsa Transportation Timeline

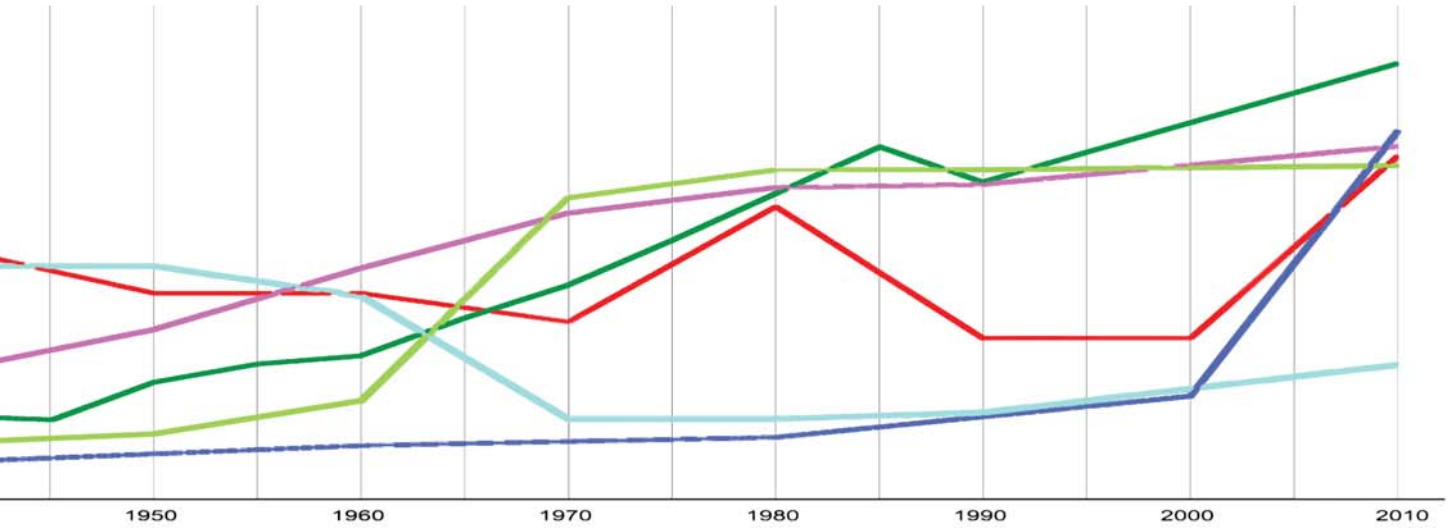


1859 - First oil well in the United States is drilled in Titusville, PA

1870

Indian Territory Map - 1873

Tulsa 1890 - South from Standpipe Hill



1886 - Karl Benz received the first patent for a gas-fueled car

1885 - Gottlieb Daimler invented prototype of the modern gas engine

1890

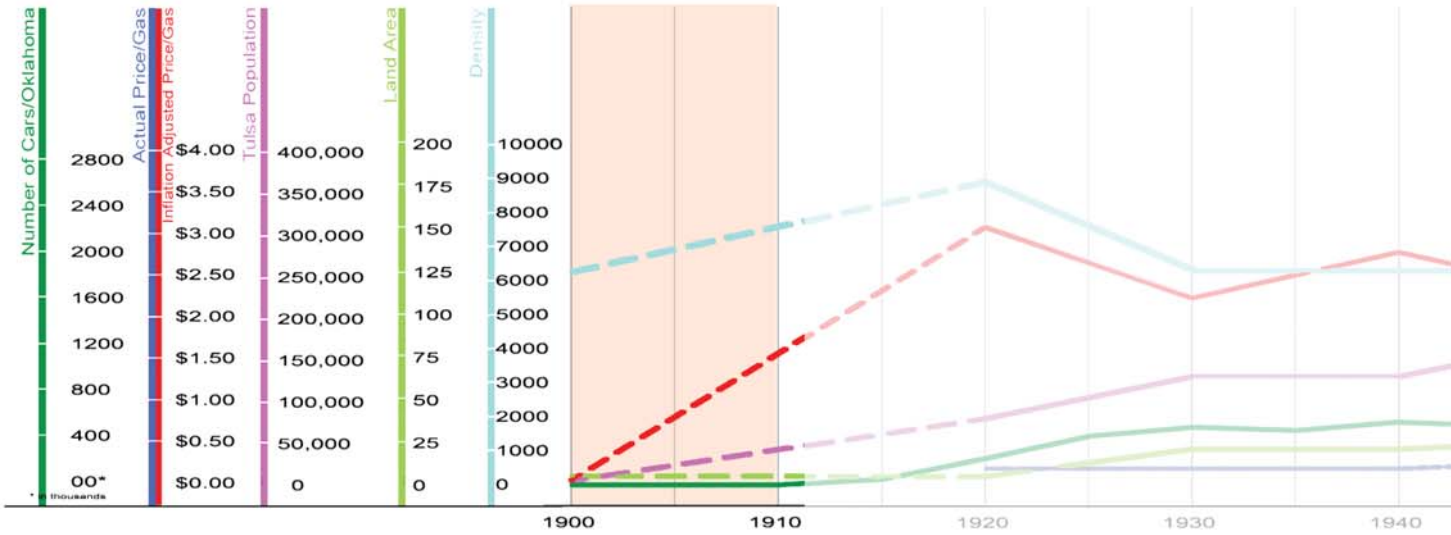
1882 - First rail service to Tulsa (St. Louis and San Francisco)

1889 - Tulsa incorporated with a population of 200

Tulsa House - 1870

Red Devil Steamer - 1877

Tulsa Transportation Timeline

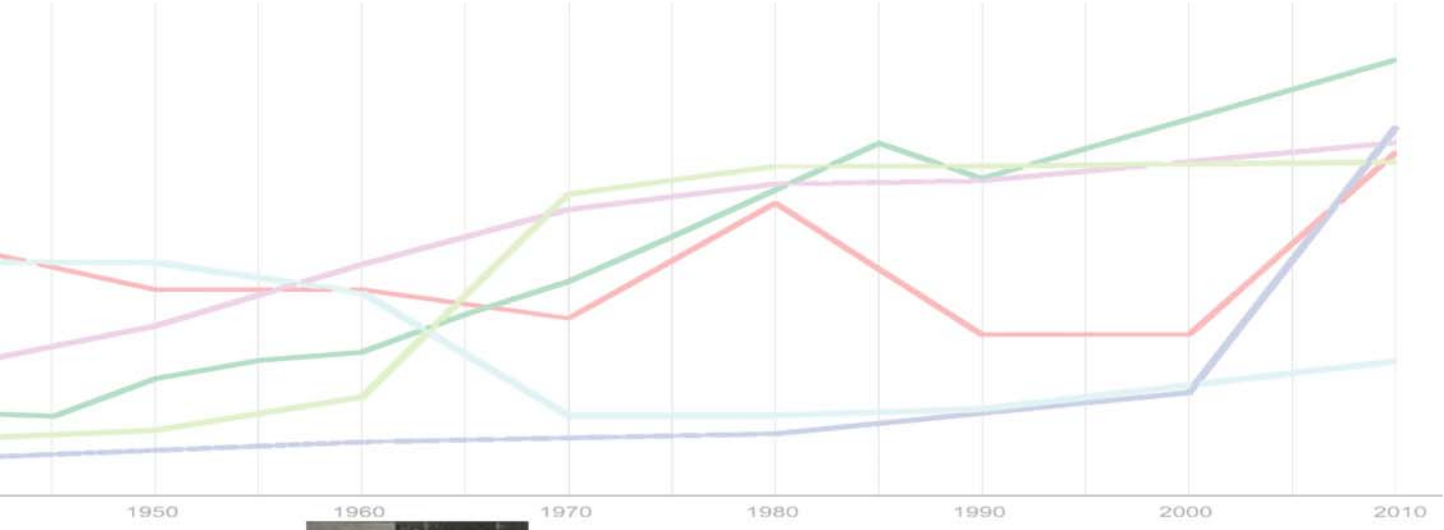


1890

1897-Nellie Johnstone Bartlesville, OK (First Commercial Oil Well)

1907 - Tulsa Map

Second and Main, Tulsa - 1902



1905-First commercial filling station (St. Louis, Mo.)

1908-Model T production

1910

1907-Oklahoma statehood

1906-First trolley service in Tulsa (Tulsa Street Railway)

1905-Oil discovered at Glenn Pool

1904-First bridge across Arkansas River

1903-Midland Railroad reaches Tulsa

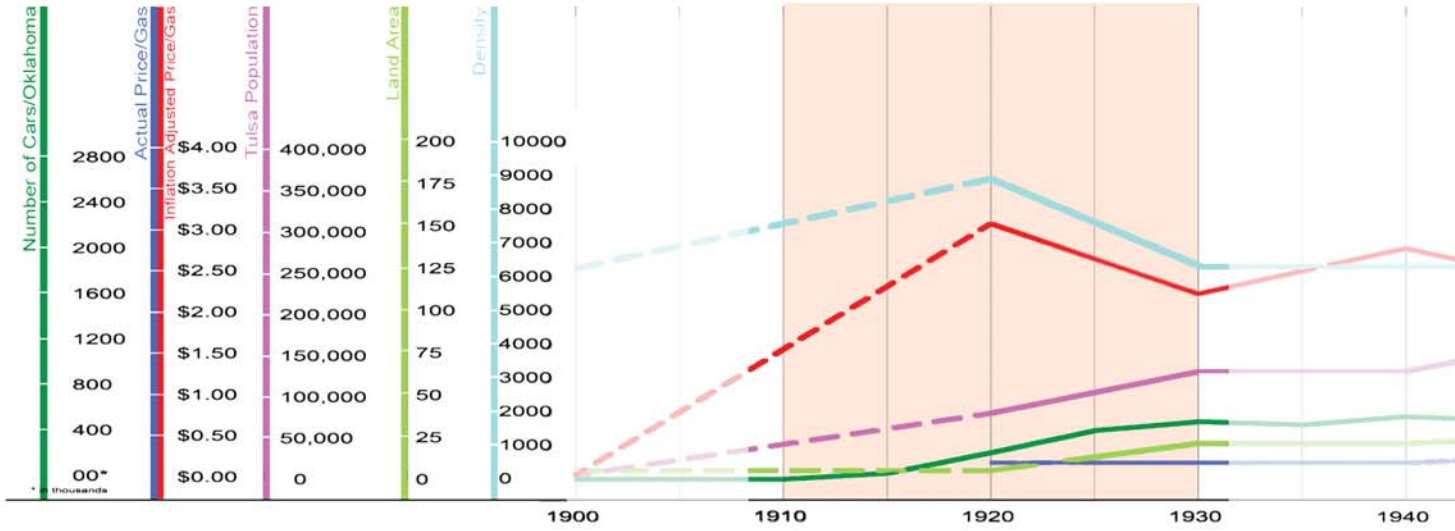
1901-Oil discovered at Red Fork

1900-Tulsa population at 1390

1904 - West Tulsa Bungalow

1892 - Electric Car

Tulsa Transportation Timeline



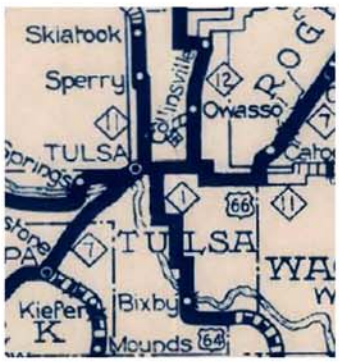
1914 — WWI — 1918

1910

1916-11th Street bridge completed

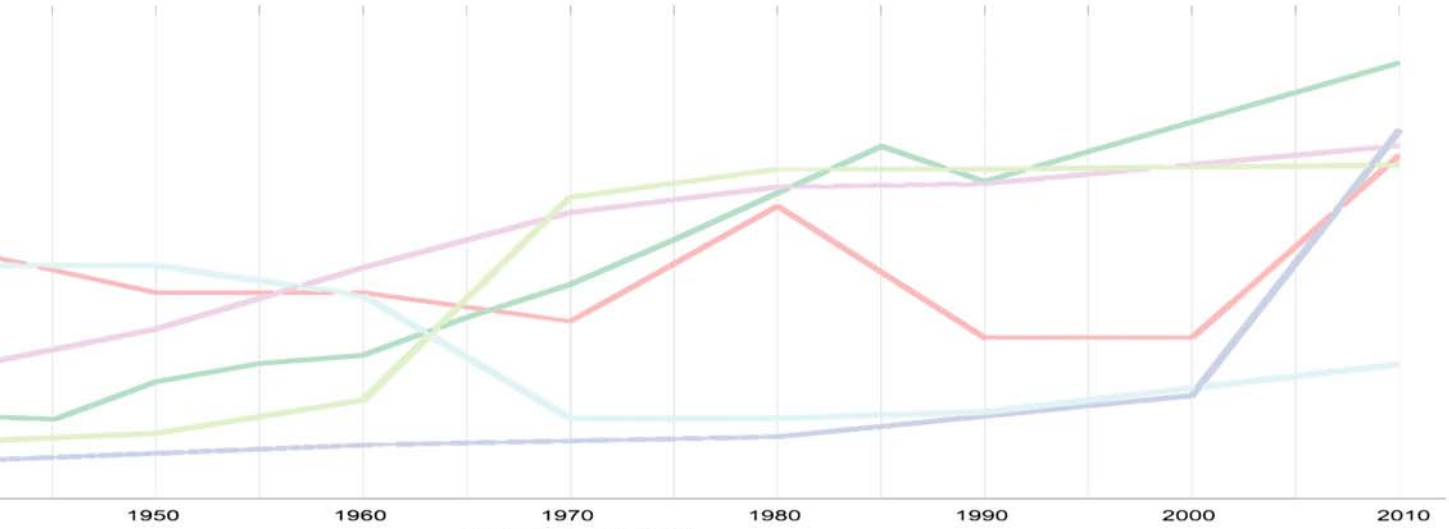
1917-First airport in Tulsa (Admiral and Hudson)

1919-Swan Lake residential construction begins



1927 ODOT Highway Map

Tulsa Skyline - 1930



1929-Stock Market Crash

1930

1929-Tulsa Street Railway sold; Route 66 marked through Tulsa

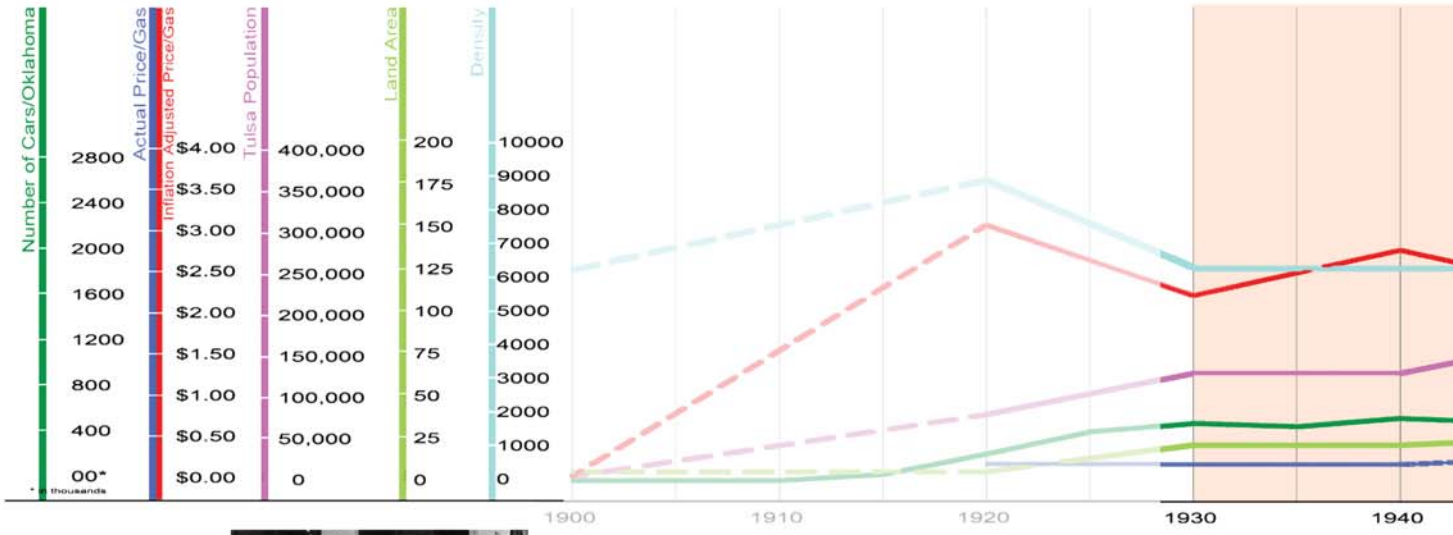
1921-Tulsa Race Riot

1920-Tulsa Pop.: 72,075/Land Area: 7.8 sq.mi./Density: 9,240 people/sq.mi.
Urbanized Pop.: 127,551/Land Area: 10 sq.mi./Density: 12,755 people/sq.mi.

