



Tulsa Comprehensive Plan

JULY 2010
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PLANiTULSA

OUR PLAN. OUR FUTURE.



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and the George Kaiser Family Foundation.

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Our Vision for Tulsa

July 2010



PLANitTULSA

OUR PLAN. OUR FUTURE



Introduction

Our Vision for Tulsa is the executive summary for the PLANiTULSA process to update the City's Comprehensive Plan. This document presents the long-term aspirations for how Tulsa will look, feel, and function. Our Vision for Tulsa serves as a guide to set planning goals and policies, and to measure their outcomes.

Thousands of Tulsans have helped create this vision for Tulsa's future with energy, enthusiasm and love for this special place. The plan is the culmination of two years of hard work and many conversations with Tulsa residents, all of whom chose to participate in shaping the future of our community. Tulsans worked with neighbors to take a look at our past, assess the present, and imagine the future.

There is much to celebrate about Tulsa, including a history of entrepreneurial spirit, trailblazing innovation, and wonderful communities and neighborhoods. Tulsans value natural resources, especially the Arkansas River, and wide open spaces such as Turkey Mountain Urban Wilderness Area. Tulsans also want the best for children, including world-class school systems, opportunities for advanced education and training, and a strong economy that helps families and all Tulsans. These and other key elements lie at the heart of what PLANiTULSA seeks to nurture and improve through this planning process.

This Vision and Plan arrive at a critical juncture in the city's history. They represent the persistent will and drive to reinvigorate downtown and the economy, to attract and retain young people and to provide them with opportunities to raise their families, and to connect our communities with diverse transportation options, through sound land use planning.

PLANiTULSA

Our Vision for Tulsa

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Matt Moffett

Our Vision for Tulsa is a major step forward in building a brighter future for the city. The PLANiTULSA team thanks the thousands of Tulsans who helped shape this document, and looks forward to working with you to make our vision a reality.

Executive Summary

Our Vision for Tulsa lays out concepts for how the City of Tulsa will look, function, and feel over the next 20 to 30 years. This vision is the guiding document for Tulsa's comprehensive plan update, PLANiTULSA, and describes the kinds of places, economy, housing and transportation choices, parks, and open spaces that the city's policies should be designed to create.

It is a product of unprecedented public engagement, developed with the guidance of thousands of Tulsans, stakeholders, City staff, and a volunteer Citizens' Team. Through this vision, Tulsans are setting our city on a new course.

With help from surveys, workshops, and growth and transportation scenarios, the shared vision for Tulsa's future is emerging. Five key themes have surfaced.

Tulsa should:

- Have a Vibrant & Dynamic Economy
- Attract & Retain Young People
- Provide Effective Transportation
- Provide Housing Choices
- Protect the Environment & Provide Sustainability

The Plan Chapters

Land Use

Tulsa's land use will be organized under five broad building blocks: downtown, corridors, new centers, new neighborhoods, and existing neighborhoods. New development efforts will focus on creating pedestrian-friendly, mixed-use places. Existing neighborhoods will be preserved and, where needed, revitalized.

Transportation

Tulsans will have a wide variety of transportation choices. The system will be designed to provide everyone a variety of modes to choose from, including driving, biking, or riding frequent and reliable bus or rail transit.

Economic Development

Economic development efforts will be coordinated to expand opportunity and improve Tulsans' quality of life. Efforts will include focusing on Tulsa's classic strengths, like aerospace, energy, and health care. Equally important, we will support new entrepreneurs who will grow the industries of the future.

Housing

Tulsa will provide a wide range of housing sizes, prices, and types. Home ownership options will include traditional urban and suburban homes, as well as new housing types like condos and lofts. There will also be increased demand for a variety of apartments located downtown, in new centers and along main streets.

Parks, Trails and Open Space

Most Tulsans will live within walking or biking distance of a neighborhood park or trail system. The PLANiTULSA plan will incorporate the city's Parks Master Plan of 2009. It will also address incorporating open spaces — waterways, floodplains and open space — into the city fabric, and how to continue being an innovator in storm water management practices.

Proposed Strategies

1. Revise the city's **zoning code** so that it is easier to use, explicitly allows a diverse range of mixed-use building types, allows innovative automobile parking solutions, and aligns development incentives with over arching planning goals.
2. Create a **redevelopment strategy** that broadens the range of housing options, creates new spaces for different types of employers, and makes efficient use of existing infrastructure. Such a strategy includes collaborative partnerships between the public and private sectors to ensure that vital areas of the city become more sustainable and socially and aesthetically vibrant.
3. Develop a new transportation strategy that focuses on mending and improving Tulsa's network connectivity and supporting land use and redevelopment strategies. This strategy includes making better use of advanced transportation modeling and information technologies to guide investments. It also includes realigning planning and infrastructure finance priorities and practices to fund desired improvements.
4. Build upon the tradition of **neighborhood and small area planning** in key areas to jump-start priority projects and initiatives.
5. Cooperate on developing several key **PLANiTULSA innovative building types as demonstration projects**.
6. Organize city planning and development functions to implement the vision. **Enhance coordination of long range planning, zoning administration, current planning, infrastructure, capital planning, community development and economic development functions** to move major projects and initiatives forward.

Guiding Principles

Capturing these hopes, dreams and aspirations for Tulsa's future is essential as we move forward in making our future vision a reality. The Citizens' Team, a diverse group of volunteers, developed the following guiding principles. These principles serve as the foundation for future planning efforts, and will ensure that the comprehensive plan remains consistent with the vision.

ECONOMY

- Downtown Tulsa should act as a thriving economic engine and cultural center for the entire region.
- Entrepreneurs, small businesses and large employers should find Tulsa an easy place to do business.
- Business owners are able to easily find adequate and attractive space for expanding businesses into downtown, along main streets, or in employment centers.
- The city invests in the critical infrastructure necessary to develop a robust and diversified economy.
- The city has the ability to monitor trends, spot key opportunities and meet challenges strategically.

TRANSPORTATION

- A variety of transportation options serve the city, so that all Tulsans can go where we need to go by driving if we want, but also by walking, biking or using public transit.
- The transit system is designed as a consumer good and attracts people without a vehicle, as well as people who have a vehicle and choose to use an alternative.
- Employment areas are accessible to services such as child care, grocery stores, restaurants, and other amenities.

COMMUNITY AND HOUSING

- Newcomers feel welcome to move to Tulsa, find a home and join the community.
- Future development protects historic buildings, neighborhoods and resources while enhancing urban areas and creating new mixed-use centers.
- Tulsa has pockets of density to provide for a more livable, pedestrian-friendly and cost-efficient community.
- Tulsa permits opportunities for a full range of housing types to fit every income, household and preference.
- The arts as well as cultural and historic resources are celebrated.

EQUITY AND OPPORTUNITY

- The disparity in life expectancy between areas of the city is eliminated by addressing access to services and public health issues.
- Tulsa is a cohesive city where we have the ability to create safe, healthy lives for ourselves and our families.
- Tulsa's civic, business and government institutions ensure that everyone has equal opportunity and access to housing, employment, transportation, education and health care, regardless of background, ethnicity, or neighborhood.
- Schools are safe, easy to walk to, and part of a world-class education system.

ENVIRONMENT

- Tulsa becomes a leader in sustainability and efficiency.
- Residents have easy access to parks and natural areas.
- City parks provide open space, available to each neighborhood, with access to fields, natural areas and greenways for outdoor relaxation and recreation.
- New buildings meet high standards for energy and water efficiency and deliver high quality spaces and architectural design.

PLANNING PROCESS

- City planning and decision-making is an inclusive and transparent process.
- Once adopted, city-wide and neighborhood plans are funded, implemented and monitored for performance.
- Development and zoning policies are easily understood, workable and result in predictable development.
- Residents have a voice in solving their community's problems today and are a part of planning for tomorrow.

PLANiTULSA

Our Vision for Tulsa

Our Vision for Tulsa is one piece of the Comprehensive Plan that is being developed for the city through the PLANiTULSA process. The vision lays out the concepts for how a community will grow, how it will adapt to changes, which parts should be preserved, and how it will look and feel in the next several decades.

PLANiTULSA, Tulsa's comprehensive plan update process, has been the work of several thousand people who love and care about our community. Their input has been gathered in public workshops, in stakeholder interviews, and through public surveys.

As a result, this vision document reflects the voice of Tulsans and will serve to guide the next steps — creating a comprehensive plan and implementation strategy.

THANK YOU VOLUNTEERS AND PARTICIPANTS

While thousands of Tulsans have contributed to PLANiTULSA, a volunteer Citizens' Team has worked closely with City of Tulsa staff, community members, stakeholders, and the consulting team to guide the process. Citizens' Team members have spent many days reviewing analysis and findings, developing the Guiding Principles, shaping the workshop process, providing input on the scenarios, and representing Tulsa's diverse communities. Much of PLANiTULSA's success is owed to these leaders, who will continue to help shape the vision, the plan's policies, and implementation steps.



Citizens' Team members, Mayor Kathy Taylor, and city staff standing on the hundreds of maps created by the public at workshops throughout the city. These maps were vital to the creation of *Our Vision* (July 2009).



PLANiTULSA IS TULSA'S COMPREHENSIVE PLAN UPDATE PROCESS.

To determine what Tulsans want for the city's future, PLANiTULSA gathered public input in workshops, in interviews with key groups, and in surveys. We want:

- A vibrant and dynamic economy
- The ability to attract and retain young people
- An effective transportation system
- A range of housing choices
- Emphasis on preserving the environment and increasing sustainability
- A commitment to transparent, equitable decision-making



Workshop participants discussing their ideas for housing and employment locations and transportation options.



Linda Allen

What does Tulsa want for its future?

A great city doesn't just happen ... it requires considerable time, discussion, citizen participation, leadership and creativity. There are times in every great city's history that are particularly pivotal, where forward-thinking decisions play a critical role in the city's future success. Now is such a time for Tulsa.

Overall, Tulsans are looking for change — in the form of revitalization, expanded housing choices, a diverse and strong economy, and more choices in how to get around town. But we also want stability in certain key areas, such as in protecting and enhancing our existing neighborhoods. And we want Tulsa to be the kind of city where young people can get a great education, build a career and raise a family. We expect that decisions will be made openly and fairly, and we are committed to maintaining a healthy environment.

Input for Our Vision

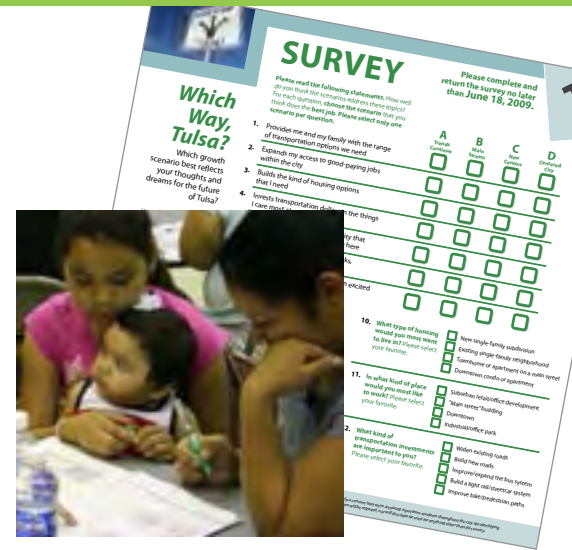
In May and June, Tulsans were asked to give feedback on their favorite aspects of the four growth and transportation scenarios. These were based on public workshop and other forms of input gathered during the PLANiTULSA process. Each scenario showed an alternative future for Tulsa by varying different factors related to economic development, planning, transportation, infrastructure and other policy decisions.

PLANiTULSA received more than 5,500 responses to a city-wide survey that asked Tulsans to give feedback on their favorite aspects of the four scenarios. The purpose of the survey was not to choose a “winner”, but to get a sense of Tulsans’ broad preferences for how the city should look and feel in the future. There was substantial support for Centered City, which envisions restoring downtown as the region’s center of housing and employment. At the same time, New Centers was also popular, with its focus on complete communities of single-family homes in proximity to neighborhood centers with shopping and community amenities. Finally, Tulsans were supportive of Main Streets, and a renewed emphasis on making the city’s corridors more pedestrian-friendly, transit-friendly, and livable.

Strong support for new possibilities — instead of continuing with current trends — indicates a strong desire by Tulsans to change direction. The survey results showed that while Tulsans continue to want a strong downtown and revitalized main streets, we also cherish the communities we already have. Over half of survey respondents would choose to live in an existing neighborhood rather than downtown or along a main street.

The vision is designed to reflect these diverse values and preferences, and accounts for the best aspects of the most popular scenarios: revitalizing downtown, reinvesting in Tulsa’s corridors, preserving existing communities and building new neighborhoods and centers.

Survey results and the original transportation and land use scenarios are available at: WWW.PLANITULSA.ORG



POSSIBLE FUTURES

Four different land-use and transportation scenarios were presented to Tulsans in the spring of 2009. They each represented a different kind of future.

A. TRENDS CONTINUE

Depicted the continuation of current growth and development trends, placing many new homes outside the city and a diminished role for downtown.

B. MAIN STREETS

Placed new growth along the city’s existing corridors and downtown, creating a city of more vibrant main streets.

C. NEW CENTERS

Placed new growth in new complete communities and neighborhoods on vacant land inside the city.

D. CENTERED CITY

Concentrated growth in and around downtown and along the city’s inner corridors.



Linda Allen



Otie

Arts and entertainment are key to attracting and retaining young people.



Cain's Ballroom is a historic and nationally known performance venue.

The “New” Tulsa will:

Have a Vibrant and Dynamic Economy

The city's engine is a robust and dynamic economy that creates wealth, spurs innovation, and grows employment. Tulsans envision a city that creates additional opportunities for an entrepreneur to open a business, makes it easier for an owner to get a building permit, and provides many transportation options for an employee to commute to work. It will be crucial for the city to continue to nurture and support key industries such as energy, aviation, and health care that will continue to attract workers and their families. The city has a history of leadership and innovation; Tulsans are eager to build on that history to become an energy and sustainability powerhouse.

Attract and Retain Young People

The city's future lies with younger generations, whether they are from Tulsa or other parts of the country or the world. Tulsans envision a city where young people can get an excellent education and training, build a career, have a home, and have plenty of entertainment options. Universities and higher educational institutions attract young people, but it is how well a city welcomes and provides them with a stimulating environment and economic opportunities that determines whether they stay. Tulsa's history as a music and performance mecca is a tremendous asset, and the outdoor amenities also are vital. A creative Tulsa, where young people can get a start, take chances, and contribute to the community is vastly appealing to younger residents.

Provide Effective Transportation

Tulsans recognize that great cities also need great transportation systems that provide a range of travel choices and make the most of their investments. Tulsa's strategy in the past has been to build primarily for cars. The legacy of this approach is significant capacity for automobile travel, but at the expense of those who are unable to drive, or who would like better options for transit, biking, and walking. Tulsans are ready to make a change, and use some of that capacity to expand options. We are also ready to use modes like frequent bus service, rail transit and streetcars. We also want to expand and make better use of our bike facilities and pedestrian networks to connect our city.

Provide Housing Choices

Some of Tulsa's greatest assets are its single-family neighborhoods, which have provided affordable homes for most of the city's history. Some neighborhoods have homes that need repair. The city is committed to help support and rebuild them in cooperation with owners and the community. Tulsans also recognize, however, that one size does not fit all, and that condominiums, apartments, town homes, live-work lofts, and mixed-use communities will expand the range of options for current and future residents. Mixed-use communities include homes within walking distance of shops and apartments and condos above storefronts — reminiscent of the way Tulsa's main streets and inner neighborhoods originally developed. Mixed-use communities support walking, biking, and transit, and provide housing choices for young, old, and everyone in between. Downtown Tulsa should have a variety of housing for people who are more interested in a dense urban environment.

Protect the Environment and Provide Sustainability

Tulsans envision a city that is committed to and leads in sustainability measures including: great walking, biking, and transit access as alternatives to driving, high-efficiency building practices, and the smart use of land. In turn, Tulsans recognize our great natural assets, including Mohawk Park, the Arkansas River, Turkey Mountain Urban Wilderness Area, and more than 280 miles of trails. We want to preserve those assets for our children, and where possible, bring nature and parks into the city for everyone to enjoy.

Support Education and Learning

Tulsans want to encourage healthy lifestyles for our children and families, in a city that is conducive to learning, with clean air and water; safe routes to schools for walking and biking; parks and open spaces for recreation; access to grocery stores with healthy food choices; high quality public libraries; and cultural resources and museums. Tulsans also want thriving post-secondary educational opportunities, including community colleges, vocational and technical training centers, colleges and universities. Educational facilities require a high level of support from public and private partnerships. The City of Tulsa partners with educational institutions at all levels, including Tulsa's three independent public school districts (Tulsa, Jenks, and Union) to plan and develop local improvements such as sidewalks, streets and crossings, and public transportation. Just as schools are included in planning decisions for residential and business development, they should also be included and considered when parks, libraries and other amenities are affected.



Our Vision for Tulsa recognizes the need for an expanded range of housing options, like apartments and condos - as well as maintenance and revitalization of existing neighborhoods.



Recreational assets like the River Parks trail should be preserved, well-maintained and expanded.

The Tulsa Vision Map

The vision map is an illustration of Tulsa's future, as shaped by PLANiTULSA participants and stakeholders. This map depicts how various key elements — such as future growth, reinvestment along corridors, new centers and neighborhoods, and a revitalized and vibrant downtown — will function.

This map is a **conceptual document**, with no force of law or regulatory function. Instead, it provides ideas, direction and focus for crafting the city's land-use program, the comprehensive plan, and transportation maps, and ultimately the zoning code to implement them.

This map is the starting point for a discussion about developing the comprehensive plan and the policy and implementation steps that will be needed.











Mapping Tulsa in a New Direction

Part of the process for shaping Tulsa's new direction is to create a map to point the way. Using the guiding principles, workshop, and scenario survey input, PLANiTULSA developed this vision map. It depicts Tulsa's land use and transportation future. Additional maps will be created as the new comprehensive plan is drafted.













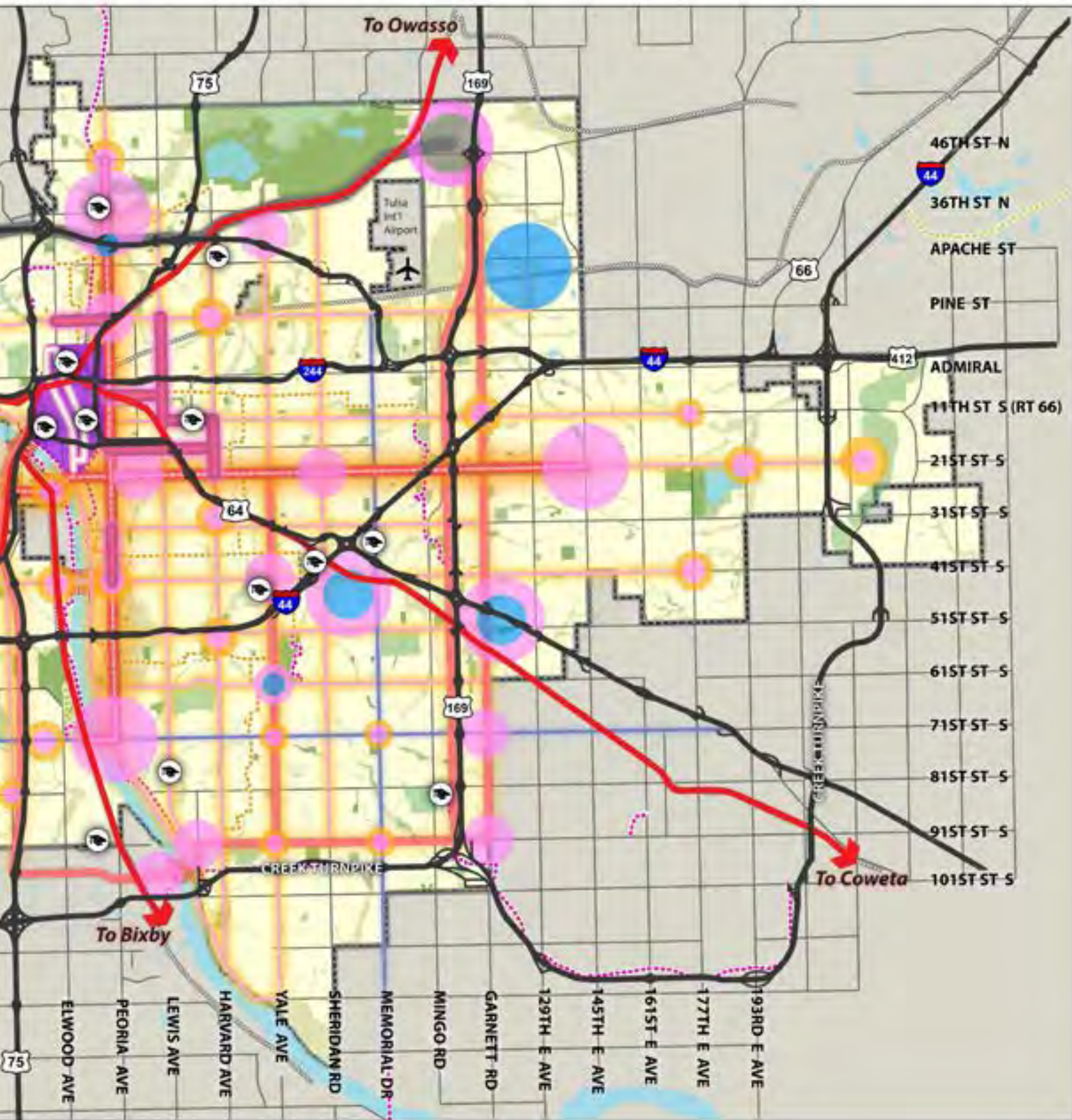
Vision - Legend

LAND USE

-  Downtown
-  New Center
-  Employment-focused Center
-  Employment Center
-  Neighborhood Center
-  Intermodal Hub
-  Educational Institutions
-  Parks
-  Open Space
-  Floodplain

TRANSPORTATION

-  Rail Transit
-  Streetcar
-  Frequent Bus
-  Bus Rapid Transit
-  Multi-Modal Corridors
-  Main Street
-  Commuter Corridor
-  Multi-Modal Bridge
-  Freight Corridor
-  Existing/Planned Expressways



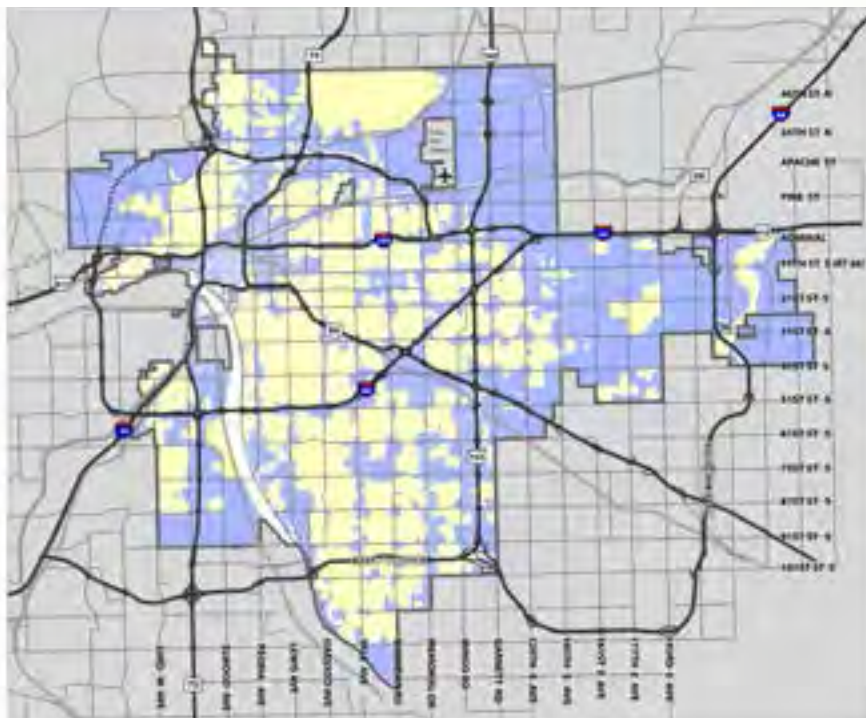
KEY CONCEPTS FOR STABILITY AND GROWTH

- Growth should be directed to places that will benefit from an infusion of population, activity and investment (Areas of Growth)
- Character preservation, reinvestment and limited growth are the primary concerns for stable residential neighborhoods (Areas of Stability)
- When growth occurs in stable residential areas it should be focused in centers, in activity nodes and near transit routes
- Regulations should encourage development, yet maintain standards for appropriately located density and urban design
- Public infrastructure investments will improve the physical environment of the City and stimulate private investment
- Growth in Areas of Growth connects residents to transit, jobs and centers of activity, and increases housing and employment

Areas of Stability and Growth

Tulsans have expressed a desire for change; they also want to preserve and enhance the best aspects of their city. This map is a conceptual illustration of which parts of the city are likely to change and remain the same over the life of the plan. A more detailed and comprehensive map will be developed as part of the Policy Plan document.

The city's primary areas of stability are existing single-family neighborhoods, which are the heart of the Tulsa community. Areas of growth are likely to be under-used land along corridors and downtown and undeveloped land. Care must be taken to ensure that reinvestment is well-integrated with existing neighborhoods. Undeveloped land at the edges of the city should be planned for complete communities that balance homes, jobs, and amenities.



Areas of Stability and Growth

- Area of Stability
- Area of Growth

Our Vision and the New Comprehensive Plan

This vision guides the creation and implementation of the comprehensive plan and the strategic implementation steps. The city's current plan, which functions as a blueprint for the city, was written in 1978. While it has been frequently updated and amended, it is inadequate for the future Tulsans have envisioned.

Each chapter of the new comprehensive plan will cover broad functional aspects of the city. While separated for organizational purposes, each chapter is linked to support the policies of others. For example, goals and policies in the transportation chapter are coordinated with land use, so parcels around a light rail station are zoned for housing, jobs, and amenities.

The following pages outline each chapter of the plan:

Land Use
Transportation
Economic Development
Housing
Parks, Trails and Open Space

Beryl Ford Collection



A view of the Tulsa skyline from 1972. Tulsa has changed dramatically since the 1970's.



DOWNTOWN TULSA MASTER PLAN

Detailed planning concepts for downtown Tulsa have been developed on a parallel track with the PLANiTULSA process. The 2009 draft Downtown Tulsa Master Plan, pending adoption by the TMAPC, will serve as a small area plan for the city.

The PLANiTULSA plan will not invalidate existing plans in the City. The plan will guide future efforts and decisions, be they new initiatives or updates, to these existing plans over time.

LAND USE BUILDING BLOCKS

DOWNTOWN



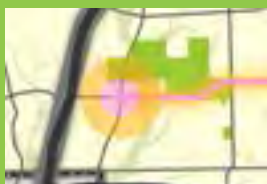
CORRIDORS



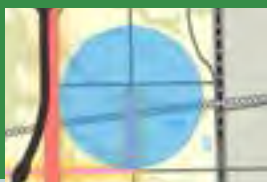
NEW CENTERS



NEIGHBORHOODS



EMPLOYMENT



Plan Chapter Land Use

Tulsa's future land uses are broadly organized under five main building blocks. Building blocks are a combination of land uses, urban design concepts, and transportation elements that provide a more complete description of city environments than typical zoning-based land use plans. They are the basis of Tulsa's land use categories and are used in the vision to describe the kinds of places Tulsa will feature in the future. They will cover a range of places, from the central business district and Brady Village downtown, to new neighborhoods with grocery stores and other shops in east and west Tulsa. The five building blocks include:

Downtown
Corridors
New Centers
New & Existing Neighborhoods
Employment

How We Get There

Tulsa will implement the new vision employing the Strategic Plan. Several of the key land use recommendations include:

- **Revising** Tulsa's zoning and subdivision codes.
- **Conducting** neighborhood and small area planning in targeted areas.
- **Creating** a viable redevelopment strategy.
- **Initiating and completing** several PLANiTULSA prototype buildings as demonstration projects.

Downtown

Downtown Tulsa will be the place to see a concert, go shopping, or have a night out on the town. A lot of people also will work downtown, where plentiful office space and a great transit system will make it easy for employers to serve their clients, attract great talent, and serve residents and visitors.

Adjacent to the central business district, the Brady Village will provide flexible work spaces and loft housing. The University of Tulsa, Oklahoma State University-Tulsa, and Langston University will be connected to downtown via streetcar, making it easy for students to get downtown for internships and on-the-job training. Tulsa Community College Metro Campus downtown will be easily accessible from around the city. The OSU-Langston University village, just north of downtown will thrive as a student housing center, with mixed-use apartments, shops and great night life.

Downtown also will be a popular place to live. Newly developed housing will consist mostly of high density condominiums and apartments, often with pocket parks, fountains and plazas nearby. Some of downtown's buildings, including historic Art Deco structures, will be restored as condominiums. People living downtown will add to the street life and support a robust restaurant scene. Shoppers and visitors from the suburbs will come downtown and spend a day enjoying downtown's parks and fountains, as well as shopping.

It will be easy to get downtown by car or transit. For those who drive, it will be a simple matter to park in one of the many garages and then walk or take the streetcar to various destinations. Commuters from outlying neighborhoods will easily reach downtown via bus, bike, foot, rail or car. Downtown will be the city's main transit hub, where high-frequency bus and rail transit converge.

VISUALIZATION OF BOULDER AVENUE



Before



After

Downtown has many opportunities to develop additional housing, employment, and amenities on vacant lots or surface parking lots. Additional transit options will help tie downtown to the rest of the city.



Restaurants and cafes are destinations for visitors as well as people who live and work downtown.

VISUALIZATION OF PINE AND PEORIA



Before



After

Buildings in transit-oriented areas along major arterials will be built up to the sidewalk and generally range from one- to five-stories in height.



Corridors are pairings of land use and transportation.

Corridors

Corridors will stitch the city together, and they serve as both travel routes and destinations. They will serve local and regional traffic, but they will also be places with jobs, housing and shopping amenities. Tulsa's corridors will be divided into two main categories: **high-capacity arterial streets** that support several travel methods such as cars, bikes and transit, and lower-volume **main streets** that serve neighbors and visitors alike.

Major Arterials

Major arterial streets with a variety of transportation options will be the backbone of Tulsa's transportation system. While the majority of people will still travel by car, some arterials will have dedicated lanes for buses, as well as for bicycles. The urban design within arterials should be comfortable for pedestrians, and the infrastructure will include sidewalks, street trees, crosswalks and on-street parking.

The types of land uses along these arterials will vary. High-speed and high-volume arterials usually attract only auto-oriented businesses such as big-box stores, gas stations, and drive-through restaurants. These types of uses, which dominate many of Tulsa's arterials today, will remain a part of Tulsa's urban fabric in the future. However, smaller-scale businesses tend to thrive in more pedestrian-oriented shopping districts. These areas typically will have wider sidewalks, street trees, and parallel parking to provide some separation between traffic and the pedestrian.

Pedestrian improvements are especially important at light rail stations and other major transit centers, where higher-density employment, mixed-use housing, retail, services, and other uses are clustered together. These areas will be carefully selected to maximize benefits to the transit system and the surrounding neighborhoods. A good example of such an area is a large hospital campus, which may have higher density housing nearby for employees and some retail shops. Buildings in transit-oriented areas are typically built up to the sidewalk and generally range from one- to five-stories in height.

Main Streets

Main streets represent some of Tulsa’s most interesting and lively streetscapes today, and will continue in the future. They will serve surrounding neighborhoods, and also will attract visitors to cafes, shops and eateries — lending each main street its own unique flavor and vibe. Traffic travels slower on main streets than on arterials, and they will have fewer lanes. It will be easy to park once on the street or in a shared parking lot, then walk to destinations. The walking environment will be pleasant, with wide sidewalks, street trees, benches, and other pedestrian amenities.

In older parts of the city, main streets will serve as linear neighborhood centers, where grocery stores, restaurants, and other local-serving businesses are located. Because they also tend to specialize in different types of businesses, such as dining, galleries, or apparel, they will continue to attract visitors from around the region.

Buildings along main streets will typically be built up to the sidewalk, and generally range from one- to three-stories in height, but can be taller, depending on the urban design plans for an area.



Lively sidewalk cafes are an essential part of any thriving main street.

CORRIDORS AND EXISTING NEIGHBORHOODS

Regardless of type, most of Tulsa’s corridors have existing single-family neighborhoods close by, so the heights of buildings and kinds of activities in them must be carefully considered. The overarching goal of corridors within the PLANiTULSA vision is to make the most of the city’s transportation facilities while preserving and enhancing surrounding communities.

Daniel Jeffries



Shops along Greenwood Avenue provide examples for how new main street areas in Tulsa could look.



The Brookside area is an important main street area, serving both the neighborhood and visitors from around the region.

EXAMPLES OF POSSIBLE CORRIDOR REDEVELOPMENT



New centers will arrange jobs, housing, and amenities so it is easy to walk from one to the other.



Employment centers could include hospital campuses or large office complexes with consolidated parking areas and access to transit.

New Centers

While Tulsa's downtown will be a primary housing and employment center of the city and the region, new centers will develop as additional employment, shopping, and entertainment clusters.

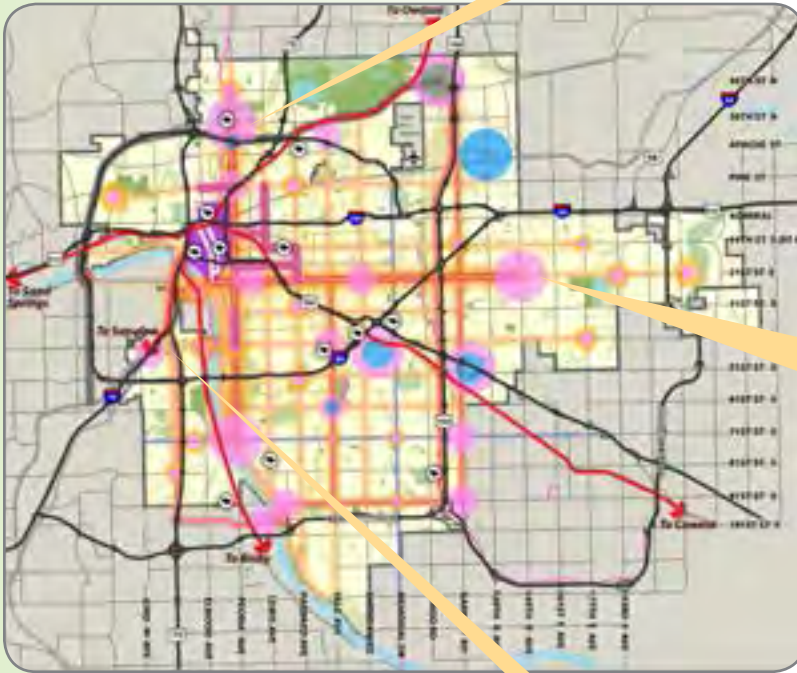
Tulsa's new centers will be designed to provide people with access to many goods and services in a relatively small area, which will make it easier to make just one trip. They also will be designed to support the regional and local transportation systems, since people can drive, take transit, walk or bike where they need to go.

Tulsa's new centers will include a range of different uses, from large-scale office, medical or other employment clusters, to regional retail, entertainment and recreational facilities. They will be served by frequent bus or light rail transit and include shared parking facilities for those who drive. As primarily pedestrian-oriented places, they will be designed with paths and connections that make it easy to walk and bike. New centers will feature plazas and parks, as well as retail shops and services so people can run errands without having to drive elsewhere. Where appropriate, some new centers will include mixed-use housing of moderately high densities.

Places such as hospitals, office buildings, and other enterprises with many people in one place will be a natural fit for pedestrian-friendly, mixed-use centers. Warehousing, transportation businesses, and large-scale manufacturers may not be as well suited to these areas due to their unique transportation and floorspace needs. Those employment uses will be addressed separately in the comprehensive plan.

EVOLUTION OF CENTERS

3 POTENTIAL NEW CENTERS



Northland: The Northland area is located at 36th Street North and Peoria Avenue. Nearby is the Tulsa Technology Center, Hawthorne Elementary School, and Northland Center, one of Tulsa's original shopping malls. Under the vision, this area will be better served by frequent transit services in both directions on Peoria and to downtown. It will accommodate additional mixed-use housing, retail, and services along 36th Street North and Peoria to support activities at the new University of Oklahoma-Tulsa Specialty Clinic. The Comanche Apartments could be redeveloped with a well-connected street pattern, a neighborhood park and a mix of single-family homes and apartments and condominiums. The area's schools, Walt Whitman and Hawthorne Elementary, will be better integrated with the neighborhoods, allowing students to walk or bike to school.

Eastgate Metroplex: The Eastgate Metroplex, at East 21st Street and South 145th East Avenue, currently is an employment center, having been converted from a retail shopping mall. Under the vision, this area will continue to develop as an employment center and will be enhanced with transit service to downtown and neighborhoods in between. Retail, grocery and other services will be added to the office and other employment uses, transforming the area into a mixed-use center. Surrounding vacant land will provide space to develop new homes in a compact, pedestrian-friendly community that is predominantly single family, but also includes some townhomes, apartments and condos. These new neighborhoods will expand the range of transit-accessible housing options for people who work in the area, or along Garnett Road or East 21st Street.

EASTGATE METROPLEX FUTURE VISION



Under the vision, this area will continue to develop as an employment center and will be enhanced with retail, amenities, and transit service to downtown.

Southwest Tulsa: The Southwest Tulsa area is centered near the intersection of Southwest Boulevard and West 41st Street, on the west side of the Arkansas River. This area includes RedFork Main Street, Tulsa's first participant in the national Main Street Program. The community is rich in local history and was the focus of planning and revitalization efforts before the PLANiTULSA process. The focus of this area will be to accommodate new development and some infill housing while maintaining the character of the neighborhood. Under the vision this neighborhood will evolve around its historic main street along the northern stretch of Southwest Boulevard and West 41st Street. It boasts many opportunities for reinvestment and small-scale infill development that will complement historic structures. The surrounding neighborhoods would be enhanced with bike routes and pedestrian improvements.



New residential neighborhoods will consist mostly of single-family homes.



The Village at Central Park is an example of how new neighborhoods can provide a range of housing options.

New Residential Neighborhoods

New neighborhoods will combine the best aspects of Tulsa's single-family neighborhoods — spacious, quiet and affordable — with nearby retail and services, accessibility to jobs and a range of housing types from which to choose.

In keeping with Tulsa's tradition of single-family neighborhoods, new neighborhoods will mostly consist of individual homes. These areas also will include some townhomes and two- or three-story condominiums or apartments with some shops, services and a central park or green nearby. Small-scale apartments or condos can be designed to blend in with single-family neighborhoods or along their edges. Churches and schools will continue to be important parts of Tulsa's community and culture, and new neighborhoods will be designed so residents can easily reach them on foot, by bike or car.

The key aspect of a new neighborhood will be accessibility, both within the community and to the city's overall transportation network. Streets will not necessarily have to be laid out on a grid, but should provide a variety of routes and include bike lanes and sidewalks. Connectivity will be important to prevent local traffic from overwhelming nearby streets.

New neighborhoods will usually be organized around a town center where grocery stores, retail shops, and services are located within a short walking or driving distance. Civic spaces such as parks, plazas and squares can also be included. These areas are served by frequent bus or rail transit, making it easy to stop at the store on the way home.

Existing Residential Neighborhoods

Tulsa's original single-family neighborhoods will continue to be among its most vital assets. They will be preserved in this new vision, and where needed, revitalized. New infill development will create a sense of place by encouraging development of buildings, structures and landscapes that are in harmony with the character of the neighborhoods and are appropriate to the context of the location in form, rhythm, scale and proportion.

Nearby main streets and major arterial streets will be enhanced with sidewalks, bike lanes and better transit service. These corridors will also provide shops, restaurants and other amenities within walking distance of homes.

In areas of historically significant — but underserved — neighborhoods, there will be reinvestment and improvements. The city's reinvestment programs will help homeowners improve houses and apartment buildings by providing funds or assistance to upgrade windows, install additional insulation and make other repairs. Parks, schools and churches will continue to be important community assets, and will be protected and maintained. With walking and biking investments and improved neighborhood and school design, school-aged children will be able to walk to and from school, as they did for much of Tulsa's history.

Employment

Employment areas contain office, warehousing, light manufacturing and high tech uses such as clean manufacturing or information technology. Sometimes big-box retail or warehouse retail clubs are found in these areas. These areas are distinguished from mixed-use centers in that they have few residences and typically have more extensive commercial activity.

Employment areas require access to major arterials or interstates. Those areas, with manufacturing and warehousing uses must be able to accommodate extensive truck traffic, and rail in some instances. Due to the special transportation requirements of these districts, attention to design, screening and open space buffering is necessary when employment districts are near other districts that include moderate residential use.



Building blocks include existing neighborhoods, which are some of Tulsa's most treasured assets.



The city will direct reinvestment programs to assist homeowners in repairing their homes.

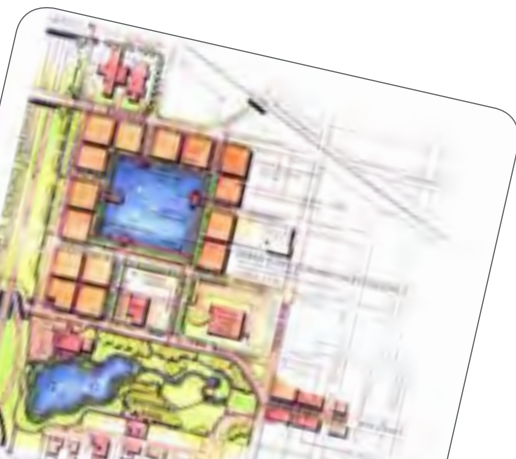


Improvements to existing neighborhoods will include sidewalk and bike route improvements to better connect them with main streets and corridors.



U.S. Green Building Council

Tulsa already has examples of new high-efficiency buildings, which will serve as valuable models for future development.



Development in Tulsa's Pearl District may include stormwater management systems that also serve as water features.

Sustainability and Design

In addition to the look, function and feel of Tulsa, the Land Use Chapter also addresses energy efficiency, design and the future urbanization of the city.

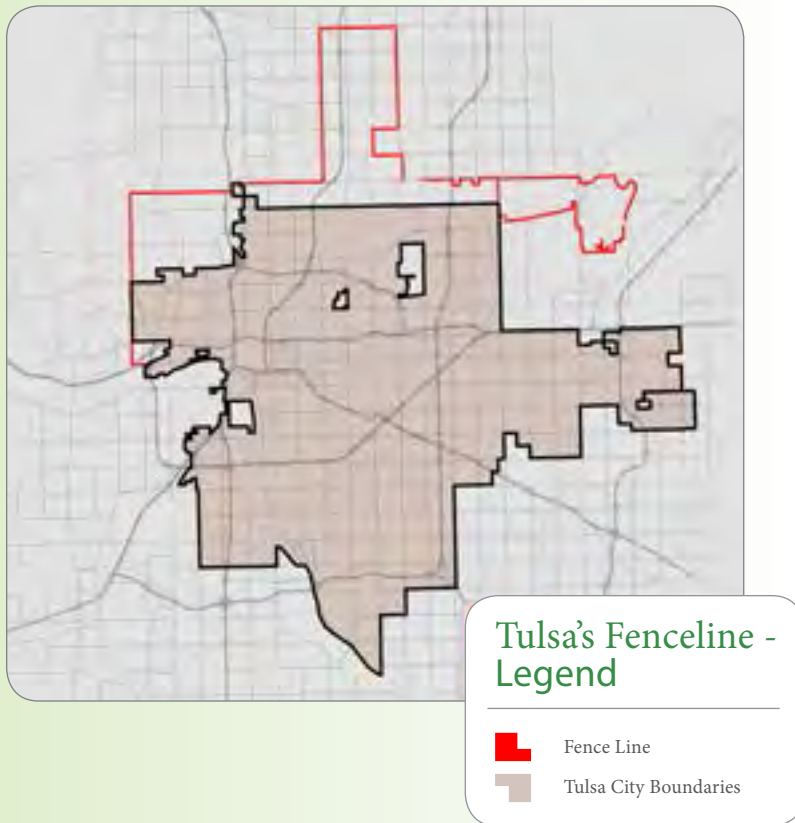
Efficient Building Design

New buildings in Tulsa will be designed to be more energy efficient and have a lighter touch on the environment than those of today. Buildings should be designed with Tulsa's climate in mind, to make use of passive solar heating during the winter, energy-efficient cooling in the summer, and efficient lighting year-round. Many new homes should include sustainable features, such as solar water heaters, non-toxic building materials, and solar energy systems, where applicable. This approach to energy savings and design will help create buildings that are less costly to maintain.

New Neighborhood and Center Design

Tulsa should ensure that new places — neighborhoods or employment areas — also are designed with sustainability in mind. Good street connections, with sidewalks, bike facilities, and other transportation options will be encouraged. Transit centers are near the core of each center, thus connecting them to the rest of the city. New and existing neighborhoods may also benefit from innovations in local- and district-wide energy systems that use geothermal, biomass, or other sources.

Growth and development strategies that embrace sustainable practices will yield financial benefits as well. Well built compact communities will be more fiscally sustainable by reducing maintenance costs and reducing waste over the long term.



Urbanization and Annexation

Unlike many cities that are not constrained by available land, Tulsa will be dedicated to making the most of each new neighborhood and center before expanding the urban realm. The city has about 31,000 acres of vacant land already within its boundaries. The Tulsa Metropolitan Utility Authority is charged with the management and planning of urban services, and analyzes the costs and benefits of service extensions and annexations. This rigorous process will be continued.

New urban areas should provide an adequate and diverse supply of housing types, convenient retail, services, and employment areas, and seamless connections, including bicycle paths and transit options, with the city's transportation network.

Tulsa should regularly monitor its need for employment and housing, ensuring that new land is annexed in an orderly manner. While this sometimes can be a contentious process, it is important to make the most of public dollars and to ensure that new annexations serve the city effectively. Through new policies, the city should develop and implement a clear and predictable process to bring new areas into the urban fabric.



ANNEXING NEW LAND

In 1966, the city of Tulsa began to annex a "fence line" — a strip of land about 100 feet wide — that extends from the city limits into unincorporated areas. Technically, the fence line is a ribbon of incorporated land and currently encompasses about 20,000 acres. It is a form of reserve for future growth, and prevents annexation by other cities.