1924 Home - Skyline Terrace, Tulsa

Late Model Ford - 1920s

Tulsa Transportation Timeline



1939-WWII begins

1933-New Deal initiated

1930

Dust Bowl

1936-Dust Bowl ends

1935-1936-Last trolley service in Tulsa proper converted to busses

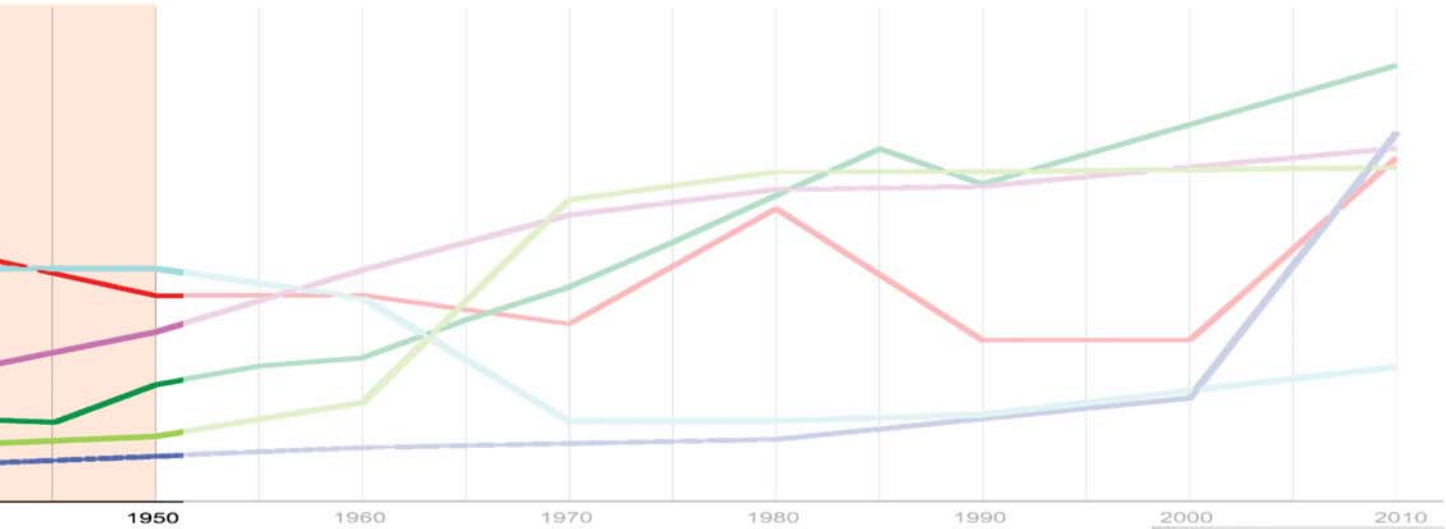
1932-21st Street bridge completed by WPA

1930-Tulsa Pop.: 141,258/Land Area: 21.6 sq.mi./Density: 6,540 people/sq.mi.

1930-Dust Bowl begins

1947 - Tulsa Map

1937 - Downtown Tulsa



1949-Housing Act of 1949 (begins urban renewal period)

1947-Levittown(1st suburban tract housing)

1945-WWII ends

WWII

1950

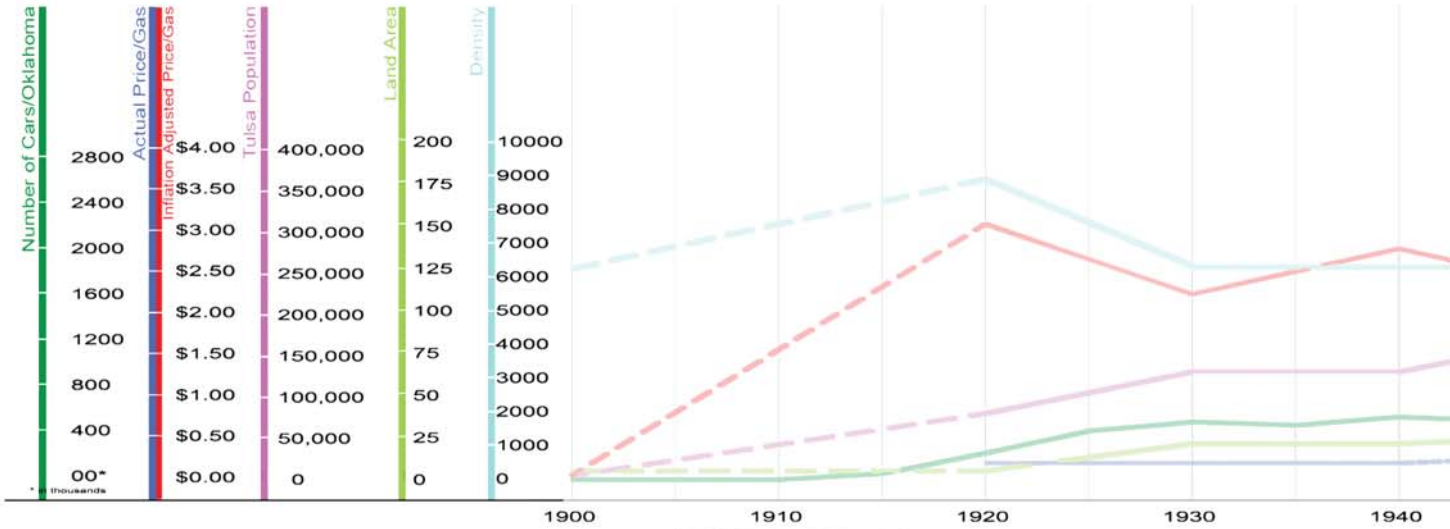
1949-Construction of Ranch Acres subdivision begins

1940-Tulsa Pop.: 142,157/Land Area: 21.4 sq.mi./Density: 6,643 people/sq.mi.

1944 - Tulsa Bungalow

1940 - Ford Truck

Tulsa Transportation Timeline



1956-Interstate Highway Act

1950

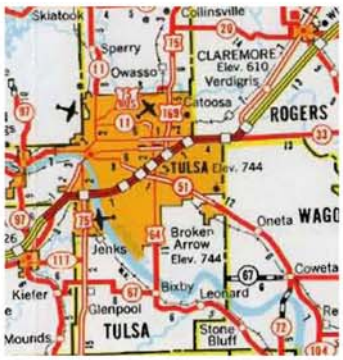
1958-Quik Trip opens

1955-Last Sand Springs trolley trip

1953-51st St. bridge completed/Turner Turnpike opens

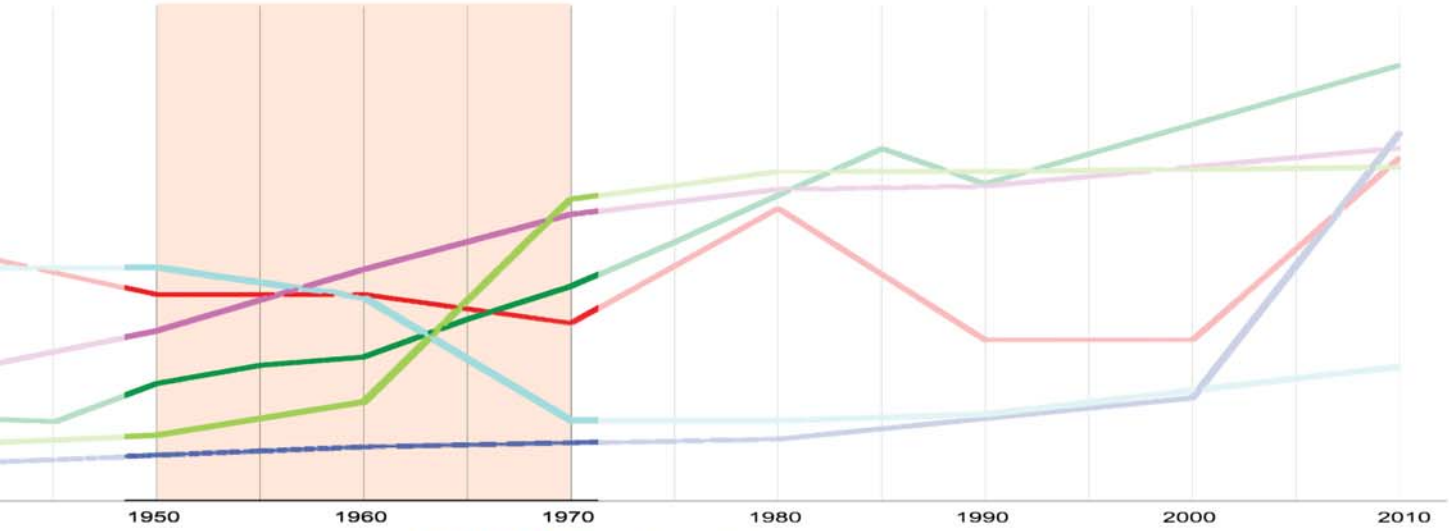
1952-Utica Square (first suburban shopping center) opens

1951-Admiral Twin Drive-In opens



1967 - Tulsa Map

1957 - Skelly Bypass



1960-OPEC created

1970

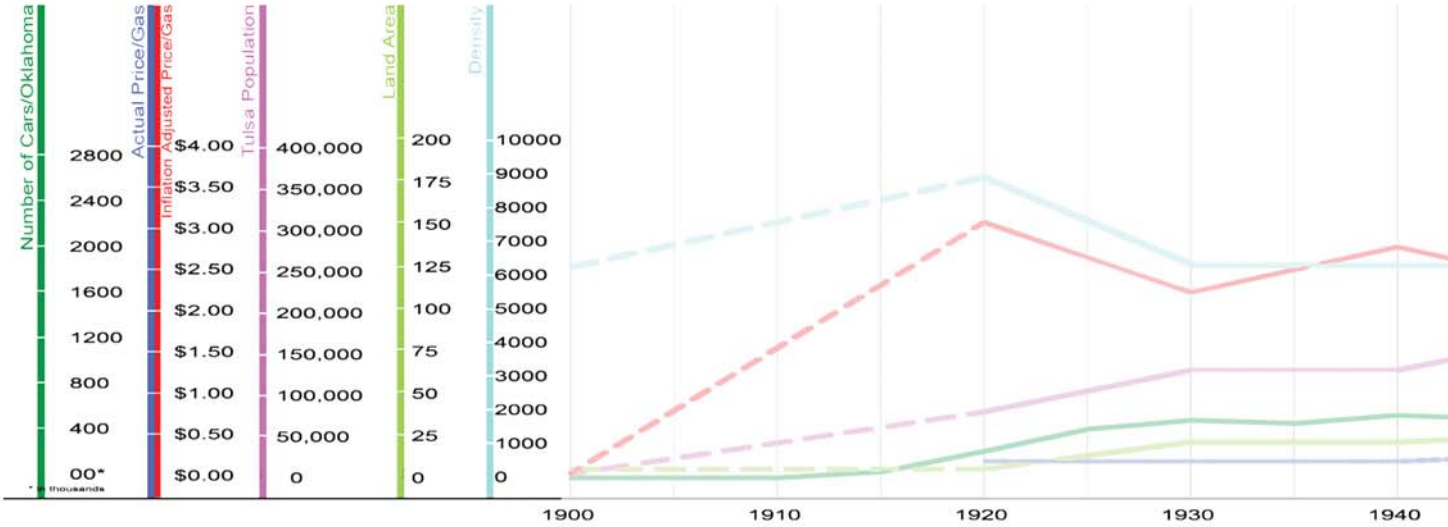
1965-Broken Arrow Expressway construction begins

1960-Tulsa Pop.: 261,685/Land Area: 47.8 sq.mi./Density: 5,475 people/sq.mi.
Urbanized Pop.: 274,272/Land Area: 37 sq.mi./Density: 7,413 people/sq.mi.

1954 - Ranch House

1957 - Chevy

Tulsa Transportation Timeline



1973-Arab oil embargo

1979-Iran hostage crisis

1970

1977-Woodland Hills Mall opens

1974-River Parks Authority formed

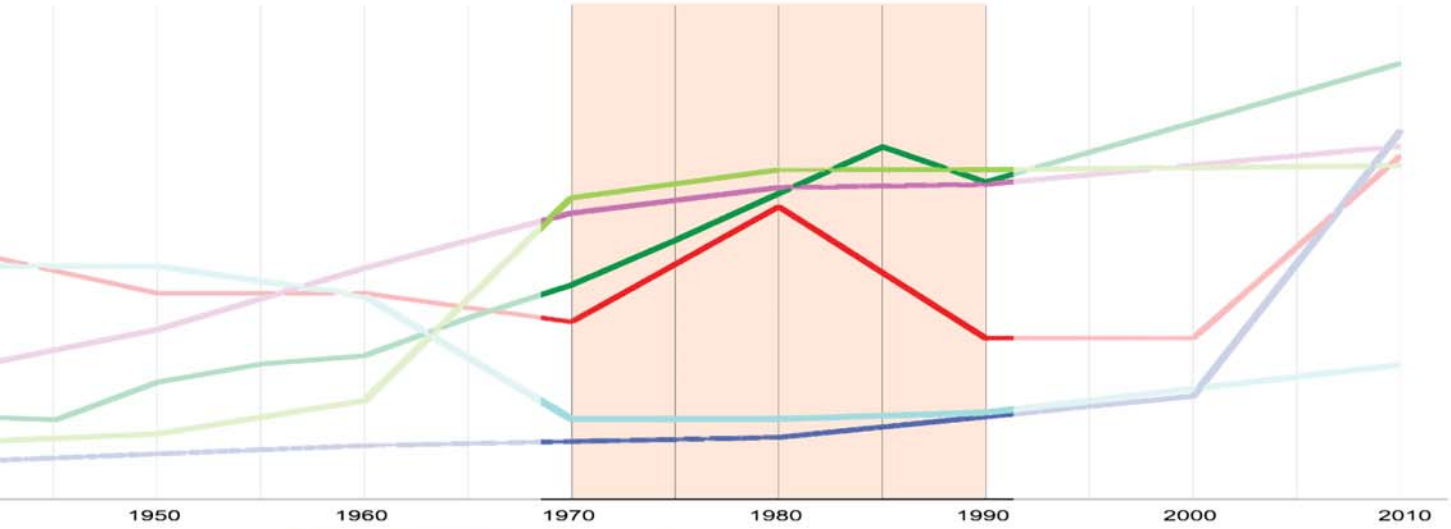
Early 1970's-I-244 and Keystone Expressway completed

1971-Port of Catoosa opens

1970-Tulsa Pop.: 331,638/Land Area: 171.9 sq.mi./Density: 1,929 people/sq.mi.
Urbanized Pop.: 330,409/Land Area: 139.5 sq.mi./Density: 2,369 people/sq.mi.

1987 - Tulsa Map

1971 - I-44 and Yale Avenue



1990-First Gulf War begins

1989-Exxon Valdez oil spill

1990

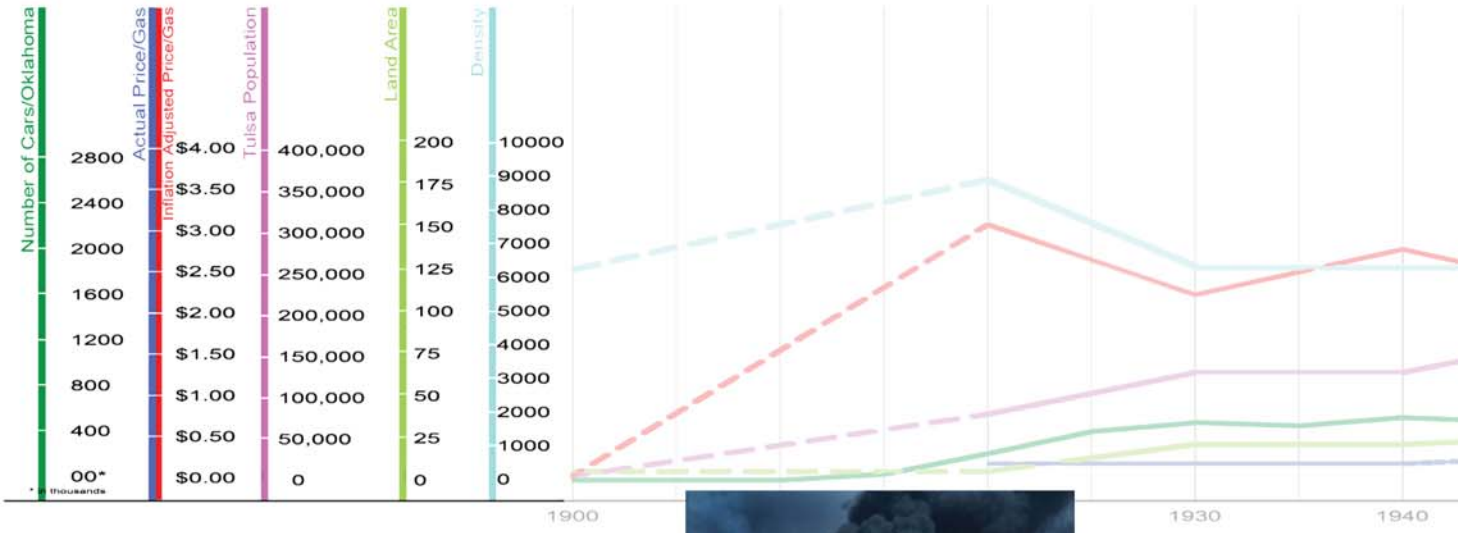
1989-Osage Expressway opened

1980-Tulsa Pop.: 360,919/Land Area: 185.6 sq.mi./Density: 1,945 people/sq.mi.
Urbanized Pop.: 521,178/Land Area: 144 sq.mi./Density: 3,619 people/sq.mi.
1980-Cherokee Expressway opens (US 75)/Inner Dispersal Loop is completed

1974 - "Snout House"

1975 - Ford Thunderbird

Tulsa Transportation Timeline



1990-Gulf War begins

1991-Gulf War ends

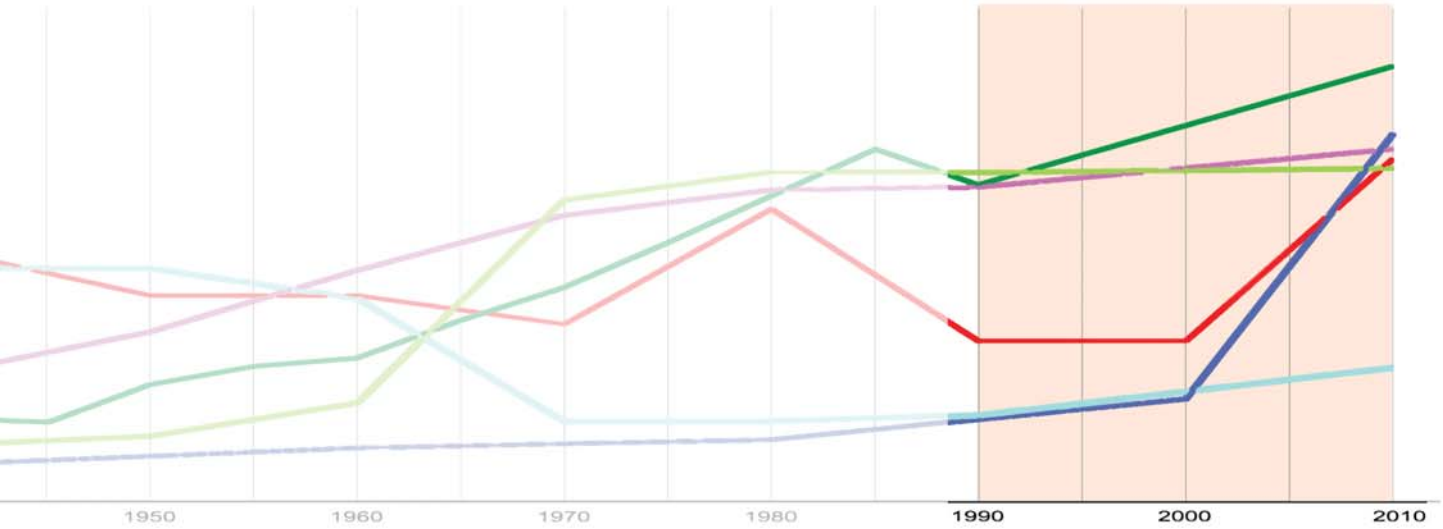
Gulf War

1990

1990-Tulsa Pop.: 367,302/Land Area: 183.5 sq.mi./Density: 2,002 people/sq.mi.

2007 - Tulsa Map

2000 - Downtown Tulsa



2001-September 11 terrorist attacks on US

2003-Iraq War begins

2010

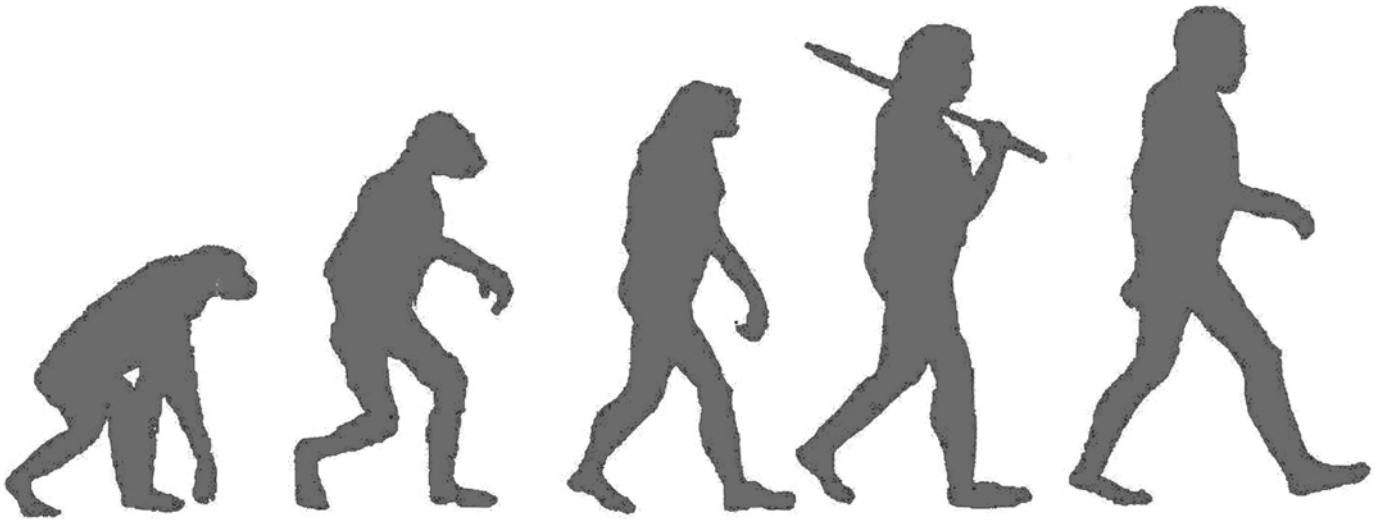
2007-Tulsa Pop.: 384,037

2002-Creek Turnpike opens

2000-Tulsa Pop.: 382,872/Land Area: 186.8 sq.mi./Density: 2,152 people/sq.mi.
Urbanized Pop.: 633,013/Land Area: 230 sq.mi./Density: 2,381 people/sq.mi.

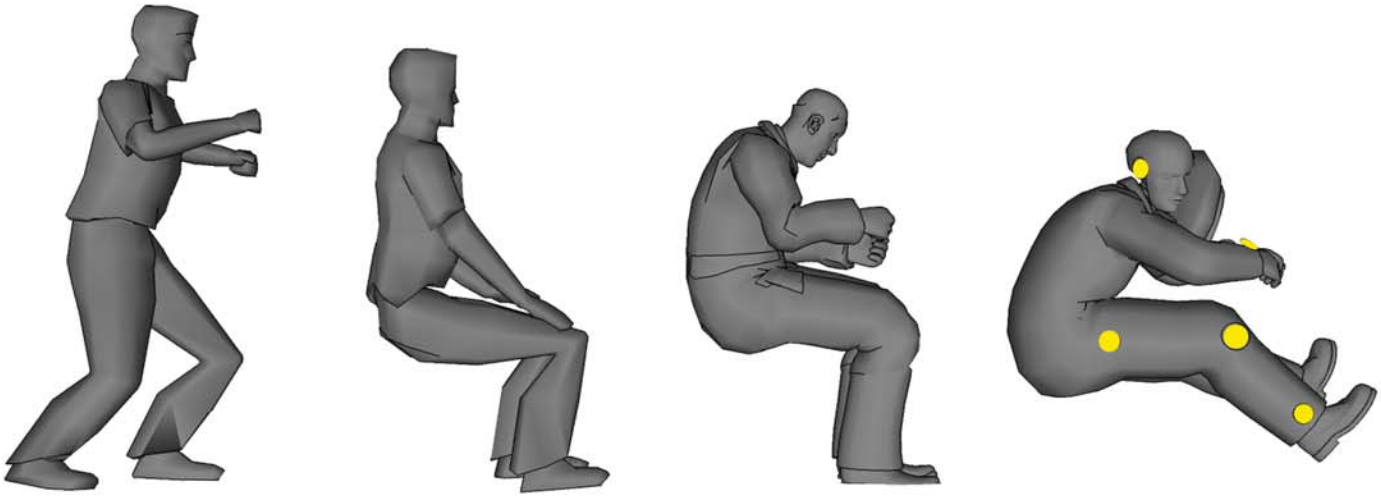
2004 - 3 Car Garage

2000 - Ford Excursion



Car ergonomics: Driving causes health problems

“Driving long distances is one of the worst things you can do to your body,” says Brian McIlwraith, an osteopath who specialises in car ergonomics. “There’s a tendency for you to be forced into a slumped position, so your back is bent, putting pressure on the hips, lower back and intervertebral discs.”



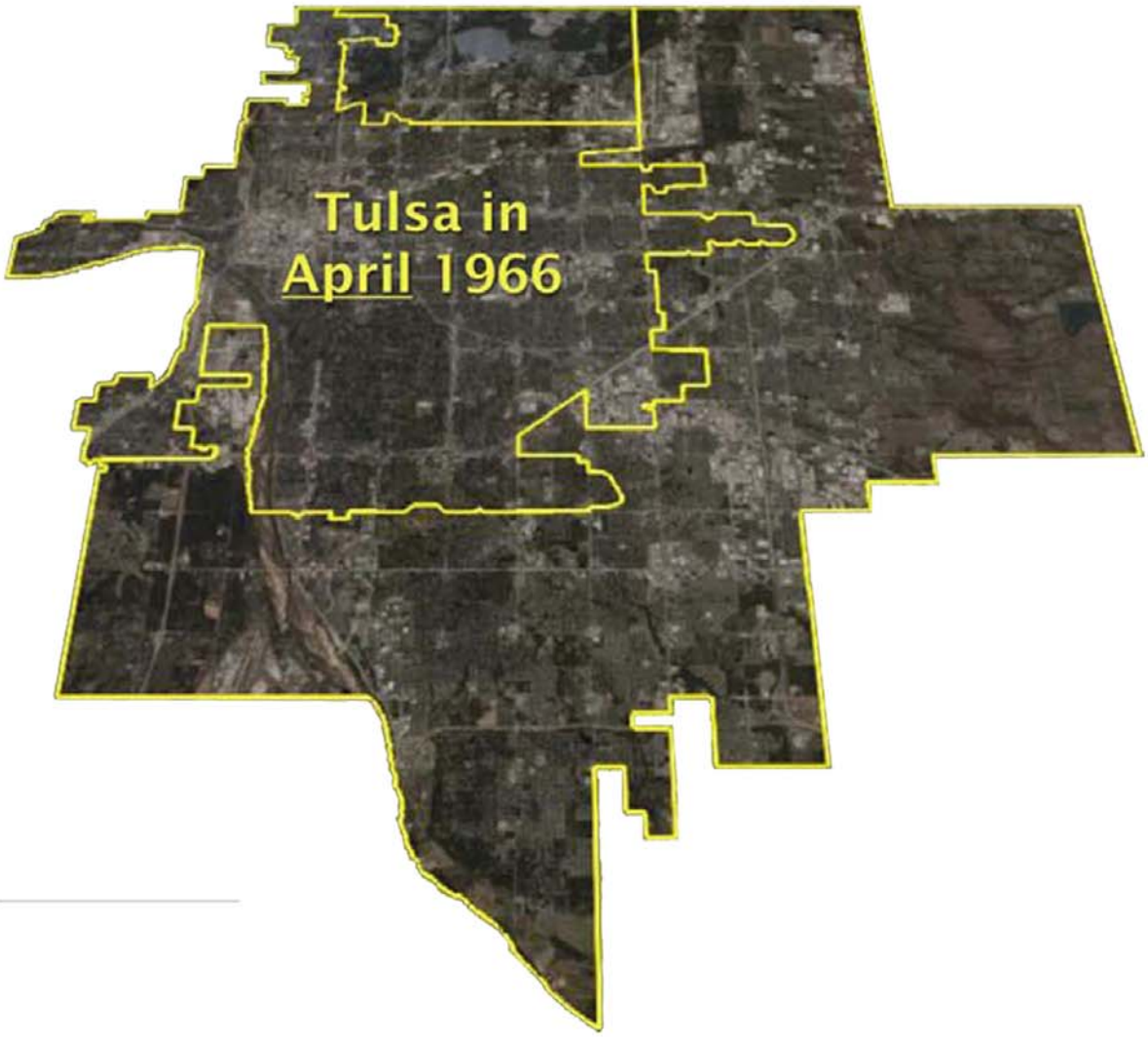
“Every day in the U.S., an average of over 120 people are killed in car accidents.”
Ecology Center of Michigan, January 2006

“Where else do we accept some 120 deaths a day so offhandedly? Imagine a major plane crash each afternoon.”
Jane Holtz Kay Asphalt Nation. page 103

90% of Children Walked or Rode a Bike to School in 1969

Afterschool pick-up line, Carnegie Elementary 2008

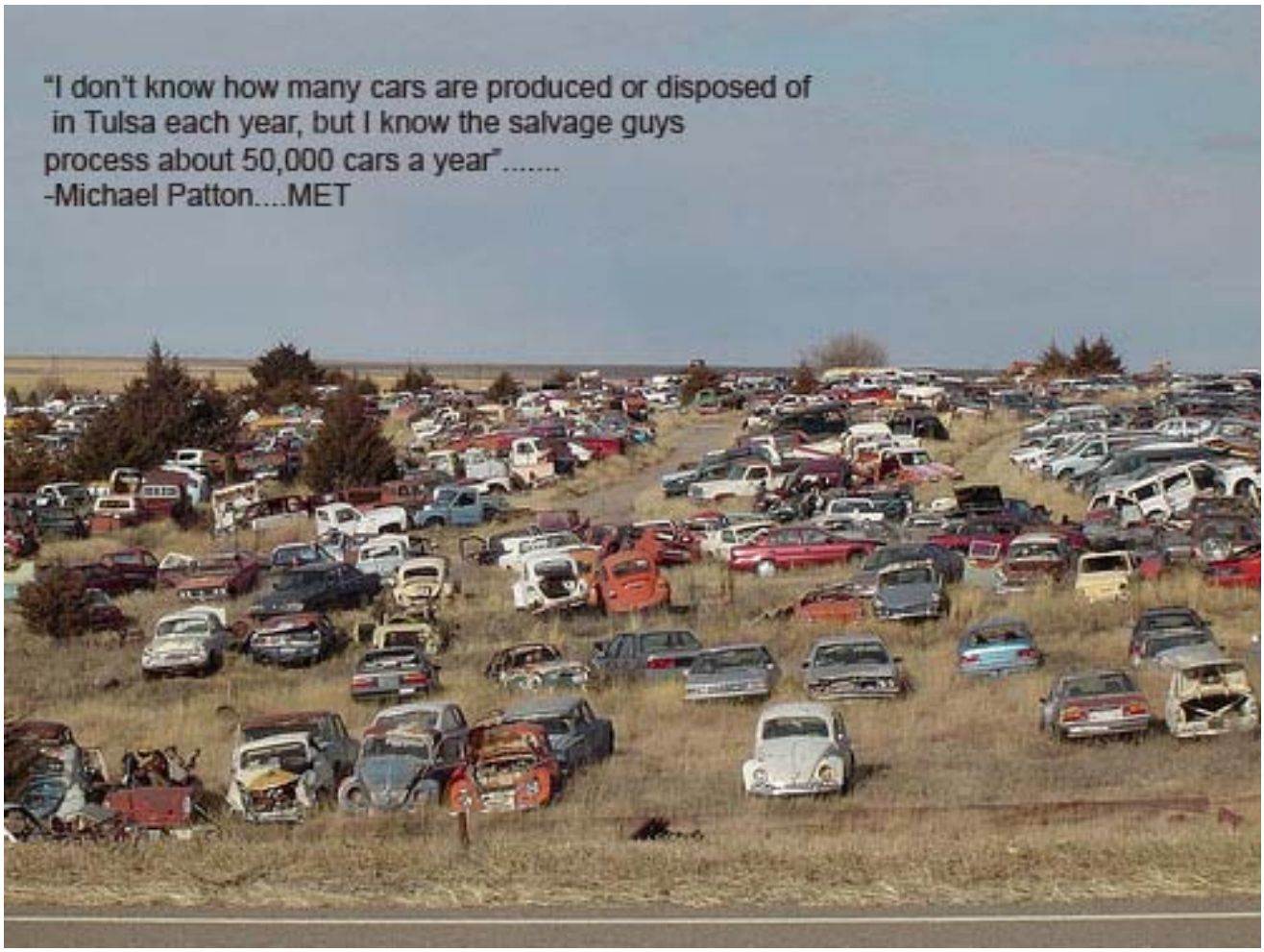
In 2000, 50% Were Driven by Their Parents



In the last 42 years Tulsa's land area increased almost 350%, while its population has only grown 13.30%. On May 24, 1966 Tulsa's city covered about 57 square miles. On May 25, 1966, Tulsa tripled in size when the city annexed 103 square miles of land. Today, Tulsa's land area is about 198 square miles.