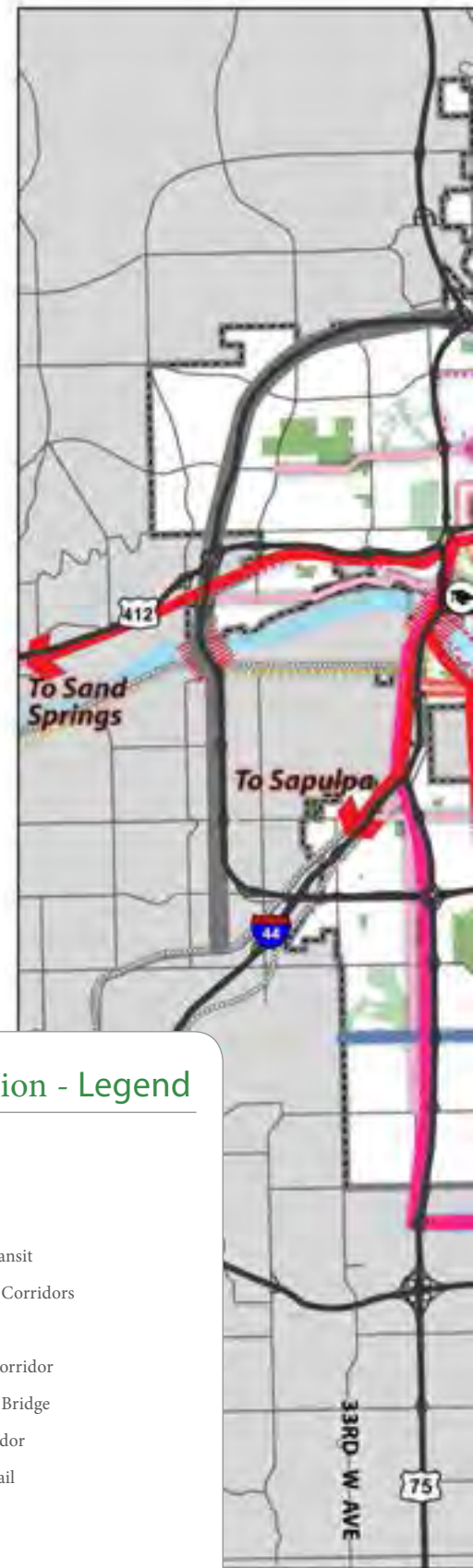
These areas will eventually be fully incorporated by the city. While PLANiTULSA does not envision a growth management boundary, new annexation areas should be planned with sufficient infrastructure to support mixed-use new communities that will blend seamlessly with the rest of the city.

Plan Chapter Transportation
















Tulsans will have a wide variety of transportation choices for getting around town. Those who live in neighborhoods near the city's major boulevards will be able to drive, bike, or catch a quick and reliable bus or streetcar to just about anywhere. The network of transit options, large arterials, pedestrian-friendly neighborhoods and employment centers will result in one of the safest, most efficient transportation systems in the country. Commuters will spend half as much time delayed in traffic as they did in 2009, with most trips to work being as short as 10 minutes.

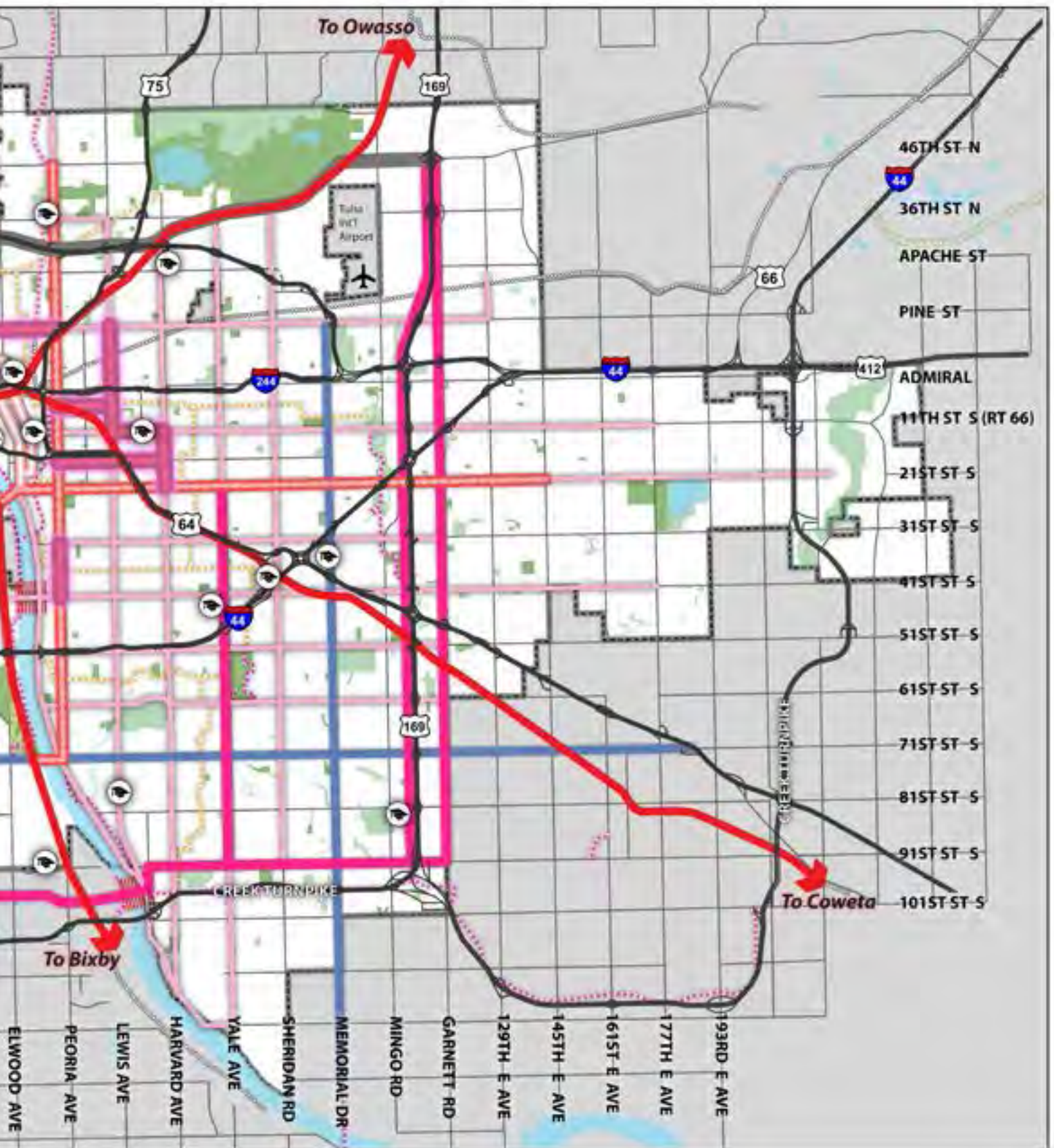
The transportation chapter will address:

Network Connectivity
Walking and Biking
Transit
Highways and Freight
Smart Parking



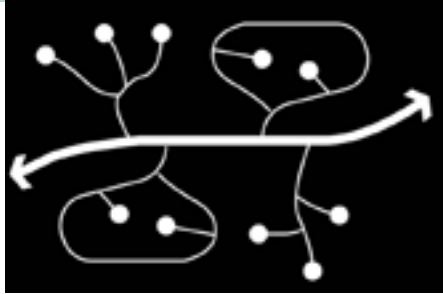
Transportation - Legend

-  Rail Transit
-  Streetcar
-  Frequent Bus
-  Bus Rapid Transit
-  Multi-Modal Corridors
-  Main Street
-  Commuter Corridor
-  Multi-Modal Bridge
-  Freight Corridor
-  Multi-Use Trail
-  Bicycle Trail
-  Hiking Trail
-  Existing/Planned Expressways
-  Parks
-  Open Space



NETWORK CONNECTIVITY

Disconnected streets discourage through traffic and can create more privacy, but discourage walking and biking, create longer car trips, and increase traffic in adjacent arterials.



Tulsa's new street systems will use connectivity and traffic calming to get the best of both worlds — quiet neighborhood streets with good accessibility.



Safe and efficient transit modes combined with appropriate land uses will increase transportation options for all Tulsans.

Network Connectivity

Tulsa's new streets will be designed to reinforce connectivity within and throughout the city. Connected streets decrease traffic on adjacent arterials, shorten distances, and improve conditions for walking and biking. Disconnected streets may enhance privacy and discourage through traffic, but they also hinder walking and biking, and create longer car trips. Tulsa's new street systems will use connectivity and traffic calming to get the best of both worlds — quiet neighborhood streets with good access and connectivity.

Walking and Biking

Among the biggest changes that will take place are thousands of small but important improvements to the city's walking infrastructure. Many neighborhoods, which today are dangerous places for all pedestrians, will be improved with safer sidewalks, better-designed intersections, and other features that alert drivers to pedestrians. The city will continue to develop and expand its network of paths and trails. Bikes will be a popular way to get around town when the weather is nice. Bicyclists may make up a significant percentage of travel, especially for the short one- to two-mile trips.

Transit

Downtown, nearby university districts, new centers, and the city's main streets and multi-modal arterials will be some of the most intensively walked parts of the city. They will also be the most transit-rich, with frequent bus, streetcar, and rail transit service within a couple blocks of most homes and businesses. Commuters from Southeast Tulsa and Broken Arrow will have quick and easy access to downtown on a commuter rail line. There will be an emphasis on making transit an easy, pleasant, and competitive transportation option. Initially, Tulsa will invest in two or three key corridors with frequent bus service to downtown from North and East Tulsa. Over time, key housing and employment developments will add riders, and enhancements will spread throughout the city.

Highways and Freight

Investments in walking, biking, and transit will help the city grow while minimizing traffic congestion. Tulsa's investments in a variety of in-town transportation options will help prevent the region's highways from becoming congested as the city grows. These highways will serve regional travelers and freight trucks, which should not have to compete with local commuters. Freight travel and distribution will be improved through strategic investments to disentangle freight and local traffic. Freight routes, which historically were routed through downtown, will be shifted to the Gilcrease Expressway Extension. This will alleviate help prevent congestion and deliver goods to a major industrial and warehouse area just east of Tulsa International Airport. The multi-modal facility will revitalize Tulsa as a major regional freight hub, and breathe new life into the local manufacturing industry.

Smart Parking

While transit, biking and walking are important pieces of the transportation system, Tulsans, generally, will still own and drive cars. The city's approach to parking will make optimal use of the land along main streets, downtown, and in new centers to better support pedestrian-friendly places. New centers, downtown and other gathering places will be served by parking districts, which provide just the right amount of parking capacity. Offices usually do not need parking spaces in the evenings, when restaurants and residences do, so these uses can share the same spaces over the course of the day. New development will no longer be required to provide large amounts of on-site parking for the one or two days a year it is used, but will be able to use public spaces already on the street and public lots or garages that serve many businesses. This will not preclude builders from including additional parking on-site, but lower minimums will allow the marketplace to determine how much parking is needed.



The unencumbered movement of freight will continue to be crucial to Tulsa's economic prosperity.



Parking garages may be phased in over time as an area develops. Mixed-use parking garages with retail on the ground floor blend in well with their surroundings.



Main streets should be attractive interesting places with wide sidewalks and on-street parking.



In addition to on-street parking, shared lots in centers and main streets can be located behind buildings.

How We Get There

Tulsa is well positioned to forge this transportation vision. The city's street grid, highways and rail lines provide an excellent base on which to build a future with more options for getting around town. Designing new transportation infrastructure in concert with thoughtful land-use decisions will create a sustainable transportation system for future generations.

The process will begin modestly, by acknowledging that transportation defines communities. In the same way that roadways spur development today, transit options and 'living' streets designed for the pedestrian help create an urban experience that attracts new businesses and young people in the 21st century economy.

Tulsa will implement this new vision and create sustainable communities by:

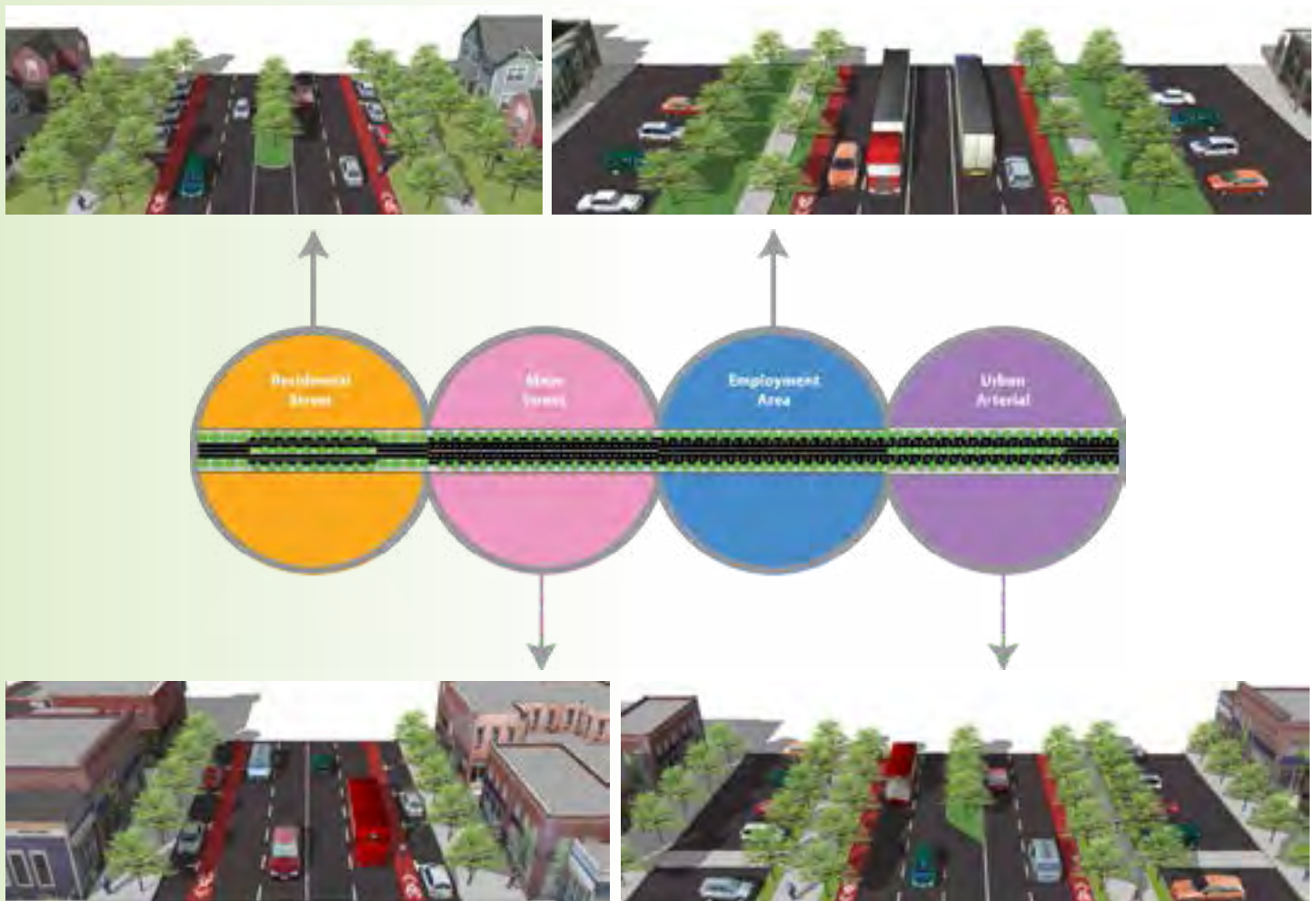
- **Redesigning** key streets into main streets and corridors with many transportation options.
- **Revolutionizing** freight commerce by building a state-of-the-art facility that combines rail, truck, barge and air cargo.
- **Using** new technology that helps traffic signals better manage transit and cars.
- **Implementing** real-time travel information systems that alert drivers and transit riders to congestion or delays.
- **Redesigning** streets to foster transit choice, to be context sensitive and to sustain neighborhoods, local businesses and the environment.
- **Forging** funding partnerships that reward the private sector for building sustainable projects that complement walking, biking and transit.

CONTEXT SENSITIVE SOLUTIONS

Context Sensitive Solutions (CSS) is a planning process by which transportation projects are designed to serve all users and meet the needs of the community and environment through which they pass. Traditionally streets have been designed to have the same layout throughout their length. CSS adapts the lanes, parking and sidewalks to meet the needs of the surrounding area, while accommodating the traffic flow.

Tulsa's new approach to streets will incorporate Context Sensitive Solutions. This increasingly-popular technique ensures that a continuous length of road provides adequate vehicle capacity while supporting surrounding land uses. Many of the world's greatest streets and boulevards feature this type of design, and they have endured both as important corridors and places for people to live, work, and play.

ONE SIZE DOES NOT FIT ALL - Streets should respond to the land use around them.



TESTING INNOVATIVE BUILDING MODELS

The PLANiTULSA team collaborated with builders, financial institutions and stakeholders to create several innovative building models for Tulsa. These models exemplify the mixed-use places that were popular in the public workshops. They combine housing, retail, and employment uses and use innovative parking techniques.

The models were calibrated with realistic financial and construction cost assumptions gathered from local builders and financiers. These will serve as guides for proposed changes to Tulsa's zoning code, and will provide examples for developers on how to help make the vision a reality.



Mixed-use residential model with parking on the ground floor behind a ground-floor retail space.



Bob Smith

The BOK Center is an important catalyst for rebuilding downtown's regional profile.

Plan Chapter Economic Development

How Tulsa's future is shaped will depend a great deal on its economic prosperity. Tulsa will need a vigorous and strategic approach to economic development. It must be coordinated with policies on land use, housing, transportation and the factors that affect residents' quality of life like parks, open space, and education. While we can improve our economic fortune by focusing on our strengths, like aerospace, energy, and health care, we must also support entrepreneurs and emerging small businesses, who will grow the industries of the future. Recent increased coordination by the city economic development department and Tulsa's chambers of commerce have seen important gains in all areas of the city. This coordination should continue to be a focus in the city, with renewed emphasis on a unified city development group that advocates projects and programs in conjunction with the city's chambers and makes available a complete package of tools to support economic development negotiations.

How We Get There

To achieve this economic future, Tulsa's public- and private-sector leadership will need to align interests and embrace partnerships that can:

- **Pursue** business retention and recruitment efforts that build on existing and emerging industry clusters.
- **Stimulate** aggressive redevelopment in downtown, town centers, corridor and existing industrial areas.
- **Expand** existing business ventures, recruit new ones, develop a more vibrant, sustainable downtown and new centers.
- **Create** an environment that welcomes new ventures, particularly those generated by the creative class.
- **Strengthen** workforce development programs and partnerships with higher educational institutions.
- **Enhance** connections among higher education research and programs, private business and public agencies.
- **Improve** the quality of all public schools, through planning, strategic partnerships, and neighborhood revitalization.
- **Ensure** that the city captures its share of regional job growth, about 40,000 new jobs.
- **Stimulate** job growth in target cluster industries, such as health care and aerospace, which provide good wages and that are expected to grow.

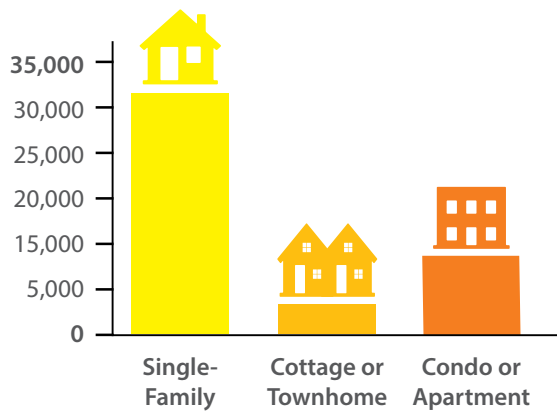


Redesigned "big box" model on a major corridor with additional employment uses and shared parking.



The city should help strengthen partnerships between employers and educational and training institutions.

TULSA'S FUTURE HOUSING DEMAND BY TYPE OF UNIT



Based on the forecast used for the PLANiTULSA process, the demand for single-family homes will continue as the strongest housing type, with about 31,000 new units needed. Demand for multi-family units, such as apartments and condos, will be about 13,000 units. About 4,000 units of townhomes will be needed.



Affordable, single-family housing remains a top priority for Tulsans.



New condominiums and apartments will provide additional options for smaller households, young people, and empty nesters.

Plan Chapter Housing

A newcomer to Tulsa in the future will have a wide range of housing choices, from beautiful early 20th century homes, to classic suburban neighborhoods. Most of Tulsa's housing stock will consist of single-family homes in neighborhoods, but will include a broader range of apartments and condominiums in downtown, along corridors, and in new neighborhoods and centers. Young families will be able to find townhomes and traditional detached homes in new neighborhoods, all within walking distance of schools and parks. Empty nesters, looking to downsize to smaller, more manageable homes, will also have many options.

How We Get There

Tulsa should take several key steps to create this variety of housing options:

Promote Balanced Housing Types and Affordability

The city should encourage constructing a variety of housing types and costs for both renters and owners. These housing types will include some similar to those already developed in Tulsa, such as single-family homes or apartments, but also some that will be relatively new for Tulsa, such as mixed-use residential or urban townhomes. The growing number of smaller households, such as empty nesters and young single people, means there will be more demand for one-bedroom homes, studios, and downtown apartments. Energy efficiency will be at a premium, and most new buildings will be designed to require much less intensive heating and cooling equipment than today.

Preserve Tulsa's Existing Housing

The largest stock of Tulsa's housing was built over the 20th century, long before the PLANiTULSA process began. Established neighborhoods, beloved by Tulsans, have provided a strong foundation for a thriving city. Some areas have suffered from decline or neglect, though, and the City will work to revitalize those neighborhoods. Currently, the City has a large supply of existing homes affordable at the low and very low income levels. Areas such as North Tulsa will benefit from reconstruction, rehabilitation, and weatherization programs. The City needs a special team to streamline the design and permitting process, and identify matching funds from weatherization and energy efficiency programs to assist in paying for upgrades through low-interest loans or grants.

Facilitate Urban Living Downtown

Tulsa's downtown provides the best opportunity to provide new urban homes to those Tulsans, including transplants, who will seek city-style living. The PLANiTULSA workshops found that nearly one in five Tulsans, including young people, empty-nesters, and retirees, want to live in a pedestrian-

friendly downtown close to work, shops and nightlife. Tulsa's large supply of under used historic office buildings is uniquely suited for reuse as flats and condominiums. Downtown's many surface parking lots can be converted to mixed-use residential and office buildings, with expanded underground parking facilities shared by commuters and residents. Downtown Tulsa, while not everyone's preference, will be a more lively and animated place at all hours of the day, thanks to the many people who will live here.

Prioritize Transit-Oriented Development on Key Corridors

For those who want to have easy access to transit but don't necessarily want to live downtown, Tulsa should embrace transit-oriented development (TOD) along key bus, light rail, and streetcar corridors. TODs include a balance of housing and other uses around key transit areas. These developments are more compact than typical single-family neighborhoods and provide homes in mixed-use buildings, multi-family buildings and townhomes. They are designed to blend in with neighborhoods that surround them, and provide them with shopping, services and other amenities within walking distance.

Promote Housing for Tulsa's Students

One of Tulsa's major priorities will be to partner with higher education institutions to attract and retain students. Our premier colleges and universities can work with the city to find ways to develop quality, affordable student housing. These will be primarily rental apartments, flats and dormitory houses located on or near campuses. Campus villages with restaurants, cafes, and entertainment will provide fun places to meet friends or go out for a night on the town. School, home, and nearby shopping, services, restaurants, and other campus amenities will be accessible by transit, bike or foot. Direct access to downtown's employers will be available via transit, so students can easily get to on-the-job training or internship programs.



Urban parks that draw a diversity of visitors enliven and strengthen the communities around them.



Concerts at River Parks attract visitors to the city and provide Tulsans of all ages with entertainment.

Plan Chapter Parks, Trails and Open Space

Tulsa's park system will be hailed as one of the most extensive and heavily used in Oklahoma. Most Tulsans will live near a neighborhood park and will be able to walk or bike there.

How We Get There

Parks and schools are today and will continue to be important gathering places in neighborhoods around the city. Schools will be able to coordinate with the city's parks department to combine daytime playgrounds, pools, sports fields and other amenities with their own facilities.

Downtown, as a thriving urban center, will have parks strategically placed throughout the area for daytime workers, residents and visitors to enjoy. Careful planning will ensure that small pocket parks are surrounded by mixed-use residential buildings that will provide "eyes on the park" during evenings and weekends. Families will make great use of new parks with fountains and water features, which can serve as a unique gathering place for kids and adults alike.

Tulsa's natural environments — waterways, floodplains and open space — provide a break from the hustle and bustle of living in an urban environment. Tulsans are proud of our natural landscapes, and in the future we will have even more to celebrate.

Instead of cordoning off natural areas, Tulsa will integrate them into the fabric of city life and urban design. Developers will recognize that their projects are more valuable when people can easily reach open spaces from home or work. Schools will have partnerships with the city parks department to create outdoor learning programs, clean-up projects and recreational camps.

Tulsa's relationship with the Arkansas River will be strengthened by a deliberate strategy to connect downtown, River Parks and other neighborhoods with trails, plazas and parks. The River Parks system, which was developed prior to PLANiTULSA, will continue to be a major regional attraction and will grow as a bike and pedestrian transportation corridor for those who work downtown.

PLANiTULSA and the Parks Master Plan of 2009

Concurrent with the PLANiTULSA process, Tulsa is developing a new Parks Master Plan, with a targeted completion date of 2010. This plan will provide a clear vision for the park system and will establish an important strategic direction for the future. PLANiTULSA supports the parks master planning effort and will integrate the goals, results and actions into the over arching PLANiTULSA vision.

Nature in the City

Natural areas should not just be found in the hinterlands. Tulsa's urban areas will be threaded with trails and green spaces that provide shade and respite. These amenities will reduce the urban heat island effect, which raises temperatures in the city when heat is absorbed by pavement and rooftops. Floodplain and stormwater management will also continue to be an important tool for creating and preserving natural resources in the city. Tulsa will continue to be a leader in this field and will also develop further innovations. New developments will be designed to capture and treat storm water in rain gardens or similar facilities that double as landscaping.

Regional open spaces, such as the Turkey Mountain Urban Wilderness Area, Mohawk Park, the Arkansas River, and other areas will be protected from development and enhanced with trails and paths so that the entire community can enjoy them. The Arkansas River will continue to be improved and preserved by stormwater management and pollution control efforts, making it a valuable regional attraction for fishing, kayaking, canoeing, and other water sports.



The Village at Central Park represents an example of integrating new housing with outdoor amenities.



Preserving Tulsa's natural environment is important for future generations. Creating new and maintaining existing open spaces within the city offers Tulsans access to nature and can help to offset the urban heat island effect.



Matt Moffett

How We Will Achieve Our Vision

While creating the vision is a critically important step, effective implementation will be the measure of its success. How will Tulsa make the vision a reality? Which policy changes and strategic investments will be the most important?

Several overarching, big-picture changes need to occur as Tulsa transforms this vision into reality:

Remove Barriers to Desired Actions

Sometimes change occurs only when we consider and approach things differently. For Tulsa, this means ensuring that the easiest path is the right path. Tulsa's land-use program and enforcement regulations must be driven by the goals they are meant to achieve. Owners, for example, must be able to determine easily and efficiently how property can be developed. Variances should be granted rarely if allowed uses are clear and support a community vision. When something supports the vision — such as filling a key niche along a main street or reusing a vacant building — it should be encouraged.

Coordinate Public Investments

Infrastructure investments, particularly in roads, mass transit, water, and sewer systems, have a tremendous impact on how land is developed. The city will need to realign its public investments in infrastructure, planning, and other basic functions of government with the strategies outlined in the comprehensive plan. This means ensuring that underdeveloped land within the city is served by the infrastructure it will need to accommodate new businesses or homes. New infrastructure for communities on undeveloped land should be extended in a coordinated way — avoiding costly, ineffective and unattractive “leapfrog” development.

Create New Strategic Partnerships

Finally, the city will need to think differently — and creatively — about new strategic partnerships and initiatives with key stakeholders. Among the primary stakeholder groups are educational institutions, including public school districts, universities and colleges, and other public and private schools. This initiative could include collaborating to develop college/university campuses supported by vibrant mixed-use areas, and working with primary and secondary schools to ensure students can safely walk or bike to school. The city also can continue to partner with Tulsa's major foundations and philanthropic organizations as well as the chambers of commerce to support projects and investments to diversify the city's housing choices, expand the employment base and cultural offerings, and accelerate the pace of neighborhood redevelopment.

Plan for Action

Each of these initiatives represents a change in the way the city does business. The planning process will not end with the vision document, but instead must be fortified with key objectives and implementation steps. Long-range plans take time to implement, but they will languish if substantive progress does not occur soon after adoption. Plans at the city and neighborhood levels should be aligned with a capital improvement timetable, and where possible, innovative projects should be used to jump-start community momentum.

Tulsa has the opportunity to use the PLANiTULSA process to reframe the way it plans, invests and collaborates with key stakeholders and communities to achieve on the ground results. This means setting high-impact, achievable goals, both for city departments and the community. For example, the city should ensure that land development approvals can be more swiftly and easily completed in Tulsa than in competing communities — then implement a process to make it possible. Through defining such performance measures, the city will find ways to reshape itself to deliver on PLANiTULSA's greater objectives. The residents of Tulsa have shown we believe our community can be a better place. Now we look to our public and private leaders to lead the way.

Linda Allen



Proposed Strategies

Specific implementation strategies to reshape fundamental aspects of Tulsa's approach to land use, transportation, and economic development will build and sustain the vision.

Step 1: Revise the Zoning Code

Realigning the city's zoning code with the new comprehensive plan is a critically important step. A zoning code is the enforceable policy behind the plan's recommendations and guidelines. For every new development, the zoning code addresses the most pertinent details, from required parking to building height. Most zoning codes, like Tulsa's, are designed to protect people and to prevent harm. While this is important, it is just half of the whole picture. A complete zoning code protects from harm and helps a developer understand community priorities for a particular location and how to build successfully there.

Tulsa's zoning code should:

Be Easy to Use

Overall, the zoning code should be a user-friendly document that clearly and logically explains how the regulations meet the plan's goals. A developer should be able to determine easily how to develop a piece of property. The need to seek variances, planned unit developments, and other exceptions should be minimized, and the zoning approvals process should be short and easy to navigate.

The zoning code should include diagrams and illustrations to explain concepts, such as preferred parking layouts, building heights, and whether upper stories should be stepped back from the street. But it also should not over-regulate, so that a designer can create a building that meets the needs of the users and the community.

Allow More Diverse Building Types

The PLANiTULSA workshops showed significant support for a more diverse range of buildings and places, in particular, mixed-use developments that combine homes, shops and businesses. Generally, Tulsa's current zoning code prohibits mixed-use developments by right, except downtown, along corridors, and in special discretionary planned development zones. These special zones require approval, and provide no certainty for developers or neighbors. In short, the current system has it backward. To accurately reflect what Tulsans requested through the PLANiTULSA process, the zoning code should explicitly define and allow these kinds of places, particularly along corridors and in new neighborhoods and centers. Expanding the range of possible building types will be crucial to meeting the city's economic development and housing goals as defined in the vision.

Enable Innovative Parking Solutions

Like much of the country, Tulsa requires developers to provide more parking than is often necessary. In many urban neighborhoods, an emerging paradigm provides parking as a form of public utility. Parking district management, as it's called, considers how much parking will be needed along a main street, in a new center, or shopping area, and then seeks to meet that demand with on-street spaces and pooled parking facilities, all within walking distance. Instead of burdening each property with high parking requirements, this approach allows the market to determine how much to include on site. In places such as Brady Village, Brookside and Cherry Street, the benefits would be immediate.

Align Development Incentives with Goals

Cities commonly offer density, height increases or other bonuses to encourage excellent development practices and design. Tulsa should incorporate similar incentives that are linked directly with the comprehensive plan goals and objectives. The city's zoning code should be another tool that facilitates the kind of development outlined in the vision and comprehensive plan. Bringing plan policy and implementation tools together will be a crucial strategic step.

Step 2: Create a Redevelopment Strategy

Tulsa has the opportunity to forge a redevelopment future revolving around its downtown, urban corridors, defunct industrial sites, new town centers and currently struggling urban neighborhoods. Redevelopment should broaden the range of housing options, create new spaces for different types of employers, and make efficient use of existing infrastructure. Collaborative partnerships between the public and private sectors will ensure that vital areas of the city become more sustainable and socially and aesthetically vibrant.

Build on Existing Assets

Tulsa has experienced a range of successful projects in the central city that lend support for more ambitious efforts. Recent examples include the BOK Center, Drillers' Stadium, the adaptive re-use of several historic buildings that have reinforced the promise of urban living (e.g., the Mayo Building, Mayo Hotel and Lofts, Philtower, and the Tribune Lofts).

Tulsa has an abundance of land in and near downtown that is currently under used and a number of vacant buildings. These structures can all be reused in new ways to help rebuild downtown's role as the regional center. Tulsa is also well-positioned to learn from the experiences of other cities about what kinds of redevelopment efforts succeed, which ones fall short of expectations, and why. With many examples from which to draw, Tulsa can make more informed choices and avoid common pitfalls.

Tulsa has established local philanthropic foundations such as the Tulsa Community Foundation, the George Kaiser Family Foundation, the Anne and Henry Zarrow Foundation, and the Zink Foundation, with the commitments and resources necessary to help build a better city.



Redevelopment in Tulsa's downtown, urban corridors, defunct industrial sites, new town centers and currently struggling urban neighborhoods will be a core implementation strategy.

KEY ELEMENTS OF A REDEVELOPMENT STRATEGY

- Having a shared vision that is acceptable and understood by citizens, developers and public partners
- Identifying and working with property owners who are willing to redevelop. Some sites can be developed with a single project, while others would be more appropriately built in phases
- Recognizing that more and often higher quality projects can be built when risk is reduced and benefits are shared through public-private partnerships
- Making available an effective development toolkit that includes public resources (local, regional, state and federal) and participation from capable and community-minded foundations
- Implementing a city regulatory process that expedites high quality, sustainable redevelopment projects
- Further educating public and private sector leaders about the benefits, risks and processes involved in successful redevelopment strategies

MAKING THE TRANSPORTATION-LAND USE CONNECTION



People do not drive or take transit just for the sake of traveling, but rather to go places and do things. Allowing more types of land uses — retail, offices, and housing — along one corridor that is served by transit can greatly reduce the distance between those destinations. This reduces the length of trips they must take, and makes walking, biking, and transit more viable alternatives.

Step 3. Develop a New Transportation Strategy

To meet the vision formed through the PLANiTULSA process, a high level of coordination must be established between the city and other key agencies, notably the Indian Nations Council of Governments (INCOG), Tulsa Transit, the Tulsa Parking Authority, and the Oklahoma Department of Transportation. These agencies should have a comprehensive understanding of the multi-faceted transportation and land-use challenges and a consensus approach for solving them.

The following programs, strategies and policies would address these common issues:

Create Livable Networks

Tulsa has an orderly street grid and a vast highway network. However, our current approach to traffic congestion consists of expanding car capacity at the expense of all other factors. We should redirect our efforts to helping people get where they want to go and shortening their trips altogether by diversifying land uses along corridors. This is the essence of a livable network — corridors become places as well as transportation facilities.

Improve Transportation Modeling Techniques

The local transportation decision-making process should employ the best travel demand modeling available. Modeling allows policy makers to consider pragmatic transportation investment strategies that take into account a number of factors. These include analysis of transportation types that support pedestrians and mixed uses, network-based transportation alternatives that take a look beyond near-term vehicle capacity and delay, and scenarios that consider land-use changes and their impact on transportation. The city, in collaboration with surrounding communities, should continue to work with INCOG to improve modeling capabilities to include consider these additional factors. Tulsa should also advocate for standard modeling methodologies and capabilities both for INCOG and for member jurisdictions, so transportation and land use planning efforts can be well coordinated and evaluated.

Manage Transportation Assets

Many cities use Intelligent Transportation Systems, which optimize signals, meter on-ramps, and track transit vehicles. Combined with a Transportation Operations Center, this data can be used to provide real-time information to motorists, transit users, and transportation agencies. Finally, under a Transportation Management Program, the city could work directly with large employers and institutions to reduce overall traffic demand with rideshare, car-pool, and transit pass programs.

Use Context Sensitive Solutions

Context sensitive solutions (CSS) is an approach to transportation planning and design that ensures new facilities are well integrated with existing communities and serve all potential users, from motorists to pedestrians. CSS employs flexibility in project development and design to balance safety, mobility, economic development, and environmental issues for new and redesigned urban transportation facilities. The city should use this approach by adopting the Institute of Transportation Engineer's Recommended Practice for Context Sensitive Urban thoroughfares and consider the following broad policy changes. A more thorough description of CSS is on page 27.

Modernize Transportation Funding

In cooperation with their regional transportation agencies, many cities, such as Dallas, Seattle, and the San Francisco have reallocated a portion of their discretionary federal and state transportation programs from road-building to programs and strategies that expand transportation choices. Tulsa, in collaboration with surrounding communities, should advocate at INCOG for a similar reallocation of some discretionary funds to support improved integration of land use and transportation.

For example, Sustainable Development grant programs use discretionary federal and state transportation funds to support desired developments and planning efforts. These competitive grant programs support projects that enhance the effectiveness of transit, improve accessibility and mobility, and expand housing choices. Funds can be awarded to help fund infrastructure for mixed use, transit-supportive projects, or to community groups to fund planning efforts.

CONTEXT SENSITIVE SOLUTIONS FOR TRANSPORTATION



“Context sensitive solutions (CSS) is a collaborative, interdisciplinary approach that involves all stakeholders to develop a transportation facility that fits its physical setting and preserves scenic, aesthetic, historic and environmental resources, while maintaining safety and mobility. CSS is an approach that considers the total context within which a transportation improvement project will exist.”

—Federal Highway Administration (FHWA)



CSS ensures that transportation facilities are designed for all users and complement surrounding land uses.



PLANiTULSA's engaging and inclusive public involvement process will serve as a model for planning in key redevelopment areas.



Collaborative efforts between the city, developers, and area foundations will jump-start key catalyst projects based on the PLANiTULSA prototypes.

Step 4: Conduct Neighborhood and Small Area Planning in Key Areas

Tulsa already has a strong tradition of neighborhood-level planning. Small area or neighborhood plans can serve a range of places, from single corridors to districts of thousands of homes and businesses. The City of Tulsa Planning Department should lead the neighborhood planning process in key areas where redevelopment will help move the city toward the vision.

Because so much of Tulsa's future development will take shape as redevelopment and reinvestment, working with existing residents and stakeholders will be an important part of achieving the vision. The neighborhood planning function should continue its use of citizen engagement, visioning, and design and enhance it with additional techniques developed during the PLANiTULSA process. Neighborhood plans should include an implementation and funding plans consistent with PLANiTULSA, and be supported by a cross-departmental team to move them forward.

Step 5: Develop Key PLANiTULSA Prototypes as Demonstration Projects

The PLANiTULSA team developed several innovative mixed-use building models that illustrated — both physically and financially — how infill development could take place in the city. They represent the kinds of new development Tulsans supported during the public input process, and will help guide development of the city's new zoning code.

The city should form a strategic partnership with the development community and area foundations to locate and build several of these models as actual projects. The designs and locations should be carefully chosen to ensure success and build momentum for further development. The city should use the experience to establish a standard easy-to-implement development process that will enable similar projects to be built by the private sector without city or foundation involvement.

Step 6: Organize Planning and Development Functions for Implementation

Taking PLANiTULSA to BUILDiTULSA

Our Vision for Tulsa lays out an ambitious agenda for change that will require a high degree of coordination and skill to accomplish. Although the city will approve the comprehensive plan, most of the key projects will be built by the private sector. Therefore, it is crucial that the process of development is clear and easy to follow. Cities that have been successful implementing visionary plans have carefully coordinated their long-range and current planning, capital improvement, economic, and redevelopment programs to reinforce one another.

Organization matters, and currently Tulsa's planning and development functions are spread between many agencies and departments. Development services and economic development functions reside in different departments. The city's redevelopment activities and programs are carried out by the Tulsa Development Authority, and staffed by the City's economic development and real estate management staffs. Neighborhood planning functions are a part of city government. While the city is leading PLANiTULSA, long range planning and zoning is staffed by INCOG under contract with the City, and the Tulsa Metropolitan Area Planning Commission (TMAPC) with both county and city appointees is the key planning advisory body and is responsible for both zoning and comprehensive planning.

For PLANiTULSA to be successful it is critical that the city coordinate development-related activities so they work together to effectively address changes desired by Tulsans. Tulsa should enhance staff capacity and technical skills and consider organizational changes that will allow the city to lead in local land use decision making. These changes could include more direct coordination of zoning administration, permitting, long range planning, and community planning between the City of Tulsa, INCOG and the TMAPC. These changes could also include consideration of the consolidation of some or all of the following functions into a Community Development Department within the city of Tulsa: small area planning, long range planning, capital planning, economic development, community development, zoning administration and development permitting. It is also important that the city continue to support regional transportation and land use planning, economic development and growth policy initiatives as well. The city should establish measurable goals based on the PLANiTULSA strategic plan, make sure the departments and agencies have adequate resources to accomplish them, and hold them accountable for performance.



For the plan to succeed, it is crucial that the process of development is clear, fair and easy to follow.



Organize planning and development functions so they work for common goals

SUCCESSFUL PLANNING MEANS... PLANS

While a city such as Tulsa should be commended for being forward thinking and moving ahead so boldly, it can be confusing to understand the various pieces of the planning puzzle. Here are some definitions that will help:

VISION

- Core values and guiding principles
- Describes conceptual vision for the future of Tulsa

POLICY PLAN

- Policy framework for land use, economic development, transportation, housing, parks, and open space
- Adjusted every five to ten years

STRATEGIC IMPLEMENTATION PLAN

- Action items for the city to pursue now
- Detailed plans for targeted areas and city-wide initiatives
- Adjusted every year

MONITORING PROGRAM

- Establishes benchmarks and a program to assess whether the goals of the vision and the policy plan are being achieved
- Evaluated every year

Next Steps and Plan Structure

PLANiTULSA sets the long-term ideas for how the city should look, feel and function, based on the expectations expressed by thousands of Tulsans during the last two years. The next phase is to develop the policies and implementation steps that will start moving the city toward that vision.

While the vision provides the long-term goals, a policy plan would provide a framework for accomplishing these goals. This plan would guide housing, economic development, transportation, land use, parks, and open space policies and decision-making processes. The comprehensive plan should remain viable for 20 years or more with updates every five to ten years to reflect changing conditions.

In addition to the long-term policy plan, the city will develop a short-term strategic implementation plan that narrows the focus by providing an outline of short-term actions to meet goals and benchmarks established by the vision. Included within the strategic implementation plan are detailed plans for specific areas that can be pursued in the upcoming year. However, the strategic implementation plan should be reviewed and updated annually. This review should take an inventory of current action items used to implement the plan, consider any changed city priorities, and outline successes and lessons learned from preceding activities.

Finally, the city will track its progress in achieving the vision with a monitoring program. A monitoring program uses citywide and local indicators, such as annual building permits issued, miles of trails completed, or number of homes within walking distance of transit, to measure implementation performance of a plan. These indicators will be published annually.

The Future Is in Our Hands

The PLANiTULSA process illustrates our vision for Tulsa in the future. A consensus vision, based on input from thousands of participating Tulsans shows how the Tulsa of tomorrow will offer more choices and opportunities if we take action today.

Capturing our vision was the easy part — who doesn't like to think and dream about how the future should be? Making that dream a reality will require leadership, dedication, hard work, and above all, cooperation among people with different perspectives, opinions and expertise. Together, Tulsa can set things in motion — we can accomplish amazing results that will move our city toward a bright future.

Bob Smith





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Land Use

Introduction

This chapter of Tulsa’s Comprehensive Plan addresses how *Our Vision for Tulsa* will be realized through the use of land. The Comprehensive Plan is not a regulatory document. The goals and policies at the end of this chapter will guide the design of the city’s regulatory system, including the zoning code, rules governing the subdivision of land, the interaction of land use and transportation and economic development. The goals and policies also provide guidance to land use decisions. Since the uses to which we put land profoundly influences how we live, work, and play, this is a document that touches on many aspects of Tulsa’s governance and planning.

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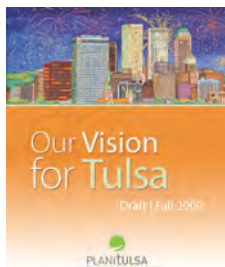
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A great city doesn't just happen... it requires considerable time, discussion, citizen participation, leadership and creativity. There are times in every great city's history that are particularly pivotal, where forward-thinking decisions play a critical role in the city's future success. Now is such a time for Tulsa.

Overall, Tulsans are looking for change—in the form of revitalization, expanded housing choices, a diverse and strong economy, and more choices in how to get around town. But we also want stability in certain key areas, such as in protecting and enhancing our existing neighborhoods. And we want Tulsa to be the kind of city where young people can get a great education, build a career and raise a family. We are committed to maintaining a healthy environment for all Tulsans, and we expect decisions that affect us to be

Land Use **Part I:** Our Vision for Tulsa

made openly and transparently.

The “New” Tulsa will:

Have a Vibrant and Dynamic Economy

The city's engine is a robust and dynamic economy that builds wealth, spurs innovation, and creates jobs. Tulsans envision a city that creates additional opportunities for an entrepreneur to open a business, makes it easy for an owner to get a building permit, and provides many transportation options for an employee to commute to work. It will be crucial for the city to continue to nurture key industries such as energy, aviation, and health care that will continue to attract workers and their families. The city has a history of leadership and innovation and Tulsans are eager to build on that history to become an energy and sustainability powerhouse.

Attract and Retain Young People

The city's future lies with younger generations, whether they are from Tulsa, other parts of the U.S. or other countries. Tulsans envision a city where young people can obtain an excellent education and training, build a career, have a home, and have plenty of entertainment options. Universities and higher educational institutions attract young people, but a stimulating environment and attractive job prospects is what keeps them. Tulsa's history as a music and performance mecca is a tremendous asset, and the outdoor amenities also are vital. A creative Tulsa, where young people can get a start, take chances, and contribute to the community is vastly appealing to younger residents.

Provide Effective Transportation

Tulsans recognize that great cities also need great transportation systems that provide a range of travel choices and make the most of their investments. Tulsa's strategy in

the past has been to build primarily for cars. The legacy of this approach is significant capacity for automobile travel, but at the expense of those who are unable to drive, or who would like better options for transit, biking, and walking. Tulsans want to make a change and use some of that capacity to expand options. We are also ready to use modes like frequent bus service, rail transit and streetcars. We want to expand and make better use of our bike facilities and pedestrian networks to connect our city.

Provide Housing Choices

Some of Tulsa's greatest assets are its single-family neighborhoods, which have provided affordable homes for most of the city's history. Some neighborhoods have homes that need repair. The city is committed to help support and rebuild them in cooperation with owners and the community. Tulsans also recognize, however, that one size does not fit all, and that condominiums, apartments, town homes, live-work lofts, and mixed-use communities will expand the range of options for current and future residents. Mixed-use communities include homes within walking distance of shops and apartments and condos above storefronts — reminiscent of the way Tulsa's main streets and inner neighborhoods originally developed. Mixed-use communities support walking, biking, and transit, and provide housing choices for young, old, and everyone in between. Downtown Tulsa should have a variety of housing for people who are more interested in a dense urban environment.

Protect the Environment and Provide Sustainability

Tulsans envision a city that is committed to and leads in sustainability measures. This includes many important elements of a well functioning city: great walking, biking, and transit access as alternatives to driving, high-efficiency building practices, and the smart use of land. In turn, Tulsans recognize our great natural assets, including Mohawk Park, the Arkansas River, Turkey Mountain Urban Wilderness Area, and more than 280 miles of regional trails. We want to conserve those assets for our children bring nature and parks into the city for everyone to enjoy.

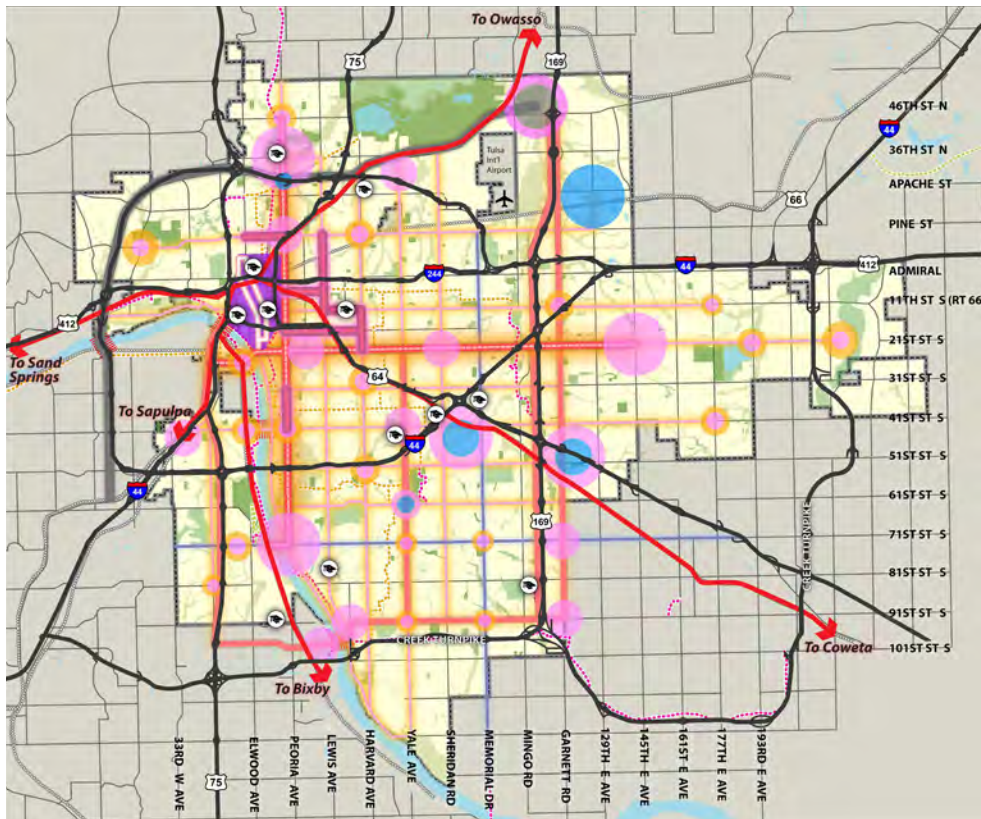


The Village At Central Park, developed by The Village Builders, represents a pioneering step in restoring Tulsa's urban fabric. Designed as a traditional, urban neighborhood it is very pedestrian-friendly and lies open to recently refurbished parkland. Every floor plan was designed to include 'work-at-homes'. Stores and residential lofts are planned too. The 'Village' has helped revive the inner city's desirability as a convenient place to live. The developer worked closely with the city staff in realizing the project. Realizing *Our Vision for Tulsa* will depend greatly on the City's ability to encourage similar developments citywide.

The Vision Map

Our Vision for Tulsa is depicted on the Vision Map. It describes the general shape and location of growth and development and the types of transportation infrastructure that should serve them. It is not a regulatory document, but serves as a guide for the land use plan as a whole. It provides a long-term reference for decision makers and citizens over the life of the comprehensive plan.














Figure 1: Tulsa Vision Map



LAND USE BUILDING BLOCKS

-  Downtown
-  New Centers
-  Employment Centers
-  New Neighborhoods
-  Intermodal Hub
-  Higher Education

TRANSPORTATION

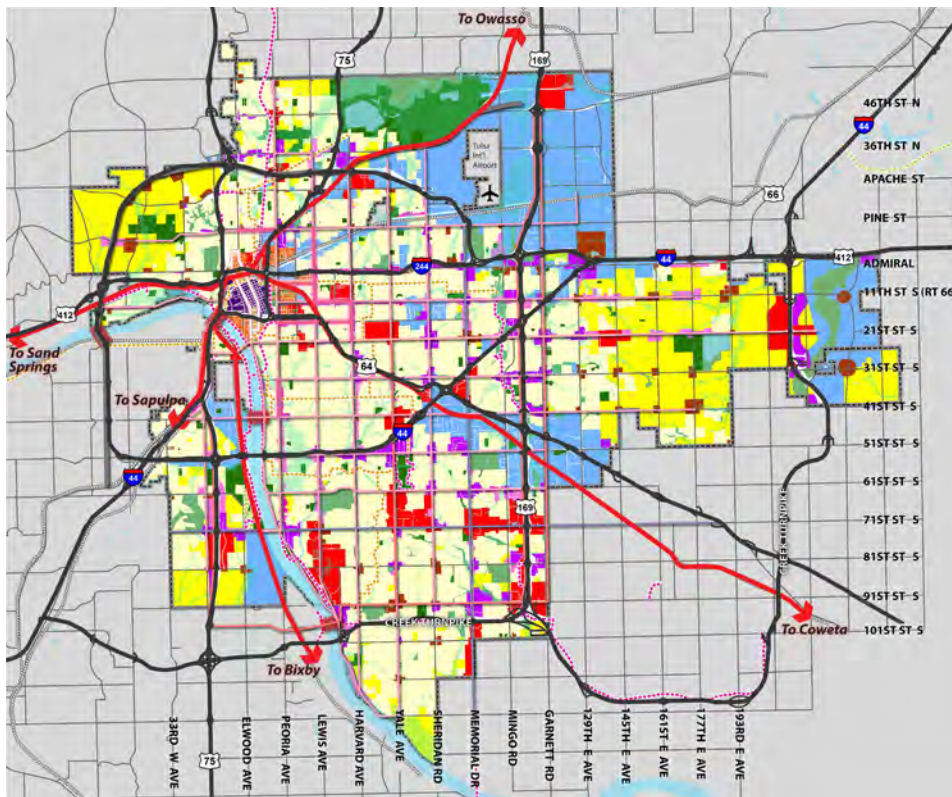
-  Rail Transit
-  Streetcar
-  Frequent Bus
-  Bus Rapid Transit
-  Main Street
-  Commuter Corridor
-  Multi-Modal Corridor
-  Possible Multi-Modal Bridge
-  Freight Corridor
-  Multi-use Trail
-  Bicycle Trail
-  Hiking Trail
-  Existing/Planned Freeway

The Plan Map

The Plan Map, on the other hand, is derived from the Vision map, and guides the city's investment and regulatory program. The Plan Map translates the vision's overarching concepts into plan categories that describe in more detail the form, scale, and type of uses for specific areas of Tulsa. Plan categories serve as the basis for zoning district designations, which apply specific use and development requirements on the ground. There is a more detailed discussion of how the

Plan Map was created in the Building the Plan section of this chapter, but the map is a combination of current uses and zoning, the Area of Growth and Stability Map, and the Vision Map Areas. This map should evolve as the Comprehensive Plan is implemented, keeping true to the overall vision, but adjusting to new neighborhood plans, unforeseen opportunities, and minor adjustments that will arise.

Figure 2: Tulsa Land Use Plan (Conceptual Map)



See page 89 for an accurate, updated, and more detailed view of the **Land Use Map**.

LAND USE CATEGORIES

Downtown	Regional Center
Downtown Neighborhood	New Neighborhood
Main Street	Existing Neighborhood
Mixed-use Corridor	Employment
Town Center	Parks
Neighborhood Center	Open Space
	Floodplain

TRANSPORTATION

Rail Transit	Possible Multi-modal Bridge
Streetcar	Freight Corridor
Frequent Bus	Multi-use Trail
Bus Rapid Transit	Bicycle Trail
Main Street	Hiking Trail
Commuter Corridor	Existing/Planned Freeway
Multi-Modal Corridor	

Land Use

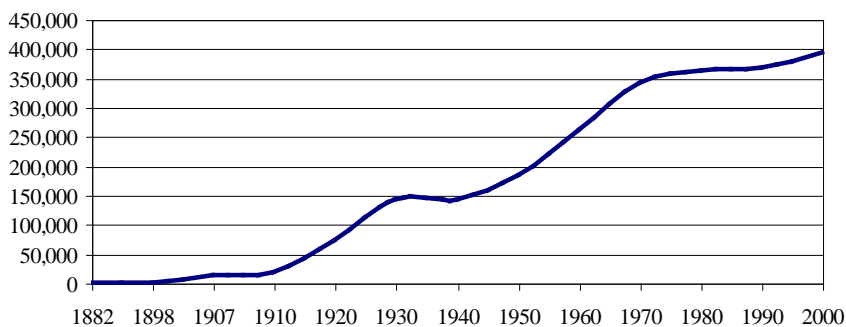
Part II: Tulsa's Past and Present

Historic Growth Trends

Tulsa's original settlement was established in the 1830s by Native Americans. The railroads arrived in Tulsa in 1882, and the town began to grow, spurred by development from an influx of settlers. In 1901, oil was discovered across the Arkansas River a few miles west of Tulsa, in then independent town of Red Fork. By the time Oklahoma achieved statehood in 1907, Tulsa had been declared the "Oil Capital of the World." The discovery of a substantial oil field caused the population to rise dramatically, from 7,300 in 1907 to 72,000 in 1920. The growing population put pressure on water supplies from the Arkansas River, pushing Tulsans to secure a new source, which led to the Spavinaw water project, one of the largest public infrastructure projects of that era.¹

The mid-20th Century was a time of prosperity for the city. Tulsa was at the forefront of petroleum and petroleum-related industries, and the growing aviation industry became firmly established in the city. Petroleum and aviation dominated the city's economy throughout the middle part of the 20th Century. Tulsa's built environment shows the influence of the city's rich art and cultural history, spanning centuries of Native American culture and over a hundred years of urbanization. This culture and history is reflected in the built environment—the early ranches; the tremendous collection of Art Deco downtown offices and neighborhood residences; the futurist architecture at Oral Roberts University; and a range of neighborhoods from detailed Craftsman bungalows to mid-century Ranch and modern residences.

Chart 1: City of Tulsa Population, 1882-2000



Tulsa's population increased most significantly in the mid-20th century with the boom of petroleum and aviation related industries.

Source: City of Tulsa, US Census Bureau

¹ Oklahoma Historical Society, <http://digital.library.okstate.edu/encyclopedia/entries/T/TU003.html>.

Like most central cities in growing regions, the City of Tulsa's position as the sole cultural, economic, and population center of the metropolitan area has declined over the last few decades. Beginning in the 1970s, the suburban areas began to grow at a faster rate than Tulsa, and as a consequence, Tulsa's share of the regional population declined. People have chosen to locate outside the city for a variety of reasons, including the availability of new and affordable homes, access to schools, services, and employment. These effects are self-reinforcing; a critical mass of newcomers helps finance additional development outside the city. While most of the world's leading cities have experienced these phenomena in the 20th century, the healthy cities continue to grow with their regions. A 2003 study found that the downtowns of Seattle, Chicago, Atlanta, Houston, Denver, and eight other cities had increased their share of their respective region's total

population.² Cities that are troubled are those that are declining in population, employment, and investment while their regions grow. In many cases, eventually the regions do less well, and begin to decline. For the most part, a healthy region is home to a healthy, growing central city.

Since 1990, Tulsa has had a flat or declining population total. According to estimates from the U.S. Census Bureau, between 2000 and 2005, Tulsa's household population decreased by about 12,000 (-3%). It has rebounded somewhat since, with a 2006-08 household population estimate of 373,051.³

Compared with its peer cities in the south-central United States, Tulsa has not managed to grow significantly since 2000.

Tulsa's population growth has remained flat this decade, especially in comparison to its peer cities.

Chart 2: City of Tulsa Population, 1990-2008

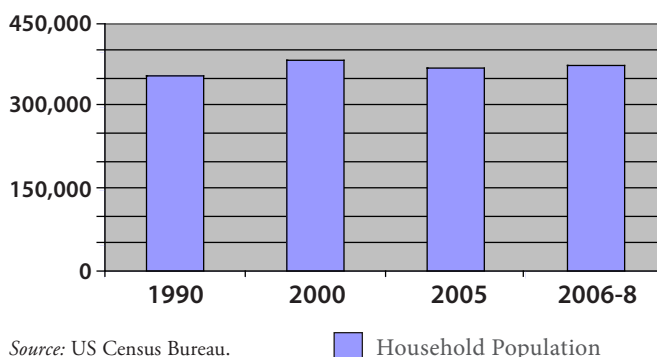
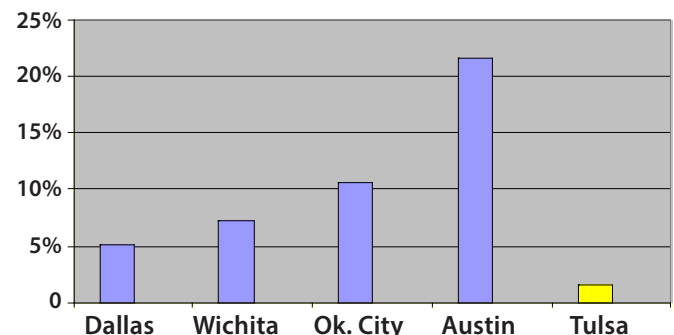


Chart 3: Tulsa's Growth Compared with Peer Cities, 2000-2008



² *Redefining Urban and Suburban America: Evidence from Census 2000*, Bruce Katz & Robert E. Lang, ed. 2003.

³ The U.S. Census Bureau's American Community Survey does not include people living in group quarters in its estimates; these figures are for residents living in households only.

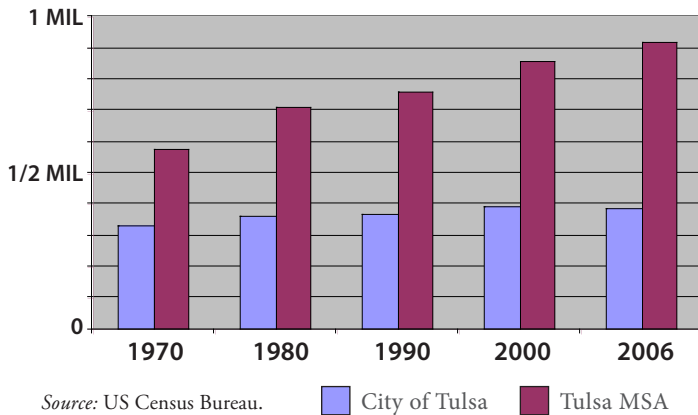
Land Use

PART II: TULSA'S PAST AND PRESENT

However, growth continued for the region as a whole. The seven-county Tulsa Metropolitan Statistical Area (MSA) grew from 859,532 people in 2000 to 916,079 in 2008, a gain of 56,547 residents (7%). Since 1970, the seven counties that make up the MSA have grown by 60%, whereas the City of Tulsa has grown by 16%.

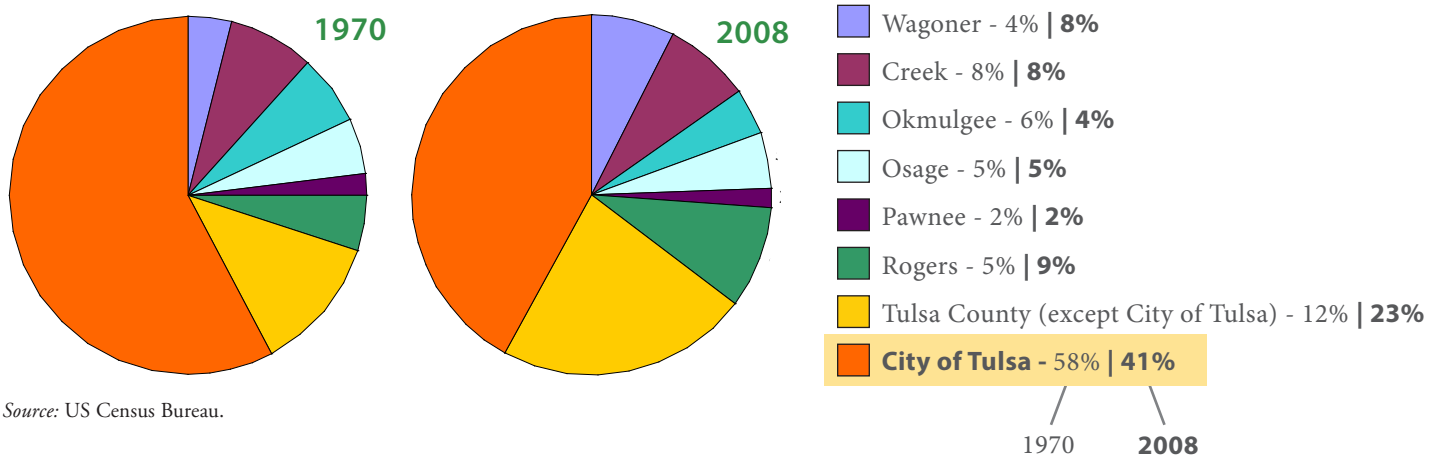
Charts 4 and 5 below illustrate how the City of Tulsa's share of population has declined relative to unincorporated Tulsa County and the six surrounding counties.

Chart 4: Tulsa MSA Population, 1970–2006



The City of Tulsa's share of the metropolitan area's total population has declined since 1970.

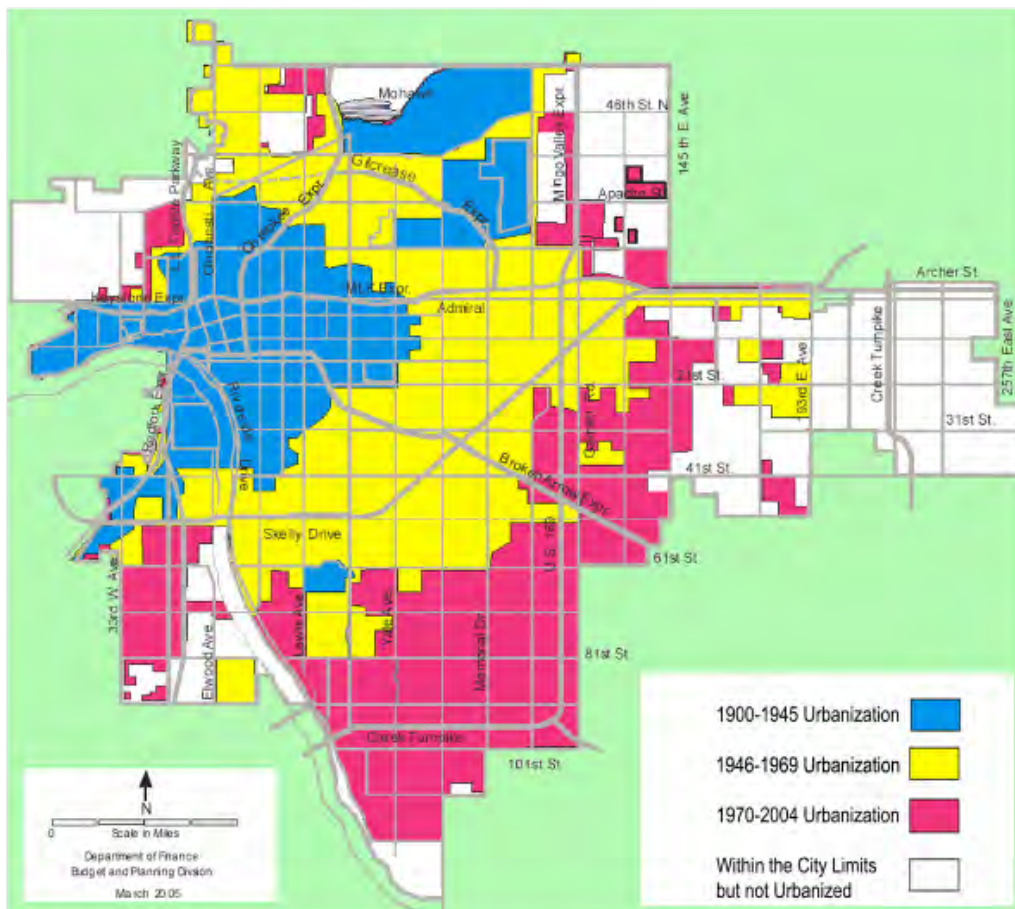
Chart 5: Tulsa MSA Population Profile 1970 and 2008



Tulsa's historic urbanization trends are illustrated in the figure 3, below. Between 1900 and 1945, Tulsa was a relatively compact city. In the post World War II era, like much of the nation, the city experienced rapid but decentralizing growth. Over the last 35 years, that trend has continued.

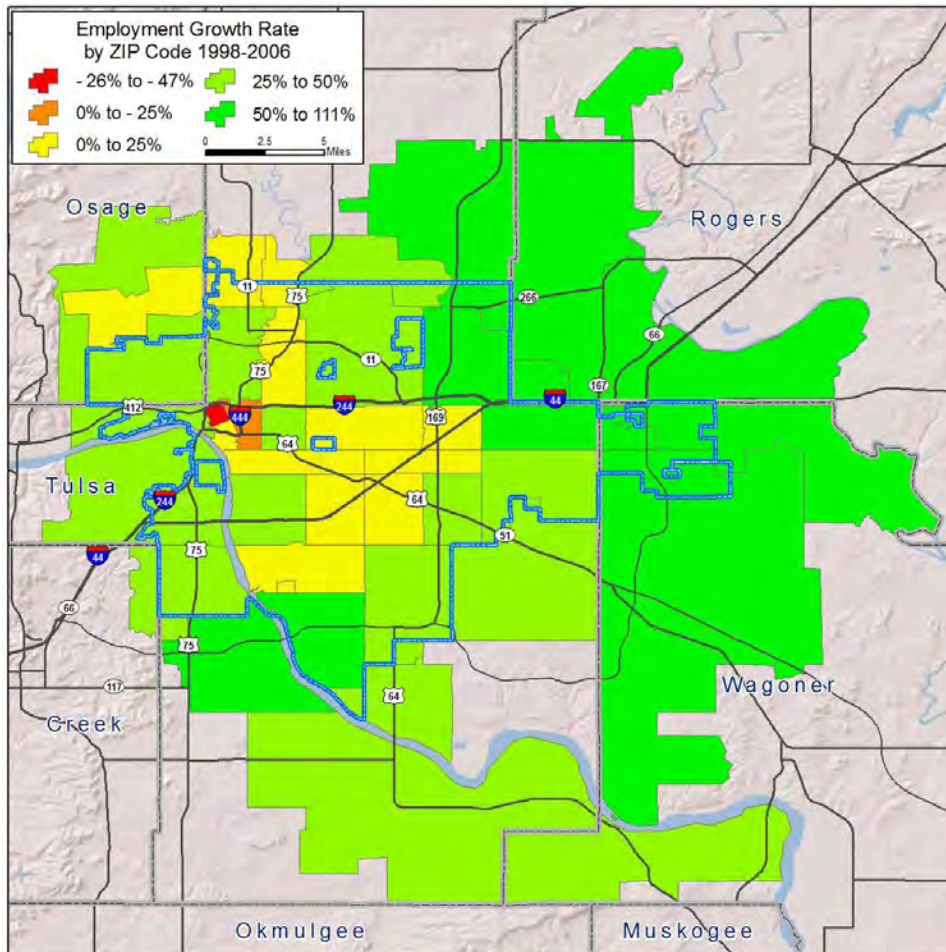
Tulsa's historic urbanization trends have led to the decentralization of the city.

Figure 3: Tulsa's Phases of Urbanization



Source: City of Tulsa

Figure 4: Employment Growth Rate, 1998-2006



Employment growth has accelerated in outlying areas, and declined in the city's core.

Source: US Census, County Business Patterns, 2008; Fregonese Associates.

The trend of decentralization has been true for employment growth, as well. An analysis of employment growth rates by ZIP code (including areas outside the official Tulsa Metropolitan Area) found higher growth rates in outlying communities, and flat or negative growth rates in Tulsa's downtown and surrounding neighborhoods. While this analysis is at a fairly coarse level, it confirms that the City has fallen behind the region in capturing its share of growth.

If these trends continue, Tulsa will find itself increasingly marginalized in the regional economy. Without sufficient densities of housing or employment to support services and infrastructure, it will be difficult to maintain them.

Tulsa's Current Land Use Conditions

Land Constraints

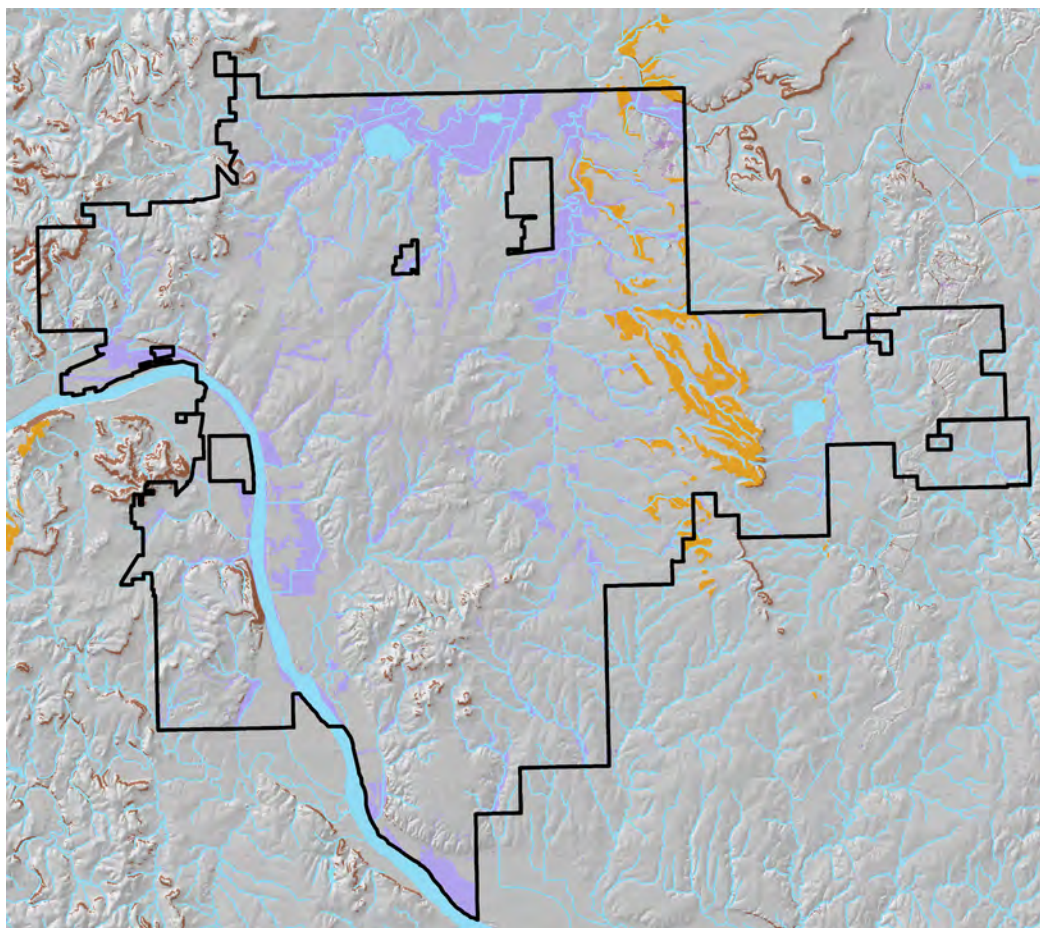
Tulsa's city limits include 128,397 acres of land (200 square miles), including 2,486 acres of lakes or rivers, 4,719 acres of riparian habitat, about 113 acres of wetlands, and 366 acres of land with 25% or greater slopes. Floodplains are a key environmental feature, with about 16,316 acres, or nearly 13% of the city's entire area impacted. These represent the most extensive environmental constraints, and are threaded throughout the city, as illustrated in figure 5.

Table 1: Tulsa's Constrained Lands

	Acres
Water (rivers, streams)	2,486
Riparian Habitat	4,719
Wetlands (including buffers)	193
Floodplain	16,316
Steep Slopes (25%+)	366
Constraints Subtotal	24,080

Source: Fregonese Associates







Figure 5: Environmental Constraints



Source: Fregonese Associates

Floodplains are one of the city's primary environmental constraints.

Note: Surface limestone areas were not included as a constraint for the scenarios or build-out analysis.

-  Streams/Riparian (INCOG)
-  Open Water (INCOG)
-  Wetland (USGS)
-  Floodplain (City of Tulsa)
-  Slopes >25% (USGS)
-  Surface Limestone (INCOG)

Buildable Lands

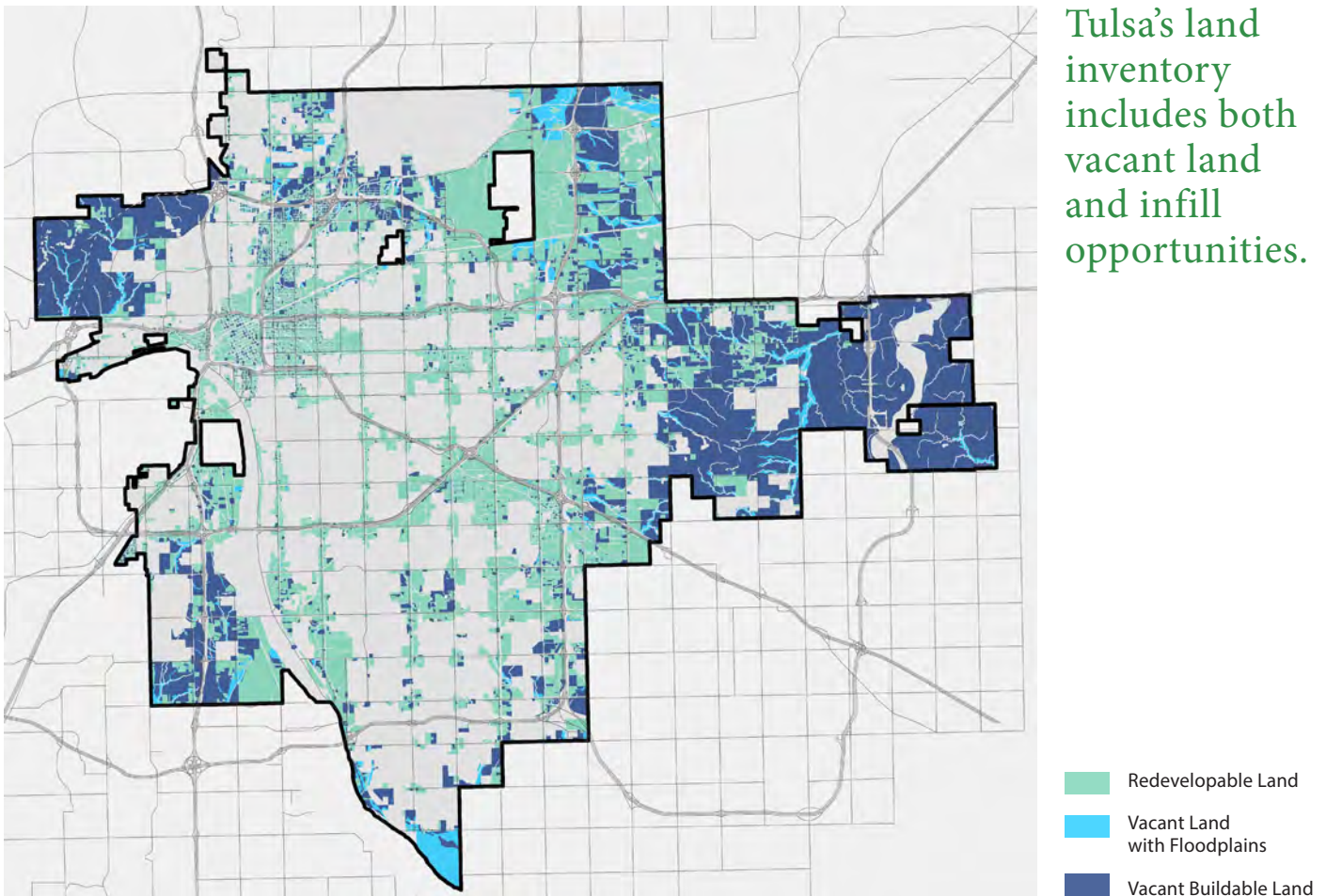
The majority of Tulsa's area is already developed, from relatively dense development to scattered development, but there is still a significant supply of vacant land, particularly in East, Northwest, and Southwest Tulsa. Most of Tulsa's vacant land is unimpeded by floodplains.

Table 2: Tulsa's Buildable Land Supply

	Acres
Vacant Buildable Land	26,109
Vacant Land with Floodplains	1,930
Total Vacant Land	28,040
Redevelopable Land	30,134

Source: Fregonese Associates

Figure 6: Tulsa's Buildable Land Inventory



Source: Fregonese Associates

Redevelopment Potential

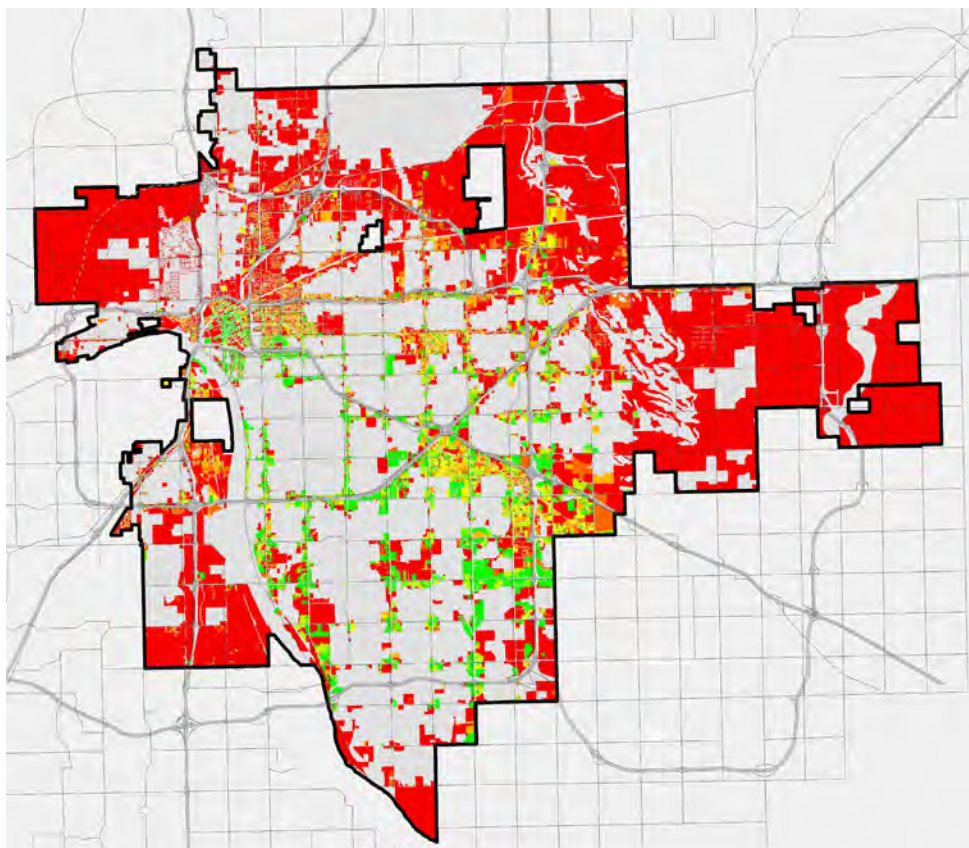
Vacant land is not the only land upon which growth can occur, however. Infill and redevelopment – building on unused or underused parcels in existing urban areas – will be a core piece of Tulsa's revitalization. Underused parcels include vacant buildings, large surface parking areas, or empty lots. The PLANiTULSA team estimated Tulsa's redevelopment potential by analyzing assessed land values. Single-family neighborhoods and environmentally sensitive areas were screened out, and then each parcel in the city was ranked by value. The results illustrate that there is substantial growth potential within Tulsa's urban core and along its major corridors.

The average assessed value of land in Tulsa is about \$246,500 per acre, based on Tulsa County assessor

data. The areas shown in orange and red in Figure 7 represent areas where land has a lower assessed value. In particular, parcels along major corridors or potential centers could represent near-term redevelopment opportunities. Areas with yellow and green shading represent more valuable land. Redevelopment in these areas may have to be more intense in order to balance higher land costs.

Other factors such as infrastructure, transportation, and neighborhood planning goals, will play a large role in how infill takes place. Tulsa's future demographics and economic needs demand a redevelopment strategy for building a strong, stable economic future.

Figure 7: Tulsa's Redevelopment Opportunity Areas



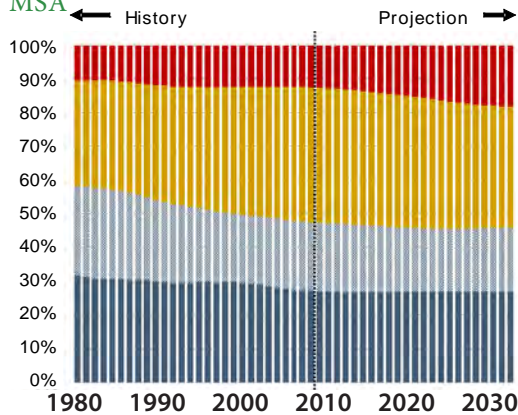
Redevelopment opportunities can be found in many parts of the city, especially along corridors.

Note: Valuation is in dollars per acre.



Source: Tulsa County Assessor, Fregonese Associates

Chart 6: Distribution by Age Cohort, Tulsa MSA



Source: US Census Bureau (accessed via Moody's Analytics)

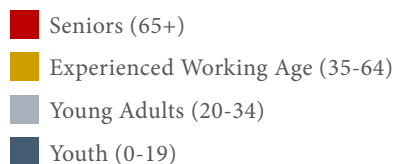
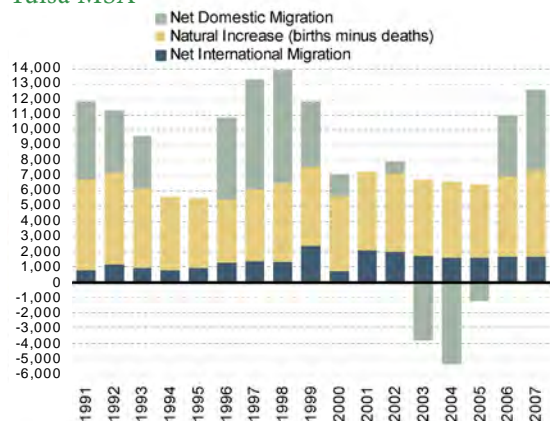


Chart 7: Components of Population Change, Tulsa MSA



Source: US Census Bureau (history) and Moody's Analytics (projections).

Land Use

Part III: Tulsa's Future Trends and Drivers

Demographic Trends

Like the rest of the United States, Tulsa's population will change dramatically over the next 30 years. The trends indicate Tulsa will be made up of smaller households, will have a more diverse population of domestic and international immigrants, and will experience increased competition for young people and laborers from other cities.

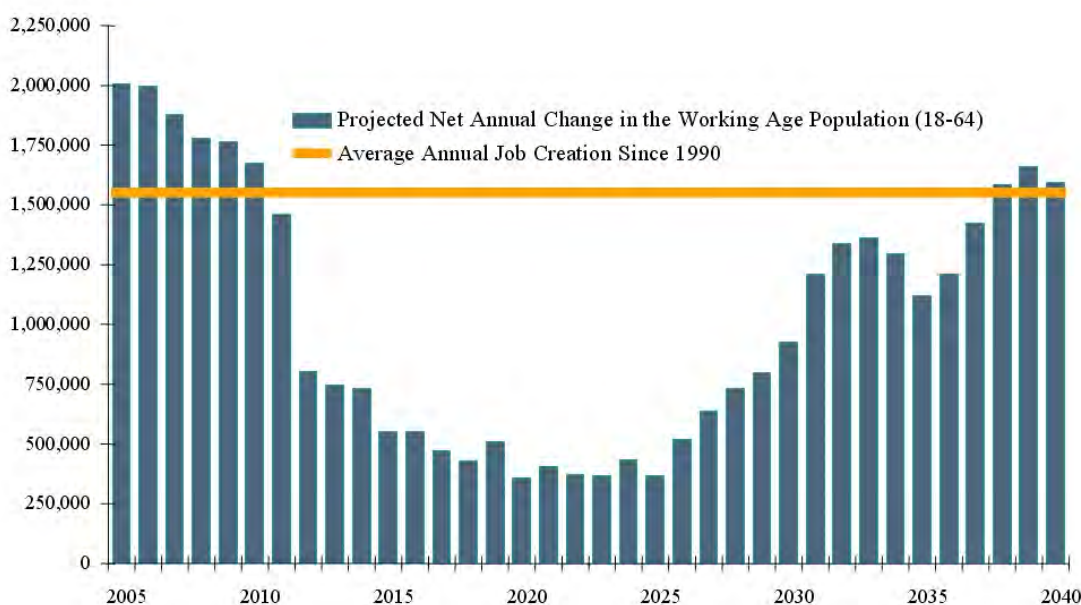
The trend toward smaller households comes from several factors, including age. Chart 6 illustrates the Tulsa metropolitan area's projected age profile up to 2030. Households made up of baby boomers (persons born between 1946 and 1960) are more likely to have just one or two people after their children move away. According to the U.S. Census Bureau, in 2006, about one third of Tulsa's households had just one person; over two thirds (69%) of households have one or two people.

In-migration from around the country (domestic) and the world (international) has provided an important share of the Tulsa metropolitan area's population growth, as illustrated by Chart 7. This is likely to continue throughout the life of this plan. In particular, the Hispanic community will contribute significantly to Tulsa's future growth. Between 2000 and 2006 the Tulsa metropolitan area's Hispanic community grew by 8.6% annually, and now represents about 11.2% of the total population.

These newcomers are typically younger than the average resident. Nationally, the median age of the Hispanic population is 27 years, compared to 31 for the population as a whole. These new residents will need homes and neighborhoods in which to raise their families, schools within walking distance, and easy access to jobs via the transportation network.

Finally, there is the factor of heightened competition between metropolitan areas for young adults, those between 20 and 34. As shown in Chart 8, below, the proportion of young people will decline, from nearly 30% of the population in 1980 to about 20% in 2030. This mirrors trends nationwide, where employers are likely to face a sharp drop off in the number of workers over the next 30 years.

Chart 8: National Working Age Population Trends



Source: TIP Strategies; U.S. Census Bureau; U.S. Bureau of Economic Analysis

Tulsa's Regional Growth Forecast

Several forecasts for the Tulsa Metropolitan Statistical Area (MSA) indicate that the Tulsa MSA will continue to grow at a modest rate through 2030. A land use and transportation model, Tulsa 2030 Goal (detailed below), assumes that the city will capture roughly half of the region's growth over that period, thus maintaining its proportional size relative to the MSA. This is an ambitious goal, but it reflects an overwhelming desire by Tulsans to maintain the city's primacy in the region.

Throughout the PLANiTULSA process the question of regional versus city growth was raised and most Tulsans, including the over 5,500 Tulsans who participated in the survey entitled Which Way Tulsa?, indicated that they wanted a greater share of regional growth for the City in the future. One of the foundations of the policy for the comprehensive plan is to find ways to retain and grow the city's population, expand employment and foster investment in the city.

A New Direction

In light of demographic trends and the region's projected growth, Tulsa will need to position itself as an attractive city to a broad range of people — young, old, foreign, and domestic. It will need to meet the demand for more housing types not widely found in Tulsa in 2009 — apartments, condominiums, flats, cottages, live-work spaces — as well as traditional single-family homes. On the transportation front, Tulsa will need to continue to serve motorists, but also those who prefer to use transit, biking or walking, or are unable to drive due to their age (either too young or too old). Transit, walking and biking will contribute to Tulsa's economic vitality. In the event that energy costs continue to increase, a broader portfolio of transportation options will help Tulsans get where they need to go in an affordable way.

Tulsa's land use planning program will play a key role in ensuring that Tulsa meets the needs of current residents, as well as the newcomers the city must attract in order to thrive.

Table 3: Tulsa MSA 2000 Actual Population and 2030 Population Forecasts

	2000	2030 Forecast		
	U.S. Census	Moody's Economy.com	Oklahoma Department of Commerce	Demographia.com
Population	803,235	1,042,389	970,000	951,600 to 968,400
Increment		239,154	166,765	148,000 – 165,000
% Change		30%	20%	18% - 20%

Source: Fregonese Associates; U.S. Census

Table 4: Tulsa 2030 Goal New Population

Tulsa 2030 Goal	
New Population	102,458

Source: Fregonese Associates

Land Use

Part IV: Land Use Planning in Tulsa

The Challenge of Redevelopment

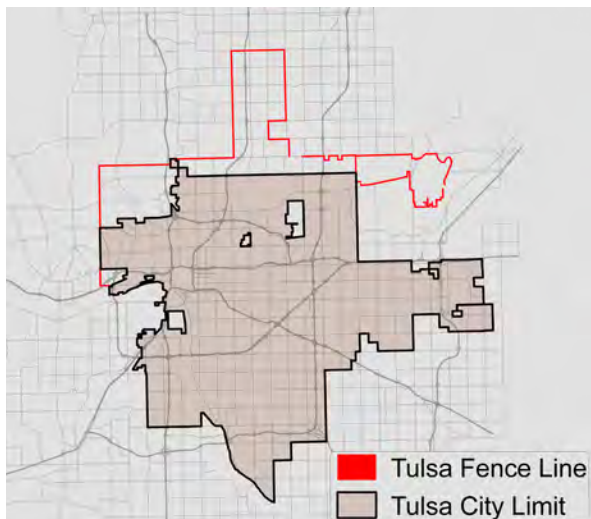
Our Vision for Tulsa envisions the redevelopment of underutilized parcels along corridors and downtown and the revitalization of distressed neighborhoods. This process is a key part of rebuilding the city's regional profile as a cultural, housing, and employment center. In recent years Tulsa has experienced some successful redevelopment projects that provide lessons for how redevelopment projects can be successful. The Mayo Building, Mayo Hotel and Lofts, Philtower, and the Tribune Lofts have each contributed more urban housing options downtown by making use of historic tax credit financing resources. The Village at Central Park has revitalized a key section of the Pearl District. An infill project at 41st and Rockford Avenue in the Brookside neighborhood has been approved and ground has been broken in late 2009.