Alternatives

Cost, Density & Viability



Alternatives
Density and Costs

Transportation Mode	Densities	Costs
 Walking	 All Densities Preferably Higher	Cost of sidewalks
 Bicycle	 All Densities Preferably Higher	$385 – Average Bicycle Cost 12.4 cents per mile to operate
 Segway	 All Densities Preferably Higher	$5,350 to $6,400 to Purchase Varied operational costs
 Personal Car	 Low Densities	$7,096 per year 71 cents per mile

Alternatives
Density and Costs

Transportation Mode	Densities	Costs
 Zip Car	 Low Densities	From $50/month $50 annual fee $25 one-time application fee Gas/Insurance included
 Bus	 Medium Densities	31-Day Pass $40 for unlimited rides * 12 months = $480 year MTTA
 Bus Rapid Transit	 Medium to High	Similar to bus
 Light Rail/Street Car	 Higher Densities	Estimated cost per ride for Tulsa/BA corridor - $2 per trip

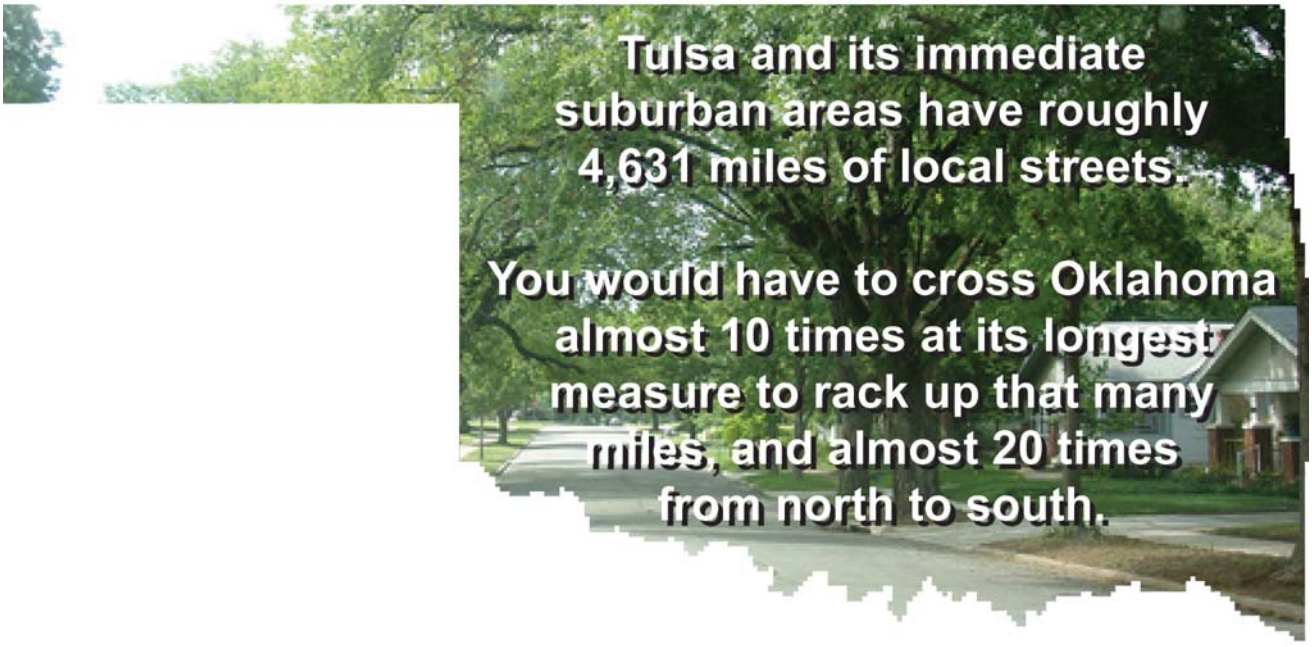
Alternatives
Motorized Alternatives

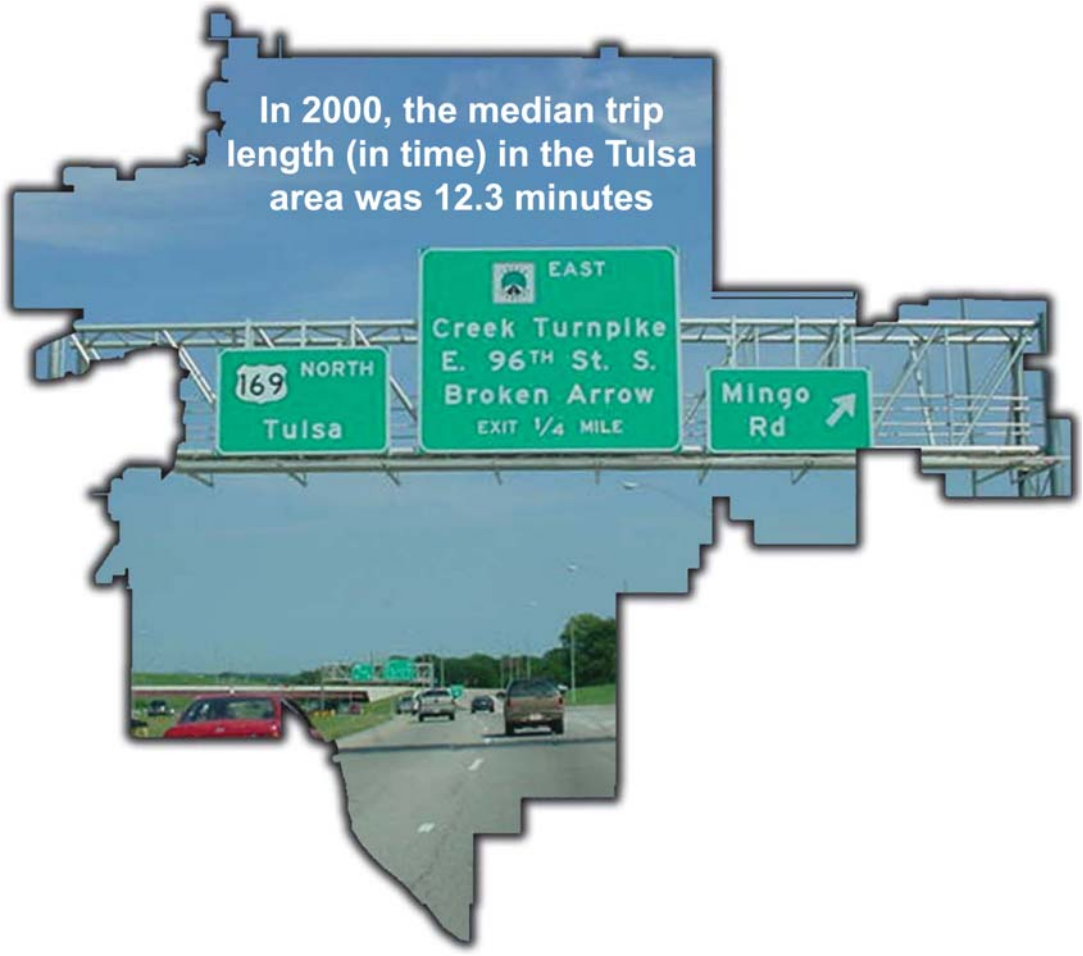
Over the years, a number of alternatives to the traditional combustion engine car have been proposed. Most of these designs face stiff opposition from oil companies as well as traditional car companies. Though in some cases, traditional car companies have tried to produce true alternatives to the combustion engine, and after pressure from interest groups, they have abandoned those efforts.

The GM EV1 was developed in the late 1980s and early 1990s as a viable electric alternative to the combustion engine. With a range of 120 miles between charges, the technology seemed promising. By 2004, however, GM decided that the model was no longer viable and terminated all of its leases with existing owners. When the cars were returned, they were crushed and sent to scrap.

The Aerorider is an electric assisted bicycle that is desigmed to operate in limited-space envrionments. Depending on local laws the Aerorider can be classified as either a bicycle or a moped. Vehicles like the Aerorider can operate in limited spaces, such as multimodal streets and pathways.

Although Zip Cars are traditional cars, they offer an alternative to private car ownership. Zip Car
members pay a monthly fee for the right to use the car for a pre-arranged number of hours. Zip Car operations have sprung up across the US helping reducing the costs of vehicle ownership and decreasing the number of cars on the road. To date Zip Car estimates that it has taken 50,000 vehicles off the road.

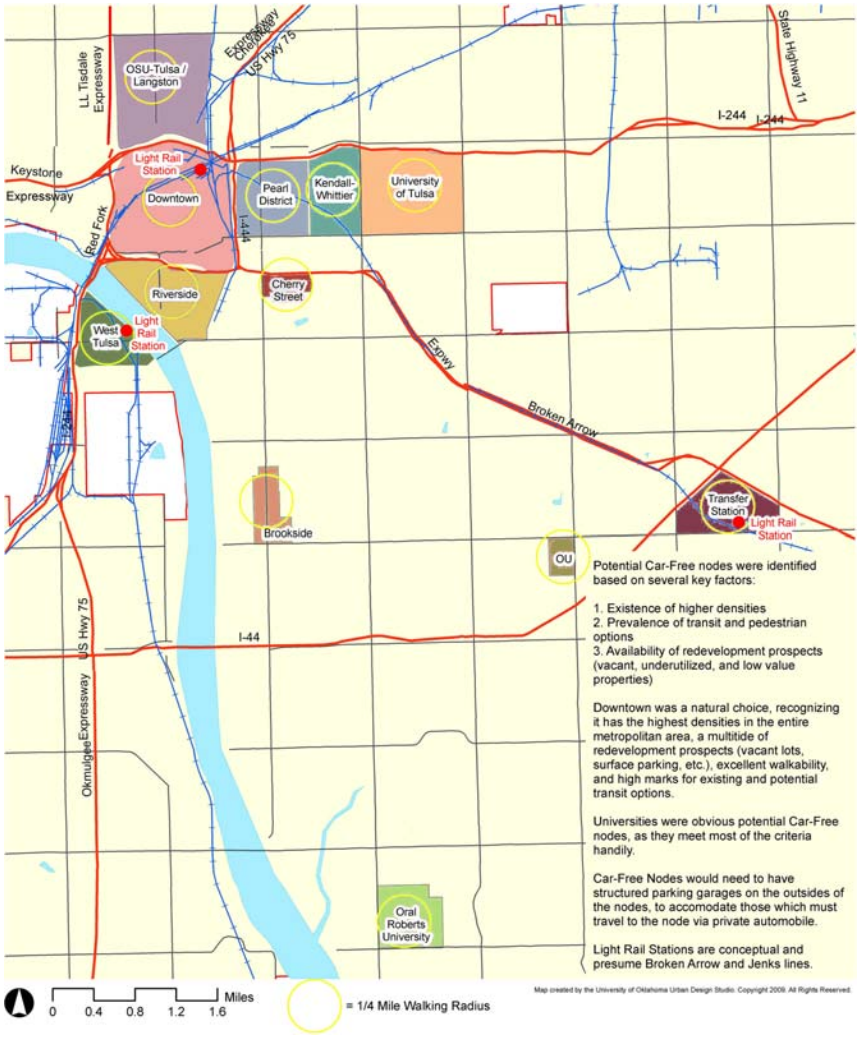

Tulsa and its immediate suburban areas have roughly 4,631 miles of local streets.
You would have to cross Oklahoma almost 10 times at its longest measure to rack up that many miles, and almost 20 times from north to south.


In 2000, the median trip length (in time) in the Tulsa area was 12.3 minutes
EAST
Creek Turnpike
E. 96TH St. S.
Broken Arrow
EXIT 1/4 MILE
169 NORTH
Tulsa
Mingo Rd

Envisioning a Car Free Tulsa

Car-Free Nodes & Photomontages

Envisioning a Car Free Tulsa
Potential Car Free Nodes

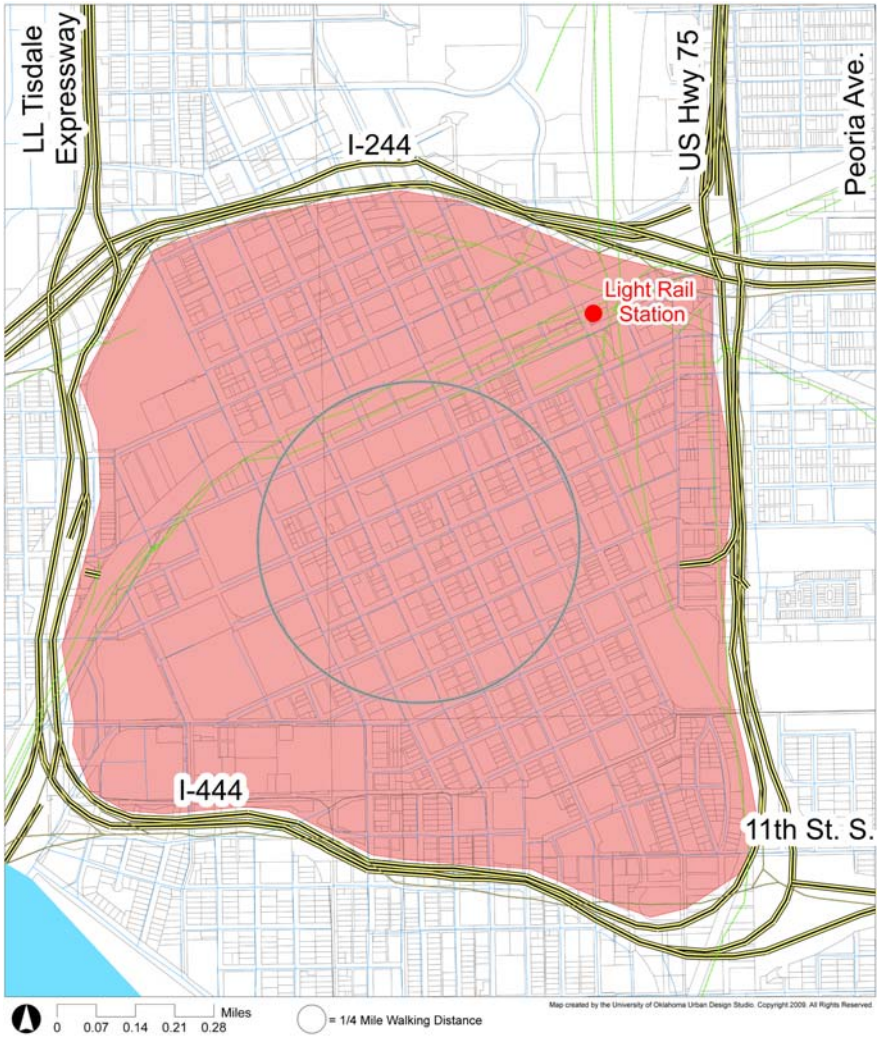


The core of this project revolves around imagining what a car-free Tulsa might look like, and examining which areas of the city could most easily convert to an environment free of the private automobile.

Designating areas of Tulsa as car-free zones would allow residents and visitors of all ages to walk, bike, run, stroll, meet their neighbors and friends, enjoy the parks, patronize businesses, and live a more physically active lifestyle. Car-free zones in Tulsa might also begin to chip away at the dominance of the automobile.

The residents of these car-free zones would come to appreciate the walk-ability of a compact neighborhood, where everything they need is within a few minutes' walk or bike ride. If the residents knew they had easy access to reliable public transit perhaps they would not need cars at all.

Envisioning a Car Free Tulsa
Downtown



The Inner-Dispersal Loop (IDL) is widely recognized as the defining feature of the downtown core of Tulsa, and serves as an obvious boundary for the Downtown Car-Free Node. This historic center of Tulsa is the largest employment center for the metropolitan area, and contains the highest concentrations of high-rise buildings and office towers. The existing high non-residential densities could easily encourage high residential densities to locate here. Buildings and areas within the IDL tend to have more in common with each other than they do with buildings and areas outside the IDL. The Downtown Car-Free Node contains the juncture of all of the major rail lines in the entire metropolitan area, and would be a natural location for a central hub for a metropolitan light-rail and/or transit system. We envision a downtown light-rail station at 1st Street and Greenwood Avenue

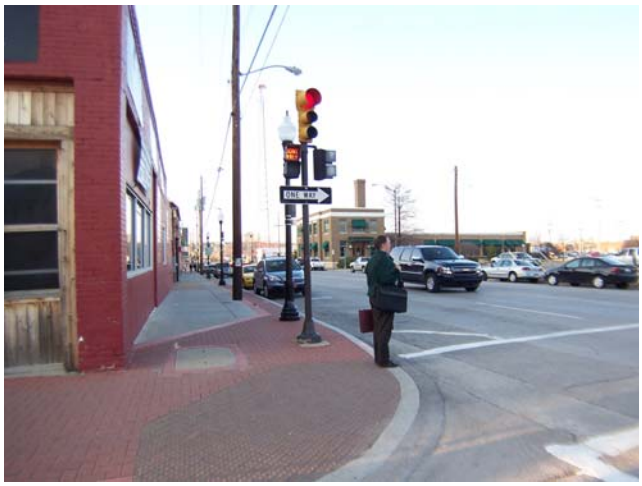
Downtown - Second & Detroit

In the above view (looking southwest) downtown buildings rise in the background. We propose infill development on the large and numerous surface parking lots that pervade downtown. This view includes a new potentially mixed-use building on the site of a former surface parking lot. The site is built to the street, with an ample sidewalk which provides for and encourages pedestrian accessibility. The site is located in a transitional area between the business district core and the Blue Dome entertainment district. The street has been replaced with a streetcar line and a greenway, which helps break up the mass of buildings and paving.