Overall, though, Tulsa's development community has not had significant experience with infill development. The large supply of vacant land and greater familiarity with suburban-style housing, retail, and employment development has made infill and redevelopment projects appear unnecessarily risky. The city, development community, and philanthropic foundations will need to form strategic partnerships to build familiarity and effective processes to enable redevelopment. A strategy for success must include a coordinated approach to making redevelopment desirable and doable. Revisions to the zoning code based on prototypical developments (described on page 42) are crucial for enhancing Tulsa's redevelopment environment.



The PLANiTULSA comprehensive plan establishes planning and policy concepts that will enable the marketplace to deliver the kinds of new housing, employment, and amenities outlined in the Vision. It is an outcomes-based approach that is designed to show a clear and predictable path toward desired types of development and emphasizes broad-based public input at the planning stage in order to build consensus and minimize conflicts at the building stage.

Figure 8: Tulsa's Fenceline



Source: INCOG, Fregonese Associates

The city also has about 20,000 acres of land within its “fenceline”. The fenceline is a strip of land about 100 feet wide that extends from the city’s limits and encircles vacant unincorporated land. This prevents other cities from annexing that land, and ensures Tulsa has a reserve for growth in the future. To maintain the integrity of Tulsa’s existing urban fabric, newly annexed communities will need to be integrated with it.

Building New Communities and Future Annexations

While redevelopment along corridors, main streets and downtown will provide some of the new housing, employment, and other uses over the next 20 years, the market will continue to create new communities on vacant land. Presently, over 28,000 acres of buildable vacant land is available within the city. According to the scenario used to establish this plan’s goals, called Tulsa 2030 Goal, over 38,000 new homes could be accommodated on vacant land. This presents many opportunities to create complete communities that will also enhance existing neighborhoods nearby.

One of the findings of the PLANiTULSA process was continued support for Tulsa’s tradition of building single family neighborhoods. There was also significant support for community grocery stores, parks, schools and other amenities within a short drive, walk, or bike ride from home. These community or town centers could also provide a mix of additional housing options, including townhouses, apartment, and condominiums.

Neighborhoods that blend these amenities, connectivity, and housing options together are known as complete communities. Many of Tulsa’s oldest and most cherished neighborhoods were built in this manner. But most new housing developments, however, do not have these amenities. Even if a grocery store is within walking distance from home, as the crow flies, discontinuous and impermeable street networks can make the trip to get there significantly longer. And because street networks are not designed to connect with adjacent neighborhoods, going from one neighborhood to the next requires travel on major arterials.

Transportation connectivity standards should be developed to ensure that new communities are connected and easily travelled by foot and bicycle, as well as car (see Transportation Appendix III). Cities that have adopted such measures also use street patterns

other than a simple grid, and traffic calming techniques to preserve a quiet and private atmosphere. Calm but connected neighborhood streets will expand transportation choices by make walking and biking easier.

To ensure that new communities are complete by design, the city must use a comprehensive small area planning process (see Small Area Planning, under Land Use in the Appendix) and then align zoning, subdivision, and capital improvement policies to support the plan's implementation. Working with landowners and nearby communities to develop a shared vision for these communities will be essential to their successful implementation. A small area planning process should precede the annexation of new lands, such as those already within Tulsa's fenceline. One of the primary recommendations of this plan is to make neighborhood and small area planning a key strategy for expanding housing options in Tulsa. This includes reviewing existing neighborhood plans for consistency with the vision and comprehensive plan, and updating them with implementation steps.

Economic Development and Land Use

Tulsa's future will depend on its economic vitality, and *Our Vision for Tulsa* establishes a goal of capturing a proportional share of the region's total job growth, at least 40,000 new jobs over the next 30 years. The PLANiTULSA process identified several important sources of economic growth that should be the focus of Tulsa's strategies: entrepreneurship and small businesses; Tulsa's higher educational institutions; and key industry clusters, including aviation, energy, biological sciences, and health care. Land use goals and policies touch upon each of these important sources of prosperity.

A rich and productive entrepreneurial environment will need support from the land use program in a variety of ways. Entrepreneurs and small businesses need easy access to a range of services, including printing, accounting, information technology, catering, and other inputs. Compact mixed-use main streets, centers, and downtown



Policies are designed to ensure that there is adequate supply of land for growth, that zoning and development standards encourage mixed-use development, and the city has a predictable and user-friendly permitting process.

put these services within easy reach. Entrepreneurs' most important asset is a well-trained workforce, who must themselves have access to reasonably priced housing, academic and technical training, and transportation options. Implications for the land use planning program include the need for an expanded and improved one-stop-shop permitting process so developers can easily build new space for small businesses and housing for their workers. The city will also need to provide a workable mixed-use zoning code, so complementary businesses can locate near one another and their customers. Reducing required parking ratios will help reduce the cost of new entrepreneurial space.

Higher educational institutions are Tulsa's incubators of future artists, innovators, teachers, businesspeople, and leaders. Connecting that talent with the rest of the city and retaining their energy and dynamism should be a major focus of the land use system. This means coordinating closely with each institution to ensure that students have adequate access to housing and amenities when they go to school. It also means ensuring that internships, training, and employment opportunities are easily accessible from campus. Implications for the land use planning program include the need to engage Tulsa's educational institutions and their surrounding neighborhoods to develop a vision and strategies for their future. This process should consider student housing needs (on and off campus), parking and transportation demand management, and provision of amenities like shopping and services for both residents and campus communities.

Finally, the City should maintain its collaboration with local chambers of commerce or other privately funded economic development organizations to retain key industries and help them grow. An important component of the land use planning program is to ensure that new and expanding industries have adequate land and sufficient transportation infrastructure. This

includes aligning plans and zoning policies in new centers where office uses, medical centers, and other high density enterprises can expand. Businesses such as manufacturing, transportation, and distribution, which require large building footprints and access to freight lines, should be provided adequate land with access to Tulsa International Airport. Implications for the land use program include the need to regularly assess the city's supply of buildable employment land and align capital improvement plans so critical infrastructure is in place.

Detailed policy on the economy is contained in the Economic Chapter of this plan.

Land Use and Transportation

The relationship between transportation infrastructure and land use is one of the most important determinants of how a city functions. *Our Vision for Tulsa* places an emphasis on coordinating transportation facilities' design with the land uses they serve. Like many American cities, Tulsa's transportation system has historically been oriented to support automobile traffic. While it is likely that cars will continue to play a big role in how Tulsans get around town in the future, the PLANiTULSA public input process found significant support for expanding the range of transportation options.

Traditional approaches to traffic congestion management consist of expanding automobile capacity, but usually overlook how land use can contribute to the solution. While Tulsa does not currently suffer from the severe traffic congestion found in Los Angeles, Houston or Dallas, it is plagued by one particular problem: the low population per lane mile of city streets. The PLANiTULSA transportation and land use scenario process sought to illustrate how land use and transportation are related and how greater population densities can help create a fiscally sustainable transportation network.

The relationship between the design of a transportation facility (how often it accommodates driveways, how wide are its lanes, whether it has on-street parking, whether it has street trees) and the land uses it serves is an increasingly important concept. When the emphasis is placed upon moving people primarily in automobiles the opportunities for creating sustainable attractive places for those people to enjoy is reduced.

To grow Tulsa's economy, to enhance its neighborhoods, to invigorate the business community and to increase tax revenue and thus fulfill *Our Vision for Tulsa*, transportation and land use must be more intricately coordinated. In some cases transportation should set the course for desired development patterns to occur. The design of transportation facilities has a great impact on the marketability of an area and the type of land development forms that will



Design that provides an attractive pedestrian realm will enliven Tulsa's centers, neighborhoods, and corridors.



Getting more out of the existing street system and building new high performance streets comes from a process that seeks to unite public works with the community's and developers' visions of a place.

occur. For example building new highways spurs single family subdivisions and strip commercial developments and main streets enable mixed uses, townhouses and small businesses.

The transportation chapter defines corridors for the investment of transit and this chapter shows how those investments will enable a more compact development pattern to develop where appropriate and to continue in an economically sustainable manner. Getting more out of the existing street system and building new high performance streets comes from a process that seeks to unite public works with the community's and developers' visions of a place. This process is called Context Sensitive Solutions (CSS) and it will be a part of every neighborhood planning effort. CSS is a collaborative, interdisciplinary approach that involves all stakeholders to develop a transportation facility that fits its physical setting and preserves scenic, aesthetic, historic and environmental resources, while maintaining safety and mobility for all users (bike, pedestrian, auto and transit).

The land use planning program will need to support Tulsa's transportation vision by enabling development types that shorten trips and enhance connectivity. For example, the zoning code should lower required parking ratios and promote urban design principles that enable people to park once and walk to their destinations. And new neighborhoods should be governed by subdivision standards that promote good street connectivity. A seamless integration of land use policies and transportation investments will be crucial to fulfilling Tulsa's vision.

Detailed policy on transportation is contained in the Transportation Chapter of this plan.

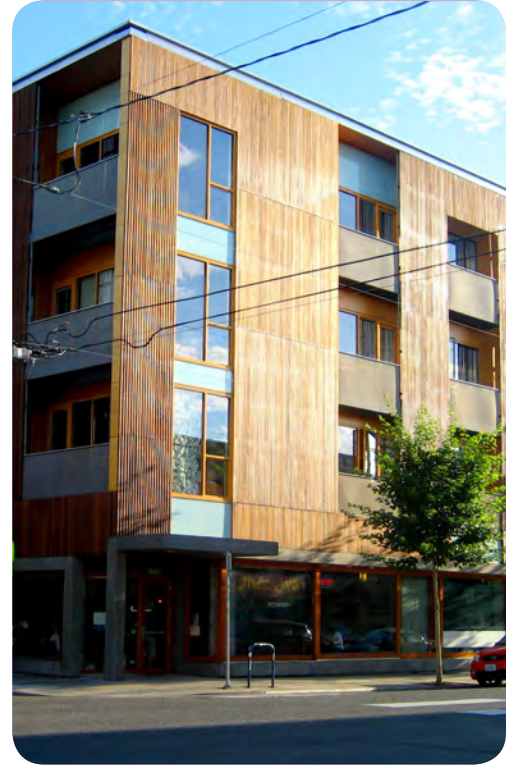
Land Use and Housing Choice

Housing is considered affordable when it consumes 30% or less of a household's income. Homes in Tulsa today are relatively affordable for most families, and must remain so in order for the city to be a desirable choice for future residents and businesses. Tulsa will need to expand the range of housing options to meet future demand with additional apartments, condominiums, townhouses, and live-work units. However, while emphasis will be placed on developing a range of housing types, single family homes will still likely represent a majority of new housing. The land use planning program will ensure there is an adequate supply of appropriately zoned land so the marketplace can meet the needs of Tulsans from all walks of life.

Retaining and reinvesting in the existing housing stock is another important outcome that must be supported by land use policies. Ensuring that infill development complements and enhances existing neighborhoods will be a function of the planning and zoning program. Finally, expanding the supply and quality of housing designed for students, staff and faculty of higher education institutions, both on and off campus is a key priority. This is tied directly to the city's economic development strategy, which includes a focus on building partnerships between the city, employers and higher educational institutions.

Implications for the land use planning program include the need to closely monitor Tulsa's ability to produce a mix of housing units, as well as revitalize neighborhoods that are in need of reinvestment. Tulsa's zoning code, which defines the types of housing and densities on the ground, should be updated to allow the mix of units Tulsa will require. Tulsa 2030 Goal, which identifies housing targets for specific areas, will serve as a guide for measuring the zoning code's performance.

Detailed analysis of Tulsa's housing affordability and policies is contained in the Housing Chapter of this plan.



Tulsa's zoning code, which defines the types of housing and densities on the ground, should be updated to allow the mix of units Tulsa will require.

Schools and the Community

Schools and neighborhoods are a key priority and many Tulsans expressed a desire for better integration between them. *Our Vision for Tulsa* outlines concepts for improving walking and biking routes to schools and integrating parks, open space, community centers and schools.

The land use planning program can support school and neighborhood integration efforts, such as the Tulsa Area Community Schools Initiative, by ensuring that the small area planning process includes robust coordination between educational institutions and the city. For instance, new school planning and design should use best practices to minimize conflicts between autos and students on and around campus. Schools in existing neighborhoods should be the focus of analyses to identify barriers to walking and biking and design strategies to improve safety.

Land Use and Parks, Open Space and the Environment

Our Vision for Tulsa outlines an approach to parks and open space that will connect Tulsans with developed parks and natural areas. These include active and passive recreational spaces downtown and in the city's neighborhoods. They also include large parks and wildlife areas around the city. The land use planning program should promote access to these spaces through ensuring that parks and open spaces are preserved in existing neighborhoods and planned for new communities.

The land use planning program also plays a role in avoiding or mitigating development in hazardous or environmentally sensitive areas, such as wetlands and floodplains. By identifying these areas early in

the planning process, area wide planning and zoning policies can be designed to avoid conflicts and provide access to natural features.

Land use policy implications include conducting environmental and open space surveys as part of the small area planning process. Performance measures include household access to parks and open space, the ratio of new parks and open space to homes in new communities, and the mix of recreational amenities available throughout the city (i.e. playgrounds, aquatic parks, dog runs, etc.)

Detailed policy on this topic is contained in the Parks, Open Space and Environment Chapter of this plan.

Parks and open space will be provided in urban settings, like downtown, and in new neighborhoods and centers.



Sustainability and Land Use

Tulsa's land use program can have a sizeable influence on a variety of sustainability factors. These factors include greenhouse gas emissions, water and air pollution, and economic viability, which is often overlooked.

Buildings and transportation contribute significantly to greenhouse gas emissions, which mean they can also be a part of the solution. The land use program plays a major role by emphasizing several things. One is an approach to urban design that creates places that are easy to walk and bike in, while also being accessible via transit. These places reduce the need for long automobile trips, thus cutting emissions. Secondly, by planning for denser urban environments, the land use program promotes the kinds of buildings that use energy more efficiently. For example, an apartment or condominium building consumes less energy on a per square foot basis than a detached single-family home, by virtue of shared walls and centralized heating and cooling systems. Making these types of places an option will help the city meet both housing and environmental goals at the same time.

Finally, economic viability is a key component of sustainability. The city's ability to serve residents depends on a vibrant and growing economic base, which will be supported by infill and new community planning strategies in this plan. Ensuring an adequate supply of employment lands, both as infill and on undeveloped parcels will be essential, as will transportation infrastructure to serve them. Land use policies that support a range of housing, employment types, and transportation options will ensure that Tulsa can function as a marketplace for goods, services, and ideas.

One form of accounting for these linkages is known as Triple Bottom Line, which evenly assesses the impact of decisions in economic, environmental, and equitability terms, also known as “profit, planet, and

people.” With limited resources and a need to make the best public and private investments possible, this more comprehensive form of accounting can ensure each dollar spent maximizes public benefit. Developing criteria for investment decisions following this perspective should be applied in Tulsa as it is done in so many progressive places. Decisions should reflect public values and be based on a Triple Bottom Line approach, one which measures sustainability of economics, environment and human equity. It is impossible to have a sustainable system without taking these three factors into account.

Design and construction techniques that maximize energy efficiency will ensure that Tulsa's homes and workplaces are comfortable to be in and economical to operate.



Land Use Part V: Building the Plan

Figure 9: Tulsa's Plan Map

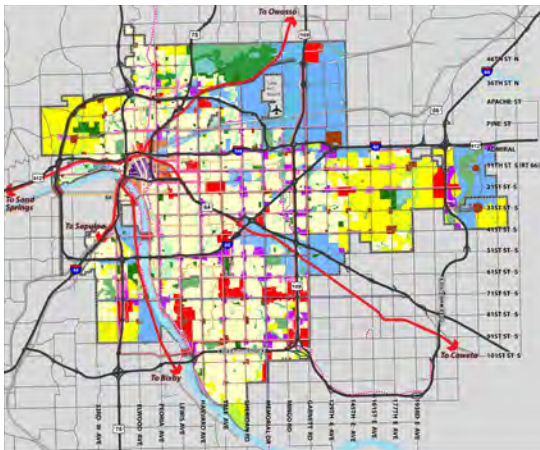
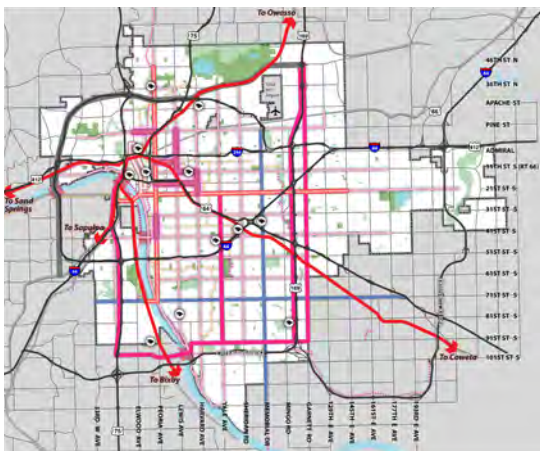


Figure 10: Tulsa's Transportation Map



Maps are the components of the comprehensive plan that address the man-made geography of the city. The plan maps identify areas where the land uses or intensity of uses are envisioned to change.

The Plan Maps

This section presents the land use and future connectivity map and their components. The maps consist of building blocks that provide a framework for the land use and transportation categories. This provides a frame of reference for development patterns that characterize Tulsa's existing conditions and those patterns the city wishes to achieve in *Our Vision for Tulsa*. The descriptions attempt to capture images and qualities of land use and transportation patterns to make the terms readily understandable to the reader.

The plan map types do not simply describe the typical existing characteristics of each land use or street in the city today, instead, they define the ideal future land use, corridors, and multi-modal street characteristics. Each building block is associated with land use and street types that characterize both their functional role within the city and the design guidelines to be applied to them. Thus the typology is intended as a guide for future development to demonstrate patterns that build upon the best existing characteristics of the neighborhoods and city.

Adding physical design elements further refines the land use and transportation types. The plan recognizes that certain design elements play an important role in whether a land use or street contributes to the overall vision. This plan identifies particular design characteristics that can mean the difference between whether a new structure or street design fails or succeeds as an addition to the community. For example, creating a pedestrian friendly city is a central premise of the vision for centers and neighborhoods. On a main street, where strolling and window shopping by pedestrians is desired, design standards include bringing buildings near the sidewalk and providing a minimum amount of display window area at street level. Street design elements include wide sidewalks, street trees and street furniture.

Purpose of the Plan Maps

The maps are the component of the comprehensive plan that addresses the man-made geography of the city. The plan maps identify areas where the land uses or intensity of uses are envisioned to change (identified as the Areas of Growth) as well as areas where land uses should be maintained and improved while retaining their existing character (identified as the Areas of Stability).

With regard to transportation, the maps display the street types that complement the land uses they serve. Figure 9 shows future land use and Figure 10 shows primarily future transportation systems.

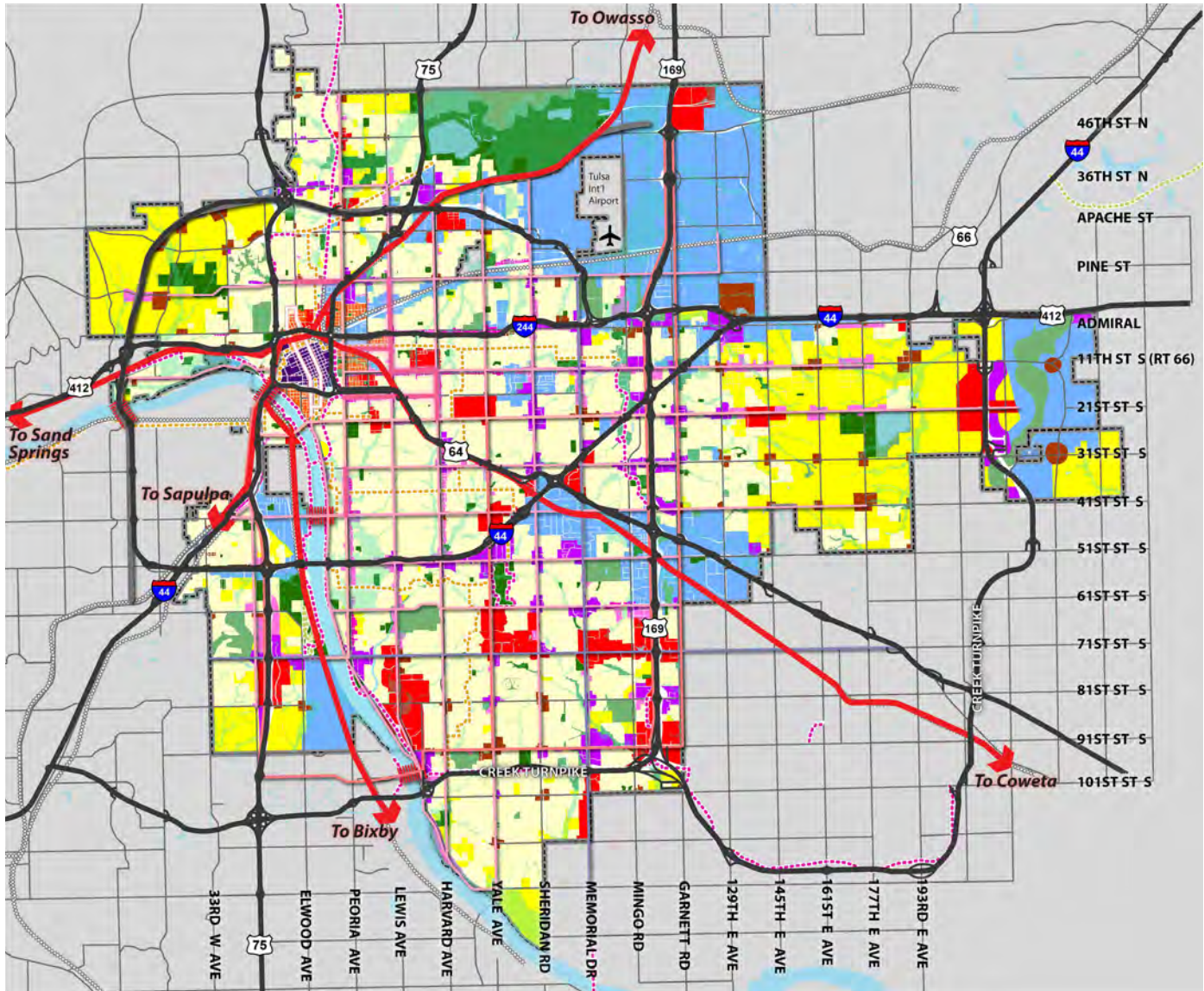
How to Use the Plan Maps

The land use categories identified on the plan maps suggest the type of zoning needed to support the characteristics of the identified land use and transportation patterns. The street types identified on the plan maps define the kind of street environment that should be created to support the land use. For example, industrial areas should have streets with wide lanes to accommodate trucks and town centers and main streets should have wide sidewalks to accommodate pedestrians.

The plan maps should be used in the development of smaller scale plans and related implementation legislation or public investment strategies for the area in question. Zoning districts, public investment strategies, and transportation improvements should be guided by the plan map. However, individual project should not be subject to the scrutiny of a comprehensive plan, but be guided by the regulations that are in place at the time the application is filed.

It is possible, after conducting a review of a proposed project or neighborhood plan, the conclusion may be reached that the PLANiTULSA process did not exactly predict the growth and evolution of a neighborhood or the city. Should this occur, the plan map should be amended, using the building blocks and plan categories identified in this plan.

Figure 11: Tulsa Land Use Plan (Conceptual Map)



NOTE: See page 89 for an accurate and updated map.

Source: Fregonese Associates

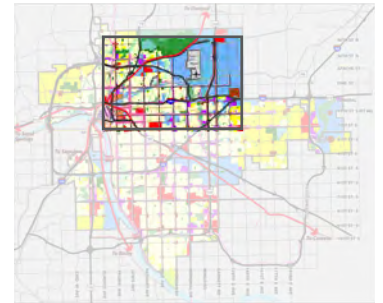
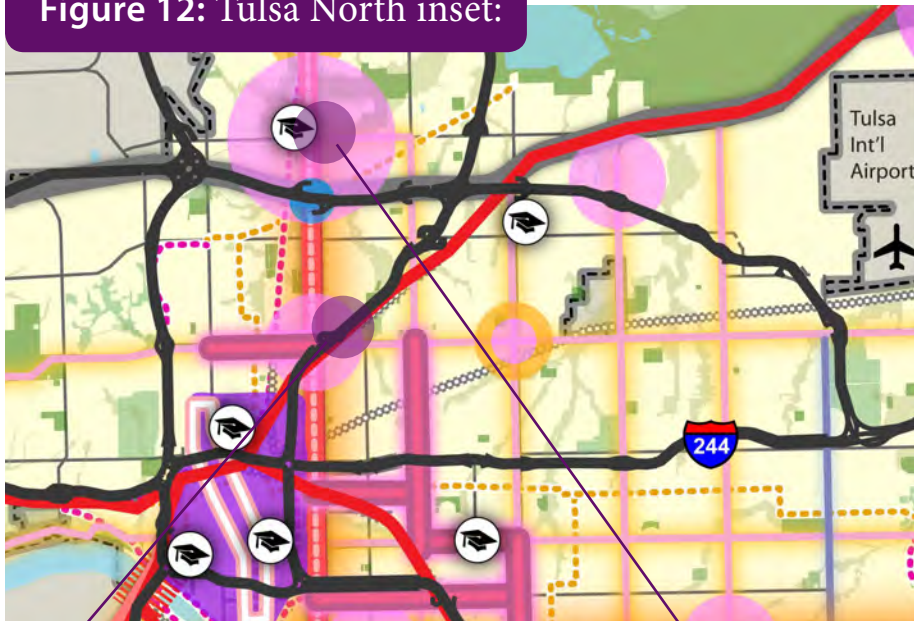
LAND USE CATEGORIES

Downtown	Regional Center
Downtown Neighborhood	New Neighborhood
Main Street	Existing Neighborhood
Mixed-use Corridor	Employment
Town Center	Parks
Neighborhood Center	Open Space
	Floodplain

TRANSPORTATION

Rail Transit	Possible Multi-Modal Bridge
Streetcar	Freight Corridor
Frequent Bus	Multi-Use Trail
Bus Rapid Transit	Bicycle Trail
Main Street	Hiking Trail
Commuter Corridor	Existing/Planned Freeway
Multi-Modal Corridor	

Figure 12: Tulsa North inset:



Tulsa North is a strategic focus area of the plan, and will benefit from reinvestment.

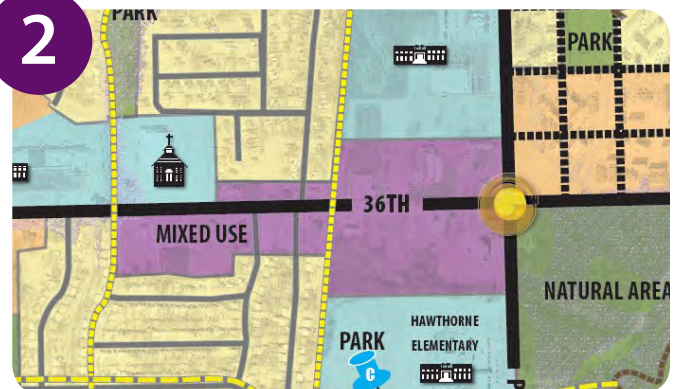
1



Pine and North Peoria Visualization

Redevelopment opportunities at Pine and North Peoria include a former grocery store site. A mixed-use town center with housing, shopping, and services could help revitalize the surrounding neighborhoods.

2



Northland Visualization

From Building Blocks to Plan Categories

Table 5: Vision Building Blocks and Corresponding Plan Categories

Building Block	Plan Categories
Downtown	Downtown Core, Downtown Neighborhood
Corridors	Main Street, Mixed-Use Corridor
Centers	Neighborhood Center, Town Center, Regional Center
New and Existing Residential Neighborhoods	New and Existing Residential Neighborhoods
Employment	Employment

Source: Fregonese Associates

Tulsa's land use map is organized around five general building blocks: Downtown, Corridors, Centers, New and Existing Residential Neighborhoods, and Employment areas.

From Building Blocks to Plan Categories

Tulsa's land use map is organized around five general building blocks: Downtown, Corridors, Centers, New and Existing Residential Neighborhoods, and Employment areas. The building blocks in these five categories must be applied to reflect the fine-grained character of the many areas that make up Tulsa. The building blocks are not fixed — some areas are in a state of transition as is the case with several older industrial areas around downtown that are emerging as mixed-use neighborhoods.

The building blocks distinguish functional land use characteristics with regard to typical location, transportation characteristics, land use mix, employment and housing characteristics. They also address basic physical parameters such as average estimated housing and employment densities. Minimum basic design concepts are prescribed for each plan category. These describe the ideal characteristics with the understanding that many existing areas in Tulsa do not and will not meet this ideal. Following that are the tools that may be used to transform areas over time that do not meet the ideal design guidelines.

Downtown

Downtown Tulsa is a unique area, the centerpiece of the city and region with the highest intensity of uses. Many uses are attracted to the centralized location —government entities, major employers, regional entertainment venues, unique restaurants, specialty stores, nightclubs, cultural entertainment and hotels. Downtown is a significant employment center. Downtown also is a unique and eclectic neighborhood offering a special variety of housing for people who prefer to live in the midst of the activity and amenities.

Within the Downtown building block are two general plan categories, Downtown Core and Downtown Neighborhood. These two general categories are designed to encapsulate the concepts developed in the Tulsa Downtown Area Master Plan, developed at the same time as PLANiTULSA.

Downtown Core

Downtown Core is Tulsa's most intense regional center of commerce, housing, culture and entertainment. It is an urban environment of primarily high-density employment and mixed-use residential uses, complemented by regional-scale entertainment, conference, tourism and educational institutions. Downtown core is primarily a pedestrian-oriented area with generous sidewalks shaded by trees, in-town parks, open space, and plazas. The area is a regional transit hub. New and refurbished buildings enhance the pedestrian realm with ground-floor windows and storefronts that enliven the street. To support downtown's lively and walkable urban character, automobile parking ideally is located on-street and in structured garages, rather than in surface parking lots.

Downtown Neighborhoods

Downtown Neighborhoods are located outside but are tightly integrated with the Downtown Core. These areas are comprised of university and higher educational campuses and their attendant housing and retail districts, former warehousing and manufacturing areas that are evolving into areas where people both live and work, and medium- to high-rise mixed-use residential areas. Downtown Neighborhoods are primarily pedestrian-oriented and are well-connected to the Downtown Core via local transit. They feature parks and open space, typically at the neighborhood scale.

Centers

A center is the focal point of one or more neighborhoods. Centers provide convenient access to shops, restaurants and community-oriented services, such as day cares, libraries and meeting halls. There are shorter auto trips and more walking and bicycling in a center since residential and commercial areas are near each other. Centers often are the site for transit stations and bus route intersections. Those centers with pedestrian and bicycle-friendly streets entice residents to walk to major transit facilities. Attractive and safe pedestrian connections from the surrounding neighborhood to the center encourage people to walk or bike to destinations such as transit stations, bus stops or businesses.

The size of a center and its role in the city vary correspondingly with the scale and accessibility of the surrounding neighborhoods. Ideally, centers should support both daytime and evening activities to create an attractive and safe neighborhood destination.

The Centers building block includes three types of plan categories, Neighborhood Centers, Town Centers, and Regional Centers.

Neighborhood Centers

Neighborhood Centers are small-scale, one to three story mixed-use areas intended to serve nearby neighborhoods with retail, dining, and services. They can include apartments, condominiums, and townhouses, with small lot single family homes at the edges. These are pedestrian-oriented places served by transit, and visitors who drive can park once and walk to number of destinations.

Town Centers

Town Centers are medium-scale, one to five story mixed-use areas intended to serve a larger area of neighborhoods than Neighborhood centers, with retail, dining, and services and employment. They can include apartments, condominiums, and townhouses with small lot single family homes at the edges. A Town Center also may contain offices that employ nearby residents. Town centers also serve as the main transit hub for surrounding neighborhoods, and can include plazas and squares for markets and events. These are pedestrian-oriented centers designed so visitors can park once and walk to number of destinations.

Regional Centers

Regional Centers are mid-rise mixed-use areas for large-scale employment, retail, and civic or educational uses. These areas attract workers and visitors from around the region and are key transit hubs; station areas can include housing, retail, entertainment, and other amenities. Automobile parking is provided on-street and in shared lots. Most Regional Centers include a parking management district.

Corridors

Corridors share some of the same attributes as centers, but these areas are more linear and oriented along one or more streets. Corridors historically have formed in conjunction with the transportation infrastructure, as illustrated by historic streetcar commercial districts and high-traffic commercial arterial streets. A corridor's commercial vitality relies on careful planning for automobiles. But because corridors are linear and meet the needs of the immediate surrounding districts as well as street traffic, the land-use and transportation system should be designed and improved to accommodate many types of travel including walking.

The Corridors building block includes three main types of plan categories, Main Streets, Mixed-Use Corridors, and the Arkansas River Corridor.

Main Streets

Main Streets are Tulsa's classic linear centers. They are comprised of residential, commercial, and entertainment uses along a transit-rich street usually two to four lanes wide, and includes much lower intensity residential neighborhoods situated behind. Main Streets are pedestrian-oriented places with generous sidewalks, storefronts on the ground floor of buildings, and street trees and other amenities. Visitors from outside the surrounding neighborhoods can travel to Main Streets by bike, transit, or car. Parking is provided on street, small private off street lots, or in shared lots or structures.

Mixed-Use Corridors

A Mixed-Use Corridor is a plan category used in areas surrounding Tulsa's modern thoroughfares that pair high capacity transportation facilities with housing, commercial, and employment uses. The streets usually have four or more travel lanes, and sometimes additional lanes dedicated for transit and bicycle use. The pedestrian realm includes sidewalks separated from traffic by street trees, medians, and parallel parking strips. Pedestrian crossings are designed so they are highly visible and make use of the shortest path across a street. Buildings along Mixed-Use Corridors include windows and storefronts along the sidewalk, with automobile parking generally located on the side or behind. Off the main travel route, land uses include multifamily housing, small lot, and townhouse developments, which step down intensities to integrate single family neighborhoods.

Arkansas River Corridor

The Arkansas River Corridor is located along the Arkansas River and scenic roadways running parallel and adjacent to the river. The Arkansas River Corridor is comprised of a mix of uses - residential, commercial, recreation, and entertainment - that are well connected and primarily designed for the pedestrian. Visitors from outside the surrounding neighborhoods can access the corridor by all modes of transportation.

This Corridor is characterized by a set of design standards that support and enhance the Arkansas River Corridor as a lively, people-oriented destination. The Corridor connects nodes of high quality development with parks and open space. The natural habitat and unique environmental qualities are amenities and are respected and integrated as development and redevelopment occur. The future development of this Corridor is intended to complement the residential character of adjacent thriving neighborhoods by providing appropriate transitions and connections to the Arkansas River.

New Residential Neighborhoods

The New Neighborhood Residential Building Block is comprised of a plan category by the same name. It is intended for new communities developed on vacant land. These neighborhoods are comprised primarily of single-family homes on a range of lot sizes, but can include townhouses and low-rise apartments or condominiums. These areas should be designed to meet high standards of internal and external connectivity, and shall be paired with an existing or new Neighborhood or Town Center.

Existing Residential Neighborhoods

The Existing Neighborhood Residential area is comprised of a plan category by the same name. The Existing Residential Neighborhood category is intended to preserve and enhance Tulsa's existing single family neighborhoods. Development activities in these areas should be limited to the rehabilitation, improvement

or replacement of existing homes, and small-scale infill projects, as permitted through clear and objective setback, height, and other development standards of the zoning code. In cooperation with the existing community, the city should make improvements to sidewalks, bicycle routes, and transit so residents can better access parks, schools, churches, and other civic amenities.

Employment

Employment areas contain office, warehousing, light manufacturing and high tech uses such as clean manufacturing or information technology. Sometimes big-box retail or warehouse retail clubs are found in these areas. These areas are distinguished from mixed-use centers in that they have few residences and typically have more extensive commercial activity.

Employment areas require access to major arterials or interstates. Those areas, with manufacturing and warehousing uses must be able to accommodate extensive truck traffic, and rail in some instances. Due to the special transportation requirements of these districts, attention to design, screening and open space buffering is necessary when employment districts are near other districts that include moderate residential use.

Parks and Open Space

This building block designates Tulsa's park and open space assets. These are areas to be protected and promoted through the targeted investments, public-private partnerships, and policy changes identified in the Parks, Trails, and Open Space chapter. Zoning and other enforcement mechanisms will assure that recommendations are implemented. No park and/or open space exists alone: they should be understood as forming a network, connected by green infrastructure, a transportation system, and a trail system. Parks and open space should be connected with nearby institutions, such as schools or hospitals, if possible.

Destination and Cultural Parks

These areas include Turkey Mountain Urban Wilderness Area, Woodward Park, RiverParks, the Gathering Place, Mohawk Park & Zoo, LaFortune Park and similar places. These parks offer a range of amenities over a large contiguous area. Amenities at these parks include not only outdoor facilities, but also event spaces, museums, club houses, zoos, and park-complementing retail and service establishments which do not egregiously encroach into protected natural areas. These parks draw visitors from around the metro area, and have the highest tourism potential. Ensuring public access (and appropriate infrastructure investments) is a major facet of planning for these establishments. Destination and cultural parks are large scale dynamic parks that draw residents and visitors from the region and may be designated as an area of growth.

Local Parks

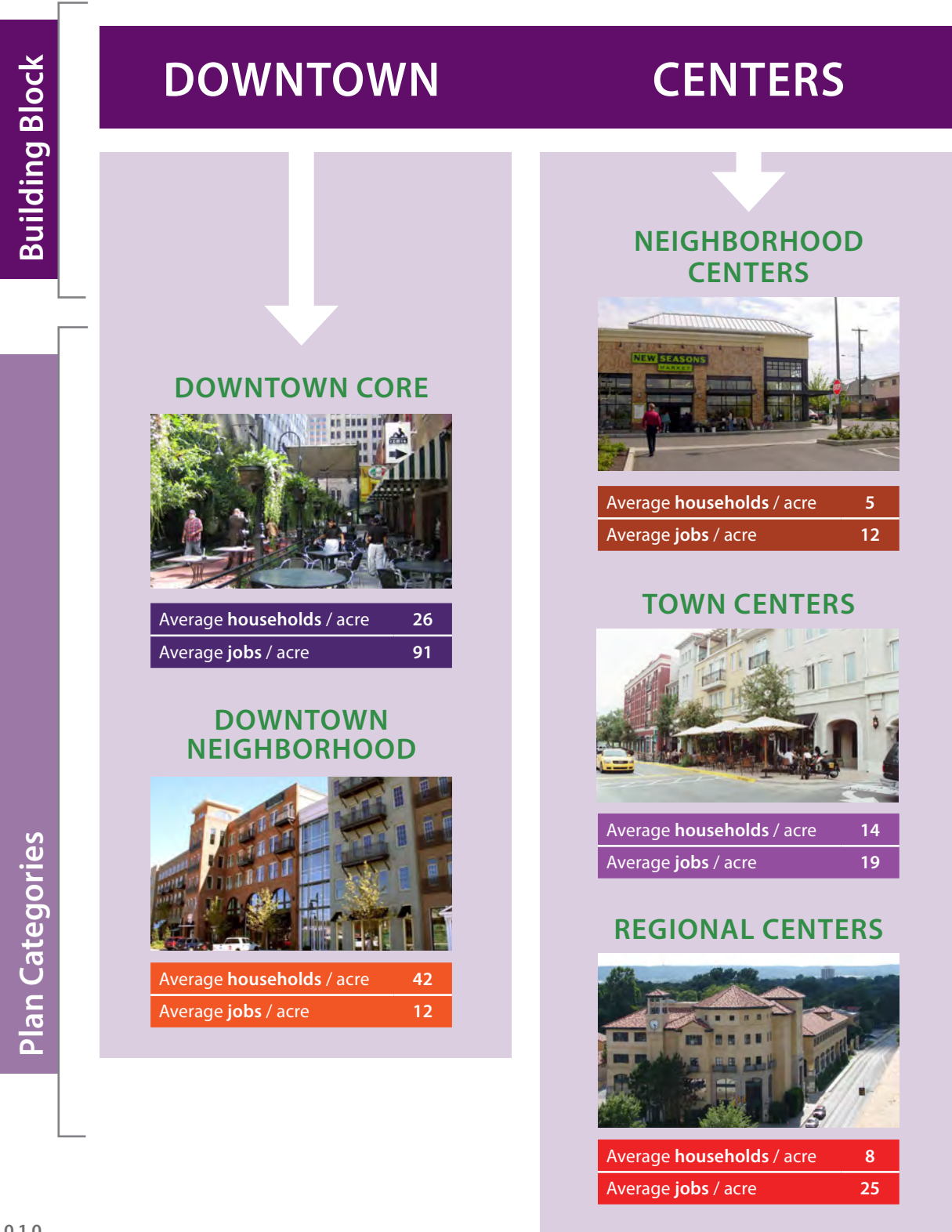
This designation includes neighborhood-serving parks, golf courses, and other public recreation areas. Amenities at these park facilities can include playgrounds, pools, nature trails, ball fields, and recreation centers. With the exception of private golf establishments, these areas are meant to be publically used and widely accessible, and infrastructure investments should ensure as much. Local parks are typically surrounded by existing neighborhoods and are designated areas of stability.

Open Space

Open spaces are the protected areas where development is inappropriate, and where the natural character of the environment improves the quality of life for city residents. These include environmentally sensitive areas (e.g., floodplains or steep contours) where construction and utility service would have negative effect on the city's natural systems. Open space tends to have limited access points, and is not used for recreation purposes. Development in environmentally sensitive areas is uncharacteristic and rare, and should

only occur following extensive study which shows that development will have no demonstrably negative effect. Open space also includes cemeteries, hazardous waste sites, and other similar areas without development and where future land development and utility service is inappropriate. Parcels in the city meeting this description of open space are designated as areas of stability.

Visualizing Building Blocks to Plan Categories



CORRIDORS

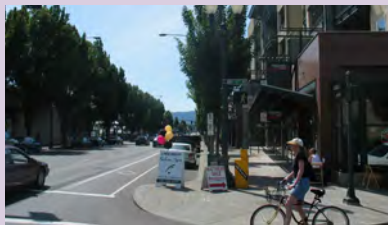


MAIN STREETS



Average households / acre	8
Average jobs / acre	16

MIXED-USE CORRIDORS



Average households / acre	9
Average jobs / acre	12

EXISTING RESIDENTIAL NEIGHBORHOODS

NEW RESIDENTIAL NEIGHBORHOODS



EXISTING RESIDENTIAL NEIGHBORHOODS



Average households / acre	4
Average jobs / acre	1

NEW RESIDENTIAL NEIGHBORHOODS

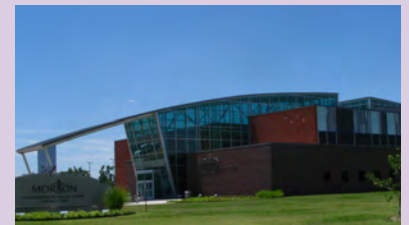


Average households / acre	4
Average jobs / acre	1

EMPLOYMENT

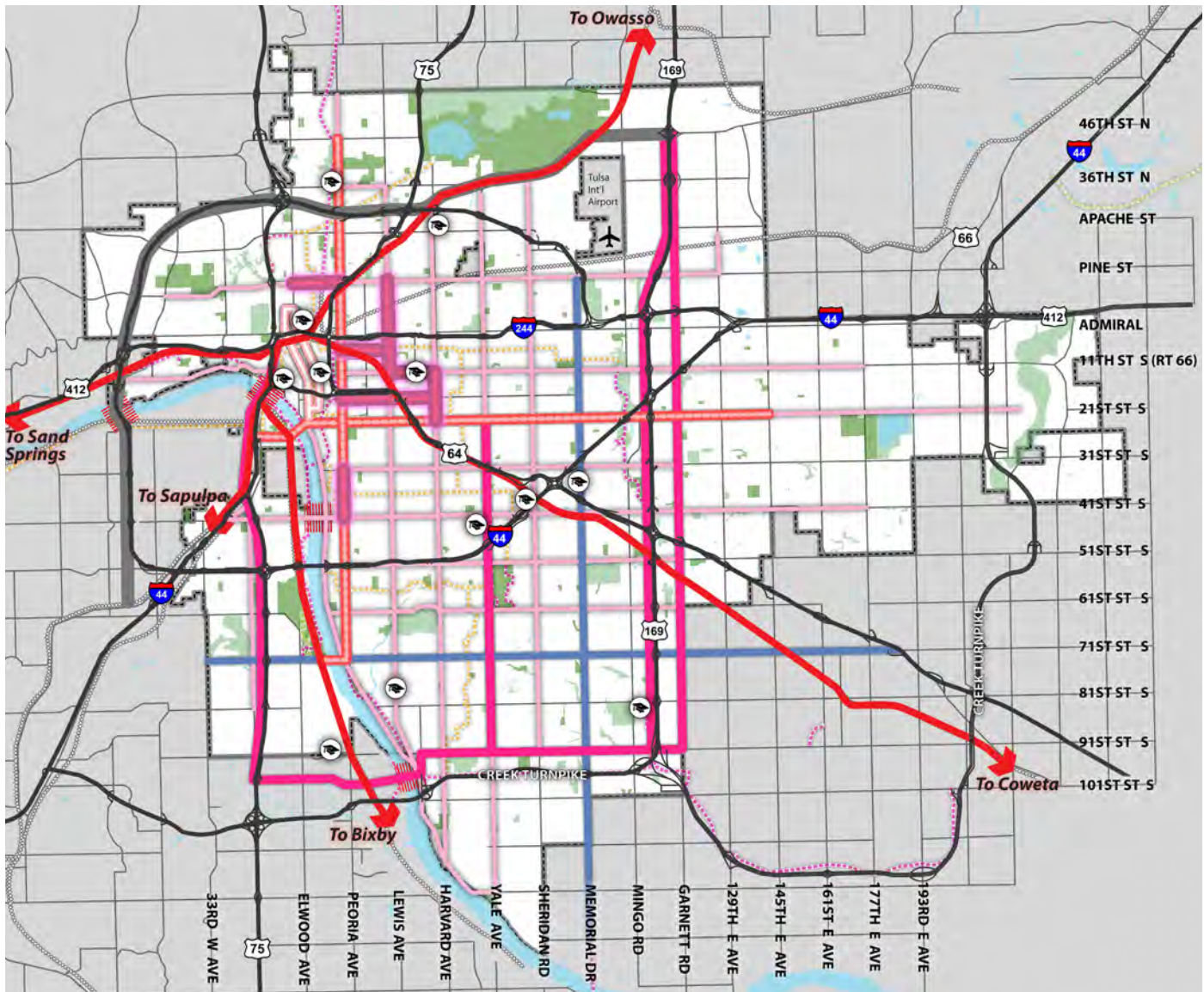


EMPLOYMENT


















Average households / acre	n/a
Average jobs / acre	19

Figure 13: Tulsa's Transportation Vision



Source: Kimley Horn Associates

TRANSPORTATION

- | | |
|---|--|
|  Rail Transit |  Freight Corridor |
|  Streetcar |  Multi-Use Trail |
|  Frequent Bus |  Bicycle Trail |
|  Bus Rapid Transit |  Hiking Trail |
|  Main Street |  Existing/Planned Freeway |
|  Commuter Corridor |  Parks |
|  Multi-Modal Corridor |  Open Space |
|  Possible Multi-Modal Bridge | |

The PLANiTULSA Transportation Vision illustrates the improvements to the street, transit, bicycle and pedestrian assets.

The exact alignment and technology of transit investments may be refined during a formal alternatives analysis (AA). For instance, the two BRT corridors shown on HWY 169 and Garnett are two potential alignments, one of which may be selected following more detailed analysis (see Transportation Appendix III). Furthermore, alignments that extend beyond the City of Tulsa's boundaries do not constitute an obligation on the part of other jurisdictions in terms of policy or investment.

As of printing, the multi-modal bridge at HWY-244 and Arkansas River is in the design stage.

Transportation Building Blocks

This section describes the land use implications of Tulsa's transportation needs; a more detailed discussion of transportation goals and policies can be found in the Transportation Chapter. **The two fundamental transportation building blocks are an expanded transit system and a network of multi-modal streets.**

Multi-Modal Street System

The first transportation building block is the multi-modal street system. A multi-modal street balances the needs of all modes of travel, giving people the option to walk, bike, ride transit or drive. **The street types include Main Streets, Multi-Modal Streets, Commuter Streets and Residential Collectors.** These street types attempt to strike a balance between functional classification, adjacent land use, and the competing travel needs.

This approach diverges from conventional street designs that emphasize automobile mobility and speed to the exclusion of other users. At the same time, it retains the city's existing classification system of arterials, collectors and local streets. Instead, it presents criteria to better classify their function and guide the redevelopment of existing facilities and the design of new ones. The conversion to multi-modal streets will occur incrementally as roads are re-designed, small area plans recommend changes to the road character and on-street bicycle facilities are needed to link key destinations and connect the off-street trails to neighborhoods. Further details can be found in the Transportation Chapter.

Table 6: Relating Transportation Building Blocks to Land Use Building Blocks

Land Use Building Blocks	Transportation Building Blocks			
	Main Streets	Multi-Modal Streets	Commuter Streets	Residential Collector Streets
Downtown	Y	Y	X	Y
Centers	Y	Y	Z	Y
Corridors	Y	Y	Z	X
New Residential	X	Z	X	Y
Existing Residential	X	Z	Z	Y
Employment	X	Y	Y	X

X = Not Applicable; Y = Applicable; Z = Acceptable

HOW TRANSPORTATION BUILDING BLOCKS RELATE TO LAND USE

The overarching approach to integrating land uses and transportation facilities is known as Context Sensitive Solutions (CSS). This process, described in the Transportation Chapter, provides more detailed direction for balancing or prioritizing the infrastructure for each mode of travel in the context of the adjacent land uses. CSS takes an interdisciplinary approach to street design that will further encourage coordination between traffic engineers, planners, urban designers, architects, emergency response officials, and the community when designing new streets or reconstructing existing streets. This approach fosters communication with those designing other elements of the community and results in better facilities and places.

Main Streets

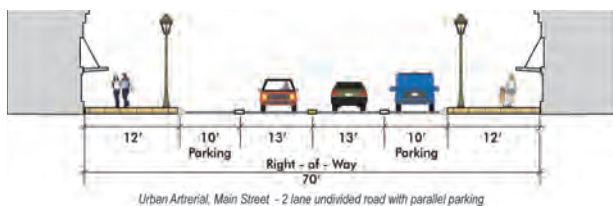
Main streets serve the highest intensity retail and mixed land uses in Tulsa's areas such as downtown and in regional and neighborhood centers. Like multi-modal streets, main streets are designed to promote walking, bicycling, and transit within an attractive landscaped corridor. Generally, main street activities are concentrated along a two to eight block area, but may extend further depending on the type of adjacent land uses and the area served.

Main streets can be designed with two to four travel lanes, although typically have only two lanes. On street parking usually is provided to serve adjacent land uses. Unlike typical strip commercial developments, main streets offer the ability to park-once and walk amongst various destinations, thus reducing arterial trip making. The key is to create convenient parking that is on-street or provided in a shared public parking lot. In order to ensure the walkability of a main street, careful consideration must be made to the design elements and amount of parking lots. To further create a pedestrian-friendly atmosphere, main streets have wide sidewalks, street furniture, outdoor cafes, plazas, and other public spaces.

Multi-Modal Streets

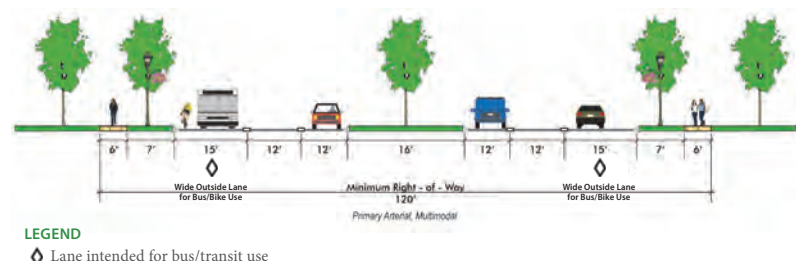
Multi-modal streets emphasize plenty of travel choices such as pedestrian, bicycle and transit use. Multi-modal streets are located in high intensity mixed-use commercial, retail and residential areas with substantial pedestrian activity. These streets are attractive for pedestrians and bicyclists because of landscaped medians and tree lawns. Multi-modal streets can have on-street parking and wide sidewalks depending on the type and intensity of adjacent commercial land uses. Transit dedicated lanes, bicycle lanes, landscaping and sidewalk width are higher priorities than the number of travel lanes on this type of street. To complete the street, frontages are required that address the street and provide comfortable and safe refuge for pedestrians while accommodating vehicles with efficient circulation and consolidated-shared parking.

Figure 14: Sample Main Street Cross Section



Further details can be found in the Transportation Chapter.

Figure 15: Sample Multi-Modal Street Cross Section



Commuter Streets

The most widespread commercial street type is the strip commercial arterial. These arterials typically serve commercial areas that contain many small retail strip centers with buildings set back from front parking lots. Because of this, strip commercial arterials have many intersections and driveways that provide access to adjacent businesses. Historically, this type of street is highly auto-oriented and tends to discourage walking and bicycling. On-street parking is infrequent.

Commuter streets are designed with multiple lanes divided by a landscaped median or a continuous two-way left turn lane in the center. Commuter streets are designed to balance traffic mobility with access to nearby businesses. However, because there are so many intersections and access points on commuter streets, they often become congested. Improvements to these streets should come in the form of access management, traffic signal timing and creative intersection lane capacity improvements.

Residential Collector Streets

Residential collector streets strengthen neighborhood cohesion, promote alternative transportation, calm traffic and connect recreational destinations. They typically can be applied in two instances: in new residential neighborhoods, or as retrofits in existing residential or downtown streets that may be wide, but do not provide sufficient parking, bicycle and pedestrian accommodations or traffic calming measures. These streets place a higher priority on landscaped medians, tree lawns, sidewalks, on-street parking, and bicycle lanes than the number of travel lanes.

Residential streets consist of two to four travel lanes, but place a much higher priority on pedestrian and bicycle friendliness than on auto mobility.

Figure 16: Sample Commuter Street Cross Section

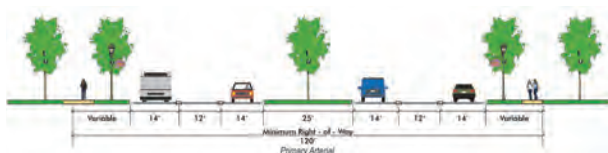


Figure 17: Sample Residential Collector Street Cross Section





THE LAND USE EFFICIENCY OF TRANSIT COMPARED TO FREEWAYS:

A typical light rail car handles 175 people during the peak hour operating conditions. Assuming 2 car trains and 5 minute headways, a light rail system can move roughly 8,400 people per hour within 40 feet of right-of-way including station locations. Thus, light rail can carry 210 persons per hour, per foot of right of way. In contrast, a four lane expressway with traffic moving in both directions (roughly 80 feet of pavement) can move roughly 9,600 people per hour, which equates 120 persons per hour, per foot of right of way.

Table 7: Car Attractions and Transit Needs

Car Attractions	Transit Needs
Door-to-door service goes anywhere convenient for multiple-destination trips	Enhanced service coverage and multiple-trip fares
Ready when needed	Frequent service
Comfortable and private protection from the elements	High-quality vehicles, seating and stations Protection from the elements
Carries personal goods	Room for parcels, bikes and strollers
Fosters family travel	Pleasant ambiance for families
Provides prestige, looks nice, conveys a sense of freedom and independence	Premium experience for travelers who travel in a more sustainable fashion

Source: Adapted from Metrolinx, Green Paper #7, March 2008

Expanded Transit System

The current delivery of public transportation in the Tulsa region is provided by the Metropolitan Tulsa Transit Authority (MTTA). The fixed route service provides riders with access to regional shopping, health care and employment centers adequately. The existing routes of the MTTA bus system offer a safe, reliable and affordable transportation alternative for its current ridership.

Expanding ridership for the system should come mostly from new choice riders. These riders typically own cars, but can be enticed to use transit by quality of service and convenience. Choice riders in Tulsa may be attracted to transit because of an array of social values, such as their desire to reduce their “carbon footprint” and be “green” but mostly they will be attracted by the qualities of a good transit system, such as fast and frequent service, amenities like bike racks, comfortable and quiet vehicles, and good accessibility from stations and stops to work, home, or other destinations. The following tables illustrate the advantages and disadvantages of transit compared to cars.

The purpose of the expanded transit system is twofold. First, it provides a reliable and convenient alternative to the automobile. Secondly, this new transit program will play an important role in influencing sustainable land-use patterns. People living and working in and around transit corridors can rely less on the automobile and use enhanced pedestrian, transit, and bicycle facilities. Households who elect to live near transit can often reduce the number of cars they own, reducing the need for parking facilities.

The elements of the expanded transit system include rail (both light rail and commuter rail), Bus Rapid Transit (BRT) and a variation on BRT called High Frequency Bus. A streetcar system will also play a vital role in Tulsa’s future transit system.

Rail Transit

The rail transit element of the expanded transit system consists of streetcar, light rail and commuter rail service. While streetcars share existing right-of-ways, light rail and commuter rail typically operate in designated rights of way separate from

other forms of transportation (i.e. cars, bikes, pedestrians, and freight rail). In addition, interfaces with other forms of transportation sometimes are grade separated (e.g., rail crossing of a major street) to reduce conflicts. Commuter rail differs from light rail in that it typically serves longer distance trips, has fewer stops within a corridor, uses diesel-powered vehicles and can share track with freight vehicles. The operational characteristics of light rail include smaller vehicles, better acceleration, electric power, yet they can not share track with freight vehicles due to safety requirements. Streetcars are a variation on light rail that do not need a designated right of way and can be mixed with other forms of transportation (i.e., cars, bikes, buses, and pedestrians) in a multi-modal street.

Both commuter rail and light rail provide advantages over the automobile. As demand increases, light rail and commuter rail lines can easily be expanded by adding cars to the trains or by increasing the frequency of service. Thus, rail can serve densely built areas such as downtown and spur urban densities in strategic corridors throughout Tulsa more efficiently than vehicles alone. Rail corridors also play a vital role in providing access to special events, sports and cultural facilities, and entertainment.

Bus Rapid Transit (BRT)

BRT is a relatively new technology that combines some aspects of rail transit with the flexibility of buses. It can operate on exclusive transit ways, high occupancy vehicle (HOV) lanes, expressways, or ordinary streets. Compared to typical diesel bus transit systems, a BRT system offers potential advantages by combining priority transit lanes, alternative fuel technology, cleaner and quieter operation, rapid and convenient fare collection, and integration with land-use policy.

High Frequency Bus

This new form of service operates in mixed traffic and has short stop spacing. Increased efficiency of this service comes from intelligent system operations. Priority and preemption is used at intersections and real-time information is given at stops through the utilization of Global Positioning Satellite (GPS) technology.

Table 8: Car Problems and Transit Advantages

Car Problems	Transit Advantage
Consumes land for roads and parking	Uses land and road space more efficiently
Slow and unreliable in high-traffic corridors	Rapid, frequent service in high-traffic corridors
Heavy traffic disrupts neighborhoods	High ridership helps build neighborhoods
Noisy and polluting	Relatively quiet and low polluting
Burns fossil fuel inefficiently	Uses cleaner energy sources more efficiently
Greater incidence of injuries and deaths for auto users and pedestrians	Fewer injuries and deaths for riders and pedestrians
Discourages walking and bicycling	Active modes feed/distribute transit trips
Air pollution, noise pollution, reduces daily exercise and the sprawl it induces has been linked to rising obesity rates in the US.	Provides opportunities for exercise
High public costs for infrastructure and support	More capacity per dollar invested

Source: Adapted from *Metrolinx, Green Paper #7*, March 2008

Building prototypes help illustrate the affects of specific factors such as zoning codes, housing and employment densities, and parking standards on hypothetical development or redevelopment.



From Plan to Prototypes to Zoning

One of the key innovations of the PLANiTULSA plan was the use of building prototypes, or models, to illustrate how the vision and plan can be translated into an implementable zoning code. Building prototypes can range from single-family homes and mixed-use buildings to regional retail malls and office buildings. They are built using a basic pro-forma spreadsheet that accounts for housing and employment densities, floor-area ratios, impervious surfaces, construction costs, financial feasibility, tax revenue and other key attributes. For instance, by adjusting various aspects of a prototypical building, such as the number of floors, the amount of parking required, or the proportion of retail space, a user can identify factors that affect its financial feasibility.

Building height limits, parking ratios, and setback requirements can significantly impact the market feasibility of development, but most zoning codes are never tested for market feasibility. There are several advantages to using prototypes to pre-test a zoning code. For one, prototypes can be created quickly and cheaply prior to the creation of a zoning district. They are also valuable public involvement tools that planners, developers and community members can use to model development concepts collaboratively. Prototypes provide important fiscal impact information, including estimated real estate value added and sales tax revenues from new development, to help illustrate the benefits of development.

PLANiTULSA Prototypes

Based on past trends and an analysis of Tulsa’s zoning code and development regulations, the PLANiTULSA team derived nine prototypical buildings that are commonly found in Tulsa. They are primarily single-use and include a large supply of on-site parking.

To illustrate how a more nuanced zoning code could produce a wider range of urban places and types, PLANiTULSA used a simplified financial pro forma to create a menu of additional building prototypes. The new prototypes focused on combining compatible uses, such as housing, offices, and ground floor retail. They also included a wider range of housing types, from cottage homes (small detached units), townhouses, and live-work units that could easily blend into existing neighborhoods.

The prototypes were further calibrated for market feasibility. Local builders and developers were interviewed for information on construction costs, prevailing rents and sales prices, and financing

conditions. One of the key components of the market feasibility was to adjust parking requirements from Tulsa’s current high levels to more urban standards. Reducing the amount of land needed for parking helped make the prototypes economically feasible while also improving their performance as infill buildings. Excessive setbacks were also reduced, so the buildings could present a unified street wall along the sidewalk. These prototypes were used to illustrate the public workshop growth concepts, and were directly tied to the land use and transportation scenarios reviewed by the public.

The important lessons learned from this exercise was that zoning and regulations really matter – they allow or prohibit the creation of urban places through the accumulated effects of development. High parking requirements force buildings far apart from one another, degrading the pedestrian realm and increasing the marginal cost of producing homes or employment space. These new prototypes will complement the kinds of places Tulsa is already building.

Table 9: Typical and Expanded Prototypes

Typical Building Prototypes Found in Tulsa	Expanded Building Prototypes Based on New Standards
Apartment	Cottage Home
Single Family Home 5-8K Lot	Townhouse
Single Family Home 8-15K Lot	Live / Work
Business Park	Neighborhood Grocery (1 Story)
Mid-Rise Business Park	Neighborhood Retail (1 Story)
Retail Mall	Mixed Use Apartments & Retail (2 Story)
Strip Commercial	Mixed Use Retail & Office (2 Story)
Heavy Industrial	Mixed Use Retail & Office (3 Story)
Light Industrial	Mixed Use Residential & Retail (4 Story)
	High Density Condo or Apartments (5 Story)
	Office Retail (3 Story)
	Office Retail (5 Story)
	Office Retail (10 Story)

Harmonizing Tulsa's Planning and Zoning System

Many cities have improved the process for infill and redevelopment by adopting modern zoning codes that are designed to match desired community outcomes and plans. These zoning codes provide easy to read diagrams for the kinds of buildings that are permitted, their relationship to the street and surrounding neighborhood, and the uses that are permitted within them. The result is a menu of types of development that are desirable and can be built by right. Developers and communities benefit from more certainty, and government agencies reduce their administration costs.

If Tulsa is to build its vision for the future, it must ensure that this process is the default. One of the primary recommendations of this plan is the revision of Tulsa's zoning code, in order to provide for a reliable, predictable path for desired redevelopment, allow for innovative parking, and ensure great urban design for both infill and new neighborhoods and business areas.

Using prototypes to test the effects of a zoning code's

effect on the shape, function, and cost of development will help ensure that the code is designed to maximize development opportunities. Tulsa's new comprehensive plan will need to be implemented by a zoning code that is designed to accommodate the kind of development the city needs. There were several lessons learned from the prototype exercise that should be reflected in the new code; Tulsa needs:

- A range of zoning districts that allow mixed-use buildings by right;
- A shared parking district overlay to be used in conjunction with a shared parking analysis to estimate actual parking needs;
- To adjust parking requirements to more accurately reflect parking needs in the context of shared parking districts;
- To revise set-back standards to allow buildings to be built along the sidewalk, rather than pushed to the rear of the lot with parking in front.

Tulsa Goal 2030

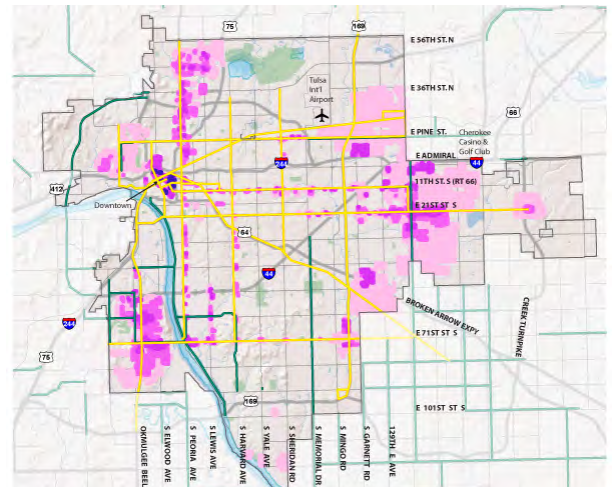
The PLANiTULSA team created four initial growth and transportation scenarios based on past trends and public workshop input. These were primarily “learning scenarios”, meant to test a range of growth impacts, from the amount land consumed by new development, to the density of neighborhoods and job centers, and performance of the transportation system. Tulsans were invited to review, rank, and provide input on what they liked and disliked about each scenario.

The survey results indicated a strong preference for the two scenarios that focused growth on downtown (Scenario D) and in new communities (Scenario C). Scenario A, Trends Continue, was based on historical trends continuing over the next 20 years. This scenario represented the least amount of growth and investment in the city. It was based on past trends of disaggregation of housing and jobs at the edges of and beyond the city’s borders. Trends Continue was the least popular scenario in the citywide survey.

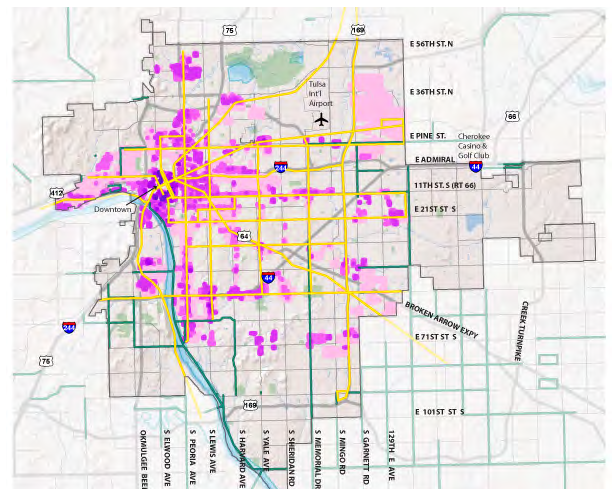
Based on this public input and work with city staff and stakeholders, the PLANiTULSA team blended the scenario results into Tulsa 2030 Goal, which will serve as a monitoring and performance guide for the comprehensive plan. Compared with the initial Tulsa 2030 Goal that was built to project Tulsa’s current trends, Tulsa 2030 Goal would result in significant growth and reinvestment in the city.

One of the key inputs to this plan was a series of scenarios that modeled alternative futures based on different growth and transportation patterns. What may seem like a small change today can have a big impact in the future. For example, the amount of surface parking required for a retail store may seem like a minor issue at the neighborhood scale, but over time and across the city, the amount of land consumed just by surface parking lots can be enormous. By adjusting specific requirements (e.g. parking spaces required, minimum lot size per house, whether or not retail is allowed on the ground floor of an apartment building) a community can simulate and evaluate any number of futures.

Scenario C: New Communities



Scenario D: Centered City



Scenario A: Trends Continue

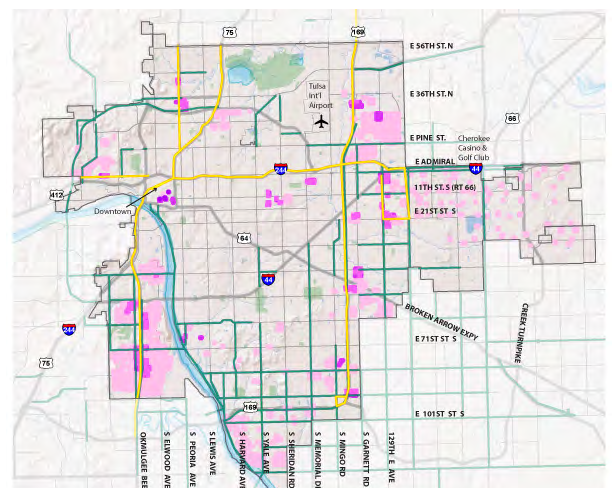
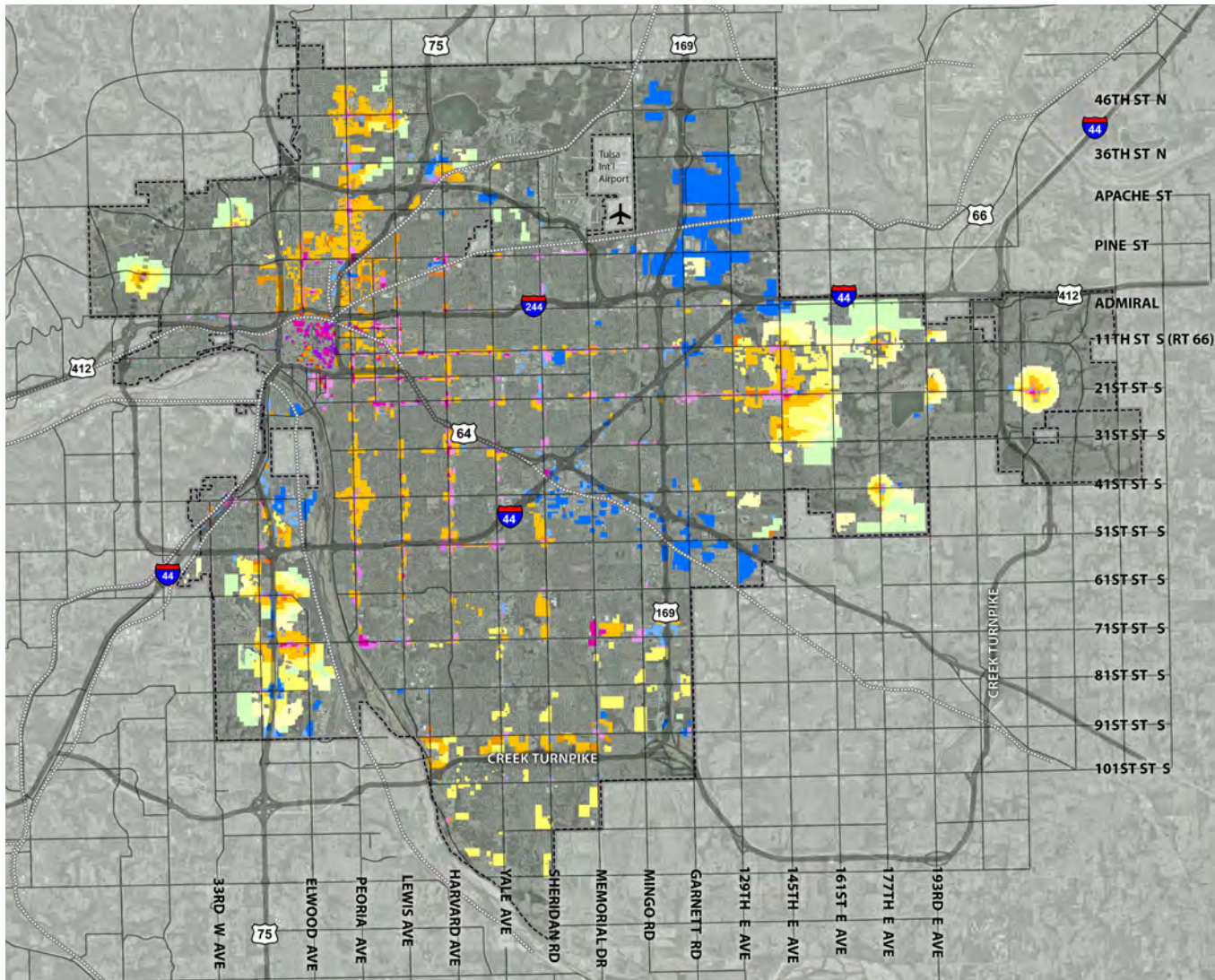


Figure 18: Tulsa 2030 Goal



Source: Fregonese Associates

DEVELOPMENT TYPES

Office Tower	Townhome/Rowhouse
Condo Tower	Small-Lot Subdivision
Downtown	Residential Subdivision
Downtown Residential	Large-Lot Subdivision
Urban Core	Estate Residential
Main Street	Business Park
Urban Residential	Mall Retail
Urban Village	Industry
Transit-Oriented Development	Auto Commercial
Apartments	

Tulsa 2030 Goal: A Blend of Scenarios C and D

The Tulsa 2030 Goal was based on the two most popular scenarios in the citywide survey, and represents a look at how Tulsa could develop under the policies in this plan.

Tulsa 2030 Goal Analysis

Tulsa 2030 Goal would result in about three times as many new people living in Tulsa as under the Trends Continue Scenario.

East Tulsa would receive the largest share of new housing units, primarily because it has a significant supply of vacant land. Many of these new homes would be in neighborhoods designed for walkability and would be served by nearby town centers. Downtown would receive about 2,000 new households, thus adding a significant cadre of urban dwellers in the region's center.

Job growth and employment space construction would also be significantly higher under Tulsa 2030 Goal than under Trends Continue.

A sizeable portion of new job growth would occur in East Tulsa, again because of the availability of vacant land. Downtown would account for almost one fifth of new jobs, however, and Tulsa North would receive one in ten new jobs added.

In terms of housing choice, Tulsa 2030 Goal provides about the same proportion of single-family units as Trends Continue. These results are in accordance with the housing needs analysis described in the Housing Chapter of this plan. There would be a wider range of single family home types, however, ranging from large, to medium, to small lot. In addition, there would be more emphasis on townhouses. Apartments and condominiums would also be an important source of housing.

Note: Household and Job summaries by area do not sum exactly to the citywide totals, due to how geographies are defined and sampled.

Table 10: New Population and Households

	Trends Continue	Tulsa 2030 Goal
Population	28,628	102,463
Housing Units	13,066	46,766

Table 11: New Households by Area

	Trends Continue	Tulsa 2030 Goal	% Tulsa 2030 Goal
Downtown	336	2,069	4%
East Tulsa	3,511	15,198	32%
Midtown	-	3,883	8%
South Tulsa	3,052	7,446	16%
Southwest Tulsa	4,710	7,050	15%
Tulsa North	525	8,799	19%
West Tulsa	934	2,320	5%

Table 12: New Jobs

	Trends Continue	Tulsa 2030 Goal
Jobs	23,859	46,897

Table 13: New Jobs by Area

	Trends Continue	Tulsa 2030 Goal	% Tulsa 2030 Goal
Downtown	428	7,383	16%
East Tulsa	12,835	17,451	37%
Midtown	546	4,490	10%
South Tulsa	2,091	4,657	10%
Southwest Tulsa	6,863	6,868	15%
Tulsa North	934	5,062	11%
West Tulsa	162	929	2%

Table 14: Housing Profile

	Trends Continue	Tulsa 2030 Goal
Single-family	8,101	30,009
Townhouses	392	3,645
Multi-family	4,573	13,111

Table 15: Infill Development

	Trends Continue	Tulsa 2030 Goal
Housing Units	556	8,711
% of Units	4%	19%
Jobs	1,636	12,393
% of Jobs	7%	26%

Table 16: Mixed-Use Environments and Density

	Trends Continue	Tulsa 2030 Goal
Housing Units	998	15,788
% of Units	8%	34%
Jobs	839	19,811
% of Jobs	4%	42%
Net Residential Density per Acre	4.7	6.7

Table 17: Share of Total Infill and Mixed-Use Housing (by district)

	Infill Housing	Mixed-Use Housing
Downtown	8%	13%
East Tulsa	13%	15%
Midtown	28%	17%
South Tulsa	22%	17%
Southwest Tulsa	4%	6%
Tulsa North	21%	28%
West Tulsa	4%	5%

Table 18: Net Sales Tax Impact

	Trends Continue	Tulsa 2030 Goal
City of Tulsa 3%	\$16,125,000	\$37,833,000

Table 19: Total Value of New Construction
(billions of dollars)

	Trends Continue	Tulsa 2030 Goal
Aggregate Building Value	\$5.14 billion	\$15.2 billion

As a consequence of partially basing Tulsa 2030 Goal on the pattern that includes the availability of vacant land there is substantial growth within the eastern parts of city. But growth would occur more efficiently, than under Trends Continue. Of all the new housing and jobs created, one fifth and one third, respectively, would take the form of infill development.

Furthermore, Tulsa 2030 Goal is more successful at delivering mixed-use housing and employment types than would occur under Trends Continue. One third of new housing units would be in a mixed-use environment, where residents and workers could easily walk to shops or services. These new housing units and jobs would help support the city's transit systems and provide reinvestment along the city's corridors. It should be noted, that the overall density of new residential development would not be radically higher than under Trends Continue.

Different areas of the city will have different amounts of mixed-use housing and jobs. Downtown is considered an entirely mixed-use area, and Midtown, because of its heavy emphasis on main streets will be mostly mixed-use. But East Tulsa, with a larger proportion of single-family neighborhoods will have a lower proportion of mixed-use units, overall. The large amount of employment lands in East Tulsa also reduces its overall share of mixed-use jobs. Most areas of the city would see about half of new jobs in mixed-use environments.

Fiscally, Tulsa 2030 Goal would result in a greater overall benefit to the city of Tulsa, in terms of sales tax revenue. The net increase in annual sales tax revenue would be more than double what would be collected under the Trends Continue scenario. Furthermore, Tulsa 2030 Goal would result about three times as much new construction (by value) in the city.

Land Use Plan Build-Out Capacity

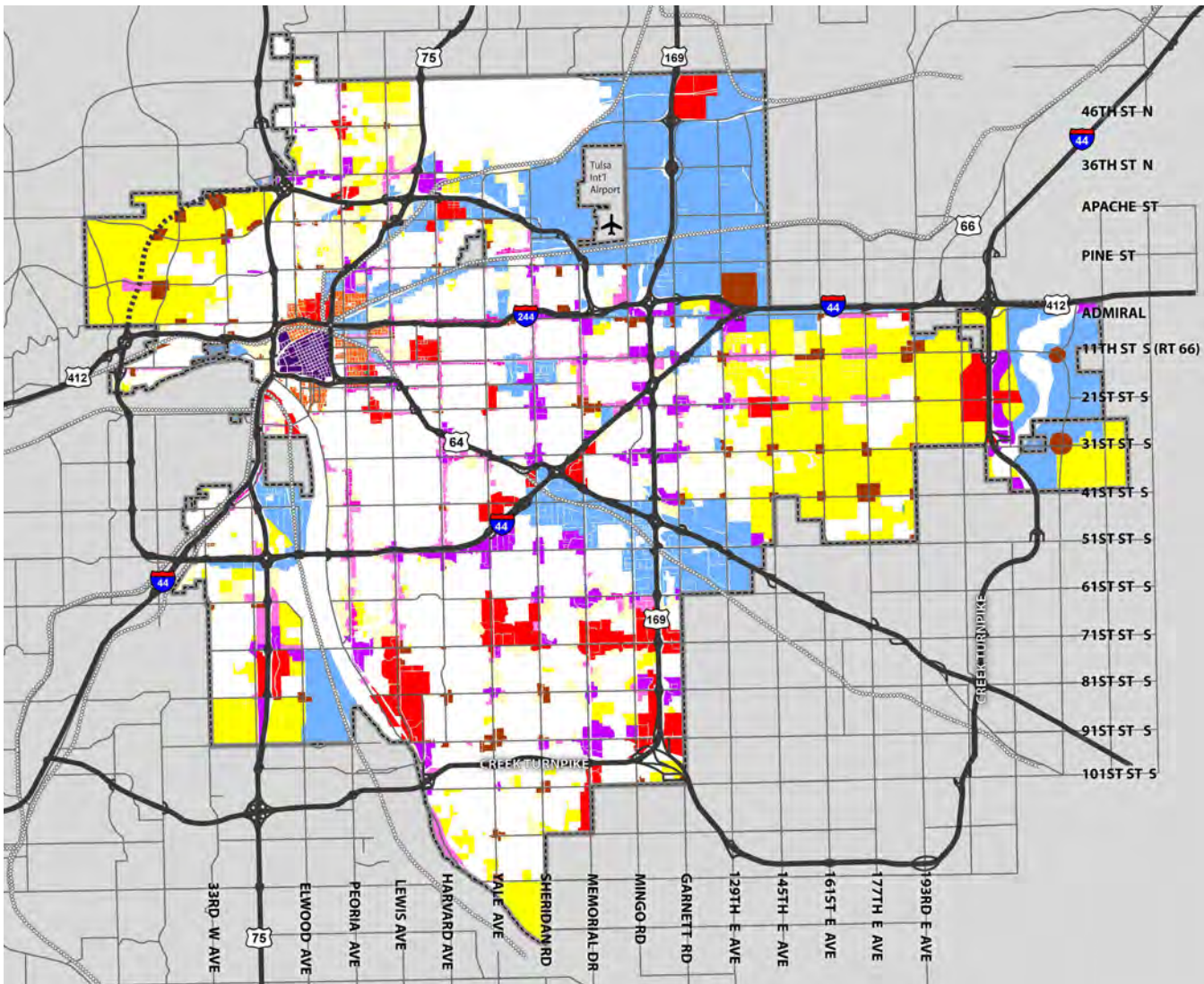
In addition to Tulsa 2030 Goal, the PLANiTULSA team developed a long-range estimate of the total build-out capacity of Tulsa's new comprehensive plan. It is based on the land use plan categories outlined above and illustrates how these different environments can contribute to Tulsa's overall shape and form. Existing neighborhoods were not included in this analysis, with the assumption that they will not absorb large amounts of growth. Unconstrained buildable lands were assumed to develop in their entirety, while redevelopment lands were assumed to redevelop at a 20% rate, a fairly conservative figure. Floodplains were assumed to develop at 50%, assuming engineering and mitigation is used.

The total build-out capacity of the plan is three times higher than what is forecasted under Tulsa 2030 Goal for housing units, and seven times higher for jobs. Under this analysis Downtown and surrounding neighborhoods receive 5% of the city's job growth, and 10% of new housing. Because downtown has and will continue to have the most flexible and permissive of developments standards, however, this is a very conservative estimate. Corridors, as a whole account for about 10% of new housing units and 5% of jobs. Centers and new neighborhoods account for the largest portions of growth; new neighborhoods representing the majority of new homes. Finally, employment areas account for more than half of employment capacity.

Table 20: Build-Out Capacity by Plan Category

	Housing Units	% of total	Jobs	% of total
Downtown Core	3,800	3%	13,358	4%
Downtown Neighborhood	9,275	7%	2,625	1%
Downtown Total	13,074	10%	15,983	5%
Main Street	1,344	1%	2,692	1%
Mixed-Use Corridor	12,381	9%	15,618	4%
Corridors Total	13,725	10%	18,310	5%
Town Center	25,328	19%	33,584	10%
Neighborhood Center	6,379	5%	15,777	5%
Regional Center	22,672	17%	71,510	20%
Centers Total	54,379	40%	120,871	35%
New Neighborhoods	55,629	41%	12,224	3%
Employment	n/a	n/a	182,616	52%
Existing Neighborhood	n/a	n/a	n/a	n/a
Total	136,807		350,004	

Figure 19: Build-Out Capacity within Areas of Growth (Conceptual Map)



NOTE: See page 89 for an accurate and updated Land Use map.

Source: Fregonese Associates

LAND USE CATEGORIES

 Downtown	 Regional Center
 Downtown Neighborhood	 New Neighborhood
 Main Street	 Existing Neighborhood
 Mixed-use Corridor	 Employment
 Town Center	
 Neighborhood Center	

Some Lessons Learned and Indicators from Tulsa 2030 Goal and Build-out Capacity

While growth and development may not occur exactly as depicted in the scenario, keeping in mind some of the following broader indicators will be useful. A more comprehensive, long-term framework for measuring the performance of the plan in meeting *Our Vision for Tulsa's* objectives is outlined in the Monitoring Plan.

Population and Job Growth

The 20-year housing and job growth forecasts in Tulsa 2030 Goal assumes a 1:1 relationship, so that as employment increases, housing is added to accommodate new families. The number of new homes and jobs should be roughly 2,300 per year, on a straight-line average basis. The city should carefully monitor this jobs-to-housing ratio, most likely in three- to five-year increments. The city should also monitor job and household growth in sub-areas of the city. For example, in East Tulsa, where vacant land and easy access to Tulsa International Airport and nearby employment lands will spur growth. To maintain a balance of jobs and housing growth, the city should be prepared to engage in necessary small area planning so new communities can be built quickly.

Housing Profile

The mix of housing units is a subset of overall housing production. Tulsa will likely need one-third of its new homes to be apartments, condominiums, flats, and townhouses. On a straight-line average basis, that equates to about 850 units per year. To ensure that the mix of new housing is sufficiently diverse, the city should monitor building permit records annually.

Land Consumption

Tulsa 2030 Goal forecasts the consumption of about 10,000 acres of vacant and 1,000 of redeveloped land over the 20-year planning period. On a straight-line

measure, this represents about 500 acres of vacant and 50 acres of redeveloped land per year. Tulsa should establish a process by which vacant and redeveloped land consumption can be measured on a three- to five-year basis. The amount of redeveloped land will likely lag in early years as the city's redevelopment and infill strategies come online.

Mixed-use Environments

A key finding of the public outreach process was the desire to create more opportunity for mixed-use environments in Tulsa. Tulsa 2030 Goal places about one third of new housing units and half of new jobs in this kind of development. Mixed-use developments will be a key component of meeting Tulsa's goals of making walking, biking, and transit more viable modes. The city should carefully monitor these developments in centers, new communities and along transit corridors.

Fiscal Impacts

Tulsa 2030 Goal results in a greater increase in sales tax revenue than the Trends Continue, in part because it assumes a greater amount of total growth. Sales tax revenues are regularly reported to the city, but they represent a lagging indicator. Redevelopment rates and mixed-use development, a combination of population and job growth, will help establish forward-looking fiscal indicators. Development on infill land should result in a greater proportional boost to both sales and property tax revenue than vacant land. Mixed-use development tends to capture a greater share of trips internally, which lessens auto travel and the need for road maintenance — this will add to both the city's revenue base and reduce expenses.

Land Use Part VI: Managing the Plan

The comprehensive plan is the blueprint for how Tulsa will be shaped over the next 30 years. It lays out the goals, and policies that will guide decisions about how to invest in infrastructure and transportation, how land should be zoned for development, and what initiatives, such as small area or new community plans, should be undertaken.

The plan translates widely-held values and priorities from *Our Vision for Tulsa* into a set of long-range priorities and policies. It is not an immutable document, however. It can and should evolve over time as the city grows and changes. Technological, cultural, and environmental shifts are hard to predict, and the plan should not unnecessarily bind the city to policies that cannot be adapted. That said, the plan should not be altered too often or without public involvement and an evaluation of its performance.

Management Tools

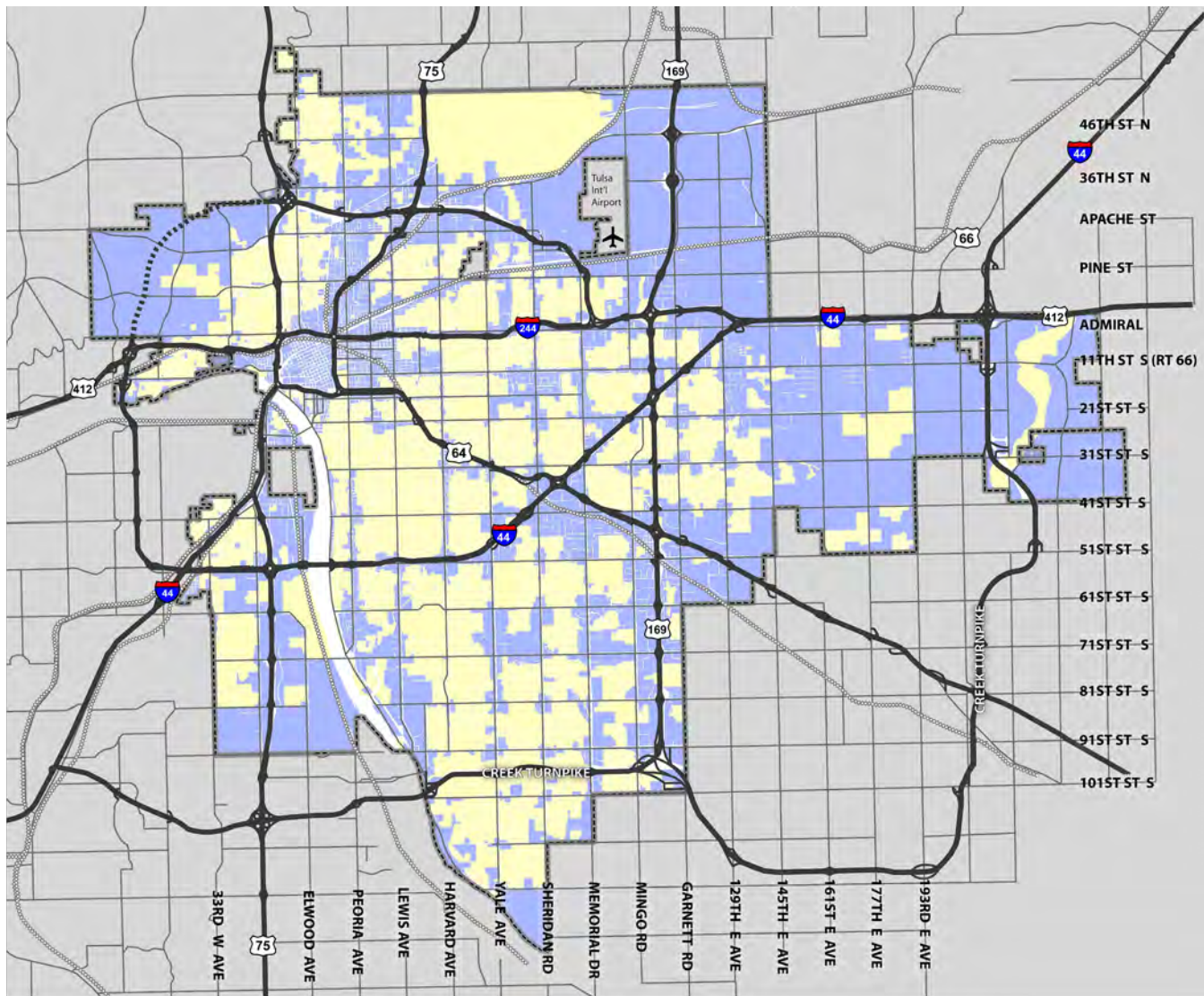
This plan has been designed with some tools that will help guide decision makers in managing and implementing its goals. The Areas of Stability and Growth map and policies are intended to prioritize where the majority of growth and investment should take place and which neighborhoods should remain substantially as they are. The city's zoning code translates overarching land use goals into specific use and development regulations at the parcel level. The zoning code must be aligned with the vision and plan map so as to shape development in a way that meets those goals. The small area and neighborhood planning process provides a structure for how to go about working with specific areas to implement the vision. This includes working with areas that are already developed and are in need of infill strategies, and new communities on vacant land, both inside the city and in areas to be annexed.