Present day Second & Detroit

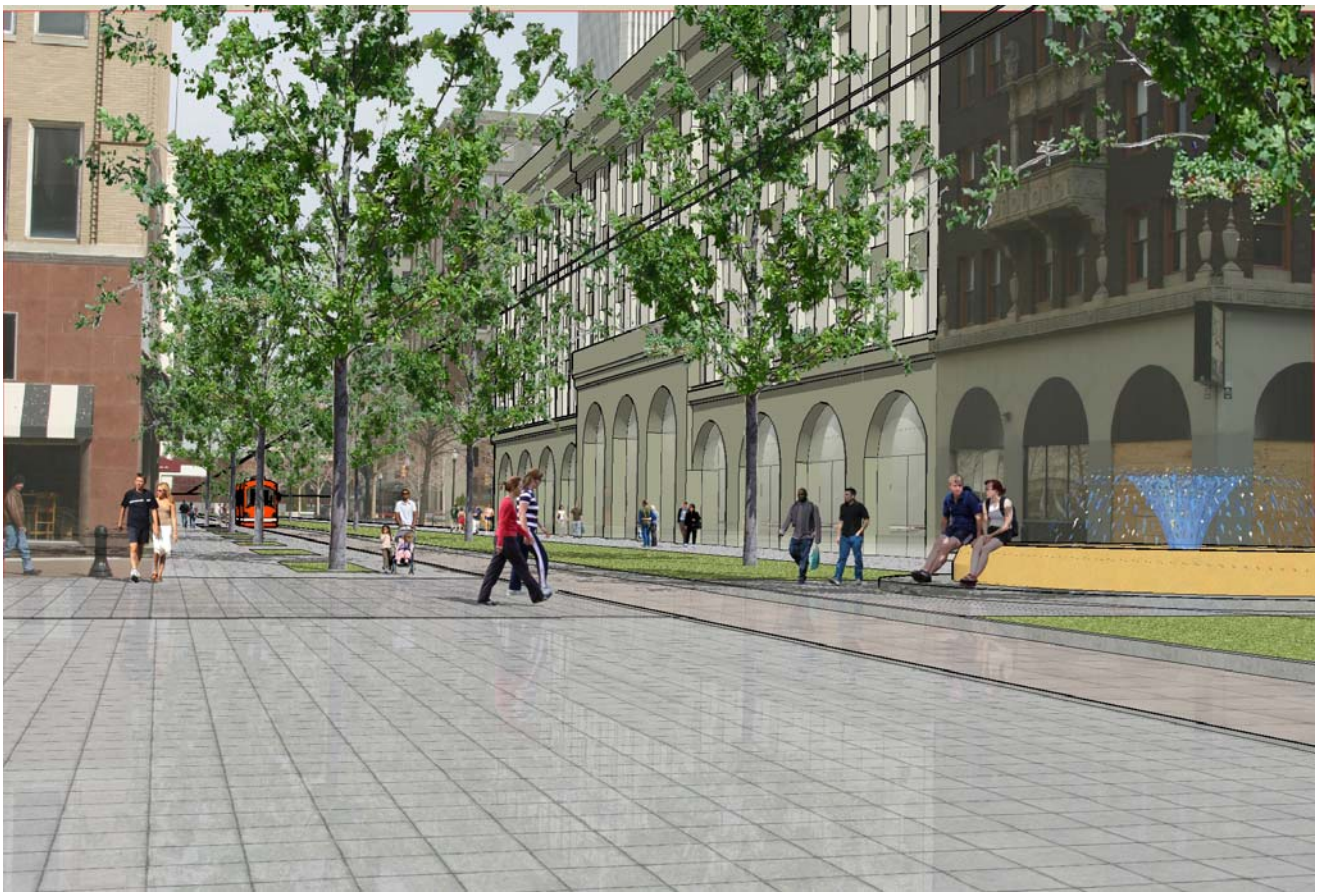
Downtown - Second & Elgin

Looking north from the intersection of 2nd Street and Elgin Avenue, existing brick buildings are in the foreground left and fill the block solidly up to 1st St. The Santa Fe Depot building is in the background center, and is the only developed area in two (2) city blocks, otherwise occupied by a surface parking lot and a grassy area. We propose developing Elgin Ave. between 1st and 2nd Streets with three-story attached mixed-use buildings, which can have groundlevel retail and residential on the upper floors. The scale would be consistent with surrounding buildings varying between one and three stories. This development would help connect downtown to the Blue Dome entertainment district . The former street is now



Present day Second and Elgin

Downtown - Bartlett Square



In 1978, the City of Tulsa took a foray into car-free urban design with the completion of the *Main Mall*, a pedestrian plaza with an extensive fountain system and large trees planted throughout. Tulsa removed the *Main Mall* in 2005: the automobile streets were reconstructed and a token fountain was placed in the center to form a small roundabout; it is sometimes hit by automobiles. Looking north along Main Ave. at 5th Street, we propose restoring the pedestrian streets and introducing a streetcar line, with the remaining area to be a greenway with several large-canopy trees, and infilling the currently underultized plaza behind the First Place Tower with a highrise building incorporating architectural elements influenced by the McFarlin Building in the foreground and the Reunion Center building in the background.

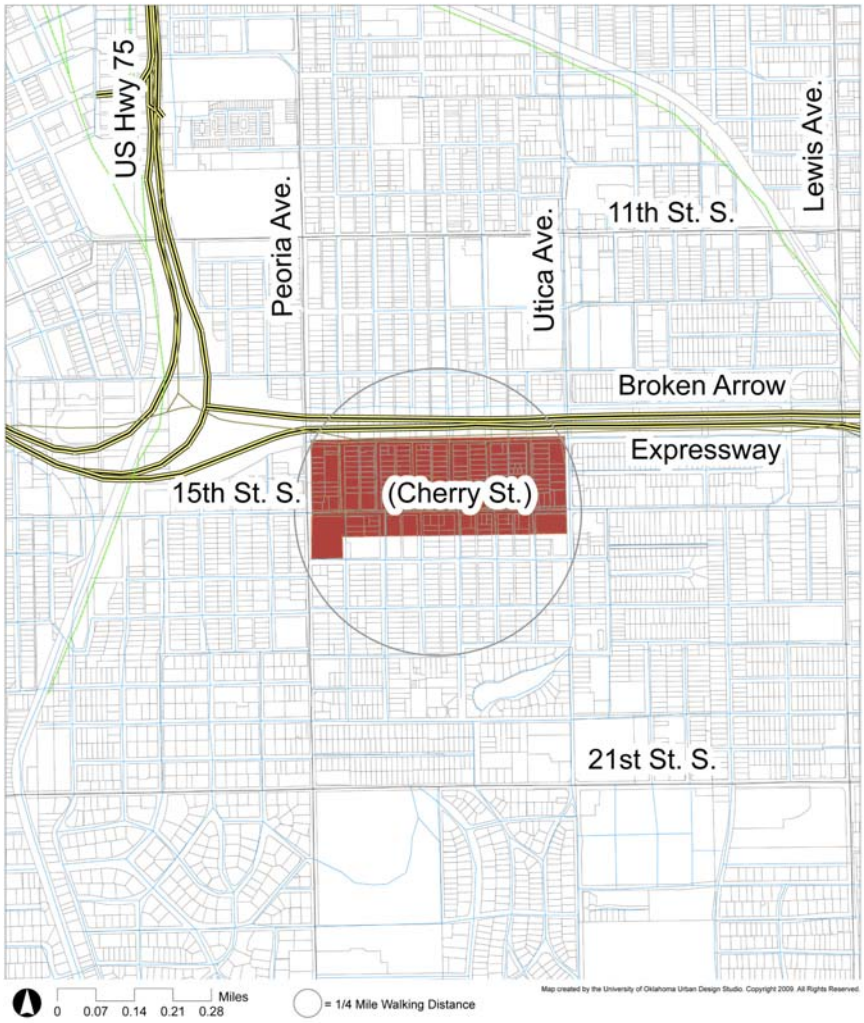
Present day Bartlett Square

Downtown - The Brady District

The Brady District is an enclave of traditional storefront buildings, most notably characterized by the ones on Brady Street between Main and Boston Avenues. It already has the basic building blocks of a pedestrian- and transit-oriented design. We would enhance the area by building additional infill development, such as the mid-rise buildings shown at the northeast corner of Brady and Boston Ave. in the background of this photomontage, currently occupied by surface parking for a warehousing operation. We would replace the automobile street with a streetcar line, generous sidewalks, a greenway, and generous numbers of large canopy trees. This infill development would help complete the linear Brady District and connect the Cain's Ballroom to the new Tulsa Drillers Ballpark.

Present day Brady St. (looking east towards Boston)

Envisioning a Car Free Tulsa
Cherry Street



"Cherry Street" is the nickname given to 15th St. South between Peoria and Utica Avenues in Tulsa. It is characterized by traditional storefront buildings typical of early 20th century commercial strips. It is one of the most recognizable chic urban districts in the Tulsa, and attracts a lively nightlife. The Cherry Street Car-Free Node would be centered along 15th Street South between Peoria and Utica Avenues, and would extend from the south side of the Broken Arrow Expressway to the mid-block line between 15th and 16th Streets South, including the entire block between 15th and 16th Streets South between Peoria and Quaker Avenues.

Cherry Street - 15th & Peoria

This view of Cherry Street envisions an environment in which cars are no longer a part of the scenery. Changes include a return to architecture that has a cooperative, rather than antagonisic, relationship with the street. By returning to a zoning code that favors pedestrians over automobiles, stores will be allowed to front the street, instead of being hidden behind parking lots. Wider sidewalks allow businesses to spread beyond their front doors. Also included in this view is a streetcar. Tulsa once had a thriving streetcar system and, without cars, would need alternative transportation. Imagine shopping on Cherry Street and then dining on Brookside later that evening without ever getting behind the wheel of a car, or looking for a parking spot.

Present day Cherry Street

Envisioning a Car Free Tulsa
Pearl District

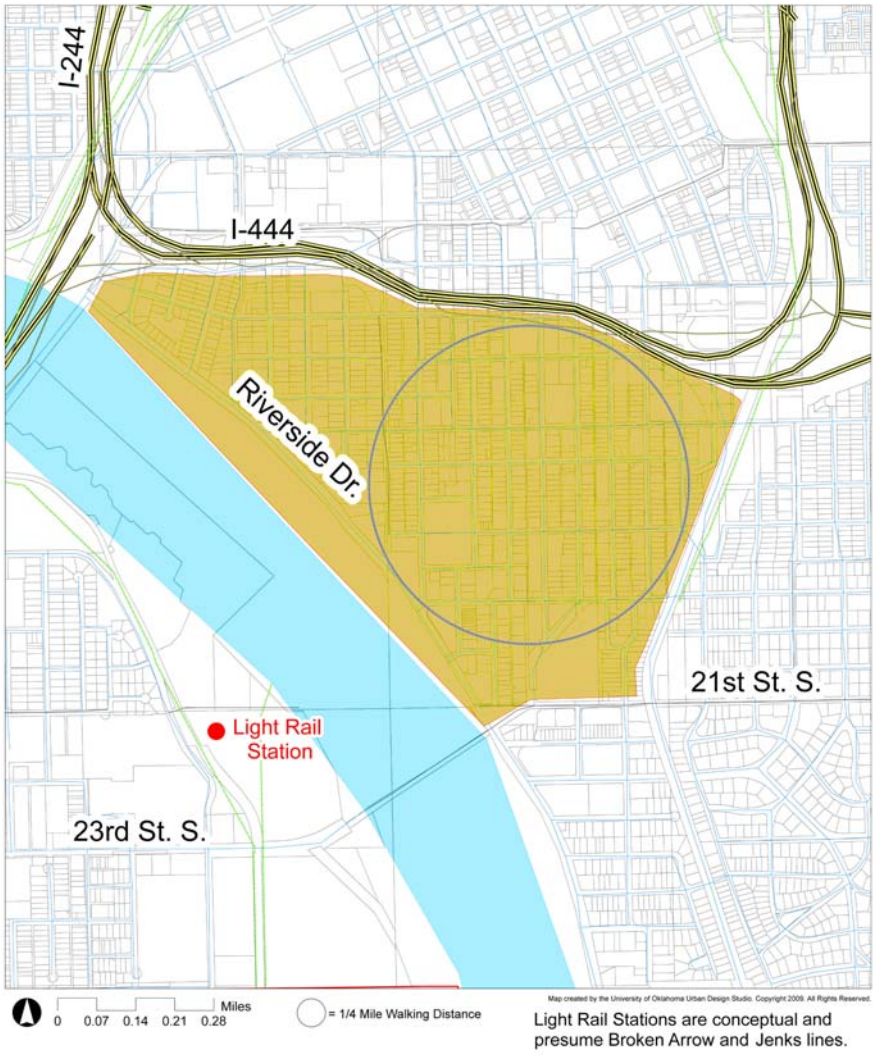
Just as the Riverside car-free node acts as an extension of the Downtown car-free node, from downtown we plan to extend the car-free node to the east along the historic eastward development pattern into the Pearl District. The Pearl District is generally centered at the intersection of Peoria Ave. and 6th Street South. Its defining features include Centennial Park, the urban infill Village at Central Park condominium development, and an older early-20th Century commercial strip along 6th Street between Peoria and Utica Avenues. The District would be contained between I-244 on the north, 11th St. S. (Historic Route 66) on the south, the IDL on the west, and Utica Ave. on the east. The District contains the same rail line which connects Downtown to Broken Arrow, and may be suitable for a future light-rail transit stop.

Pearl District - Sixth & Peoria

The Pearl District has experienced a breath of new life after decades of decline and urban decay. The Centennial Park, formerly Central Park, was redeveloped along with a new Central Center multipurpose facility, and the New Urbanism-style Village at Central Park condominium development, along with divers other public and private investments, have signaled the next big district for new urban redevelopment. While some existing buildings may be salvaged, ill-conceived and rundown buildings and vacant lots would be redeveloped with mid-rise mixed-use buildings. A streetcar line would be reintroduced along 6th Street, along the same line it used to take early in the early to mid - 20th Century.

Present day Sixth & Peoria

Envisioning a Car Free Tulsa
Riverside Drive



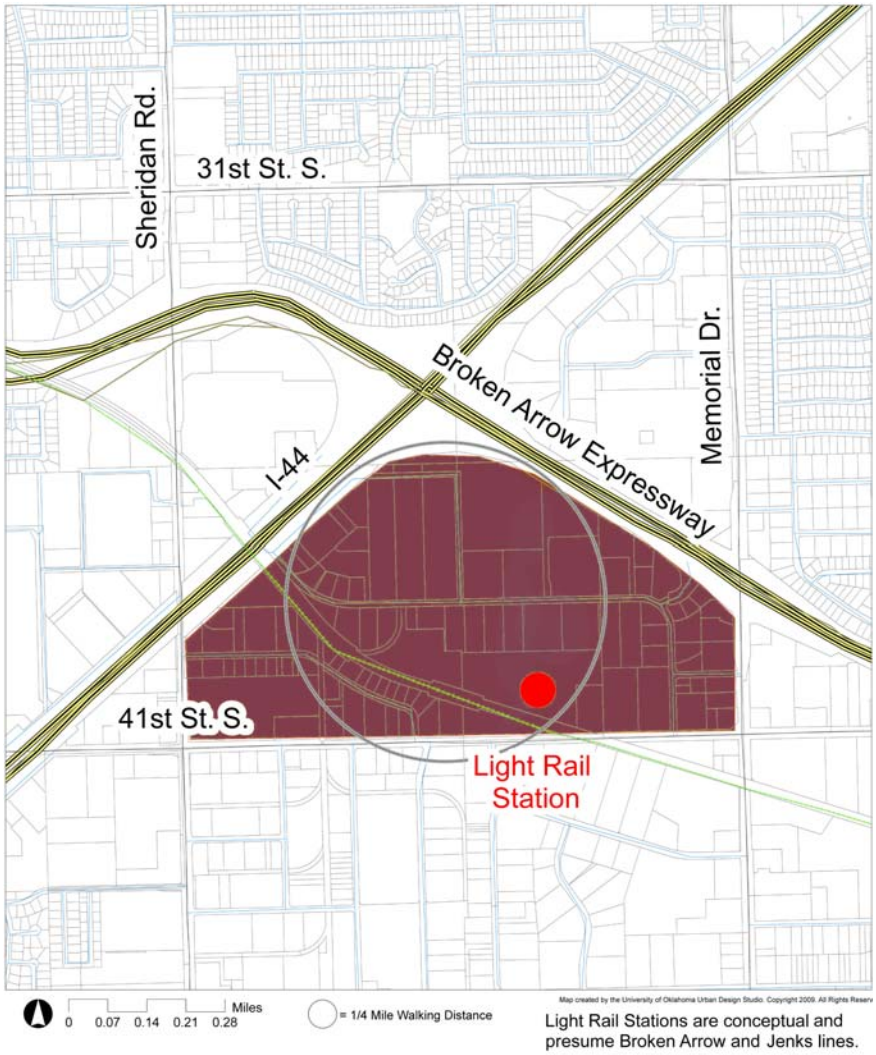
As we envision it, the Riverside Car-Free Node is characterized by the Riverview neighborhood, and extends from the Arkansas River east to the old railroad tracks, from the south loop of the Inner-Dispersal Loop south to 21st St. S. It is located immediately south of the proposed Downtown Car-Free Node. Automobile traffic could continue to use the highways and 21st Street bridge to traverse around the car-free node.