Areas of Stability

Shaping Tulsa's future involves more than deciding where and how new development will take place. It is equally important to enhance those qualities that attracted people here in the first place. In recognition of how strongly Tulsa's citizens feel about their neighborhoods, the comprehensive plan includes tools for the maintenance of valued community characteristics in older and stable neighborhoods. These new measures provide tools that address rehabilitation of property and help shape where and how redevelopment occurs.

The Areas of Stability includes approximately 75% of the city's total parcels. Existing residential neighborhoods, where change is expected to be minimal, make up a large proportion of the Areas of Stability. The ideal for the Areas of Stability is to identify and maintain the valued character of an area while accommodating the rehabilitation,

Figure 20: Areas of Stability and Growth (Conceptual Map)



NOTE: See page 90 for an accurate and updated map.

Source: Fregonese Associates

- Area of Stability
- Area of Growth

improvement or replacement of existing homes, and small scale infill projects. The concept of stability and growth is specifically designed to enhance the unique qualities of older neighborhoods that are looking for new ways to preserve their character and quality of life. The concept of stability and growth is specifically designed to enhance the unique qualities of older neighborhoods that are looking for new ways to preserve their character and quality of life.

Relationship to Areas of Growth

The plan focuses growth where it will be most beneficial, i.e., Areas of Growth, and away from where it may have some negative consequences, i.e., Areas of Stability. Thus Areas of Stability and Areas of Growth are interrelated.

Despite this relationship, Areas of Stability and Growth should not be considered as mutually exclusive. First, each area in the city can be thought of as located on a continuum from growth to stability. Second, in stable residential neighborhoods there are often elements of stagnant commercial development that would benefit from revitalization. These areas, due to their lack of reinvestment, have a negative visual impact on the surrounding area. In Areas of Growth there are sometimes pockets of stable residential development; these areas should be noted and considered stable.

Types of Areas of Stability

While residents of many parts of Tulsa seek to maintain the character of their neighborhoods, these predominantly residential areas do not all have similar characteristics. The Areas of Stability can be thought of as belonging predominantly to one of the following two categories: “Established Areas” and “Reinvestment Areas”, as described below.

ESTABLISHED AREAS

Established areas are those neighborhoods that have a sufficient level of property investment such that

they would be harmed by large amounts of infill redevelopment. For example, reinvestment in the Florence Park neighborhood is not necessary to improve its character. Tools appropriate for this neighborhood seek to maintain present character and to motivate modest redevelopment of selected areas such as vacant lots or dilapidated homes. Programs for Established Areas may also encourage new investment in parks, streets, and other facilities.

Established Areas of Stability face many different challenges. For example, some neighborhoods are primarily concerned about the transitions or lack of transitions between commercial areas and residential areas. Some neighborhoods are primarily concerned with traffic issues. Other neighborhoods are primarily concerned about the expansion or replacement of housing that sometimes results in designs incompatible with existing single-family houses. The challenge in these places is to preserve character without preventing property owners from reinvesting in, rehabilitating or rebuilding their homes.

REINVESTMENT AREAS

Reinvestment areas are those that have an overall character that is desirable to maintain, but would benefit from reinvestment through modest infill and redevelopment, or major projects in a small area such as an abandoned or underused commercial area. These areas would encourage investment, but in a more limited and targeted way than in Areas of Growth.

Residents in these areas face a variety of challenges and opportunities. Challenges include concern over inadequate sidewalks, inappropriate land uses or inadequate buffering between uses, lack of services such as grocery stores, and maintaining their housing stock. Opportunities can also vary widely. Examples include redeeming vacant land for neighborhood parks or redeveloping underutilized land to provide needed neighborhood services.

This plan does not identify which areas are Established and which are Reinvestment Areas. These distinctions will shift and change over time as Tulsa develops, and many neighborhoods will not cleanly fit into the committed or reinvestment types. Thus, through the small area and neighborhood planning process, the community and the city can identify the proper tools to promote redevelopment in one portion of a neighborhood and those to stabilize other portions.

From Stability to Growth

As the comprehensive plan is implemented, many areas currently designated as stability may transition to those that should support growth. Where appropriate, this may be accomplished with small area plans, master development plans, and planned unit developments.

Areas of Growth

The purpose of Areas of Growth is to direct the allocation of resources and channel growth to where it will be beneficial and can best improve access to jobs, housing, and services with fewer and shorter auto trips. Areas of Growth are parts of the city where general agreement exists that development or redevelopment is beneficial. As steps are taken to plan for, and, in some cases, develop or redevelop these areas, ensuring that existing residents will not be displaced is a high priority. A major goal is to increase economic activity in the area to benefit existing residents and businesses, and where necessary, provide the stimulus to redevelop.

Areas of Growth are found throughout Tulsa. These areas have many different characteristics but some of the more common traits are close proximity to or abutting an arterial street, major employment and industrial areas, or areas of the city with an abundance of vacant land. Also, several of the Areas of Growth are in or near downtown. Areas of Growth provide Tulsa with the opportunity to focus growth in a way that benefits the City as a whole. Development in these areas will provide housing choice and excellent access to efficient forms of transportation including walking, biking, transit, and the automobile.

From Growth to Stability

As the comprehensive plan is implemented, many areas currently designated as growth will transition to those that should remain stable. This will occur particularly in new communities that develop on vacant land, but also where redevelopment successfully revitalizes main streets or centers.

CRITERIA FOR AREAS OF GROWTH AND FOR SELECTING ADDITIONAL AREAS OF GROWTH IN THE FUTURE

The following criteria were used to select the Areas of Growth in the plan. After the plan is adopted, new or revised Areas of Growth can be proposed based on these same criteria.

- Underutilized land, especially surface parking lots or vacant buildings downtown or along corridors
 - Areas already undergoing positive change which is expected to continue
 - Areas adjacent to transit and around transit stations, existing and planned
 - Areas along corridors with frequent bus service that can accommodate development on underutilized land
 - Locations where appropriate infill development will promote shorter and less frequent auto trips
 - Areas with special opportunities such as where major public or private investments are planned
-

Tulsa's Zoning Code

The comprehensive plan is a statement of policy about the desired future form and function of the City. The implementation instrument of the city's land use policy is the zoning code, which applies rules and regulations to property developments. Modern zoning codes are more than just proscriptive documents, however. They describe the types of places that should be built with images and diagrams. They convey to the developer or architect how a building should relate to the street, while still allowing creativity in design.

Alignment with the Vision and Comprehensive Plan

The PLANiTULSA comprehensive plan map outlines a revised set of plan categories for the city. These categories are based on the fundamental building blocks outlined in *Our Vision for Tulsa*, and represent the kinds of places that registered strong support throughout the citywide planning process. Most building blocks have a couple of more specific planning categories within them. For example, the Centers building block encompasses Neighborhood Centers (small mixed use areas that serve a neighborhood or two), Town Centers (larger mixed-use areas that serve several neighborhoods) and Regional Centers (which include large employers, hospitals, or regional shopping). Which plan categories are applied where depends on the specific characteristics and needs of the area.

These plan categories are implemented by zoning regulations, which apply setback, height, and other development standards. A variety of zoning districts can be applied within a plan category area. For example, parcels in a Main Street area that face a business and shopping street should be zoned for mixed-use buildings, three to four stories high, with storefronts on the main floor. Parcels located off the main corridor that face a residential area should be zoned for low-rise

condominiums, apartments, townhouses, or small-lot single family homes with a maximum height of two to three stories. Thus, the Main Street area is enlivened by appropriate development along its principal corridor, a diverse set of housing options is available nearby, and nearby neighborhoods are not adversely affected by tall buildings or traffic.

This policy structure has several advantages over a system that relies on PUD zoning. First, it transfers the most important decisions about how a place should look, feel, and function to the long-term planning stage. This is when robust public involvement is the most effective. The community can form a consensus about what is needed and desired, and developers then have a clear set of standards to meet. Second, the plan category provides performance criteria for zoning designations. Third, the zoning districts expressly define the types of uses that are desired in the area and allow them by right. Finally, a range of zoning types within each planning category provides some flexibility for different neighborhood conditions.

Zoning Code Structure and Form

Zoning codes have evolved since their inception in the early 20th century and separate-use Euclidean zoning has given way to a more balanced approach that recognizes the benefits of mixing some uses in urban environments. Codes have become more usable by incorporating drawings and diagrams to illustrate how the regulations should be applied. The most modern codes have moved off the printed page and onto the Internet. These are less costly to maintain, but more importantly, are easier for the general public to access, and can take advantage of advanced mapping, display and communication capabilities.

An easily searchable and understandable zoning code that is accessible on the Internet should be a long-

term goal of the City's planning department. In the short term, however, it may be sufficient to reorganize the zoning code and add some key districts that it currently lacks.

Amendments and revisions to the zoning code should be analyzed to ensure compatibility with the comprehensive plan. This compatibility language should be included as a chapter in the new code to ensure that the new zoning is developed and applied to implement the comprehensive plan.

Applying the Zoning Code

The process by which Tulsa's zoning code is applied is an important piece of the comprehensive plan implementation. The PLANiTULSA land use categories are designed to incorporate a range of possible zoning designations. How those zones are applied to specific parcels should depend primarily on how those parcels relate to the street and the surrounding land uses (existing or planned). This nested arrangement of plan categories and zoning designations, described above, establishes the overall goal and character of an area, but allows flexibility at the parcel-level.

It is inevitable that in years to come, the city and landowners will desire to rezone land. In cases where a small area plan already exists, rezoning should be guided by that small area plan. Where no small area plan exists, the plan map and the Comprehensive Plan Goals should serve as a guide for determining whether the proposed zoning district is appropriate. It is important to note that there will routinely be requests for rezoning, especially for land under single ownership, small numbers of parcels, and small areas of land, that are not associated with a small area plan and the plan map will guide these decisions.

Potential New Zoning District Categories

MIXED-USE DISTRICTS

A mixed-use district that can be applied in areas outside of downtown is one important element that should be added to the zoning code. These districts should enable, by right, the construction of buildings that combine housing, retail, and some employment uses. There should be several types, including low-rise, mid-rise and high-rise, with the understanding that low- and mid-rise will be the most commonly used. The classic main street building with dwellings over a storefront typifies low-rise mixed-use district.

PARKING MANAGEMENT DISTRICTS

A second new zoning category that should be considered is a parking management district that would provide adjusted parking requirements and a management plan for a particular area, such as a main street corridor. Prior to receiving this designation, the area in question should be analyzed for parking capacity, future development, and the feasibility of implementing a shared parking system.

Mixed-use and parking management zoning districts could be applied concurrently under the guidance of a small area or neighborhood planning process.

Urban Design Concepts and Principles

Walkable mixed-use neighborhoods represent the most basic places that are economically stable and environmentally sustainable. Each day residents and workers travel to meet an array of needs. If a modest fraction of these trips are made on foot, then Tulsa will realize significant economic, environmental, and social benefits. Car use and expensive roadway infrastructure can be reduced, and walking improves the likelihood that neighbors will know each other and engage in informal community policing.

Within neighborhoods, “walk-to convenience” can bring amenities, retail shops, and community services within a short distance of most homes and businesses, and be connected with pedestrian-friendly routes. Routes are more attractive to pedestrians when building entrances and windows face the street and encourage neighborhood activity while discouraging crime. Street trees and landscaping help create inviting and comfortable walking environments. Buildings also make environments more pedestrian friendly by offering protection from heat and rain, and by having a scale and features that make streets more welcoming.

The quality of pedestrian environments also plays a critical role in the success of urban districts that serve multiple neighborhoods or the region. These

districts typically offer retail, employment, cultural activities, and/or transit services. Downtown Tulsa, its surrounding neighborhoods and campus areas will become more exciting and welcoming by attracting more housing and employment, and by making these areas more hospitable to walking. Street-facing shops, generous tree-lined sidewalks, and “eyes on the street” provided by upper-story housing represent essential components for urban safety and vitality. To become attractive destinations, urban districts must also incorporate conditions that have made great urban places throughout history: encouraging foot-traffic and civic activity, sizing parks and plazas to their level of activity, shaping urban space with building walls, and using materials and architecture that correspond with Tulsa’s unique climate and history.

The following are principles that should serve as the basis for more detailed design guidelines in small area plans or zoning districts.



Walkable Districts

Communities must be pleasant places to walk, if we want people to reduce their use of cars. Walkable districts represent the basic building block for a city that is more sustainable — socially, environmentally, and economically. Walkable districts mix complementary uses, maintain reasonable walking distances, and bring building entrances and facades to the street. Conveniences and recreation can be walked to easily, along safe and attractive routes. This traditional pattern presents a sensible alternative to auto-reliant development that separates housing and jobs from conveniences and transit, exacerbates traffic congestion, creates social enclaves, and consumes more land.



Residential Streets

Streets set the stage for many dimensions of community life. Streets that are lined with street trees, sidewalks, building entries and windows make walking more attractive — whether for errands or recreation. Well-designed streets also make it easier to meet neighbors and partake in community life. Their character can also have a profound effect on the image and identity of a city or neighborhood. Specific policies on streetscape design are found in the Transportation Chapter.



Street-Facing Architecture

Streets are more attractive and safe when they are lined building entrances and windows, rather than parking lots or blank garage doors. By minimizing front setbacks, buildings contribute activity and informal surveillance to the street, which encourages walking. Porches provide families with a protected place where they can engage in neighborhood life. By reducing setbacks, buildings also establish a more intimate and village-like scale. Established areas that lack pedestrian-supportive architecture can transform over time through infill, intensification, and redevelopment.



Downtown Revitalization

Tulsa's downtown represents, not only the heart of the region, but a location where an intense sense of community can be generated by strengthening its array of cultural and retail destinations, and by encouraging urban housing options. The downtown contains many assets including historic buildings and uses with higher intensities. Replacing some of downtown's many surface parking lots with urban uses would contribute to the area's vitality. The Downtown Area Master Plan proposes urban design guidelines for new development.



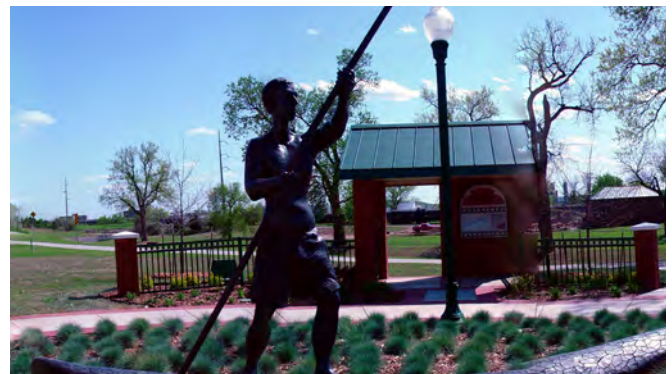
Corridors-Boulevards

Aging or vacant strip commercial properties represent opportunities for future infill and redevelopment. Change and intensification of these areas can be shaped to create multi-use corridors, which can offer a range of shops and services and encourage walking for many trips. Street trees and other enhancements can help beautify these frequently traveled routes.



A Sense of Place

Tulsa has a unique heritage that is rooted in its climate, topography, history and cultural traditions. Private development and city actions can reinforce and enhance this unique character. Another dimension of place-making is the ways that buildings and public space relate: buildings should create coherent and well-shape public spaces while shielding them from parking lots and other features that dilute activity and urban form along streets, parks, and plazas.



Public Art

Public art, including statues, fountains, interpretive spaces and other elements enliven and celebrate Tulsa's history and culture. The arts also add to the city's economic prosperity by attracting visitors, providing venues for new artists and making the city a more diverse and interesting place. The City should continue to support this asset through the Tulsa Arts Commission, the "1% for Public Art" ordinance, and collaboration with foundations and local arts institutions.

Small Area Planning

One means of implementing the PLANiTULSA comprehensive plan should be the small area and neighborhood planning process. This process can apply to existing neighborhoods in need of revitalization, main streets or other corridors, and vacant areas where new communities are envisioned.

What Is a Small Area Plan?

A small area plan is any plan that addresses the issues of a portion of the city. Small area plans can cover as little as 10 acres or even thousands. The advantage of a small area plan is its ability to engage issues and people at an intimate scale. The result can be a richly detailed plan that addresses the area's unique issues with tailored solutions.

Small planning areas usually have a cohesive set of characteristics, such as an existing or future corridor, center, or other element. Accordingly, small area plans should be used in areas of growth and transition areas, focusing resources where change is anticipated and desired. The Small Area Planning process is designed to generate widespread stakeholder consensus that will lead to efficient adoption and implementation of the plan.

The small area planning process is designed to minimize the need for excessive hearings and review of projects. Small area plans, ideally, are developed by property owners and area stakeholders then implemented through zoning changes that allow the kinds of development described in PLANiTULSA.

A citizen advisory committee, who helps guide the process, is a group of informed citizen stakeholders including, but not limited to — landowners, residents, business owners, architects, developers, and builders who have an interest in the area. This

advisory committee should represent a full range of interests who meet on a regular basis to critically review analysis and products at each step of plan formation.

Prior to the PLANiTULSA comprehensive plan update, INCOG and Tulsa's Planning Department began working with selected communities to create neighborhood plans. The small area and neighborhood planning process will be an important implementation element of the comprehensive plan. To ensure consistency between these plans and overarching city goals, this section lays out a process for how to conduct small area plans and use their results to direct zoning, infrastructure, and other implementation elements.

Where Should Small Area Planning Take Place?

The small area planning process should be used in areas where significant change is expected and the development in question would be at the scale of a new neighborhood and include many landowners. For example, when there is a proposal to extend utilities and infrastructure to an undeveloped area that will support a large number of new households or jobs, a small area plan should be used to guide that development. Small area plans may be conducted in Areas of Stability, but the time and resources are better put to use in Areas of Growth.

Small area plans need not be used for more routine planning actions, such as developments or subdivisions of land under single ownership. In these instances, a subdivision, zone change, PUD or other process under the zoning code is sufficient. However, individual landowners of large tracts may elect to do a small area plan if they choose. Another instance where this process should be used is in already-developed areas where new growth or redevelopment

is expected, such as neighborhoods along a corridor that will receive significant transit investment.

Small Area Plan Types

NEIGHBORHOOD PLANS

Neighborhood plans typically covers a distinct residential neighborhood, such as the Pearl District, which is a classic example of a historically mixed-use neighborhood in Tulsa. Because of the residential nature of many neighborhood planning areas, issues of city services, housing, design elements, schools, and parks are high priorities.

CORRIDOR PLANS

Corridor plans focus on a significant linear feature such as a main street, waterway, or arterial and the areas it serves. The City, business associations or stakeholders will typically initiate a corridor plan in anticipation of proposed capital investment or proposed development project. Examples of capital investment projects include a major public beautification investment for the corridor, the enhancement of transit services, or open space and trails along a waterway. Corridors plans place emphasis on land use, transportation, infrastructure, urban design, and economic development issues. The Brookside area has recently undergone a planning process that focuses on uses along the mixed-use corridor.

DISTRICT PLANS

District Plans can include one or more neighborhoods or corridors that have common conditions and issues. District plans can address the land use, development, urban design, and transportation characteristics of relatively small areas such as neighborhood centers, town centers and regional centers, as well as new communities on vacant land. Planning for new communities should also encompass new open space and parks, public investments, new streets and transportation service, as well as land use and transportation issues. The Brady Village District is typical of such an area planned in downtown Tulsa.

WHAT ABOUT EXISTING NEIGHBORHOOD AND OTHER PLANS?

Existing neighborhood plans will continue to serve their role guiding City Council decisions. However, existing neighborhood plans vary somewhat in their format and may be out of date. Reviewing existing small area and neighborhood plans for conformance and effectiveness is one of the key PLANiTULSA implementation strategies. Thus, existing and future plans will all work toward implementing *Our Vision for Tulsa*.

Table 18: Existing Neighborhood Plans

Neighborhood Plan	Year
Kendall-Whittier Plan	1991
Springdale Area Plan	1994
Charles Page Blvd. Plan	1996
Brookside Infill Area Plan	2003
Crutchfield Neighborhood Plan	2004
Brady Village Infill Plan	2004
Sequoyah Neighborhood Plan	2006
6th Street Infill Plan - Pearl District	2006
East Tulsa Neighborhood Detailed Implementation Area Plans (Phase 1 & 2)	2001, 2006
Riverwood Neighborhood Plan	2008
Southwest Tulsa Neighborhood Plan	2009

Source: City of Tulsa

Planning Context

Small area plans should start with *Our Vision for Tulsa* and the PLANiTULSA Comprehensive Plan as guiding documents. Neighborhood plans should include specific actions and responsibilities for each action. If a small area plan is in conflict with the citywide plans, the conflicts must be resolved within the neighborhood.

It is crucial that small area plans not be parochial; they cannot ignore the citywide context. Similarly, there are disadvantages to small area plans that “reinvent the wheel” by crafting unique solutions for common problems. If each neighborhood plan includes its own zoning designations, its own design standards, or its own street types, over time Tulsa’s planning and zoning would become hopelessly complex and fragmented. Organizing solutions in a similar format, based on a standard set of tools will make small area plans easier to implement.

Best Practices in Small Area Planning

The 6th Street Infill (Pearl District) Plan, approved by the City Council in 2006 should serve as a “best practices” model for how to conduct and structure a small area plan. The plan thoroughly covers many aspects of the study areas, from historical context to development challenges and constraints. It clearly lays out a vision for the area and recommendations for land use, zoning, and investments that will help achieve the vision.

A crucial element of the plan was the integration of an alternative floodplain management scheme for the area, which threatened to undermine redevelopment prospects for the area. This alternative design was developed in coordination with the Public Works

Department and the 6th Street planning area Task Force. The resulting design will turn storm water management from a potential liability to a major amenity for the neighborhood by integrating it with recreational space. This is the sort of neighborhood planning that other neighborhoods in Tulsa could benefit from — visionary, yet pragmatic.

Existing Neighborhood and Other Plans

Arkansas River Corridor Master Plan

The Arkansas River Corridor Master Plan was commissioned by INCOG in 2003 to develop a long-range vision and concepts to better connect communities with the Arkansas River. The study examined opportunities for additional or improved crossings, development, trails, dams, and recreational activities on the river. In general, the Arkansas River Corridor Master Plan and Vision reflect the same underlying values identified during the PLANiTULSA process: connecting people with nature and expanding opportunities for living, working, and recreation.

Tulsa’s comprehensive plan has been designed to reflect the vision and goals of the Arkansas River Corridor Master Plan. Plan categories and zoning designations along the riverfront should be applied in a manner that supports the concepts detailed in the Master Plan.

Downtown Area Master Plan

The Downtown Area Master Plan, which was developed concurrently with PLANiTULSA, represents a major opportunity to jump-start downtown revitalization of the region’s core. The comprehensive plan and map should reflect plan categories that are in alignment with the projects envisioned in the Master Plan, and set the stage for zoning designations that will allow them. The Downtown Area Master Plan should be

reviewed by TMAPC and considered as a potential Small Area Plan. Many of the ideas and concepts suggested in the downtown plan also are recommended in PLANiTULSA. Inconsistencies between the two plans should be resolved if and when the downtown plan is adopted.

Sector Redevelopment Plans

Tulsa's Redevelopment Authority has conducted a number of urban renewal plans in targeted areas around the city. These plans should be also be updated so they conform to and implement the goals of the PLANiTULSA comprehensive plan.

Regional Trails Master Plan

Tulsa enjoys an interconnected system of bicycle and pedestrian trails maintained by several different entities including the City of Tulsa Parks Department, Tulsa Public Works Department, River Parks Authority, Broken Arrow Parks, Tulsa County Parks, Jenks Parks Department, the Town of Skiatook, and the City of Sand Springs.

The city offers many north-south bike routes. The key trail corridors include the Riverparks Trails from 11th Street to 101st Street (east bank) and from Southwest Boulevard to Turkey Mountain (west bank area); the Mingo Trail, the Osage Trail and the Creek Turnpike Trail. The current system of trails provides a solid foundation from which to expand and connect to underserved parts of the city and create a larger and more interconnected system to support bicycle and pedestrian travel and recreation throughout the region and the inner city.

Tulsa's comprehensive plan supports land uses and public improvements that will protect and enhance the city's and region's trail system.

Planning New Communities

Not all of Tulsa's new growth will take the form of infill or redevelopment, the city's large supply of vacant land both within the city boundaries and in its fence line provide adequate room for new communities — in fact most growth will be on vacant land. Developing on these lands represents an opportunity to create new centers and neighborhoods that reflect the values Tulsans supported during the PLANiTULSA process. These values include retaining the city's tradition of building single-family neighborhoods while making parks, schools, transit, and neighborhood amenities like shopping and services easy to get to on foot, bike, or by car. In a sense, this would represent a return to neighborhood planning and design principles that created some of Tulsa's most enduring and desirable pre-war neighborhoods.

Setting the stage for this kind of development requires a process that is not unlike the small area and neighborhood planning process described previously. First and foremost, planning for new communities should be guided by *Our Vision for Tulsa* and comprehensive plan. It should be a comprehensive process that results in a specific vision for the area, built through community involvement and cooperation between the public and private sectors. The resulting plan should be tied to key implementation strategies that outline funding and infrastructure investments, and measurable goals to measure performance over time.

Planning for new communities on undeveloped land presents some opportunities and challenges not found in already established areas. First, providing infrastructure is a crucial ingredient for housing and other development. New community plans will languish without a carefully devised program of funding and building the necessary infrastructure, including linkages to Tulsa's transit networks.

The public involvement process is also quite different. Emphasis can focus on enhancing connectivity between the newly planned and existing neighborhoods, providing parks, schools, or other amenities, and preserving important environmental or open space features. The goal of this process should be to integrate the new with the old in a way that minimizes conflict and enhances an area.

Planning for Infill

Our Vision for Tulsa envisions a significant portion of new growth taking the form of infill development, the integration of new or rehabilitated buildings into existing urban areas. Infill can revitalize neighborhoods and main streets by providing new employment or housing and filling “gaps” in a streetscape.

It is not easy to do, however, and will require substantial planning, coordination, and skill to accomplish in Tulsa. The abundance of vacant land inside and outside the city and the development community's comfort and familiarity with suburban-style greenfield development means infill projects present relatively more risk. In addition, financial lenders (both in Tulsa and around the country) tend to favor the tried-and-true methods of development — infill is usually a new concept. Consequently, like every city that has turned to infill as a growth and development strategy, Tulsa will have to build confidence in and understanding of good infill practices.

Two Scales of Infill Development

Infill projects tend to occur at two scales, the large multi-phase project that can cover several blocks, and small, parcel-by-parcel projects. This dichotomy emerges because larger projects make it possible to combine a collection of uses, such as housing, retail, entertainment venues, which help diversify the project and reduce risk. Often these projects are initiated by city governments or redevelopment agencies who solicit developers and investors. Substantial public investment is usually needed, especially if the project takes place on a formerly polluted site or distressed area.

The positive aspects of the “go big” approach include delivering a collection of amenities under the umbrella of one project. These projects can change perceptions about an area and serve as the initial catalyst for more investment. The drawbacks to this approach are the substantial risk the public must bear, both financially and politically. A project's failure or even a lackluster performance can be a drag on resources and sour a community's view of infill and redevelopment in general.

The second form infill takes is small, parcel-by-parcel projects that add gradually to a community. Investors adaptively reuse existing buildings, add on to them, or build anew. City governments can also play a role, usually through providing financing, development incentives, and technical assistance to individual developers.

This can require just as much effort and attention by public agencies as the large infill project approach. Mobilizing small-scale capital projects is not a simple matter, and the risk for individual investors in those projects is not insubstantial. But, the long-term yields of focusing on many small projects can potentially outperform the single large project approach. Financial and political risk to the city is diversified when spread to many different projects. Furthermore, successful

building prototypes in one neighborhood can be easily replicated in other neighborhoods. Finally, by fostering a cadre of experienced infill developers, the city can reduce its role as a financial partner for most infill projects, and focus its efforts on areas that continue to need reinvestment assistance.

A Strategy for Tulsa

It is likely that there will be a role for both types of infill projects in Tulsa, but to achieve the vision, there will be a much more substantial need for small-scale investments throughout the city. The city's development process must facilitate those projects with advanced neighborhood planning, clear and predictable zoning regulations, and the right incentives and tools to get them started.

The city must also find ways to reduce or remove barriers that are not always apparent early in the process. One of the major hurdles for rehabilitating old structures are fire and safety codes. Cities that have spurred successful infill and redevelopment have brought representatives from fire and police agencies into the planning and permitting process. They are able to provide advice and guidance early in the process, when major decisions about project layout and design can be made without significantly increasing project costs.

The lessons learned from a holistic approach to infill development include the need for a cadre of experts who understand the challenges of and solutions for infill development. A one-stop-shop for planning, permitting, and project assistance is a crucial element of a good infill program. Furthermore, these experts should manage and provide a consolidated toolbox of incentives and assistance programs. Finally, all of the parties involved in promoting infill, from the city, to citizens, to developers, must keep in mind that it will take time for some financial and community benefits

to materialize. Early projects may require some public financial backing, and no one project can fill all the gaps in a main street or center. But as Tulsa builds the technical capacity for infill in both the private and public sectors, the process will become easier to replicate across the city.

Planning for Economic Growth

Tulsa's recent economic growth trends, described above, have tilted toward decentralization and fragmentation of employment and development. This has had deleterious effects on Tulsa's fiscal condition, as infrastructure and service burdens have stretched tight budgets. The challenge for Tulsa is to reverse this trend and grow or attract businesses back to its centers and corridors.

Planning and zoning, while not typically thought of as economic catalysts, can play a major role in Tulsa's economic development. Advanced planning and carefully designed form-based zoning codes add value by removing uncertainty from the development process — both for neighborhoods and developers. Cities that have successfully spurred reinvestment in their cores and corridors have done just this. Development is a risky business, but that risk can be mitigated when a community's goals and objectives are expressed by a plan and allowed by right.

Furthermore, Tulsa's land use program must be attuned to the needs of its larger industries and employers. The city's supply of employment land must be carefully monitored to ensure that existing businesses can grow and new businesses can locate here. The City and the Tulsa Metro Chamber of Commerce have a long-established partnership for recruiting and retaining key employers. This partnership should continue under this plan, but with more emphasis to attract a proportional share of regional employment growth to the city.

At the same time, the needs of larger industries should not overshadow those of small businesses and entrepreneurs. A land use program that encourages a diverse array of uses along corridors and centers will help deliver the space and services needed by entrepreneurs. Linking employers with trained workers and encouraging a diverse range of housing types are also important elements of an economic development strategy.

Planning for Expansion and Annexation

Maintaining a ready supply of developable land is important for Tulsa's economic well being; businesses will grow and newcomers will need places to live. However, new development must be planned and phased in a way that reinforces Tulsa's existing urban fabric, makes efficient use of infrastructure and contributes to the city's fiscal position.

The most influential catalyst for new development is infrastructure; roads and utilities make vacant land accessible, usable and valuable, thus spurring construction. "Leapfrog" development, whereby new homes or employment areas are built far from existing urbanized areas place heavier demands on public resources than they contribute. Public safety, utilities, parks and recreation, and other services must be extended over larger areas without a proportional increase in rate-payers. Transit service quality rapidly deteriorates in sparsely populated areas, leaving residents with few alternatives to the automobile.

Tulsa's supply of vacant land, both within and outside the corporate limits, is plentiful. Since the mid-1960s the city has maintained a "fenceline" of incorporated land that serves as future expansion areas. Today, those

lands represent approximately 20,000 acres, primarily on the northern borders of the city. In addition, vacant buildable land within the city represents significant capacity.

In order to achieve Tulsa's vision of a more fiscally sustainable community, the city must work closely with the Tulsa Metropolitan Utility Authority and other regional agencies to prioritize infrastructure investments so they reinforce the city's urban fabric. Vacant and underutilized land within the city is the most likely to achieve this goal, followed by unincorporated lands close to the city's existing neighborhoods, and then outlying areas. The small area and neighborhood planning process, described above, should be the primary instrument for directing new infrastructure investments.

To bolster this approach, the city and these regional partners should adopt a common methodology for forecasting and estimating the costs and benefits of new infrastructure investments. Furthermore, a common set of measures and desired outcomes will make the process more transparent to the public, who, ultimately, will bear the cost of building and maintaining these public services.

Land Use

Part VII: Monitoring the Plan

PLANiTULSA Monitoring Plan

The PLANiTULSA comprehensive plan must be monitored regularly to determine whether implementation of the plan is occurring and whether it is achieving desired results, such as focusing growth in areas of growth and developing the housing and employment the city needs. Working with available data such as the US Census, building permits and others, this monitoring approach will provide feedback to residents and policymakers on whether the policies in the plan are helping to achieve *Our Vision for Tulsa*. The monitoring approach has two major components, **implementation** monitoring and **performance** monitoring.

Implementation Monitoring

Implementation monitoring will provide information on the specific steps that the city and its partners are taking to implement the plan. The City of Tulsa, INCOG, other public agencies, neighborhoods, developers and private sector groups all play an important role in implementing PLANiTULSA. Tracking their implementation activities is a critical aspect of the monitoring program. The cause (for example, the adoption of policies and regulations, or the investment in specified types of transportation programs) must occur before the effect can be measured (such as, changes in land use, transportation system performance, the economy, or quality of life). This section is therefore devoted to ensuring that the steps are being taken to adopt and carry out policies, rather than tracking actual outcomes.

Drafting and adopting Strategic Plans is an example of a key implementing action. Implementation monitoring will be accomplished through an annual Plan review process, review of significant public and private development projects, and review of infrastructure projects for inclusion in the City's Capital Improvement Plan or in the region's Transportation Improvement Program. Implementation monitoring is a qualitative exercise, tracking public policy and investment actions.

Performance Monitoring

Performance monitoring is intended to show whether the actions taken by the public and private sectors in Tulsa, as discussed above, are achieving the desired results. Once a specific action has been taken, such as establishing Strategic Plan areas, performance monitoring will assess whether this action is producing the desired effects. An important aspect of performance monitoring is the establishment of benchmarks. Benchmarks are measurable indicators that relate to a plan's goals. For example, how far Tulsans drive, and at what speeds, will serve as an indicator of the transportation system's performance.

Establishing the Performance Monitoring System

Currently, there is no system for monitoring land use and transportation changes in the City of Tulsa. Developing a system quickly in order to be able to monitor and measure the type and quality of growth

occurring in Tulsa on a continual basis is essential, and fortunately Tulsa has access to significant high quality data. In addition, the PLANiTULSA Plan was built using modeling and scenarios, providing an opportunity for setting meaningful benchmarks at a relatively fine scale, important for monitoring such a complex city such as Tulsa.

Monitoring Program Scope

As part of the plan, a monitoring system will evaluate progress made toward *Our Vision for Tulsa*. The monitoring program will evaluate economic development, transportation, and land use benchmarks based on citywide “growth targets” for population, employment, and housing.

Growth targets established for Tulsa are based on the PLANiTULSA Vision, economic analysis, land capacity analysis, public input provided by the public and the Citizens Team, and practical approaches for sustaining new growth. The growth targets identify numbers of households and jobs, changes in property values by census tract or transportation analysis zone, retail sales tax, and city-wide transportation indicators expected for Tulsa by the year 2030. These growth targets are based on Tulsa 2030 Goal for achieving the employment and housing growth focused particularly within the city core and within key areas specified as areas of growth.

In addition to changes in key land use and transportation indicators, the city will monitor Growth Capacity. This program will monitor the actual capacity contained by areas slated to accommodate growth. It will track the type and amount of growth planned for Tulsa by the Plan and future forecasts. Growth capacity is calculated by monitoring the amount of vacant, unconstrained land, and the amount of economically redevelopable land. In addition, the capacity is determined by

calculating the amount of development permitted by right — e.g. without zone changes or waivers.

Establishing Benchmarks

The city should be divided into a series of subareas of a reasonable geography within which to establish sub area benchmarks — not too large, but large enough to be able to observe emerging trends. A subarea system should be created based on the neighborhood areas commonly used in Tulsa (e.g. Tulsa North, East Tulsa, Midtown, Southwest, etc.). Alternately the Plan District boundaries of the current comprehensive plan or a set of new geographies could be based on U.S. Census Bureau tracts. A basic set of benchmarks should be developed to measure changes in vital indicators such as jobs and housing growth, transportation behavior and changes to the landscape. These measures should be detailed by five-year increments for each subarea. Additional benchmarks can be developed to track more detailed data such as retail sales tax revenue, assessed property value, or other quantitative data that can be effectively projected and monitored.

Monitoring Capacity with Available Data

Because the comprehensive plan outlines policies affecting land use and transportation, the monitoring program will focus on measuring and evaluating activity explicitly within these areas using accessible data already collected by the City and INCOG.

Data collected by City departments, INCOG, and the assessor’s office can be geographically represented by geo-coding information within a central geographic information systems (GIS) database. This database can be used to compile standard data such as building permits, payroll data, and transit ridership to assess and monitor new household, population, travel, and business activity happening on a parcel, neighborhood,

subarea, and citywide scale. In addition, transport data can be evaluated at the same geographic scale to determine changes in transit rider ship, vehicle miles traveled, congestion, transit mode split, etc. This data will be used to determine if transit rider ship increases near stations areas infused with new housing and mixed use development as prescribed by the Plan.

Monitoring Program Criteria

The monitoring program must meet basic criteria to ensure a systematic and fair method. As such, data collected for the monitoring program must meet the following criteria:

- **Data collected at a small geographic scale.**
The data must be collected at the census tract, TAZ or parcel scale to allow for consistent analysis.
- **Data not based on models or assumptions.**
The data must not be based on abstractions or model assumptions, but instead include real, quantifiable data.
- **Come from a reliable and stable source.**
The data must be easy to obtain from a reliable and consistent source.
- **The data is understandable, relevant, and transparent.** The data must accurately and directly portray the subject in a clear fashion.

Generally speaking, monitoring programs with a few key indicators of high quality are more effective than those that include dozens of indicators of dubious quality. Therefore the proposed list is modest, but of excellent quality.

Monitoring Program Process

The monitoring program will follow a systematic process for evaluation using defined boundaries for comparison, a baseline number for evaluation, and 2030 benchmarks established by the Plan.

The monitoring program will establish and use defined geographic boundaries that identify areas where growth should occur including “areas of growth.” These areas of growth and areas for consistent comparison must be scaled at the same geographic level, such as census tract, as available data to ensure easy and viable analysis.

Baseline for Comparison

The baseline for comparison will be conditions in the year 2005 in all performance measure categories. Each update cycle, the monitoring program will evaluate current conditions in comparison to the year 2005 and the 2030 benchmarks established by the PLANiTULSA Comprehensive Plan. As data becomes available, new baselines should be created in 5 year increments.

Update Period

Evaluation of the performance measures will be conducted biannually.

Product Deliverables

Every monitoring cycle, a “State of the City” report should be produced to highlight progress made toward achieving the Vision. If progress toward the 2030 benchmarks is behind schedule, the monitoring plan will highlight the need corrective actions and implementation measures needed to get back on course. The “State of the City” report will also provide a conduit for considering the City’s land capacity to accommodate projected growth for the next two or three decades.

Performance Measures Evaluation

All the guiding principles of *Our Vision for Tulsa* are impacted by the physical arrangement of land use and transportation infrastructure and services. The monitoring program focuses specifically on collecting discreet data to monitor these impacts and changes.

For example, new housing units, transit mode split statistics, and assessed property values act as key indicators to the type of investment and growth happening in a place. The ability to monitor year-to-year the type of development and transportation activity at key geographic areas such as subareas, or census tracts in areas of growth will allow the city to determine how policies and strategies are influencing and spurring the type of growth and investment described in *Our Vision for Tulsa*.

Additional Monitoring

The monitoring program will focus specifically on new population, housing, and job growth occurring within small and consistent geographic areas. This monitoring program will intentionally remain simple in structure and simple in evaluation protocol. This will allow the City to start small and build a manageable and reliable system for evaluation of its policies on a consistent basis over time.

A more complex monitoring program could describe a robust range of conditions affecting residents' quality of life. More comprehensive indicators such as air quality, water consumption, school enrollment, public health and financial condition, and average rent rates could also be measured to provide information on what impact this type of growth is having on the overall quality of life in Tulsa. Such evaluation would be highly valuable, however, the City of Tulsa should encourage and support the activities of other agencies

to conduct or coordinate such an analysis. For the purposes of evaluation of the Comprehensive Plan, the City's purview of interest should remain specifically evaluation of the land use, transportation, and economic development policies and procedures.

Guiding Principles for Land Use

Capturing these hopes, dreams and aspirations for Tulsa's future is essential as we move forward in making our future vision a reality. The Citizens' Team, a diverse group of volunteers, developed the following guiding principles. These principles serve as the foundation for future planning efforts, and will ensure that the comprehensive plan remains consistent with the vision.

- Business owners are able to easily find adequate and attractive space for expanding businesses into downtown, along main streets, or in employment centers.
- The city has the ability to monitor trends, spot key opportunities and meet challenges strategically.
- Employment areas provide nearby access to services such as child care, groceries and restaurants.
- Future development protects historic buildings, neighborhoods and resources while enhancing urban areas and creating new mixed-use centers.
- Tulsa has pockets of density to provide for a more livable, pedestrian-friendly and cost-efficient community.
- New buildings meet high standards for energy and water efficiency while delivering high quality spaces and architectural design.
- The arts as well as cultural and historic resources are celebrated.
- Schools are safe, easy to walk to, and part of a world-class education system.
- Tulsa's civic, business and government institutions ensure that everyone has equal opportunity and access to housing, employment, transportation, education and health care, regardless of background, ethnicity, or neighborhood.
- Tulsa is a cohesive city where we have the ability to create safe, healthy lives for ourselves and our families.
- City planning and decision-making is an inclusive and transparent process.
- Once adopted, city-wide and neighborhood plans are funded, implemented and monitored for performance.
- Development and zoning policies are easily understood, workable and result in predictable development.
- Residents have a voice in solving their community's problems today and are a part of planning for tomorrow.
- City planning and decision-making is an inclusive and transparent process.

Land Use

Part VIII: Priorities, Goals & Policies

This section is organized into priorities, goals and policies that if followed will move Tulsa towards the community's vision.

Priorities are the big idea topical areas that address the guiding principles. They capture big picture changes that must occur to implement the plan.

Goals establish specific, measurable, attainable and realistic objectives that guide plan implementation by ensuring that the community and stakeholders have a clear awareness of what must happen to move Tulsa toward the Vision.

Policies delineate the steps needed to achieve the goals.

IMPLEMENTATION & ACTION PLAN:

*In addition to **priorities, goals and policies**, the Plan recommends the **Strategic Actions** that should be taken in the first 3 to 5 years following plan adoption. These strategic actions are found in the Implementation and Action plan.*

Land Use Priorities

Land use decisions should be focused on improving the quality of life of all of Tulsa's citizens so that Tulsans in all parts of the city benefit from future growth and development. *Our Vision for Tulsa* provides an overview of the top land use priorities. This section includes detailed priorities, goals and policies that build on the land use priorities described in the Vision.

LAND USE PRIORITY 1

Make land use decisions that contribute to Tulsa's fiscal stability and move the city towards the citizen's vision

Goal 1—

Tulsa captures a larger proportion of the of the region's future growth. Policies to support this goal include:

- 1.1 Ensure that zoning capacity within areas of growth is zoned appropriately for at least 20 years of growth;**
- 1.2 Implement adopted small areas plans by city initiation of zoning changes to make land available for desired development;**
- 1.3 Reassess zoning capacity in relation to this goal every 5 years.**

Goal 2—

Land use decisions are consistent with the Vision, Land Use and Stability/Growth Maps. Policies to support this goal include:

VISION MAP

- 2.1 Use the Vision map to provide general guidance for amending the land use plan. The vision map:**

- Represents the types of places the land use program works to create;

- Is intended to represent long-term growth and transportation concepts;
- Is not a regulatory tool, but serves as a guide to the plan map and land use/ transportation policies;
- Allows flexibility of implementation in how to achieve the vision by using the building blocks and plan categories to align new development with the vision to create places that are in accord with the desired design, density, job creation, and other goals.

- 2.2 Use the vision to inform development related policy decisions using the following indicators:**

- Do the proposed building block and plan categories provide the kind of places described in the Vision?
- Do the proposed building block and plan categories support the transportation, employment, and housing mix goals for the City of Tulsa?
- Do proposed transportation investments support surrounding land uses?
- Have proposed transportation investments been designed using the context sensitive solution process?

LAND USE MAP

2.3 Use the Land Use Map for policy guidance to implement the vision. The Land Use Map:

- Translates vision building blocks into plan categories and specific geographies;
- Guides zoning decisions in conjunction with a locational analysis.

2.4 Use the Land Use Plan categories to set the parameters for zoning districts with more than one zoning district allowed in each category. Plan categories:

- Describe in detail desired environments;
- Are not immutable, additional plan categories can be created and geographies changed, as long as new categories are consistent with the vision;
- Are designed to provide a broad framework to guide the development of small area plans. New categories should only be created or amended through the small area planning process.

2.5 The Land Use Plan:

- Is adopted by TMAPC and approved by City Council;
- Is amended by TMAPC and approved by City Council. Amendments can be initiated by landowners of affected property, the Planning Commission, or the City Council;
- Should be amended to conform to zoning and plan changes;
- Should be updated at five year intervals with projections toward the future;
- Housekeeping updates and maintenance to reflect development approvals should be made annually.

LAND USE PLAN & ADMINISTRATIVE DEVELOPMENT DECISIONS

2.6 The Comprehensive Plan is a policy guide, not a regulatory document. The Land Use Plan is not intended, nor should it be used, to affect decisions that are permitted by the zoning code by right.

- Any decisions on specific projects should use the zoning code and other regulations as written at the time of application.
- The City implements the plan by changing the City's laws and programs and through the actions and investments it makes.

STABILITY/GROWTH MAP

2.7 Use the Stability and Growth Map as a guide to where future growth and development will occur. The Stability and Growth map helps establish the implementation priorities for PLANiTULSA in specific geographic areas.

- Edges between the areas of stability and areas of growth are variable and in most cases are transition zones between intensities of uses.
- The Stability and Growth Map should be updated at five year intervals with projections toward the future. Housekeeping updates and maintenance to reflect development approvals should be made annually.

2.8 Establish criteria for selecting areas of growth, consistent with the vision. Areas of growth are where most of future growth will occur and are defined as:

- Underutilized land, such as surface parking lots or vacant non-historic buildings downtown or along corridors;
- Vacant land within the city boundaries, designated for growth in the Vision map;
- Areas already undergoing positive change which is expected to continue;

- Areas adjacent to transit and around transit stations, existing and planned;
- Areas along corridors with frequent bus service that can accommodate development on underutilized land;
- Locations where appropriate infill development will promote shorter and less frequent auto trips;
- Areas with special opportunities such as where major public and/or private investments are planned. Planning/investment priorities in areas of growth include:
 - Small area planning areas with targeted transportation/context sensitive solution investments;
 - Prototype demonstration projects;
 - New community planning;
 - Transit infrastructure.

2.9 Establish criteria for identifying areas of stability. Define areas of stability as:

- Established neighborhoods;
- Historic districts and areas with concentrations of historic structures.

Planning/investment priorities for areas of stability include:

- Connectivity and streetscapes improvements;
- Housing/neighborhood revitalization and rehabilitation programs;
- Redevelopment of aging strip centers or corridors;
- Small-scale infill projects, as permitted through clear and objective setback, height, and other development standards of the zoning code.

Goal 3—

New development is consistent with the PLANiTULSA building blocks. Policies to support this goal include:

3.1 Promote pedestrian-friendly streetscapes by designing pedestrian-friendly streetscapes and encouraging new developments to provide pedestrian-oriented amenities and enhancements, including:

- Arcades, awnings and other architectural features to provide a human scale and offer protection from rain and the summer heat;
- Pedestrian plazas and green open space that offer interesting public places for people to enjoy the street experience. These should incorporate water features, sculptures, art or other architectural objects or focal points;
- Public art, benches, trash receptacles, bike racks and other amenities that enhance the quality of the pedestrian experience;
- Walkways and sidewalks that differentiate the pedestrian space from the auto realm;
- Pedestrian-oriented street lighting to increase the sense of safety and reduce the impact of light pollution;
- Trees and other landscaping to visually enhance the space as well as provide shade and a cooler microclimate. Native or drought-resistant species should be encouraged;
- Walkways leading directly to the street from building entrances;
- Moving overhead wires to underground locations and relocating other utilities to the rear of the development to improve the area's appearance.

3.2 Encourage a balance of land uses within walking distance of each other.

- Integrate and balance land uses, so they complement the surrounding area.
- Focus downtown development on increasing urban-style housing, retail, parks, cultural and arts amenities and entertainment to create an active, vibrant 24-hour urban core.
- Support the creation of higher density mixed-use areas at major centers served by transit.
- Transform commercial strips along Multi-modal Corridors into mixed-use boulevards.
- Create pedestrian-oriented, mixed-use campus areas that will serve student populations, faculty, and surrounding neighborhoods.
- Support ground floor retail along main streets along with upper story housing and offices.
- Build neighborhood facilities, such as schools, libraries and community centers, within walking distance of transit stations and homes.

3.3 Work with utility providers to increase options for street light fixtures that encourage walking and safety, to increase options for trees, and to resolve maintenance issues.

3.4 Allocate City funds and find other funding to enhance pedestrian amenities on streets in priority areas.

3.5 Place buildings adjacent to the street with generous sidewalks; sidewalk cafes, attractive landscaping and pedestrian areas.

- Mass buildings with common parking lots rather than situated individually surrounded by private lots.

- Provide ground floor retail, professional service, and/or professional office storefronts on parking lots that front the street.
- Enhance parking structure facades when ground floor uses cannot be provided.
- Provide building entrances and windows to offer “eyes on the street,” improving security and pedestrian access.
- Sidewalks should accommodate pedestrian seating and other amenities.
- Place parking lots, garage doors, loading zones and mechanical equipment away from streets.

3.6 Encourage complementary building height, scale, design and character.

- Create a sense of place by encouraging development of buildings, structures and landscapes that complement the character and scale of their setting.
- Encourage new development to be appropriate to the context of its location in density, massing, intensity and size, particularly when adjacent to existing residential areas and historic districts.
- Design buildings to be compatible in height, scale, bulk and massing to the urban context and established character of the surrounding area.
- Design parking lot location, configuration, access points and screening to minimize spillover and mitigate any negative effects.

3.7 Enhance visual enjoyment of public spaces and art.

- Civic institutions and community events, such as street fairs, parades, farmers markets and live performances, all give Tulsa an important cultural and urban flair.

- Continue to support the Tulsa Arts Commission and the Arts and Humanities Council of Tulsa and the one percent public art program fund. Consider increasing incrementally to fund a long-term arts maintenance program.
- Site art in locations targeted for mixed-use, pedestrian environments.

Goal 4—

The development environment allows Comprehensive Plan implementation to occur through market development. Policies to support this goal include:

- 4.1 Promote redevelopment through reductions of parking standards and the expansion of shared parking systems and other parking management tools.**
- 4.2 In order to get existing inventory into productive use, enable historic and older buildings to be adaptively reused through programs like temporary property tax relief.**
- 4.3 Ensure that adequate land to accommodate desired development is zoned and ready for development through implementation of zoning cases following the adoption of small area plans. All zoning recommendations should be consistent with the Comprehensive Plan.**
- 4.4 Maximize coordination and streamlining of development related activities.**

LAND USE PRIORITY 2

Put procedures, processes and tools in place to effectively and equitably implement PLANiTULSA.

Goal 5—

Tulsa's regulatory programs support desired growth, economic development, housing, a variety of transportation modes and quality of life priorities. Policies to support this goal include:

- 5.1 Review and revise the zoning code to ensure that a diverse range of uses and building types can be produced by the market place.**
 - Analyze the current zoning code to determine deficiencies and needed amendments. This analysis should include a recommendation on the extent of amendments needed to implement the plan.
 - Analyze the impact on market feasibility of zoning and development regulations.
 - At a minimum, create mixed use districts that allow the PLANiTULSA building prototypes to be developed, by right, and bring parking standards up to current best practices.
 - Establish off-street parking and design standards to reflect actual parking demand.
 - Create a shared parking district overlay to be used in conjunction with a shared parking analysis to estimate actual parking needs.
 - Address off site parking requirements for historic buildings.
 - Revise set-back standards to allow buildings to be built along the sidewalk, rather than pushed to the rear of the lot with parking in front.
 - Establish parking minimums based on best practices and allow the marketplace a role in estimating maximum parking needs.
 - Improve flexibility in permitted uses for re-use of historic buildings.

- Consider amendments or a rewrite of the zoning ordinance to incorporate performance and bulk standards with easy to use graphic development code.

5.2 Establish clear and objective standards for land use planning decision and implementation strategies.

- Develop clear and objective standards for making land use planning decisions, including the application of the Zoning Code.
- Minimize the use of Planned Developments by establishing clear build-by-right zoning standards for preferred uses.
- Incorporate an administrative approval process for evaluating proposed land use changes that will enable the Planning Director to authorize appropriate levels of decisions in cases where the impact from development does not warrant legislative action by the Planning Commission or City Council.

5.3 Create a robust and meaningful public involvement process that emphasizes long-term consensus rather than project-by-project evaluation and approval.

- Develop and use a standard small area or neighborhood planning process to develop a long-range vision for new centers, neighborhoods, and areas in need of revitalization and reinvestment.
- Design the small area and neighborhood planning process to maximize local public input and identify key implementation steps. The resulting plans should reflect neighborhood needs and desires and support citywide Vision and goals.
- Small area or neighborhood planning process shall result in an implementable plan and a clear land use program that enables build-by-right zoning standards for desired buildings and uses.

5.4 Modify the existing small area planning process to support the vision and policies by:

- Ensuring small area plans are in conformance with the vision;
- Standardizing the process and implementation tools for small area plans;
- Having small area plans establish priority implementation areas and development types;
- Having small area plans proactively guide rezoning in priority areas to prepare land for desired development;
- Following a consistent approach and process to develop small area plans, as outlined in the strategic implementation section of this plan;
- Consistently involving stakeholders throughout the process;
- Using small area plans to set priority implementation areas;
- Using small area plans to make zoning and development-related decisions.

5.5 Develop Capital Improvement Plans to provide public services necessary for the development depicted on the vision map.

- Extend services and utilities so that they favor infill development and compact Greenfield development in the City of Tulsa and do not promote scattered, sprawling development that is inefficient to serve.
- Coordinate CIP and Utility plans with PLANiTULSA vision and policies.
- Coordinate efforts between City departments and agencies to foster efficient allocation of public resources to targeted neighborhoods.
- Conduct Area Plans in priority areas to identify, coordinate and implement infrastructure improvements to support desired housing.

5.6 Coordinate land use and economic development efforts to achieve the redevelopment and economic goals of the community including job growth and retention, business retention, and the creation of a thriving environment for entrepreneurs.

- Consolidate and/or reorganize Tulsa's planning and economic development-related functions to improve internal coordination.
- Continue and strengthen coordination between the city's economic development and planning departments, local chambers of commerce, and/or privately-funded economic development organizations.

5.7 Incorporate findings in zoning decisions that demonstrate consistency with the Comprehensive Plan's goals and policies. Findings should guide private development toward zoning that:

- Maintains a healthy balance of jobs and households;
- Protects and stabilizes existing neighborhoods;
- Establishes healthy neighborhoods;
- Emphasizes mixed-use development, especially around transit stations;
- Maintains an adequate transportation and circulation system;
- Provides land use consistent with the established growth targets;
- Protects existing industrial and employment centers;
- Enables development consistent with Vision Building Blocks.

Goal 6—

The development community is able to efficiently and transparently obtain planning and economic development support and permitting from a “one stop shop.” Policies to support this goal include:

- 6.1 Ensure that Tulsa's development-related functions are organized to efficiently deliver services to the development community.
- 6.2 Ensure that Tulsa development-related functions are organized to transparently provide access to development information to interested stakeholders. Make comprehensive plans, zoning ordinances, small area plans and development review materials available on line.
- 6.3 Consider consolidation of some or all of the following development-related functions into a Community or City Development Department within the City of Tulsa: small area planning, long range planning, capital planning, economic development, community development, zoning administration and development permitting to improve service delivery and to maximize the city's resources allocated to development support.
- 6.4 Reorganize delivery of development-related services on the theme of “providing efficient service delivery and transparency.”

Goal 7—

Tulsa citizens, stakeholders, and interest groups all have easy access to development information and PLANiTULSA's Vision, Policy Plan and maps, Strategic Implementation Plan, Monitoring Program, and Small Area Plans. Policies to support this goal include:

- 7.1 Make PLANiTULSA elements available on the city's website with alternative arrangements for those without internet access.

- 7.2 **Regularly update this information on the website.**
- 7.3 **Post development information—summary of processes, schedules, tools, programs, and meetings—on the website.**

LAND USE PRIORITY 3

Focus redevelopment, revitalization and enhancement programs on areas that have been severely economically disadvantaged.

Goal 8—

Underutilized land in areas of growth is revitalized through targeted infill and reinvestment. Policies to support this goal include:

- 8.1 **Create a toolkit to promote desired infill and redevelopment. The toolkit should include the following items:**
 - Prepare and implement small area target plans including implementation of appropriate rezoning;
 - Create a bold vision for redevelopment that is matched with achievable market realities;
 - Identify realistic markets—what are the desired uses and what can be supported and successful;
 - Identify viable financial packages to develop funding strategies;
 - Build public/private/nonprofit partnerships to create effective resources;
 - Establish operational procedures so new businesses are effective and sustainable and become catalysts to build momentum, rather than being stand alone projects without greater community impacts;
 - Create an inventory of key redevelopment sites and under-utilized parcels in target areas;

- Assemble sites for implementation.
- 8.2 **Establish local programs such as temporary property tax relief to promote desired development such as enabling historic or older buildings to be adaptively reused.**
- 8.3 **Enhance the quality of educational opportunities to provide Tulsa residents with a greater opportunity for economic stability—prepare students for the workforce.**
 - Coordinate school growth projections with PLANiTULSA Vision.
 - Integrate provisions for safe and multi-modal access to schools, including support for a regional Safe Routes to Schools Program, in land use decision making and planning processes.
 - Partner with schools to provide community services and support education's role in every child's life.
 - Partner with technical schools and community colleges to prepare residents for the workforce.
 - Partner with universities to strengthen the economic environment through student program support and outreach, educational research, and technology transfers.

Goal 9—

Tulsa North's economy is at least as robust, sustainable and as stable as the remainder of Tulsa's economy. Policies to support this goal include:

- 9.1 **Focus planning, reinvestment and rehabilitation programs in Goal 8 in the Tulsa North area to provide opportunities for residents and businesses to improve economic stability.**

9.2 Enhance the quality of the built and natural environment consistent with the measures outlined in Goal 3.

9.3 Develop a tool box targeted to the Tulsa North area to include:

- Target housing reinvestment programs;
- Affordable housing development programs/infill on vacant parcels;
- Business development programs in conjunction with the technical and community colleges;
- Workforce training geared to realistic job opportunities.

Goal 10—

The life expectancy levels in Tulsa North are consistent with the regional averages. Policies to support this goal include:

10.1 Address access to adequate medical care by providing transit service to medical facilities.

10.2 Partner with schools and community centers to address health issues and healthy lifestyles.

10.3 Create walkable communities and enhance recreational areas to encourage walking and biking.

LAND USE PRIORITY 4

Maintain, stabilize and strengthen existing neighborhoods, making them places where new residents are attracted to live.

Goal 11—

Residents in established neighborhoods have access to local commercial areas, schools, libraries, parks and open space areas within walking distance of their homes. Policies to support this goal include:

11.1 Encourage the location of these facilities and services in appropriate areas so they are accessible and enhance neighborhood stability.

Goal 12—

Residents in established neighborhoods have access to multiple modes of transportation. Policies to support this goal include:

12.1 Collaborate with School districts to:

- Improve accessibility and manage transport demand;
- Identify neighborhoods served by elementary schools. Ensure that safe, accessible and direct routes (sidewalks, pathways, adequate signage) are available for schoolchildren and their parents. Minimize walking distances and conflicts with traffic. Adopt measures to reduce traffic speed and volume.

12.2 Leverage the benefits of urban design to create walking and biking transportation options in neighborhoods.

- Develop urban design guidelines for small area and neighborhood planning that encourage walkable mixed-use centers or main streets.
- Use Context Sensitive Solutions process to ensure that centers and corridors are designed to support transit riders.

Goal 13—

Existing neighborhoods are stable and infill development revitalizes, preserves and enhances these urban areas. Policies to support this goal include:

13.1 Promote the unique characteristics of existing neighborhoods as key to the city's long-term health and vitality.

- Maintain the desirability of existing neighborhoods through public and private investment.

- Recognize adopted area/neighborhood plans in guiding development and zoning decisions.
- Encourage neighborhood-serving office, retail, or other non-residential uses to be located in residential community areas, primarily on significant roadways or at key intersections.
- Provide appropriate transitions between non-residential uses and neighborhoods to protect stability and quality of life.
- Create and encourage the use of an infill and revitalization toolkit to help facilitate housing development in existing residential neighborhoods.
- Ensure that neighborhoods are served by and accessible to neighborhood commercial areas, parks, cultural areas and open space, libraries and schools. Encourage the development of these facilities in Small Area Plans.

13.2 Promote communication with neighborhood associations.

- Facilitate communication between neighborhood associations, other organized groups and the City to expand public involvement and provide easy access to information for all residents.
- Encourage applicants for zoning changes to meet with neighborhood organizations prior to the zoning review process.

13.3 Provide residents in distressed neighborhoods access to programs and partners in to improve and stabilize their neighborhood.

- Continue and expand implementation of capital improvements projects and programming for home improvements, traffic calming, connectivity and bike/pedestrian improvements through the small area and neighborhood plan process.

- Assist city, state, federal and private agencies in addressing crime, education and social service issues to strengthen neighborhoods and stem deterioration.
- Encourage the conversion of existing rental units to owner-occupied housing to help stabilize existing neighborhoods.
- Target neighborhoods for infill and redevelopment.
- Continue neighborhood improvement programs.
- Partner with nonprofit community housing development groups.
- Encourage infill housing on vacant lots in existing neighborhoods through assistance with acquisition, pre-development, development and home buyer subsidies.
- Consider use of land banking programs, land transfer program to encourage affordable owner occupied housing.
- Implement programs to encourage affordable home ownership and owner occupancy in areas with high concentrations of rental single-family housing.
- Develop programs focused on housing rehabilitation.

Goal 14—

The city's historic resources are protected and programs promote the reuse of this important cultural resource. Policies to support this goal include:

14.1 Support the Tulsa Strategic Preservation Action Plan preservation objectives and actions.

14.2 Assure that Neighborhood Plans & Small Area Plans support preservation and revitalization objectives.

- 14.3 Incorporate amendments that support the preservation of historic resources into the zoning and building code.**
- 14.4 Update the preservation criteria and expand the program to protect additional resources.**
- 14.5 Maintain, update and promote the online historic inventory.**
- 14.6 Following TMAPC's review and action on the Downtown Area Master Plan, implement recommendations regarding historic resources.**

LAND USE PRIORITY 5

Ensure that areas of growth benefit from high quality sustainable development

Goal 15—

Tulsa is a leader in sustainable development. Policies to support this goal include:

- 15.1 Promote significant sustainable projects.**
- 15.2 Establish goals for reducing the city's and region's carbon footprint.**
- 15.3 Incentivize building practices that maximize energy and water use efficiency.**
 - Create a streamlined permitting process to encourage sustainable building practices.
 - Create development incentives (FAR or density bonuses, reduced parking requirements, etc.) for projects that utilize high efficiency building technologies.
 - Create development incentives for adaptive reuse of existing structures.
- 15.4 Promote reuse of existing structures.**

15.5 Promote sustainable building practices including:

- Energy efficiency
- Material Efficiency
- Waste reduction
- Durability
- Healthful building environment
- Integrated design

Goal 16—

Tulsa is known for its built and natural beauty. Policies to support this goal include:

16.1 Establish Urban Design Standards.

- Formulate place-making design standards.
- Standards should encourage pedestrian-friendly, highly accessible environments that create and enhance lively urban villages and a vibrant downtown.
- Standards should include setback, height, bulk and frontage requirements but should not be overly prescriptive.

LAND USE PRIORITY 6

Preserve and enhance environmental assets

Goal 17—

Tulsa's natural and sensitive areas are protected and conserved. Policies to support this goal are included in Parks, Trails, and Open Space goals 8 and 9.

Goal 18—

Development on impacted sites or areas is regulated to protect sensitive areas. Policies to support this goal are included in Parks, Trails and Open Space Goal 10.

Goal 19—

Planning and development of parks and trails are coordinated with the comprehensive plan and parks plan.

LAND USE PRIORITY 7

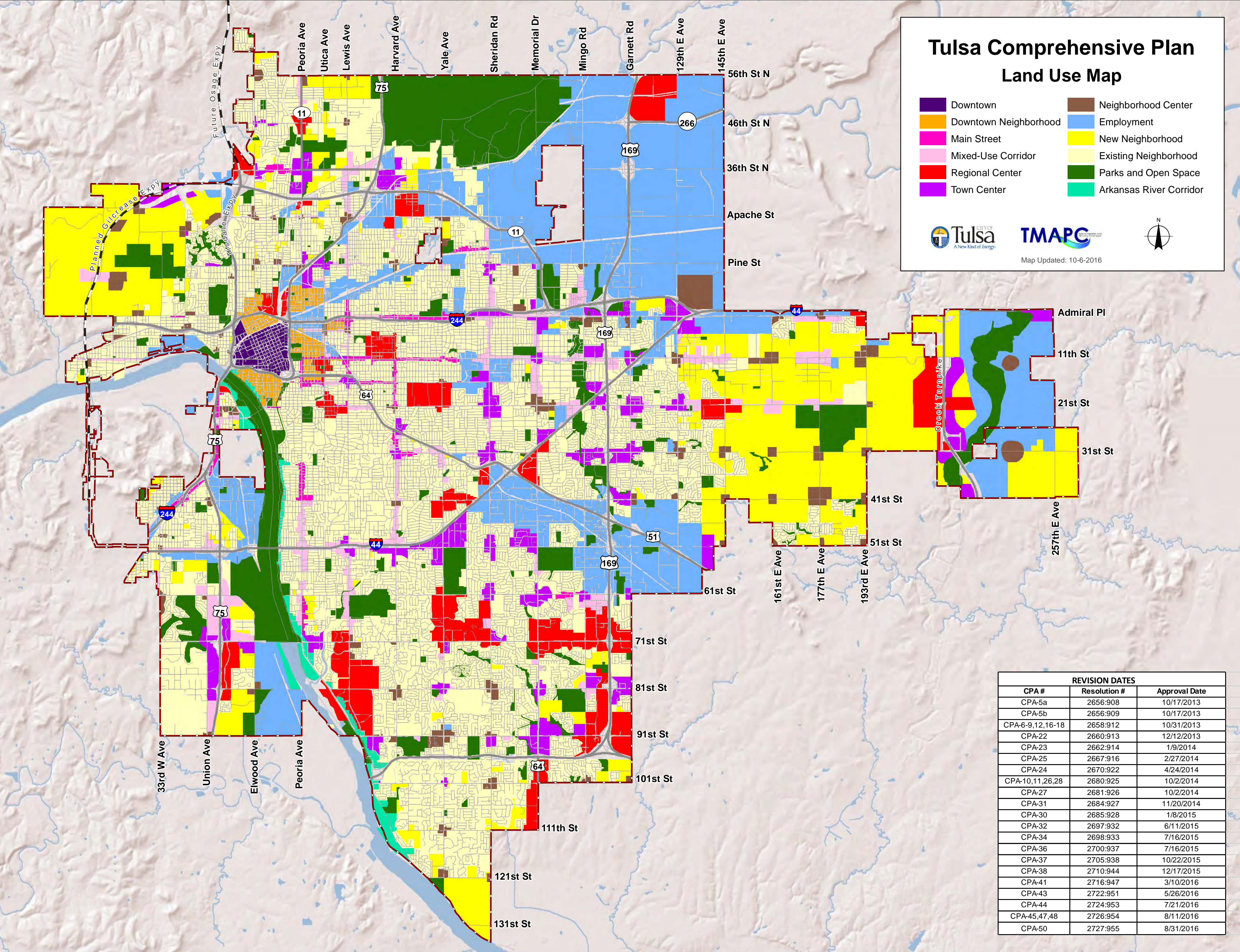
Establish a mechanism and process to monitor movement towards the vision.

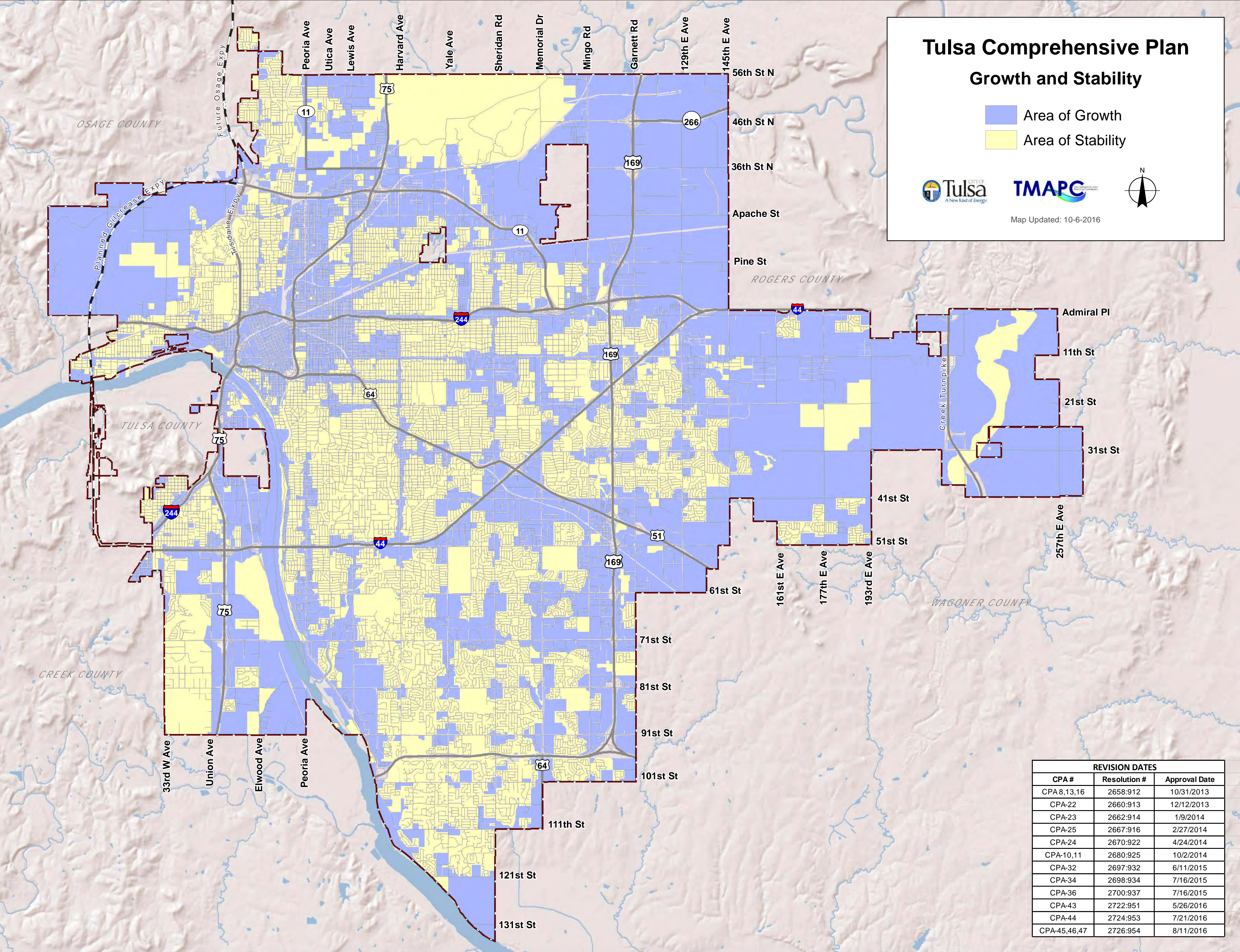
Goal 20—

Tulsa citizens are able to monitor change in a systematic way. Policies to support this goal include:

20.1 Report on progress annually.**20.2 Establish a land use and development monitoring program.**

- Publish an annual “BUILDiTULSA Progress Report” to describe benchmark progress and highlight accomplishments. The report shall include a section on ‘lessons learned’ and suggested action for improved performance.
- Establish methods for calculating jobs and housing forecasts, and methods for assessing land capacity to accommodate expected growth. These land use metrics shall be coordinated with a comprehensive transportation modeling program.
- Establish GIS and modeling capability to track and monitor growth.
- Establish benchmarks based on the values expressed in the PLANiTULSA Guiding Principles. These benchmarks will be the basis for evaluating the effectiveness of the City’s planning program.
- Ensure at least a 20-year supply of developable land is zoned for the anticipated housing and employment needs. The City shall maintain an inventory of developable land (including infill and redevelopment), and follow a standardized process of planning and assessing capital improvement needs before bringing new land into annexation.
- Develop a monitoring system to gauge success of the policies of the Comprehensive Plan. It should track and publish land use designation changes and development approvals for housing, employment, and other uses both citywide and at the neighborhood and district scale.

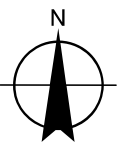




Tulsa Comprehensive Plan

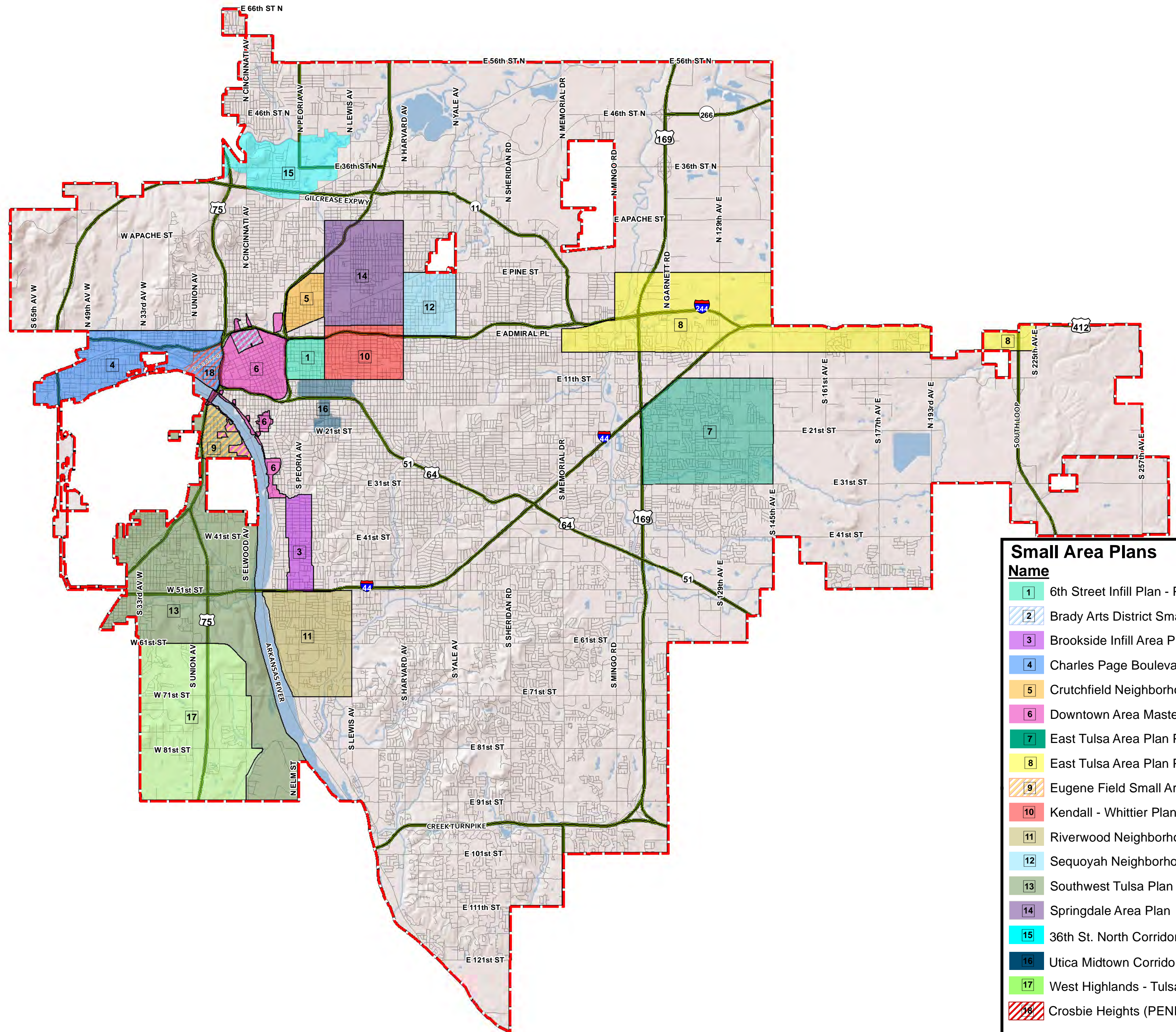
Growth and Stability

- Area of Growth
- Area of Stability



Map Updated: 10-6-2016

REVISION DATES		
CPA #	Resolution #	Approval Date
CPA 8,13,16	2658:912	10/31/2013
CPA-22	2660:913	12/12/2013
CPA-23	2662:914	1/9/2014
CPA-25	2667:916	2/27/2014
CPA-24	2670:922	4/24/2014
CPA-10,11	2680:925	10/2/2014
CPA-32	2697:932	6/11/2015
CPA-34	2698:934	7/16/2015
CPA-36	2700:937	7/16/2015
CPA-43	2722:951	5/26/2016
CPA-44	2724:953	7/21/2016
CPA-45,46,47	2726:954	8/11/2016



Small Area Plans

Name
1 6th Street Infill Plan - Pearl District
2 Brady Arts District Small Area Plan
3 Brookside Infill Area Plan
4 Charles Page Boulevard Plan
5 Crutchfield Neighborhood Plan
6 Downtown Area Master Plan
7 East Tulsa Area Plan Phase 1
8 East Tulsa Area Plan Phase 2
9 Eugene Field Small Area Plan
10 Kendall - Whittier Plan
11 Riverwood Neighborhood Plan
12 Sequoyah Neighborhood Plan
13 Southwest Tulsa Plan Phase 1 & 2
14 Springdale Area Plan
15 36th St. North Corridor
16 Utica Midtown Corridor
17 West Highlands - Tulsa Hills
18 Crosbie Heights (PENDING)

LU91

Transportation

Introduction

This transportation chapter identifies how Tulsa's transportation building blocks will provide mobility choices to a broader group of users, diversify the economy, and aid in building a sustainable community. Implementing these transportation building blocks in Tulsa involves the introduction of some familiar transportation components as well as some new components.

The chapter goes into detail regarding the tools, or components, needed to implement the transportation building blocks. The main enhancement areas of the transportation chapter are:

- **Street System Enhancements**
- **Transit System Enhancements**
- **Pedestrian Enhancements**
- **Bicycle Enhancements**

Each of the enhancement sections contains its respective current use, future use, specific tools, and the plan priorities.

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Transportation

Part I: Tulsa's Transportation Vision and Challenges

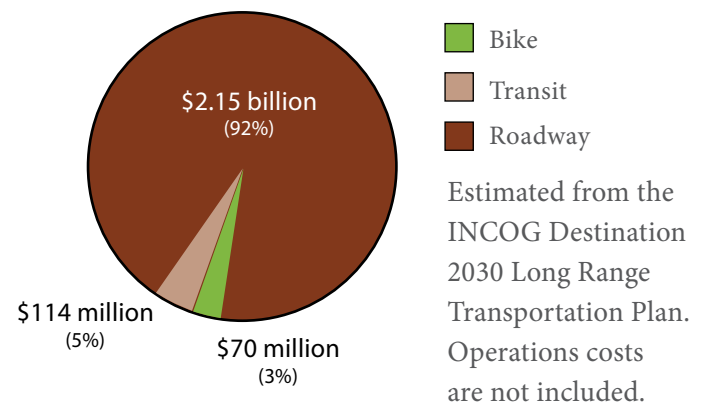
Our Vision for Tulsa places an emphasis on coordinating transportation facilities' design with the land uses they serve, so Tulsans have a wide range of transportation options. Like many American cities, Tulsa's transportation system has historically been oriented to support automobile-oriented land uses. While it is likely that cars will continue to play a big role in how Tulsans get around town, the public input process found significant support for expanding the range of transportation options.

Unlike land use policies that guide the development of private property, transportation policies primarily address the public infrastructure of streets, alleys, bikeways, sidewalks, and transit services. Additionally, transportation policies influence how private development affects the transportation system both directly- via physical improvements (e.g. management of auto access across city rights-of-way, or the construction of streets as part of new development) as well as indirectly- through programs that reduce travel demand and encourage alternatives to the automobile.

Changing Tulsa's Approach

Expanding the range of transportation options will require a different approach than the traditional, auto-oriented facility planning and design strategies that primarily focus on automobile capacity and alleviating traffic congestion. Much of Tulsa's 1,217 lane miles of arterial streets and 465 lane miles of expressways were built with this traditional approach to programming transportation improvements. While the strategy has succeeded in providing Tulsans with a broad and

Chart 1: Capital Costs of Roadway and Transit



generally uncongested road network, it has also produced few alternatives to the automobile. Roads that have many wide lanes, large intersections, and a relatively few pedestrian amenities (i.e. wide sidewalks, medians with trees, parallel parking, and short intersection crossings) are not conducive to walking, biking, or transit.

Furthermore, Tulsa's road-building legacy has proven to be fiscally unsustainable. In 2007, Tulsa's Complete Our Streets Advisory Council determined that approximately \$1.1 billion dollars were needed to repair and maintain the city's streets over the next decade. That figure did not include new roadway construction, the widening of arterial streets and planned improvements to major intersections. Those additional capital projects — estimated to cost at least \$500 million — will also impose their own maintenance costs.

The Complete Our Streets Advisory Council also found that Tulsa's revenues have not kept pace with the cost of maintaining infrastructure. One of the

Advisory Council's recommendations was to find ways to increase sales-tax revenue through land development to help offset the cost of transportation infrastructure. Transportation policy will play a key role in this strategy. Better designed streets that provide an attractive and walkable environment enable land uses to be more productive. Visitors who arrive by foot, bike, or transit can reduce the need for on-site parking, thus increasing the amount available for businesses or housing. Wide sidewalks with street trees provide an environment for businesses that depend on foot traffic. An approach to transportation design that takes into account these factors will contribute significantly to Tulsa's fiscal health. Chart 2, below, illustrates one measure of how Tulsa compares to peer cities and depends on fewer residents to support more lane miles of roadway.

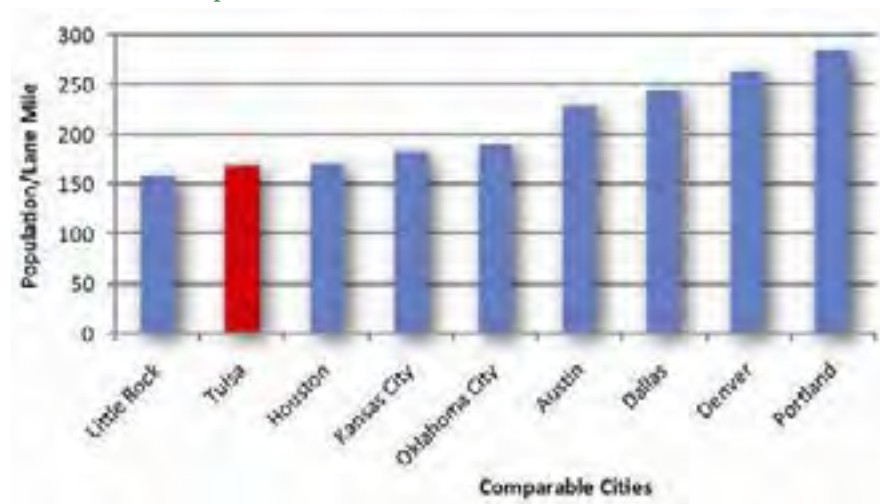
Another factor that will affect Tulsa is the changing nature of Federal transportation funding priorities. Like many cities and regions, Tulsa has relied on Federal funding to address many of its transportation needs. Federal funding is transitioning away from a formula based system that awarded funding to localities to increase vehicular capacity and serve transit dependant populations. The new approach is a proposal-based

system that awards funding to enhance walking, biking, and transit facilities, in an effort to improve the livability of communities.

The principles that guide these new funding criteria, as laid out by the U.S. Department of Transportation, U.S. Environmental Protection Agency and U.S. Department of Housing, are:

1. Providing more transportation choices;
2. Expanding access to affordable housing, particularly housing located close to transit;
3. Enhancing economic competitiveness--giving people access to jobs, education and services as well as giving businesses access to markets;
4. Targeting federal funds toward existing communities to spur revitalization and protect rural landscapes;
5. Increasing collaboration among federal, state, and local governments to better target investments and improve accountability;
6. Valuing the unique qualities of all communities — whether urban, suburban, or rural.

Chart 2: Tulsa Population Per Lane Mile



Source: Federal Highway Administration, Highway Statistics 2003

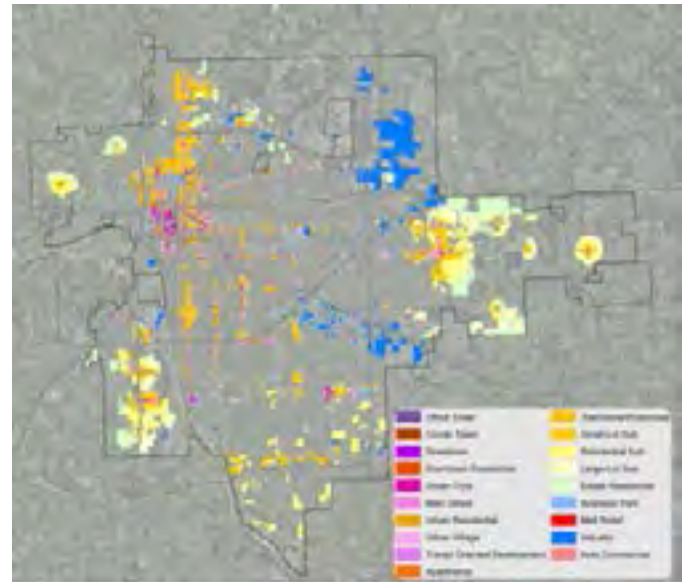
Transportation officials in Tulsa have done an admirable job attracting and securing Federal transportation dollars in the past. For this to continue, Tulsa must begin to reform its transportation decision making process to address these new livability principles. The City of Tulsa, Indian Nations Council of Governments (INCOG), Metropolitan Tulsa Transit Authority (MTTA) and programs of the Oklahoma Department of Transportation (ODOT) will need to be more deliberate in coordinating housing, transportation and environmental planning for the region to be successful in qualifying for future federal dollars.

Scenario Planning and Tulsa 2030 Goal

As explained in greater detail in the Land Use chapter, the PLANiTULSA planning process used a scenario-based approach to test different growth and transportation practices and policies. Scenario planning provides a way to evaluate growth patterns, infrastructure investments, and their impact on system performance. The PLANiTULSA team created four initial growth and transportation scenarios based on past trends and public input. These were primarily “learning scenarios”, meant to test a variety of growth impacts, from the amount of land consumed by new development to the density of neighborhoods and job centers, and performance of the transportation system. Tulsans were invited to review, rank, and provide input on what they liked and disliked about each scenario.

The survey results indicated a strong preference for the two scenarios that focused growth on downtown (Scenario D) and in new communities (Scenario C). Based on this public input and work with city staff, INCOG, and other stakeholders, these two scenarios were used to design the preferred Tulsa 2030 Goal, depicted in Figure 1, which will serve as a monitoring and performance guide for the comprehensive plan.

Figure 1: Tulsa 2030 Goal; Blend of Scenarios C and D Transportation Systems



Compared with the Trends Continue scenario, that was built to project Tulsa’s current trends, Tulsa 2030 Goal would result in significant expansion of transportation options and a sustainable system in fiscal and livability terms.

Tulsa 2030 Goal would result in about three times as many new people living in Tulsa, when compared to the Trends Continue. This influx of new residents and businesses poses a challenge to the transportation system. Since much of the city’s street and highway system is already built-out, new traffic lanes will not be feasible to facilitate the growth projections in all areas of the city.

Fortunately, Tulsa has a well connected, gridded street network that possesses the elements needed to transform into a high performance, multi-modal transportation system. Part III of this chapter details how existing streets can become multi-modal by dedicating lanes for high speed high frequency transit, adding bicycle facilities or providing on-street parking that will enable patrons to park once and walk amongst various

destinations. The PLANiTULSA team tested these types of investments to assure Tulsa has an effective and durable transportation system that works for today's users while fostering a future system that is sustainable and offers more travel options.

Using future population and employment estimates from the Tulsa 2030 Goal, one can model the transportation system and plan for future infrastructure needs. In Tulsa, the best model for performing this analysis is INCOG's Travel Demand Model. It was developed to evaluate transportation projects for the entire Tulsa Region and includes a current year road network and demographics (2005) as well as a forecast year (2030) road network and demographic factors.

The INCOG model uses specific "mode choice" algorithms to convert person-trips to vehicle-trips. The PLANiTULSA team expanded that process to estimate how people would react to new walkable land use forms and an expanded transit and multi-modal system. To accomplish this we employ a process called the elasticity method for measuring the impact of the 5Ds, (Density, Diversity, Design, Destinations, Distance). This process allows for additional refinement during the "mode choice" step to estimate transit and mixed-use trip capture.

The model identifies a number of indicators that can be used to evaluate the performance and efficiency of

different scenarios. The following section summarizes the major indicators derived from the transportation model and illustrate how diversifying transportation investments will help implement *Our Vision for Tulsa*.

Tulsa 2030 Goal Indicators and Analysis

The analysis began with researching the benefits of Tulsa 2030 Goal, which uses a strategy of reducing the amount of additional roadway lane miles and increases housing and employment densities in strategic corridors and around transit stations.

One of the two fundamental transportation indicators are vehicle miles traveled (VMT) and vehicle hours traveled (VHT). The first measures how many total miles are driven in a given period, the second measures how much time is spent driving. Table 1 reports per-capita VMT and VHT. Under the Trends Continue scenario, the average Tulsan in 2030 will drive 40 miles per day, and spend 56 minutes in the car. By contrast, in the Tulsa 2030 Goal scenario, Tulsans will drive 25% fewer miles and spend 29% less time en route to where they're going. Though Tulsa's congestion is not projected to be severe, the amount of time lost to traffic congestion (Minutes of Delay) declines by 36% under Tulsa Goal 2030.

Table 1: Travel Indicators (per capita)

	Trends Continue	Tulsa 2030 Goal	Change
VMT (miles)	40	30	-25%
VHT (minutes)	56	41	-29%
Minutes of Delay	7.2	4.6	-36%

Source: Kimley-Horn and Associates, Inc.

Table 2: Jobs and Housing Near Transit

	Trends Continue	Tulsa 2030 Goal
Housing Units within 1/2 Mile of Transit	8,418	26,567
Jobs within 1/2 Mile of Transit	14,732	33,202

Source: Fregonese Associates

Transportation

PART I: VISION AND CHALLENGES

One of the key drivers of this improvement would be the location of more total homes and jobs near transit, both in new communities and from improved service to existing neighborhoods (Table 2). The PLANiTULSA public input process indicated a desire for greater transit options, both through the workshop process and the scenario survey.

As a result, transit ridership could increase by 600% percent over the next 25 years if the land use and transportation policies upon which Tulsa 2030 Goal is based are implemented (Chart 3).

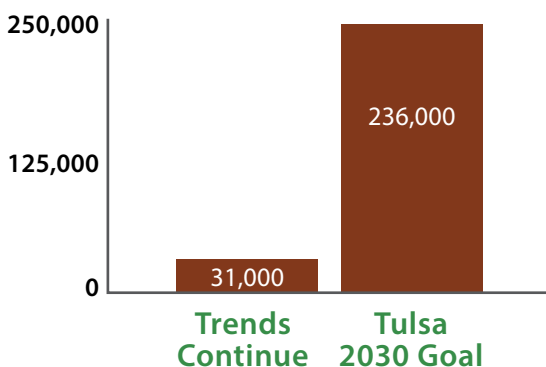
This growth in transit ridership would result in a positive change to mode split in Tulsa. Mode split, is a transportation term that describes the percentage of travelers using a particular type of transportation (i.e. automobile, walking, biking, or transit). The term is often used when analyzing the sustainability of transport within a city or region. Although there is no national standard for mode split, it is generally agreed that a 10% alternative mode is sustainable. The Tulsa 2030 Goal projects a 7% transit and 9% walk/bike mode share for the city, which is substantially better than the generally agreed upon measure (Chart 4).