Riverside Drive

Within the Riverside Car-Free Node, we envision Riverside Drive as a reclaimed urban linear park – an expansion of the River Parks trail and park system. Because Riverside Drive is the most westerly street on the east side of the Arkansas River, and as a redundant grid street network exists to the east of it, it is a prime candidate for entire removal. This photomontage shows mid-level mixed use buildings fronting on this expanded linear park, with transit access provided on the streets to the east of the buildings.

Present day Riverside Drive at Denver Avenue

Envisioning a Car Free Tulsa
Transfer Station



This project also proposes a Transfer Station Car-Free Node at the approximate mid-way point between a future Downtown light-rail station and a Broken Arrow station. This location is based also on the proposal to redevelop the large tracts currently containing warehouses and manufacturing facilities for a mixed-use village. The Transfer Station Car-Free Node would be bounded by the south lines of I-44 and the Broken Arrow Expressway, 41st Street South, Sheridan Road., and Memorial Drive. Automobile traffic would continue to use the existing highways and arterial streets bounding the node.

Transfer Station

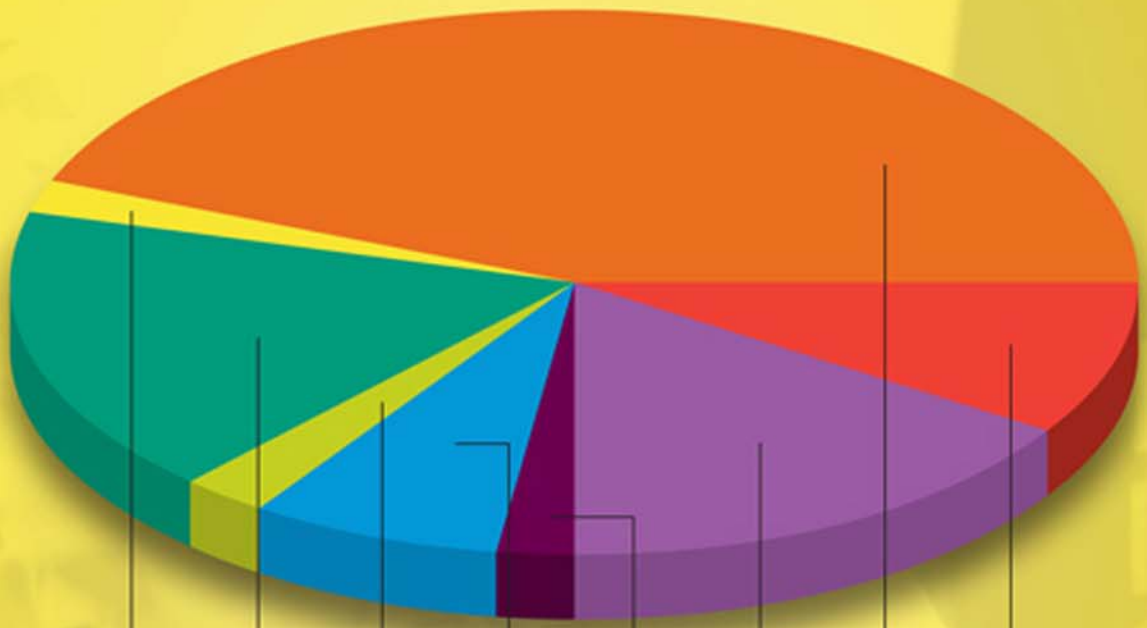
The Transfer Station car-free node is currently developed with warehouse and industrial buildings. Most of the uses currently depend on automobile traffic, while some take advantage of the railroad for heavier freight. In the car-free environment, the large industrial parcels would be redeveloped into an urban transit-oriented development (TOD) village. High-intensity retail and commercial would be centered around the station, with mid-rise residential surrounding, forming a tight knit urban fabric. We would utilize the railroad for light-rail transit and construct a light-rail station on a large brownfield parcel which was formerly the site of Kaiser Aluminum .

Present day 41st & Memorial

U.S. FATALITIES BY TYPE (2002 – 2007)

Nontraffic Fatalities Involving Children < 15 Years Old

Pie chart is broken down by type of incident 45,800 injuries in which 390 were fatalities that occurred. Statistics represent national data from the Center of Disease Control for the past 5 years .



Power Window Strangulation 2.0%

Frontovers 17.0%

Underage Driver 2.7%

Vehicle Set in Motion 7.0%

Fire 2.2%

Hyperthermia 16.0%

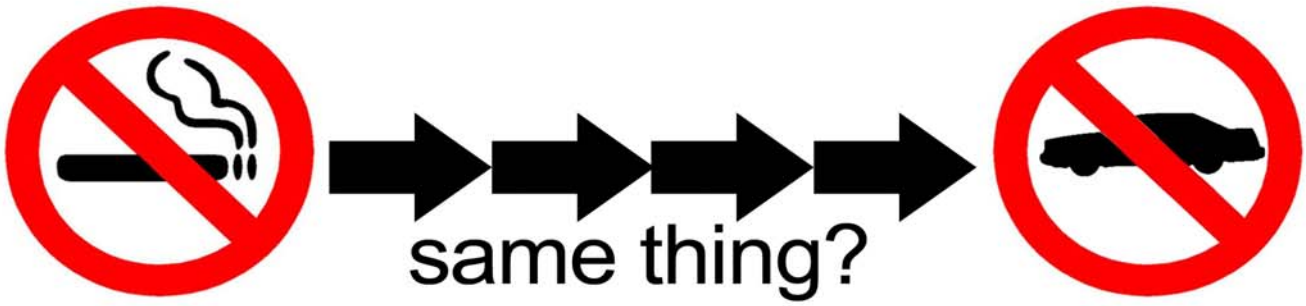
Backovers 44.0%

Other 9.1%

Data Source: KIDS AND CARS, www.KidsAndCars.org

While the number of automobiles has increased 60% since 1970, the numberof light trucks and SUV's has increased 400%


WARNING: Driving Cars May Cause Lung Cancer, Heart Disease, Emphysema, and Lead to Pregnancy.
Mild


same thing?


WARNING: Driving Cars May Cause Lung Cancer, Heart Disease, Emphysema, and Lead to Pregnancy.
SS
100's

Creating a Car-Free Tulsa

Policies & Strategy

Density

Perhaps the most important component of any attempt to reduce dependancy on the private automobile involves increasing density – including both commercial and residential areas. A truly sustainable urban development pattern with high enough densities not only is free of the need for the automobile, but discourages the use of the car.

Throughout the course of this study it has been determined that there is no part of Tulsa which is currently dense enough to be entirely car-free. Car-free nodes would have to be of such a size as to be viable, self-sufficient, and self-sustaining. In other words, there must be enough population within the district to create enough demand to sustain commercial retail and services, which can no longer rely on a broader market area which would be accessed via an automobile.

The next logical conclusion is, if there are currently no sufficiently dense areas, what areas are good candidates for becoming dense enough through infill and redevelopment? The car-free nodes should start with a high density that forms a 'nucleus,' and be surrounded by areas that have vacant or underdeveloped areas, and therefore are available for infill development and redevelopment.

Visualizing Density.

The following maps and photographs are intended to illustrate densities found in Tulsa. The map "Population Densities in Tulsa" graphically depicts five (5) levels of densities citywide, and indicates one (1) representative aerial photograph for each level. In general, the closer to the downtown core, the higher the residential densities found, with the inverse relationship found as one looks towards the peripheries of the City Limits. Areas along the Arkansas River and parts of East Tulsa also have relatively higher densities. The map includes residential densities measured in both *Dwelling Units per Acre* and *People per Square Mile*.

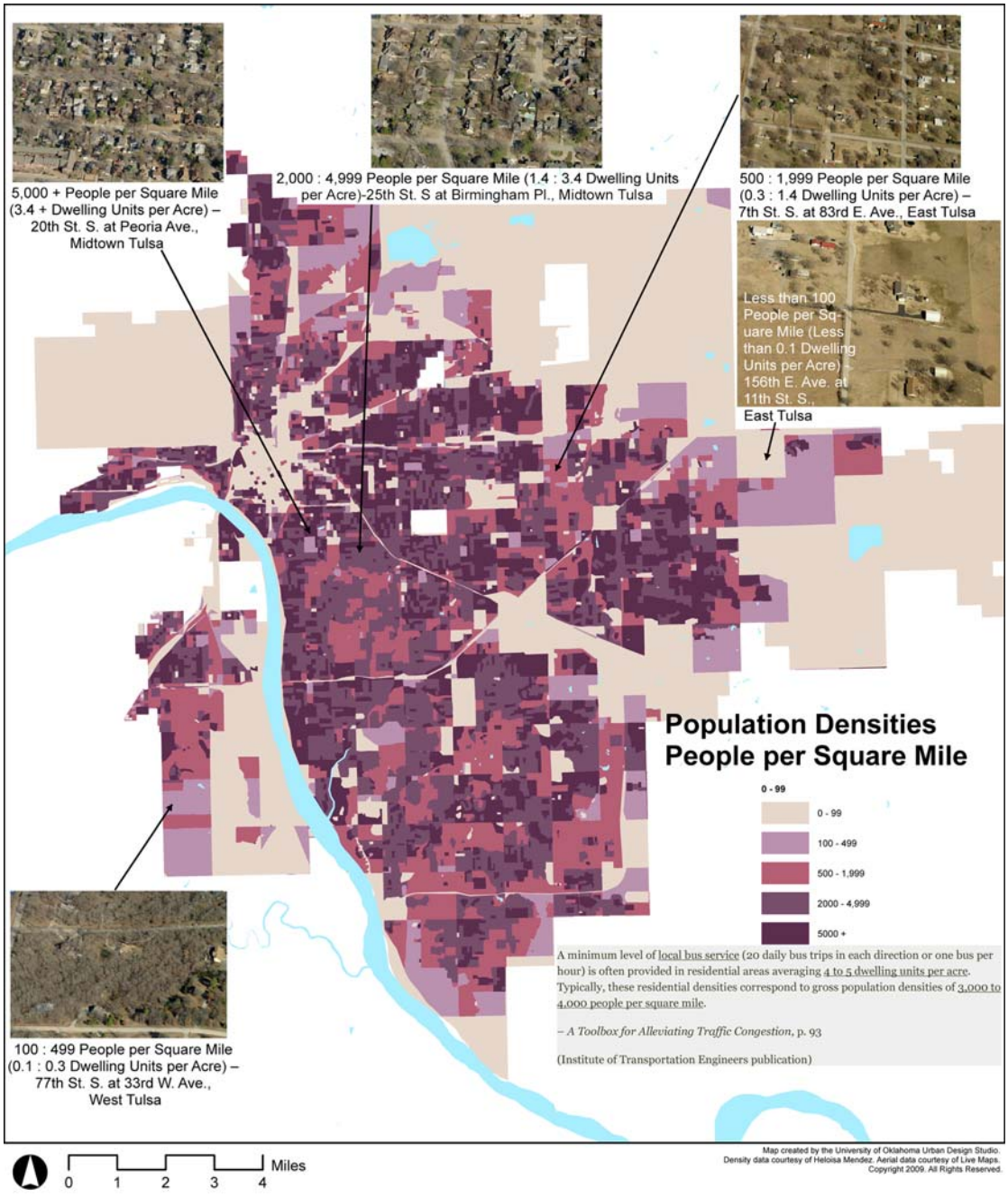
To determine dwelling units per square mile equivalents using people per square mile data, we used the Census Bureau's average household size in Tulsa for the year 2000 (2.31 people per household). 1 square mile equals 640 acres. The formula is as follows:

X (people per square mile) / 640 = people per acre / 2.31 = dwelling units per acre.

Unfortunately, this does not reflect vacant/unoccupied dwelling units. Most multifamily buildings and a certain, quantifiable percentage of detached dwellings will be vacant at any one time. It is, however, a relatively good proxy and further refinement can be achieved as needed, given vacancy rates for certain neighborhoods and multifamily developments.

The pages following the map are photographs of various residential densities of residential neighborhoods, which each are accompanied by an aerial photograph of the same neighborhood.

Density



The above map shows population densities in Tulsa and representative photos of each level of density. Most of Tulsa can be classified as low density, and thus not suited for mass transit, other than semi-regular bus service. In order to effectively implement a car-free strategy, population densities must be increased area-wide.

Density

Downtown Flats
11th & Denver
37 Dwelling Units/Acre

Loft Apartments
Quincy Avenue (Cherry Street)
20 Dwelling Units/Acre

Density

Loft Apartments
15th Street and Carson Avenue
15 Dwelling Units/Acre

Townhomes
Brookside
10 Dwelling Units/Acre

Density

Apartments
21st Street and Peoria Avenue
10 Dwelling Units/Acre

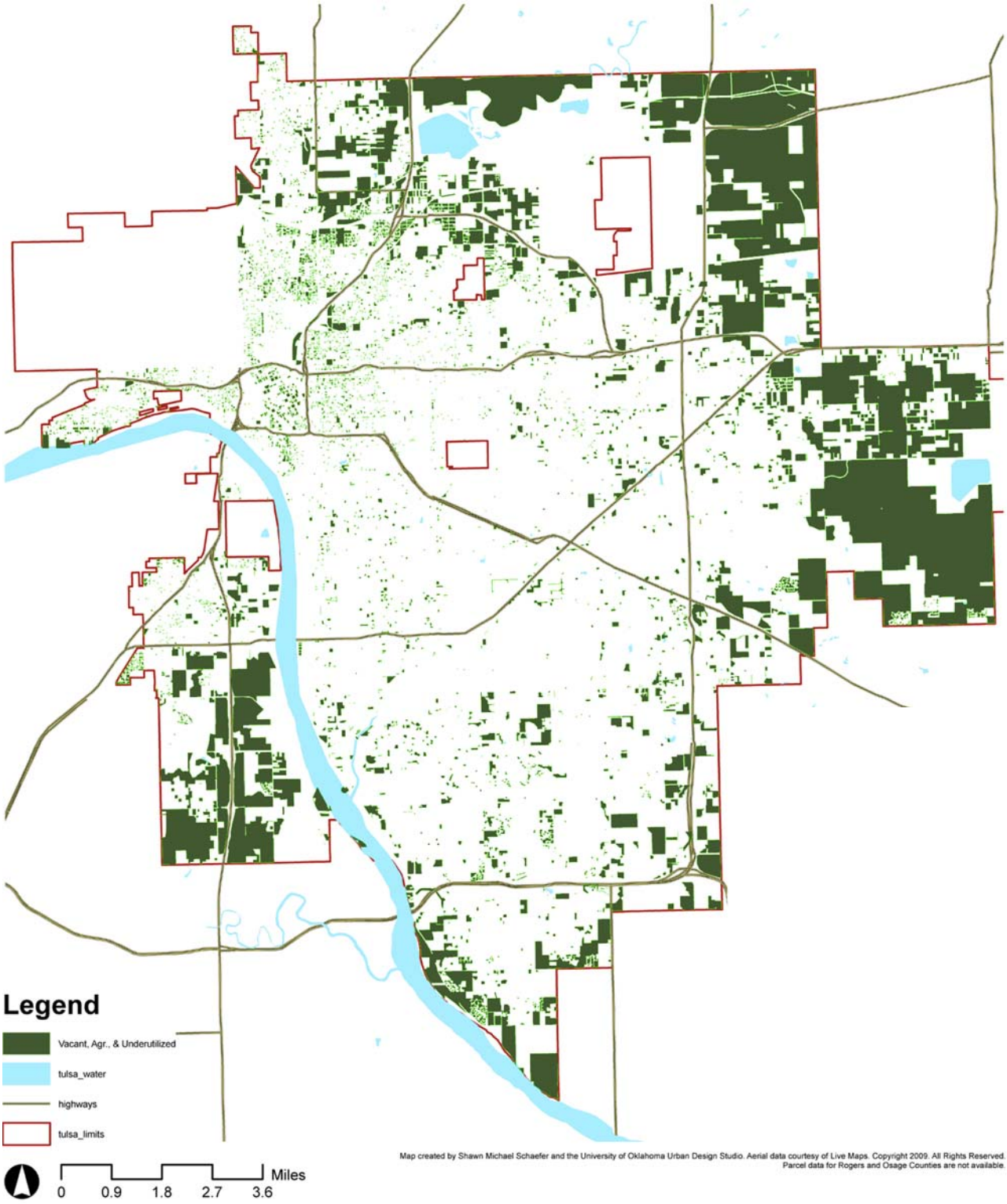
Single Family Houses
15th Street and Trenton Avenue
5 Dwelling Units/Acre

Density

Single Family House
38th Street and Delaware Avenue
1 Dwelling Unit/Acre

Parking Lot
71st Street and Memorial Avenue
0 Dwelling Units/Acre

In-Fill Prospects



In-Fill Prospects

Vacant Parcels Map

This map was created by identifying classes of properties, and specific parcels in other classes, identified by the Tulsa County Assessor in the latest available parcel data. For example, here is one class of property which is composed of surface parking lots, and a class of otherwise residential parcels which are vacant. In some cases, classes of parcels were based on entirely different criteria, like properties owned by car sales companies, and certain parcels in that class were vacant and are represented here. Newer parcel data now includes a "Vacant" category, which will make identifying vacant parcels much easier, and hopefully more accurate.

This map underscores the current dilemma: The trend is to continue to develop large, vacant and agricultural tracts on the edges of the city where development is easy. Infill parcels are quite small in proportion and development is difficult due to the need to assemble property from multiple ownerships.

This map does reflect that there are sizeable pockets of vacant and underutilized properties in downtown and to the north and east of the urban core.

Redevelopment Prospects:

Map 1 identifies single family residential properties with relatively low values as a factor of the size of the house, and Map 2 identifies single family residential properties with relatively low values as a factor of the lot area.

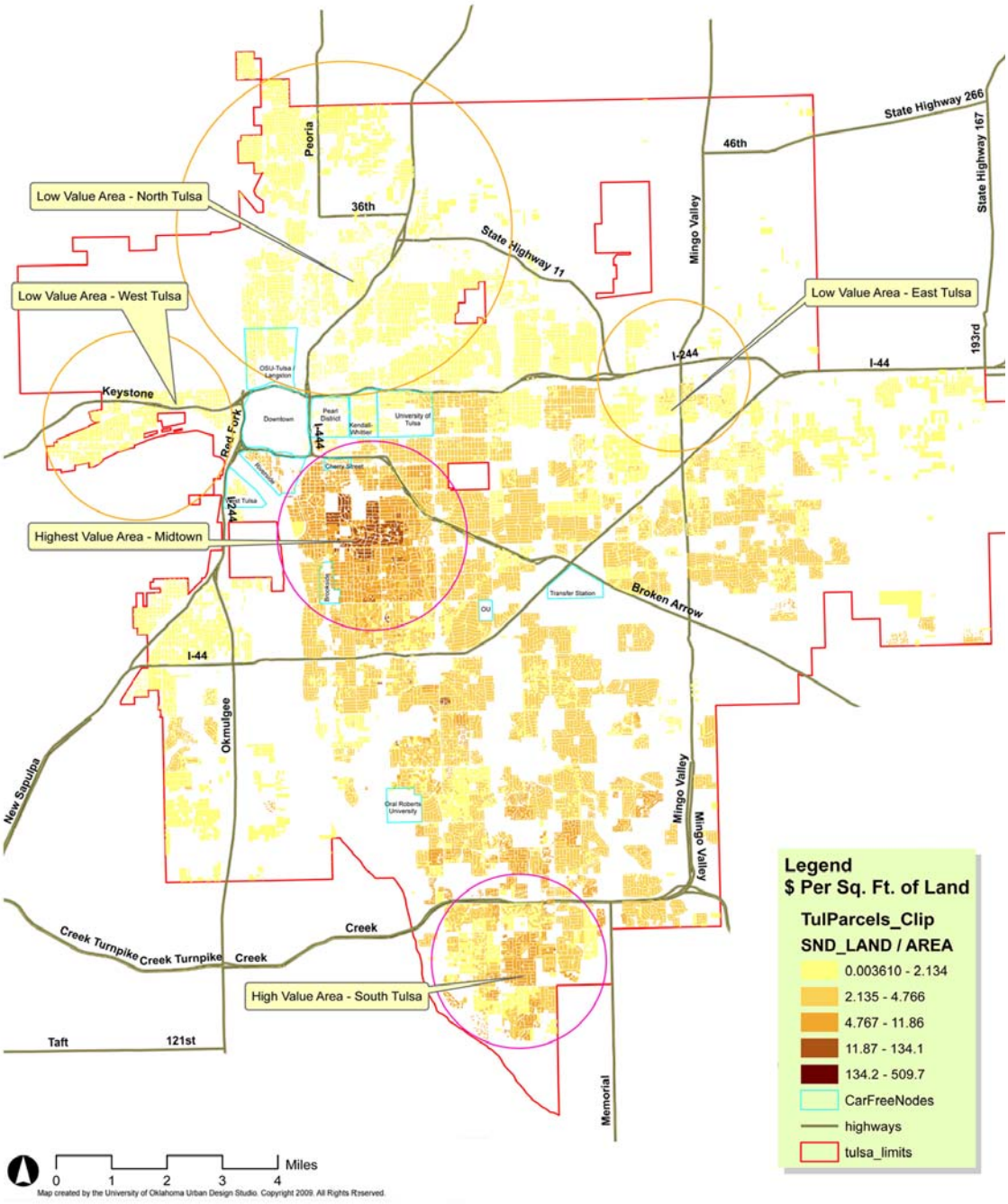
These maps are intended to identify areas which are ripe for redevelopment at higher densities. They required identifying all single-family residential parcels in Tulsa, and creating a thematic map based on the Tulsa County Assessor's land value, land area, and house size data.

To see how this strategy is already being implemented, consider the area north of Cherry Street (15th St. between Peoria and Utica Avenues) and south of the Broken Arrow Expressway. Several parcels have low values in relation to house sizes as compared to the surrounding neighborhoods to the southwest, south, and southeast. This area has seen "nearly 100" new loft apartment units in the past few years, using the formula of tearing down relatively low-value houses and replacing them with attached, multistory apartment buildings. Although their mostly modern styles tend to clash in terms of architectural style with the remaining stately, historic homes, the trend does operate to make Tulsa that much more dense and urban.

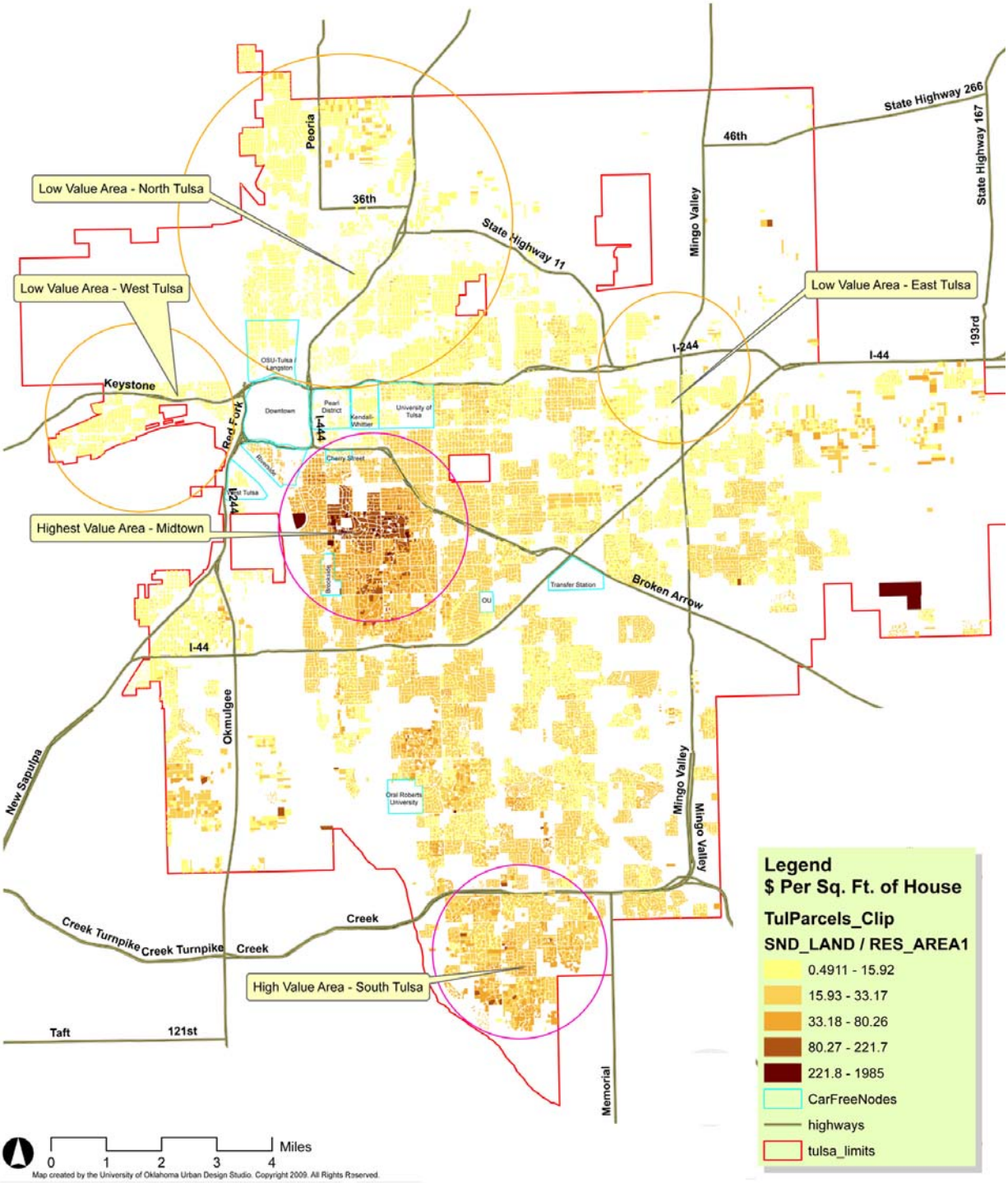
To help illustrate the difference between the two maps, see the Blair Mansion and estate at 2800 S. Boston Ave., which is somewhat of an anomaly due to its 33-acre parcel size (it was a former working farm).

It is in the highest value category in Map 1 when the valuation data is normalized with house size, but it is in the lowest category in Map 2 when the data is normalized with land area.

In-Fill Prospects



In-Fill Prospects



Car Free - A Phased Approach

Making the transition from an automobile oriented city to a car free area can best be accomplished incrementally. Both incentives and restrictions play an important role in preparing the public and the interested parties for such a transition. The following measures can be implemented citywide, as a way of reducing the overall use of private vehicles beyond the confines of any particular car free zone.

Once the city as a whole becomes accustomed to restrictions on the use of motorized vehicles, the transition to specific car free zones can be accomplished. One method that would facilitate this transition involves gradually eliminating the use of certain vehicles in the car free zone. Vehicles use could eventually be eliminated by banning the use of the following modes of transportation in the order outlined below:

o Private cars of non-residents

o Private cars of residents

o Most trucks by encouraging the use of access ways or alleys for freight deliveries (where available).

o All vehicles with the exception of emergency services local delivery vehicles

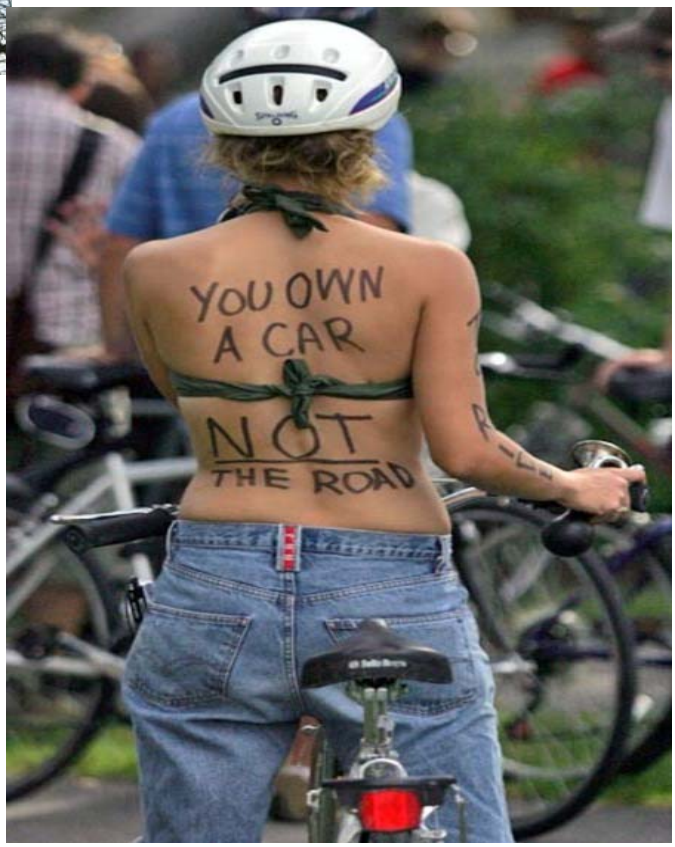
o Buses (once a passenger rail system is operational)

o Employ traffic calming measures and reduce speed limits for motorized vehicles

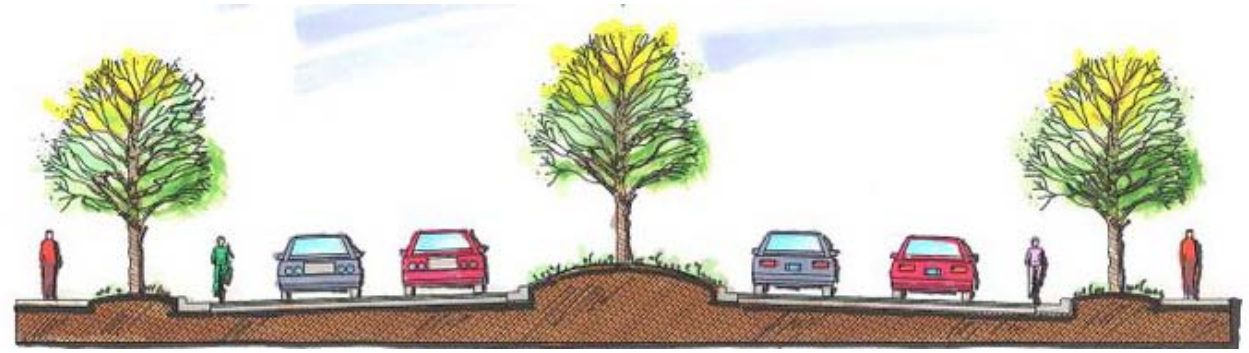
o Improve public transport, pedestrian, and bicycle infrastructure

o Enact parking restrictions including parking fees

o Incentivize the use of public transportation



Complete Streets



Taking an incremental approach, the streets in Tulsa outside of Car-Free Nodes should be transitioned and retrofitted to become “Complete Streets.” Certain streets would need to go on a “Road Diet,” and adequate accommodations for pedestrians and transit users must be incorporated, along with other traffic-calming measures as necessary for appropriate street design within the land use context.

Elements of Complete Streets Policies

Complete streets are designed and operated to enable safe access for all users. Pedestrians, bicyclists, motorists and transit riders of all ages and abilities must be able to safely move along and across a complete street. Creating complete streets means changing the policies and practices of transportation agencies.

A complete streets policy ensures that the entire right of way is routinely designed and operated to enable safe access for all users. Transportation agencies must ensure that all road projects result in a complete street appropriate to local context and needs.

A good complete streets policy:

Includes a vision for how and why the community wants to complete its streets.

Specifies that ‘all users’ includes pedestrians, bicyclists, and public transportation passengers of all ages and abilities, as well as trucks, buses, and automobiles.

Encourages street connectivity and aims to create a comprehensive, integrated, connected network for all modes.

Is adoptable by all agencies to cover all roads.

Applies to both new and retrofit projects, including design, planning, maintenance, and operations, for the entire right of way.

A complete street in 1908

Smart Development

Tulsa can begin reversing the trend that has led to long commutes, high rates of gasoline consumption, and miles of infrastructure to maintain by promoting and incentivizing mixed-use developments and infill and brownfield redevelopments. These developments typically have smaller overall land areas, higher densities, and existing infrastructure in place.

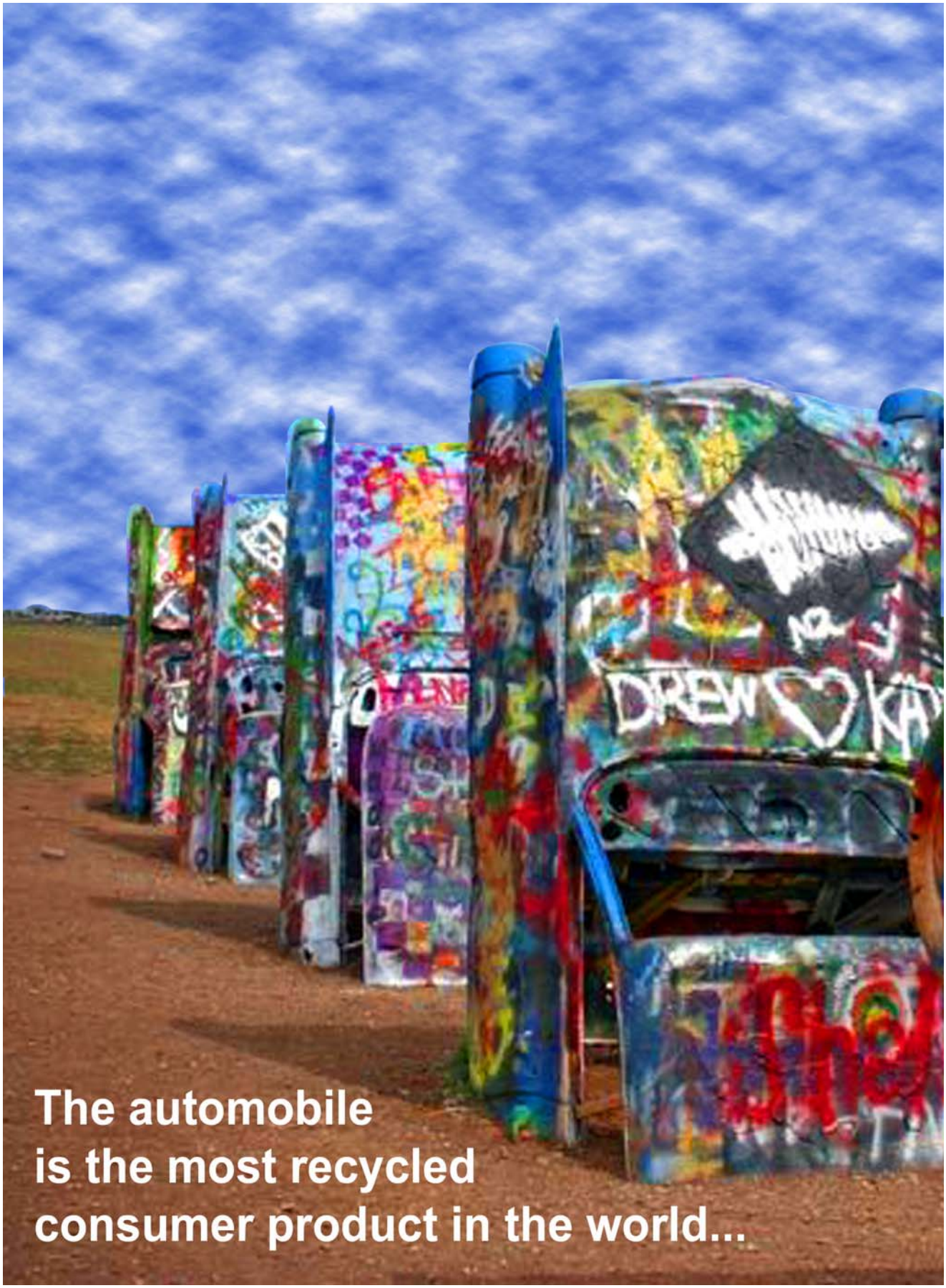
Addison a public/private partnershippublic/private partnership between the developer, the landowner, and the town of Addison. This community brought higher density to one of the most sprawling metroplexes in the nation. "Addison Circle has a sense of place and community rarely seen in typical new developments." (www.nctcog.org/trans/sustdev/landuse/examples/addison.asp)

Higher density development does not mean Tulsans have to sacrifice their favorite Big Box retailer or their love for shopping venues for options with limited stock selections. The names Tulsans have come to know and love are developing stores that are compatible with high Kohl's, and Pottery Barn all have stores with a more urban feel than a typical big box protoype. "National stores are now realizing the importance of place and have discovered the main-street retail district where as before their sights were set on large scale shopping malls and strip centers." (Suburban Nation pg 28) With the sense of place and community becoming more important and the cost of land and extending utilities increasing, developers have begun to realize that main-streets and urban centers may be worth their while. "When well designed and well managed,…mixed-use main-street retail is more profitable to own than the strip center or the shopping mall." (Suburban Nation pg 28)

Smith Farm Shopping Center
Owasso, OK

Smith Farm Shopping Center
Owasso, OK

Smith Farm Shopping Center
Owasso, OK



The automobile is the most recycled consumer product in the world...

Conclusions
The case for a car-free Tulsa

Changes like the one proposed in this study do not happen overnight. Entrenched attitudes, and the policies and development patterns they produced, did not occur in one or even ten years, and they will not go away with good intentions and a handful of zoning changes. Like any other societal change, minds must be changed before policies can be implemented that produce the intended results. By providing examples of what a car free Tulsa might look like, we hope that we have taken the first step along this path. We are offering a vision that offers an alternative to the automobile dominated landscape that rolled across the U.S. in the 20th Century. Ours is only one possibility. To get a glimpse of another scenario, one need only look out the window and image more of the same: More cars, more traffic, more roads, and less connected communities.

Government policy, which for the better part of the last 100 years has preferred automobile dependence, must also change: Housing bills which have historically encouraged the development of single-family detached dwellings, Transportation Bills devoting the vast majority of public tax dollars to building, repairing, and maintaining highways and underfunding public and other forms of transportation, and subsidies and government bailouts for oil and automobile industries. All of these things must fundamentally change to see real progress in terms of automobile independence.

At the time we write this, Chrysler has entered into bankruptcy protection, and speculation continues as to how long General Motors can maintain solvency, even with billions of dollars of direct federal aid, as it continues to sustain billions of dollars in quarterly losses due to declining sales. Toyota, now the world's largest automobile manufacturer, has announced its first annual net loss since 1950.

A barrel of crude oil achieved its highest price peak of $147.27 on July 11, 2008, and, in the midst of the Fall 2008 financial crises, tumbled to a low of $33.87 on December 21, 2008 (http://newsvote.bbc.co.uk/2/hi/business/7501939.stm). The prices have been increasing in the months since, and is currently trending towards $60.00 per barrel.

Tulsa area gasoline prices during the Summer of 2008 exceeded $4.00 per gallon, but fell to as low as $1.37 in early 2009. Currently, prices have exceeded $2.00 again in Tulsa, tracking with the fluctuations in the price of oil.

From the preceding facts and information, it is evident that our current low-density, sprawling development patterns are unsustainable and compromise our future prospects for national economic growth and prosperity. We must dramatically change our built environment and transportation systems to create sustainable, ecologically and fiscally responsible communities.

Conclusions
The case for a car-free Tulsa

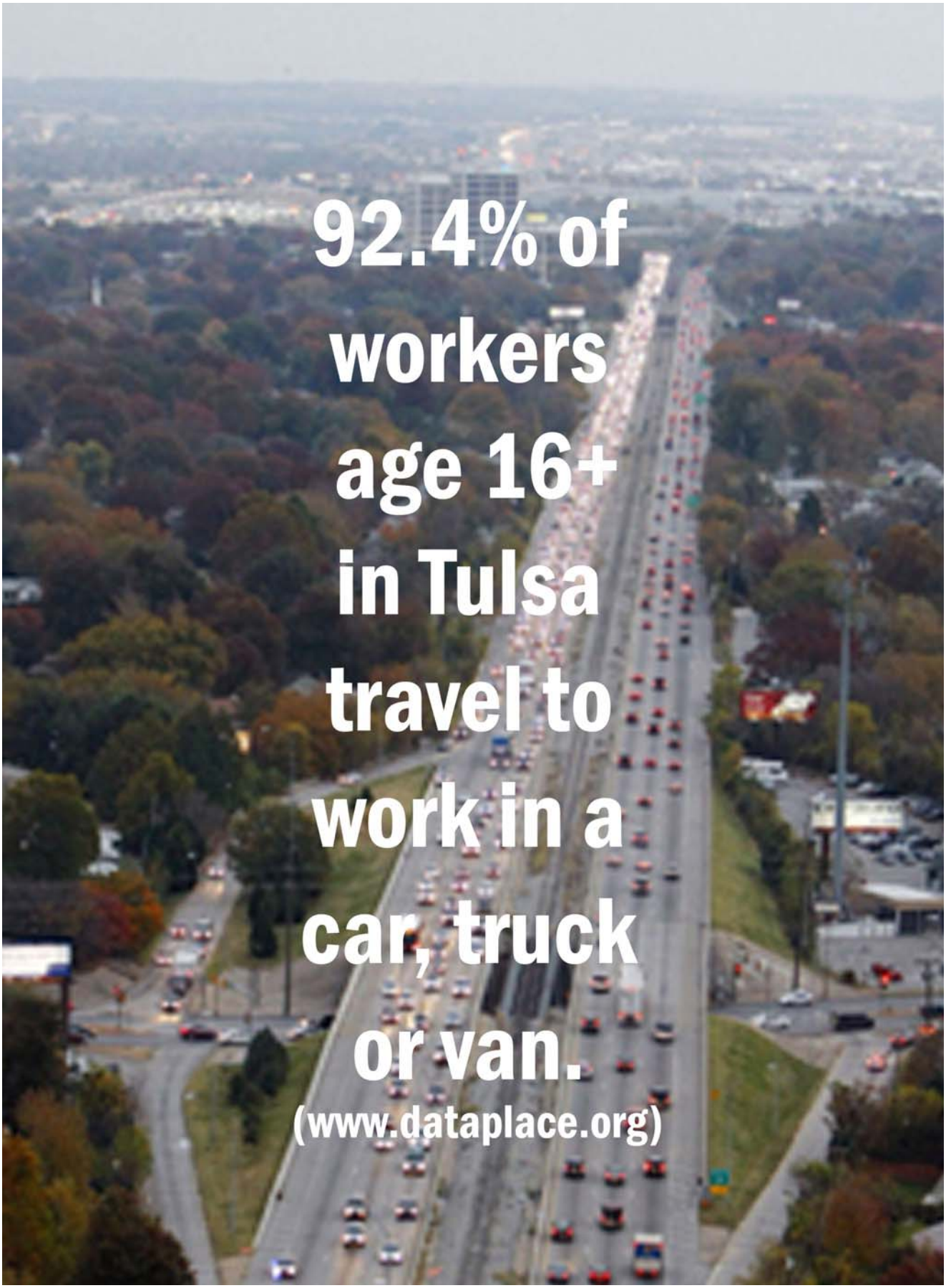
We conclude that the only comprehensive, entirely effective solution is to increase densities. When the built environment is sufficiently dense, automobiles are not only no longer required for mobility but their use becomes inconvenient. Public transportation, including light rail, streetcars, Bus Rapid Transit, and bicycles and walking and become viable options. The built environment becomes more sustainable, as infrastructure is much more efficient to built and maintain when its use is maximized by higher densities. Further, walking and bicycling have huge health benefits for those engaging in those modes of transportation.

As a strategy to achieve this goal, we recommend focusing on infill development (and redevelopment, as the case may be), and have generated some new tools which can be used to identify and prioritize redevelopment and infill development areas. To this end, we have created a citywide Vacant, Agricultural, and Underutlized Properties map, and two (2) maps identifying those single-family residential properties with the lowest values, (1) relative to house size and (2) relative to property size.

The reasoning for the vacant, agricultural, and underutilized classes of properties should be obvious: these properties are the easiest to develop, as they do not involve building demolition or the displacement of existing occupancies.

The single-family residential class of property was used as is that it is typically the most prevalent land use, most regular in terms of property sizes and existing infrastructure settings, and the least expensive to acquire for redevelopment purposes.

One thing has become clear through the course of this project: without exception, all of us have experienced a fundamental attitudinal shift in the way we look at our current land use and transportation systems. Gaining facts and perspective caused us to focus on the unintended negative consequences of an overwhelmingly automobile-dependent society has caused us to consider what we can do in our own personal lives, and as advocates for progressive change in our professional lives, to make Tulsa, as well as the world, more car-free.


92.4% of
workers
age 16+
in Tulsa
travel to
work in a
car, truck
or van.
(www.dataplace.org)

References

Page One
Route 66 Logo
http://www.cityoftulsa.org/OurCity/Vision2025/images/logo.jpg
Tulsa skyline photo from
http://images-2.redbubble.net/img/art/size:large/view:main/1643258-2-tulsa-skyline-alan-copson—2007.jpg

Page Five
Meals consumed factoid www.newsweek.com/id/35780

Page Six
Travel time to work factoid www.dataplace.org

Page Seven
Metro Diner Sign photo http://flickr.com/photos/44706351@N00/241933833
Tulsa Plymouth photo http://telstarlogistics.typepad.com/telstarlogistics/images/2007/06/04/tulsaplymouth01.jpg

Pages Eight to Twenty-one (Time Line)

All old photos of Tulsa http://www.berylfordcollection.com/
All maps from Oklahoma Department of Transportation, State Highway Map Archive
http://www.okladot.state.ok.us/p-r-div/maps/state/maps/index/htm
All house photos
http://wwwmlsfinder.com/ok_nores/kwtulsasouth/index.cfmction=refinesearch& searchkey=abdc766c-ef15-624b-1d5f-84dc26cod82c
All Tulsa data http://tulsahistory.org
1886 Karl Benz' gas-fueled car www.benainsider.com
1897 - Nellie Johnstone, Bartlesville, OK www.bartlesvillehistory.com
1919 Ford high body Model-T coupe – Retrieved from Image courtesy of the Ford archives
http://www.uh.edu/engines/epi1231.htm
1947 Levittown photo http://gallery.pictopia.com/newsday/photo/189822/
1956 Interstate Highway Act Photo www.tfhrc.gov/pubrds/summer96/p96su18.htm
1957 Chevy Photo www.crystalinks.com/1957.html
1960 OPEC Photo www.channelstv.com/newsdetails.php?news_id=8054

Page Twenty-two
Car Ergonomics Factoid: Evolving Man from 'Times On Line"
http://www.timesonline.co.uk/tol/driving/features/article559374.ece

Page Twenty-three
Ecology Center of Michigan, January 2006
Jane Holtz-Kay, Asphalt Nation, page 103

Page Twenty-four
"Walked to school factoid" from Radiant city [videorecording] / written & directed by Gary Burns & Jim Brown ; produced by Burns Films, Ltd. in co-operation with The National Film Board of Canada and in association with CBC television.

Page Twenty-five
1966 Tulsa City area factoid from - Tulsa City Council Report "Tulsa Streets"
http://www.tulsacouncil.org/pdfs/R&PD/other_reports&presentations/Streets/Streets%20Town%20Hall%20Presentation.pdf

Page Twenty-six
Downtown Tulsa main bus terminal from http://www.dart.org/riding/stations/akardstation.asp
Auto graveyard http://www.metrecycle.com/

References

Page Twenty-seven and Twenty-eight
Density photos from Visualizing Density by Julie Campoli (Author), Alex S. MacLean (Illustrator), Lincoln Institute of Land Policy; Pap/Cdr edition (January 30, 2007)

Page Twenty-nine
Downtown Tulsa main bus terminal from http://www.city-data.com/forum/tulsa/96550-various-tulsa-area-photos-3.html
People holding bikes photo from http://noveltimes.com/2007/10/21/critical-mass-budapest-style/

Page Thirty
"4,631 miles factoid" from http://www.flickr.com/photos/pixelpackr/188548725/ and
http://www.worldatlas.com/webimage/countrys/namerica/usstates/oklandst.htm
Highway image w/ 169 sign factoid from www.okhighways.com/090403/creekexit33b.JPG

Page Thirty-one
Downtown Tulsa main bus terminal http://www.city-data.com/forum/tulsa/96550-various-tulsa-area-photos-3.html
People holding bikes photo http://noveltimes.com/2007/10/21/critical-mass-budapest-style

Page Forty- six
Fatalities by Type factoid http://www.kidsandcars.org/

Page Forty- seven
60/400 factoid http://www.shorpy.com/node/4374

Page Forty- nine
Traffic calming art photohttp://sustainableflatbush.org/wp-content/uploads/2007/05/intersection_repair_13.jpg
Tribune Lofts photos http://thistulsa.com/2008/08/looking-to-downtown-tulsa-for-urban-living-options/
Urban Home Depot photo http://forum.skyscraperpage.com/showthread.php?t=143137&page=4

Page Fifty-two and Fifty-five
Density aerial photos
http://maps.live.com/

Page Sixty
Traffic calming
http://www.deldot.gov/information/projects/outstanding_projects/2001/images/traffic_calming_harmony_rd.jpg
Parking restriction sign http://www.fremontuniverse.com/images/rpz_sign.jpg
Lady on bike photo http://www.wired.com/images_blogs/autopia/images/2007/10/01/mass_transit.jpg

Page Sixty-one
Complete streets rendering from http://mikeontraffic.typepad.com/.a/6a00e54f0e5eb98834011278f9be7928a4-800wi
Text http://www.completestreets.org/
1908 complete street photo http://upload.wikimedia.org/wikipedia/commons/5/55/
CanalStBroadwayOfNOLAWestEndStreetcar800Block.jpg

Page Sixty-two
Suburban Target image http://smithfarm-owasso.com/images/gfk_sidebar_map.jpg
Addison Circle photo http://www.nctcog.org/.../examples/Addison%203.jpg
Urban Target imagehttp://www.newurbannews.com/images/TargetInsideOct05.jpg

Page Sixty-three
Factoid with Cadillac ranch image
http://blogs.motortrend.com/6245395/miscellaneous/cross-country-in-a-mini-route-66-history-along-the-way/index.html
Factoid with Cadillac ranch Information http://chevroncars.com

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