This future mode share is a product of an expanded transit system and new development centers that are mixed-use, dense and walkable. The doubling of walking and biking trips is a product of expanded pedestrian and bicycling facilities in the form of multi-modal streets and easily accessible mixed-use centers that enable patrons to walk or bike amongst various destinations. This system does not only benefit these new centers in the city, it also improves the travel conditions of the entire region.

Regionally, Tulsa 2030 Goal would shift approximately 300,000 of the 3,200,000 vehicle trips that are made daily in the Tulsa region to walk or bike trips. Shifting these trips means there is greater roadway capacity available for freight, commuter and through-traffic trips on the region's system of arterials and expressways.

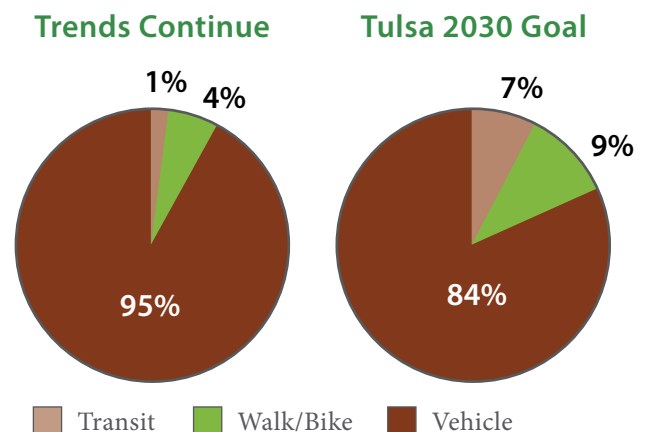
By shifting travel demand to other modes, Tulsa could reduce the need to expand road capacity. The difference in total new lane miles is not substantial; however, the number of lane miles per 1,000 new residents is dramatically lower for Tulsa 2030 Goal than under the Trends Continue scenario. In addition to a more efficient transportation system, the design

Chart 3: Total City and Regional Transit Ridership
(unlinked trips per day)



Source: Kimley-Horn and Associates, Inc.

Chart 4: Mode Split (of trips per day)



Source: Kimley-Horn and Associates, Inc.

of the new streets under Tulsa 2030 Goal would support intense and fiscally productive land uses. The estimated net annual sales tax revenues to the city are substantially higher under Tulsa 2030 Goal than the Trends Continue scenario (Table 3). A further discussion of recommended street improvements is in Part III of this chapter.

The priorities under Tulsa 2030 Goal would also result in some savings in transportation expenditures for Tulsans. A better coordination of land use and transportation would provide more housing choices closer to employment and more transportation choices reduce the financial cost associated with commuting. Energy efficiency will become an increasingly important part of the nation's strategy to increase energy independence. Under Tulsa Goal 2030, the amount of fuel wasted annually will be dramatically lower — this does not take into account potential increases in fleet fuel efficiency (Table 5).

Tulsa 2030 Goal also will help decrease the harmful impact of transportation emissions on Tulsa's air quality. Even though the Tulsa region is currently in attainment of all National Ambient Air Quality Standards (NAAQS), it is more likely that under the Trends Continue scenario, the region could become a non-attainment area (i.e. being added to "the dirty air list").

In contrast, pursuing the Tulsa 2030 Goal would compliment Tulsa's local clean air efforts that are already in effect, such as the Green Traveler and Clean Cities Programs. Noxious Oxides (NoX), carbon Dioxide (CO₂) and Volatile Organic Compounds (VOC) are the primary transportation related air pollutants. Tulsa 2030 Goal results in a reduction — both citywide and regionally — in these harmful pollutants when compared to the Trends Continue scenario (Tables 6 and 7).

The results of the PLANiTULSA planning process input, transportation modeling analysis, and the fiscal needs of the city all point toward a new direction for transportation investment in Tulsa.

Table 3: Lane Miles Added by Scenario

	Trends Continue	Tulsa 2030 Goal
Existing Lane Miles	1,777*	1,777*
Added Lane Miles	604	554
Total Lane Miles 2030	2,130	2,080
Added Lane Miles 1,000 Residents	5.1	4.3

Source: Existing City of Tulsa Public Works, 2030 Goal Kimley-Horn and Associates, Inc. from the INCOG Travel Demand Model

Table 4: Net Sales Tax Revenue (Annually)

	Trends Continue	Tulsa 2030 Goal	Change
Net Sales Tax Revenue	\$16.6 million	\$37.8 million	+135%

Source: Kimley-Horn and Associates, Inc.

Table 5: Fuel Wasted Due to Congestion (Annually)

	Trends Continue	Tulsa 2030 Goal	Change
Wasted Fuel (in gallons)	10,700,000	8,100,000	-24%

Source: Kimley-Horn and Associates, Inc.

Table 6: City Air Quality Indicators

	Trends Continue	Tulsa 2030 Goal	Change
NoX (tons)	9,837	8,691	-12%
CO ₂ (tons)	2,379,800	2,102,400	-12%
VOC (tons)	11,805	10,429	-12%

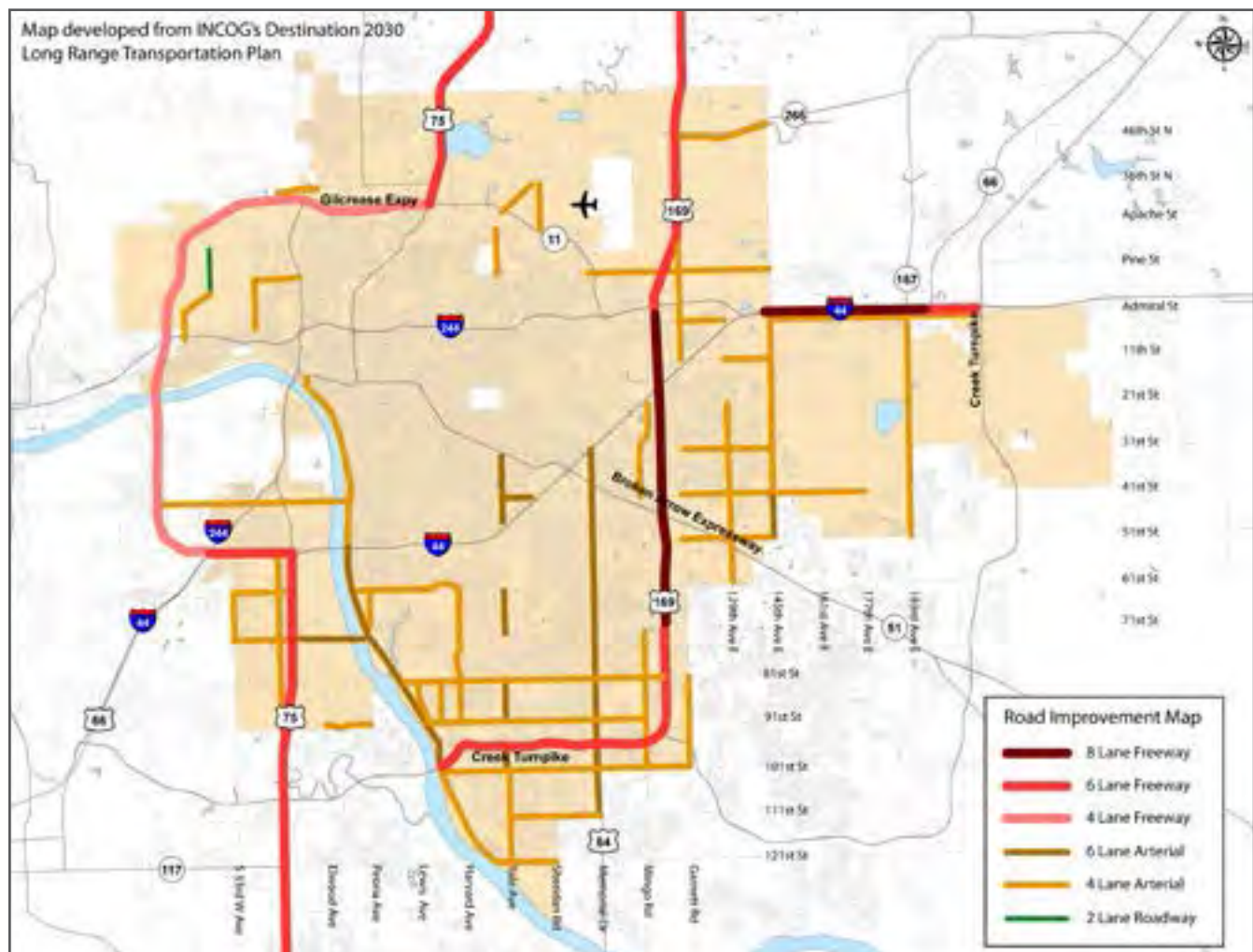
Source: Kimley-Horn and Associates, Inc.

Table 7: Regional Air Quality Indicators

	Trends Continue	Tulsa 2030 Goal	Change
NoX (tons)	18,347	15,390	-16%
CO ₂ (tons)	4,438,400	3,723,000	-16%
VOC (tons)	22,016	18,468	-16%

Source: Kimley-Horn and Associates, Inc.

Figure 2: Trends Continue Scenario Network



Source: Kimley-Horn and Associates, Inc.

TRENDS CONTINUE SCENARIO NETWORK

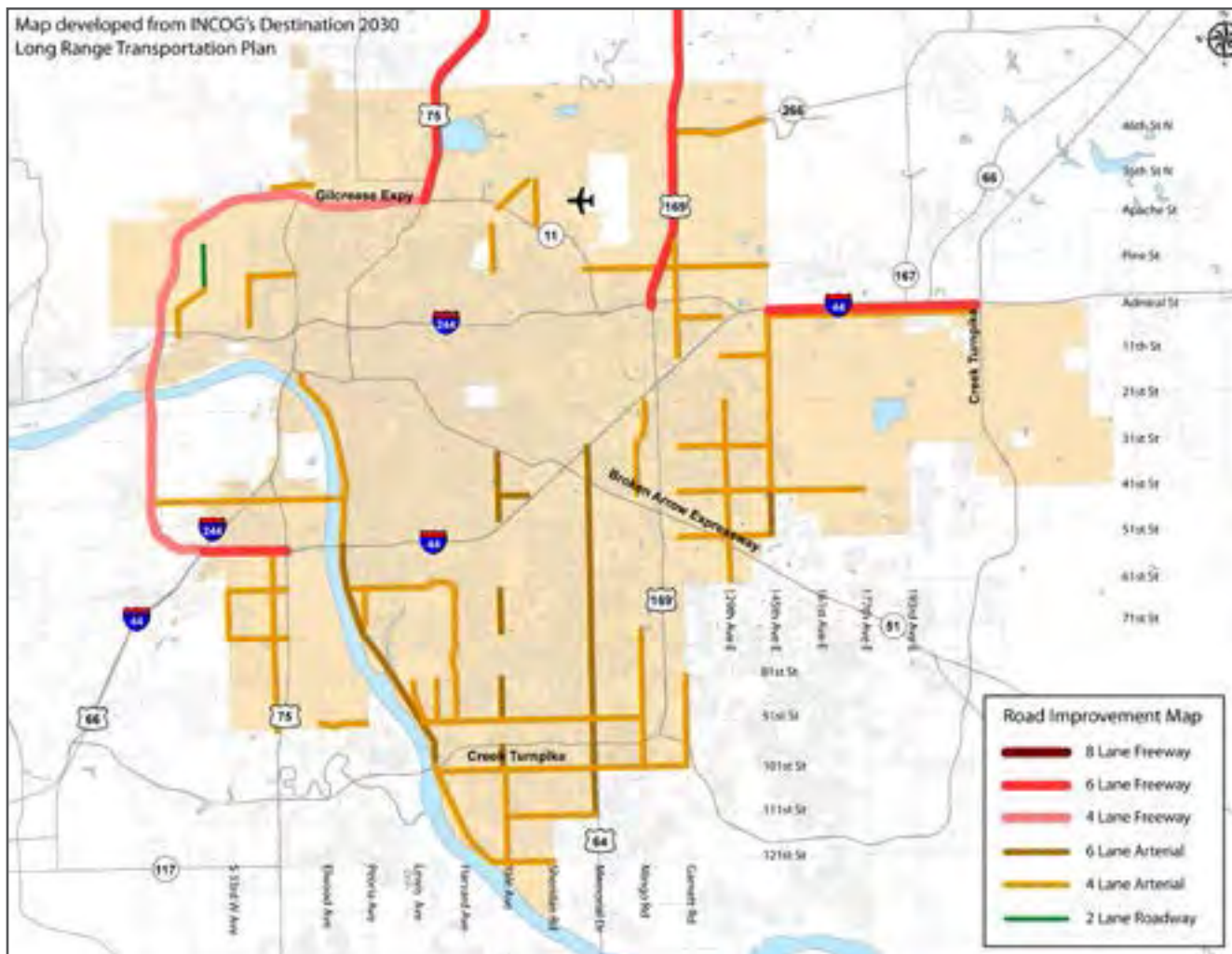
Figure 2, Trends Continue Scenario Network represents the transportation system analyzed in the Trends Continue Scenario. It was based on the existing Tulsa City-County Major Street and Highway Plan, which emphasizes the widening of existing roads. This network reinforces the disaggregation of homes and employment, at great cost to the city's fiscal stability.

On the opposite page is Figure 3, the Tulsa 2030 Goal Recommended Network, which is also based on the street improvements in the Tulsa City-County Major Street and Highway Plan. However, these street improvements invest more selectively in roadway capacity in coordination with new residential and employment densities and improvements to transit service, walkability and bicycling facilities. The result is an expanded, but more multi-modal and fiscally sustainable network that better achieves Our Vision for Tulsa.

The projects in Table 8 2030 Goal Network Modifications should be considered as part of future transportation and transit planning activities. The adoption of the Tulsa 2030 Goal demographics and use of the Sustainable Network Initiative and Context Sensitive Streets process will provide transportation officials with the ability to program infrastructure improvements to complement sustainable land development patterns.

The City of Tulsa should work with INCOG to develop a common demographic forecast, in addition to trends and other factors, that reflects the implementation of the PLANiTULSA Policy Plan. These factors should be used to develop region-wide transportation forecasts and guide transportation decision making.

Figure 3: Tulsa 2030 Goal Recommended Network



Source: Kimley-Horn and Associates, Inc.

Table 8: Tulsa 2030 Goal Recommended Network Modifications

Road – Extent	Currently Planned Improvement	Tulsa 2030 Goal Revised Improvement
US 169 – From E 71st St. to IH 244	8 Lanes	Remain 6 Lanes, High-Capacity Transit Implementation
IH 44 – From East IH 244 Split to Hwy 66	8 Lanes	Remain 6 Lanes, Demographic Redistribution
US 75 – From IH 44 to south of Tulsa	6 Lanes	Remain 4 Lanes, High-Capacity Transit Implementation
Creek Turnpike – From Riverside Dr to US 169	6 Lanes	Remain 4 Lanes, Demographic Redistribution
71st St – From US 75 to Riverside Dr	6 Lanes	Remain 4 Lanes, Demographic Redistribution
81st St – From Harvard Ave to Memorial Drive	4 Lanes	Remain 2 Lanes, Demographic Redistribution
193rd E Ave – From IH 44 to 51st St	4 Lanes	Remain 2 Lanes, Demographic Redistribution

Source: Kimley-Horn and Associates, Inc.

Transportation Part II: The Route for Tulsa

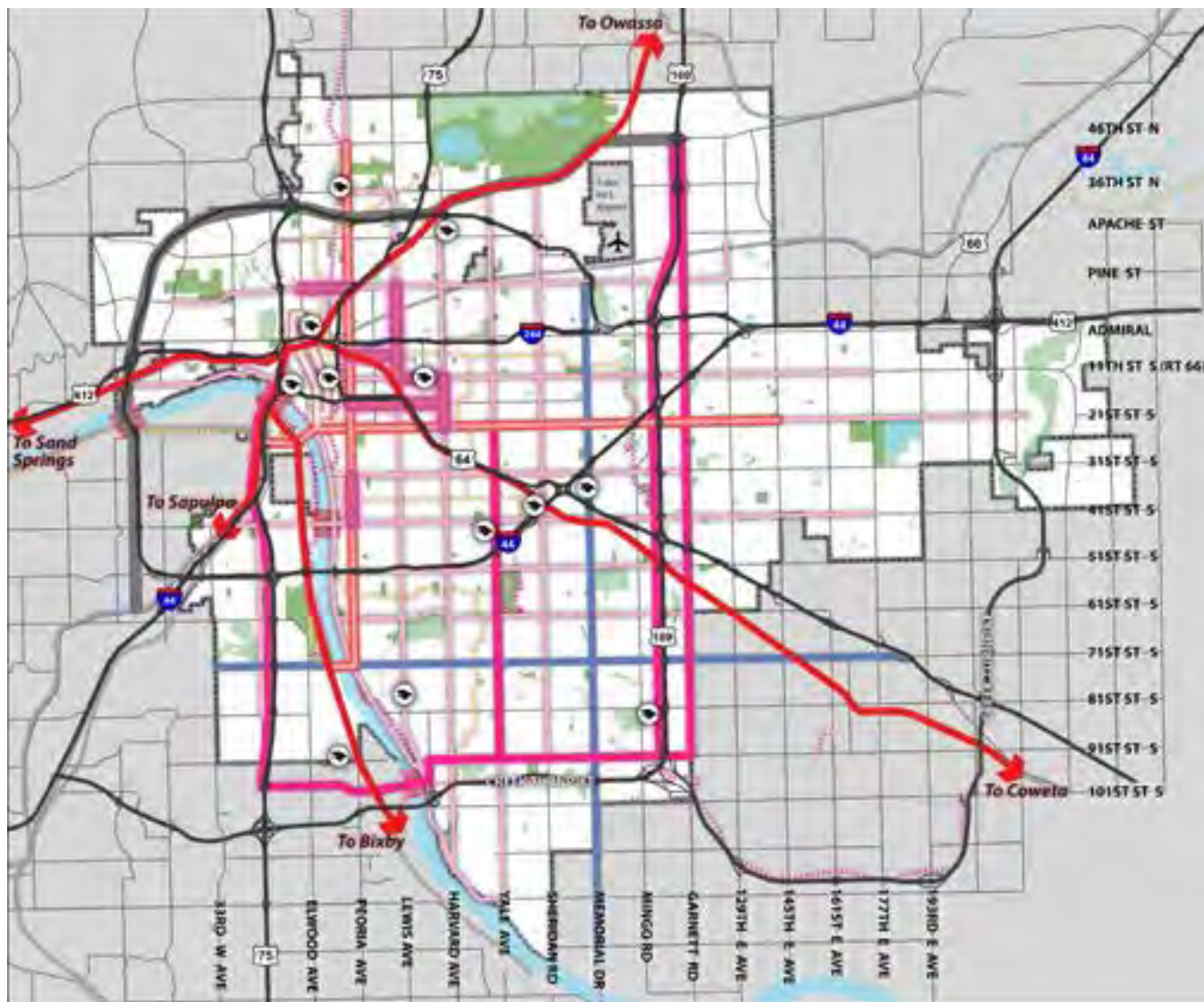


Celeste Vaughtart

Our Vision for Tulsa envisions a more robust transportation system with a variety of options for getting around town and supports sustainable land development forms that aid in strengthening the economy. Fundamental to achieving this vision will be the reinvestment in Tulsa's existing network to increase connectivity, enhance pedestrian, biking, and transit spaces, and maintain mobility for commerce and freight. This plan focuses on two primary approaches to achieving these aims: enhancing the multi-modal quality of Tulsa's existing (and future) network, and expanding the transit system.
















Getting more out of the existing street system, managing maintenance costs and enhancing transportation options will be achieved through a process that unites city planning agencies with the community and developers. This process is called Context Sensitive Solutions (CSS) and it will be a part of every small area planning effort. CSS is a collaborative, interdisciplinary approach that involves all stakeholders to develop a transportation facility that fits its physical setting and preserves scenic, aesthetic, historic and environmental resources, while maintaining safety and mobility for all users (bike, pedestrian, auto and transit).

Figure 4: Tulsa's Transportation Vision



Source: Kimley Horn Associates

TRANSPORTATION

 Rail Transit	 Possible Multi-Modal Bridge
 Streetcar	 Freight Corridor
 Frequent Bus	 Multi-Use Trail
 Bus Rapid Transit	 Bicycle Trail
 Main Street	 Hiking Trail
 Commuter Corridor	 Existing/Planned Freeway
 Multi-Modal Corridor	 Parks
	 Open Space

The PLANiTULSA Transportation Vision illustrates the improvements to the street, transit, bicycle and pedestrian assets.

- Alignments that extend beyond the City of Tulsa's boundaries do not represent policy or investment obligations on the part of other jurisdictions.
- The two BRT corridors shown on HWY 169 and Garnett Road illustrate potential alignments; the exact alignments and technologies of transit investments may be refined during a formal alternatives analysis (AA). See Transportation Appendix III.
- At posting/publication, the multi-modal bridge at HWY I244 and

Table 9: Transportation and Land Use Building Blocks

Land Use Building Blocks	Transportation Building Blocks			
	Main Streets	Multi-Modal Streets	Commuter Streets	Residential Collector Streets
Downtown	Y	Y	X	Y
Centers	Y	Y	Z	Y
Corridors	Y	Y	Z	X
New Residential	X	Z	X	Y
Existing Residential	X	Z	Z	Y
Employment	X	Y	Y	X

X = Not Applicable
Y = Applicable
Z = Acceptable

HOW THE TRANSPORTATION BUILDING BLOCKS RELATE TO LAND USE

The overarching approach to integrating land uses and transportation facilities is known as Context Sensitive Solutions (CSS). CSS takes an interdisciplinary approach to street design that will further encourage coordination between traffic engineers, planners, urban designers, architects, emergency response officials, and the community when designing new streets or reconstructing existing streets. This approach fosters communication with those designing other elements of the community and results in better facilities and places.

Transportation Building Blocks

The two overarching concepts for Tulsa's transportation strategy are building the city's multi-modal street system and enhancing transit. These make up the fundamental building blocks of the city's future transportation system, and are designed to work hand-in-hand with land use policy by way of a Context Sensitive Solutions process.

A Multi-Modal Street System

Tulsa is fortunate to have a well connected street network with an array of roadway sizes and characteristics. These right-of-ways assure that the transportation system can evolve as the city grows and travel modes mature. In the past the network absorbed increased traffic due to higher vehicular ownership levels and long-distance commutes. With changing community desires for transportation choices and sustainability, Tulsa's network can be adapted for transit priority and/or desire for more bicycle, pedestrian and placemaking initiatives. This can be accomplished in concert with improving freight, cargo and through traffic movement because of redundancies in the roadway and highway network.

Expanded Transit System

Tulsans are very dependent on their personal automobile for daily travel. A combination of factors plays into the daily decisions of how people commute. The Association for Commuter Transportation (ACT) cites lack of choice as the number one reason people commute via private vehicle. The input compiled from the initial PLANiTULSA telephone survey identified support for more alternatives like rail and streetcar transit.

How we Get There: Context Sensitive Solutions (CSS) Approach

Currently Tulsa uses a conventional transportation decision making process which is governed by automobile travel demand and level of service criteria. In CSS these are still important criteria, but are balanced with other context-related criteria including community objectives, thoroughfare type and the type and intensity of the adjacent land uses.

CSS will be a vital element to building public-private partnerships to develop the new centers, multi-modal corridors, main streets and residential streets articulated in *Our Vision for Tulsa*. Appendix Transportation I offers a sample CSS policy and process.

Multi-Modal Street System

The first transportation building block is the multi-modal street system. A multi-modal street balances the needs of all modes of travel, giving people the option to walk, bike, ride transit or drive. **The street types include Main Streets, Multi-Modal Streets, Commuter Streets and Residential Collector Streets.** These street types attempt to strike a balance between functional classification, adjacent land use, and the competing travel needs.

This approach diverges from conventional street designs that emphasize automobile mobility and speed to the exclusion of other users and adopts the Institute of Transportation Engineer's Recommended Practice for Walkable Urban Thoroughfares. Concurrently, the new street classification system, retains the city's existing classification system of arterials, collectors and local streets.

The following classifications will guide the function and redevelopment of existing facilities and the design of new ones in support of the new land use forms. The conversion to multi-modal streets will occur incrementally as roads are re-designed, small area plans recommend changes to the road character and on-street bicycle facilities are needed to link key destinations and connect the off-street trails to neighborhoods.

Table 10: Conventional vs. CSS Approach to Transportation Design

Conventional	Context Sensitive Solutions
Context	Context
Urban Rural	Suburban General Urban Urban Center Urban Core
Design criteria are primarily based on	Design criteria include
Functional class	Community plans/objectives
Design speed	Functional class
Forecast travel demand	Thoroughfare type
Level of service	Adjacent land uses

Source: ITE Recommended Practice for Designing Walkable Urban Thoroughfares: A Context Sensitive Approach

Note: The Context Sensitive Solutions process described in the appendix provides an explanation of how this new street classification interacts with the Tulsa City-County Major Street and Highway Plan. It provides guidance on selecting cross-sections and a process to guide the prioritization of roadway attributes in constrained right-of-ways.

Main Streets

Main streets serve the highest intensity retail and mixed land uses in Tulsa's areas such as downtown and in regional and neighborhood centers. Like multi-modal streets, main streets are designed to promote walking, bicycling, and transit within an attractive landscaped corridor. Generally, main street activities are concentrated along a two to eight block area, but may extend further depending on the type of adjacent land uses and the area served.

Main streets can be designed with two to four travel lanes, although typically have only two lanes. On street parking usually is provided to serve adjacent land uses. Unlike typical strip commercial developments, main streets offer the ability to park-once and walk amongst various destinations, thus reducing arterial trip making. The key is to create convenient parking that is on-street or provided in a shared public parking lot. In order to ensure the walkability of a main street, careful consideration must be made to the design elements and amount of parking lots.

When emphasizing street frontage walkability and bike pedestrian neighborhood connectivity, tree lawns and detached walks receive priority over travel lanes. Within the parking lane tree wells may be used to create a double row of street trees in combination

with a tree lawn. To further create a pedestrian-friendly atmosphere, main streets have wide sidewalks, street furniture, outdoor cafes, plazas, and other public spaces.

INITIAL PRIORITY ELEMENTS

- Wide sidewalks with transit access and pedestrian plazas
- Bicycle facilities
- Curb extensions
- Tree lawns
- On-street parking

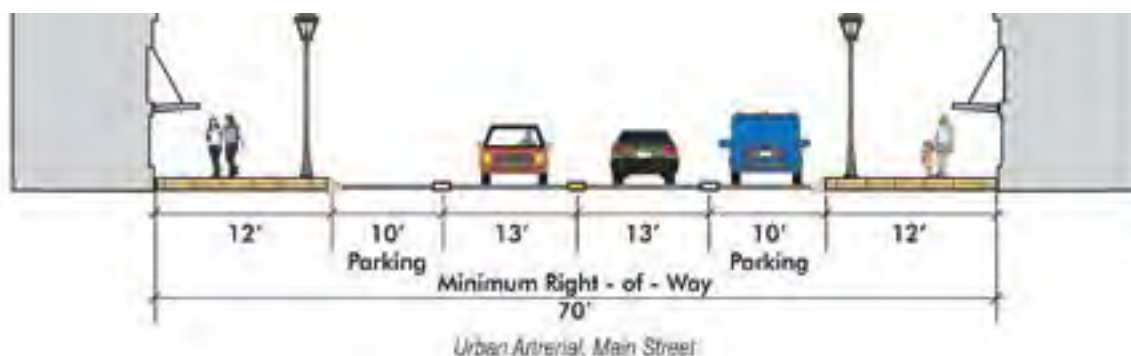
SECONDARY PRIORITY ELEMENTS

- Medians
- Width and number of travel lanes

EXAMPLES OF TRAFFIC MANAGEMENT FEATURES

- Narrower travel lanes
- Alternative paving material
- Tree planters in parking lane
- On-street parking
- Reduced pedestrian crossing distances at intersections, using curb extensions, traffic islands, and other measures
- Raised intersections
- High-visibility crosswalks

Figure 5: Sample Main Street Cross Section



Multi-Modal Streets

Multi-modal streets emphasize plenty of travel choices such as pedestrian, bicycle and transit use. Multi-modal streets are located in high intensity mixed-use commercial, retail and residential areas with substantial pedestrian activity. These streets are attractive for pedestrians and bicyclists because of landscaped medians and tree lawns. Multi-modal streets can have on-street parking and wide sidewalks depending on the type and intensity of adjacent commercial land uses. Transit dedicated lanes, bicycle lanes, landscaping and sidewalk width are higher priorities than the number of travel lanes on this type of street. To complete the street, frontages are required that address the street and provide comfortable and safe refuge for pedestrians while accommodating vehicles with efficient circulation and consolidated-shared parking.

Streets on the Transportation Vision that indicate a transit improvement should use the multi-modal street cross sections and priority elements during roadway planning and design.

INITIAL PRIORITY ELEMENTS

- Dedicated transit lanes
- Transit priority at intersections
- Wide sidewalks with transit access
- Bicycle lanes on designated bike routes
- Bicycle facilities
- Tree lawns
- On-street parking

SECONDARY PRIORITY ELEMENTS

- Width and number of travel lanes (on collector and local streets)
- Medians

EXAMPLES OF TRAFFIC MANAGEMENT FEATURES

- Landscaped medians
- On-street parking
- Street trees
- Narrower travel lanes
- Traffic circles and roundabouts
- Reduced pedestrian crossing distances at intersections, using curb extensions, traffic islands, and other measures

Figure 6: Sample Multi-Modal Street Cross Section



LEGEND

- ◊ Lane intended for bus/transit use

Commuter Streets

The most widespread commercial street type is the strip commercial arterial. These arterials typically serve commercial areas that contain many small retail strip centers with buildings set back from front parking lots. Because of this, strip commercial arterials have many intersections and driveways that provide access to adjacent businesses. Historically, this type of street is highly auto-oriented and tends to discourage walking and bicycling. On-street parking is infrequent.

Commuter streets are designed with multiple lanes divided by a landscaped median or a continuous two-way left turn lane in the center. Commuter streets are designed to balance traffic mobility with access to nearby businesses. However, because there are so many intersections and access points on commuter streets, they often become congested. Improvements to these streets should come in the form of access management, traffic signal timing and creative intersection lane capacity improvements.

INITIAL PRIORITY ELEMENTS

- Number and width of travel lanes
- Medians
- Transit accommodations

SECONDARY PRIORITY ELEMENTS

- Pedestrian facilities
- Bicycle facilities
- Tree lawns
- Two-way center left-turn lanes
- On-street parking

EXAMPLES OF TRAFFIC MANAGEMENT FEATURES

- Medians
- Consolidated driveways
- Synchronization of traffic signals
- On-street parking
- Narrower travel lanes
- Reduced pedestrian crossing distances at intersections, using curb extensions, traffic islands, and other measures

Figure 7: Sample Commuter Street Cross Section



Residential Collector Streets

Residential collector streets strengthen neighborhood cohesion, promote alternative transportation, calm traffic and connect recreational destinations. They typically can be applied in two instances: in new residential neighborhoods, or as retrofits in existing residential or downtown streets that may be wide, but do not provide sufficient parking, bicycle and pedestrian accommodations or traffic calming measures.

In both cases, residential collector streets tend to be more pedestrian-oriented than commuter streets, giving a higher priority to landscaped medians, tree lawns, sidewalks, on-street parking, and bicycle lanes than to the number of travel lanes.

Residential collector streets consist of two to four travel lanes and place a much higher priority on pedestrian- and bicycle-accessibility than on auto mobility.

INITIAL PRIORITY ELEMENTS

- Sidewalks
- Tree Lawns
- On-street parking
- Landscaped medians
- Bike lanes on designated bicycle routes

SECONDARY PRIORITY ELEMENTS

- Number and width of travel lanes

EXAMPLES OF TRAFFIC MANAGEMENT FEATURES

- Pedestrian islands
- On-street parking
- Street trees
- Narrower travel lanes
- Traffic circles and roundabouts
- Reduced pedestrian crossing distances at intersections, using curb extensions, traffic islands, and other measures
- Diverters

Figure 8: Sample Residential Collector Street Cross Section





Table 11: Car Problems and Transit Advantages

Car Problems	Transit Advantage
Consumes land for roads and parking	Uses land and road space more efficiently
Slow and unreliable in high-traffic corridors	Rapid, frequent service in high-traffic corridors
Heavy traffic disrupts neighborhoods	High ridership helps build neighborhoods
Noisy and polluting	Relatively quiet and low polluting
Burns fossil fuel inefficiently	Uses cleaner energy sources more efficiently
Greater incidence of injuries and deaths for auto users and pedestrians	Fewer injuries and deaths for riders and pedestrians
Discourages walking and bicycling	Active modes feed/distribute transit trips
Air pollution, noise pollution, reduces daily exercise and the sprawl it induces has been linked to rising obesity rates in the US.	Provides opportunities for exercise
High public costs for infrastructure and support	More capacity per dollar invested
High personal costs for ownership, insurance and use	More affordable for users

Source: Adapted from *Metrolinx, Green Paper #7*, March 2008

Expanded Transit System

The current delivery of public transportation in the Tulsa region is provided by the Metropolitan Tulsa Transit Authority (MTTA). The fixed route service provides riders with access to regional shopping, health care and employment centers. The existing routes of the MTTA bus system offer a safe, reliable and affordable transportation alternative for its current ridership. *Our Vision for Tulsa* envisions a greatly expanded transit network that provides a wider range of options than exist today.

Expanding ridership for the system should come mostly from new “choice” riders. These riders typically own cars, but can be enticed to use transit by improving the quality of service and convenience. Choice riders in Tulsa may be attracted to transit because of an array of social values, such as their desire to reduce their impact on the environment. But primarily they will be attracted by the qualities of a good transit system, such as fast and frequent service, amenities like bike racks, comfortable and quiet vehicles, and superior passenger safety. This also includes good accessibility from transit stations to work, home, and other destinations. Tables 11 and 12 describe some of the elements needed to attract choice riders.

The purpose of the expanded transit system is twofold. First, it provides a reliable and convenient alternative to the automobile. Secondly, this expanded and enhanced transit program will play an important role in influencing sustainable land development patterns. People living and working in and around transit corridors can rely less on the automobile and use enhanced pedestrian, transit, and bicycle facilities. Households who elect to live near transit can often reduce the number of cars they own, reducing the need for parking facilities.

The elements of the expanded transit system include rail (both light rail and commuter rail), Bus Rapid Transit (BRT) and a variation on BRT called High Frequency Bus. A streetcar system will also play a vital role in Tulsa's future transit system.

Rail Transit

The rail transit element of the expanded transit system consists of streetcar, light rail and commuter rail service. While streetcars share existing right-of-ways, light rail and commuter rail typically operate in designated rights of way separate from other forms of transportation (i.e. cars, bikes, pedestrians, and freight rail). In addition, interfaces with other forms of transportation sometimes are grade separated (e.g., rail crossing of a major street) to reduce conflicts. Commuter rail differs from light rail in that it typically serves longer distance trips, has fewer stops within a corridor, uses diesel-powered vehicles and can share track with freight vehicles. The operational characteristics of light rail include smaller vehicles, better acceleration, electric power, yet they can not share track with freight vehicles due to safety requirements. Streetcars are a variation on light rail that do not need a designated right of way and can be mixed with other forms of transportation (i.e., cars, bikes, buses, and pedestrians) in a multi-modal street.

Both commuter rail and light rail provide advantages over the automobile. As demand increases, light rail and commuter rail lines can easily be expanded by adding cars to the trains or by increasing the frequency of service. Thus, rail can serve densely built areas such as downtown and spur urban densities in strategic corridors throughout Tulsa more efficiently than vehicles alone. Rail corridors also play a vital role in providing access to special events, sports and cultural facilities, and entertainment.



THE LAND USE EFFICIENCY OF TRANSIT COMPARED TO FREEWAYS:

A typical light rail car handles 175 people during the peak hour operating conditions. Assuming 2 car trains and 5 minute headways, a light rail system can move roughly 8,400 people per hour within 40 feet of right-of-way including station locations. Thus, light rail can carry 210 persons per hour, per foot of right of way. In contrast, a four lane expressway with traffic moving in both directions (roughly 80 feet of pavement) can move roughly 9,600 people per hour, which equates 120 persons per hour, per foot of right of way.

Table 12: Car Attractions and Transit Needs

Car Attractions	Transit Needs
Door-to-door service, goes anywhere; convenient for multiple-destination trips	Enhanced service coverage and multiple-trip fares
Ready when needed	Frequent service
Comfortable and private; protection from the elements	High-quality vehicles, seating and stations; protection from the elements
Carries personal goods	Room for parcels, bikes and strollers
Fosters family travel	Pleasant ambiance for families
Provides prestige, looks nice, conveys a sense of freedom and independence	Premium experience for travelers who travel in a more sustainable fashion

Source: Adapted from Metrolinx, *Green Paper #7*, March 2008

Bus Rapid Transit (BRT)

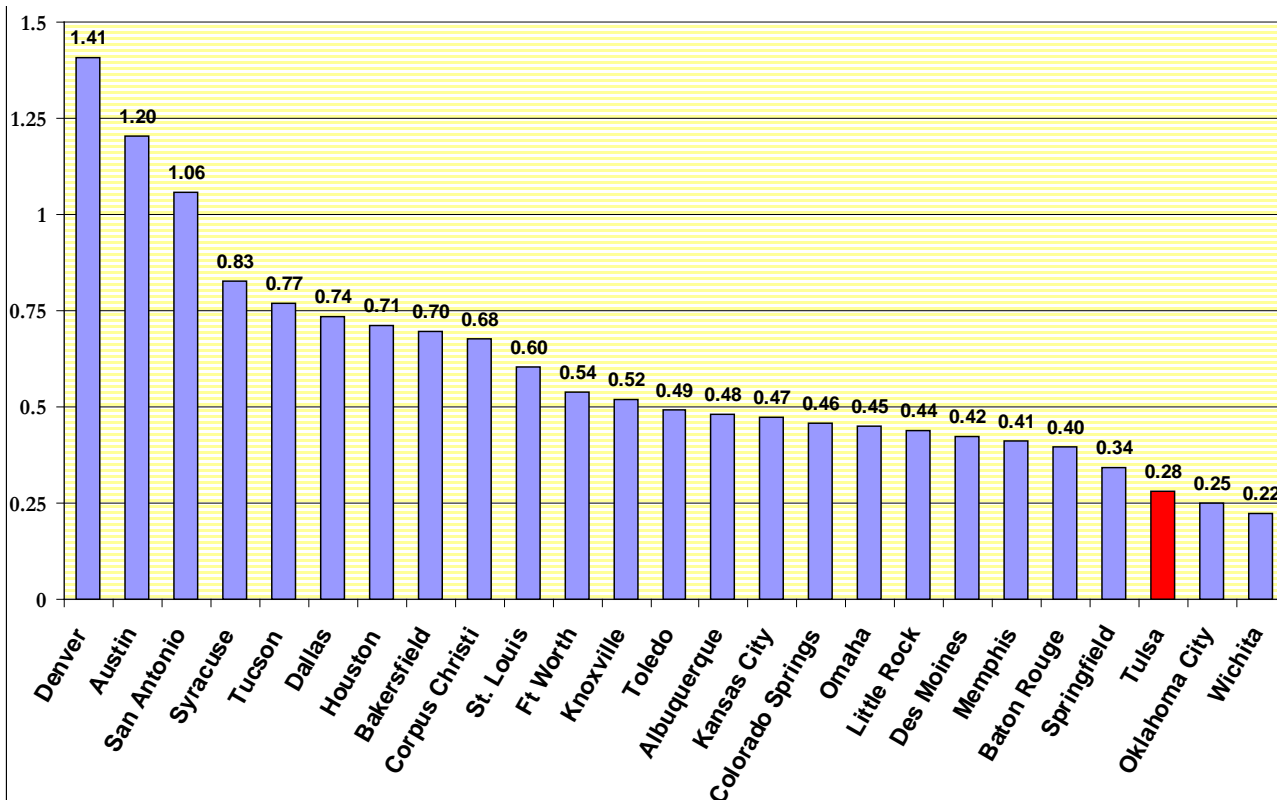
BRT is a relatively new technology that combines some aspects of rail transit with the flexibility of buses. It can operate on exclusive transit ways, HOV lanes, expressways, or ordinary streets. As compared to typical diesel bus technology, a BRT system can potentially combine new technology (using propane or other alternative non-diesel fuel), priority for transit, cleaner and quieter operation, rapid and convenient fare collection, and integration with land-use policy.

High Frequency Bus

This new form of service operates in mixed traffic and has short stop spacing. Increased efficiency of this service comes from intelligent system operations. Priority and preemption is used at intersections and real-time information is given at stops through the utilization of GPS technology.

Tulsa has a limited transit system in terms of vehicles and especially service hours. MTTA runs a quality service, but is unable to meet the needs of a 24 hour 7 day a week economy because of operational funding limitations. Equitably funding all modes of transportation in Tulsa will create a more sustainable transportation system and reduce the demand for costly roadway maintenance and construction.

Chart 5: Tulsa Metropolitan Transit Authority Service
Comparative per Capita Fixed Route Service Hours

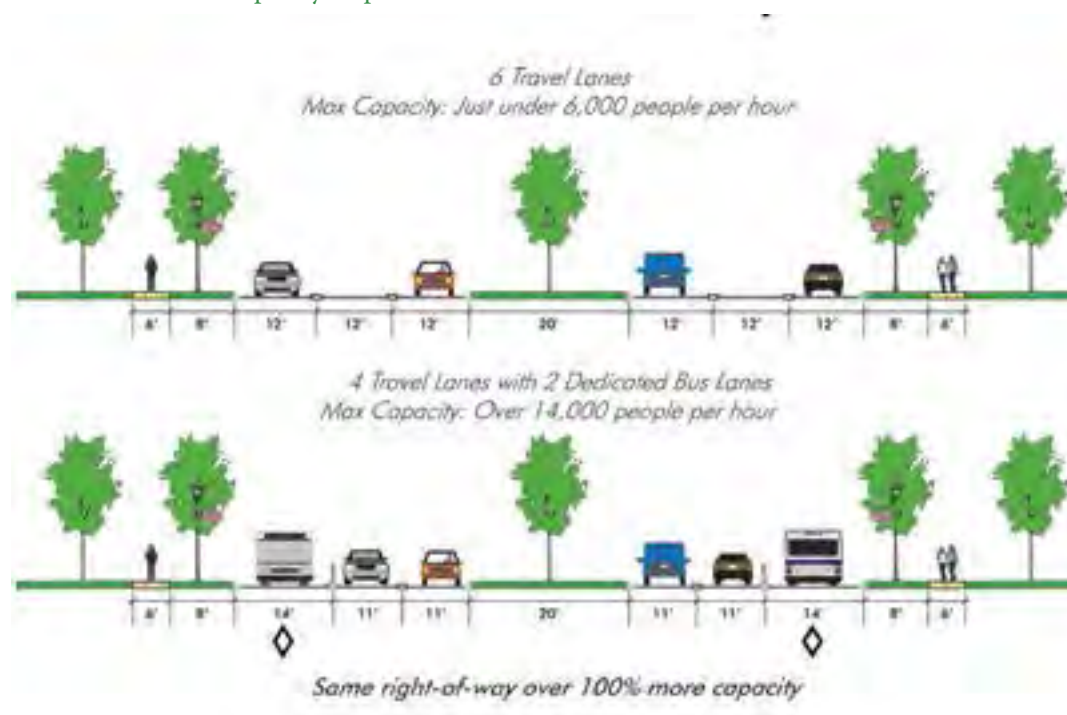


Transportation

Part III: Tools for the Transportation Building Blocks

Tulsa's transportation system consists of many components that must work together to make *Our Vision for Tulsa* a reality. **These components include: the transit system, pedestrian facilities, bicycle facilities, the system-wide tools of access management, intelligent transportation systems, context sensitive solutions and sustainable network.** This section provides a description of each component, identifies how the component currently is being used and how it can be modified to realize the vision.

Figure 9: Multi-Modal Corridor Capacity Improvement



LEGEND

◊ Lane intended for bus/transit use

Source: Highway Capacity Manual, Transit Capacity Manual

Multi-modal Street System Tools

Multi-modal corridors will be the backbone of the new transportation system, linking neighborhoods together with new centers and other regional destinations. They are multi-functional arterials designed to match the mixed-use urban development that they will support, while providing abundant opportunities to walk, ride, bike and even use a wheelchair around the neighborhood. Multi-modal corridors offer convenient transit service linking communities to adjacent neighborhoods, places of employment, and other destinations. A core tenant of multi-modal streets is its commitment to tightly integrated transportation technology (i.e. intelligent transportation systems, high frequency transit with density and distribution of adjacent land uses); these elements are essential to attracting users to the system.

Many of these corridors will be designed to accommodate future high capacity fixed-route transit that will transform the right-of-way into a high performance corridor that carries many more people in multiple modes. If *Our Vision for Tulsa* is going to be fulfilled it must begin with a greater focus on moving people through limited right-of-ways, and including flexibility in the design and redesign of them to accommodate all users and be transit-ready.

Utility integration is another function of multi-modal corridors. Conventional electrical, gas, water and sewer systems should be located in corridors and coordinated with the adjacent land uses to account for the placemaking capacity of the streets. The same is true for franchise utilities. When possible these utilities should be located underground, in a shared right-of-way with the street, sidewalk or completely concealed in an alley.

Current Use of Multi-modal Streets as a Tool

Tulsa's current roadway network is characterized by a grid of arterials spaced at one-mile increments with major retail centers located at the intersections and strip commercial lining the edges. Overlaying the grid in rings and radials is the expressway system. The intersections of the grid and freeway are fertile ground for big box retail developments, office parks and other uses that demand frequent and easy auto access. On occasion a transit line and a walkable street may overlay this auto-oriented framework, but short of that, sustainable land development patterns are forced to grow in a network designed for sprawl.

Future Use of Multi-modal Streets as a Tool

Tulsa must develop a new circulation pattern to match the new approach to building and development — as outlined in the Land Use Chapter — one that accommodates the car as well as transit and that enhances pedestrian-friendly places.

The transportation network proposed in the Transportation Vision Map is diverse, mixing different levels of auto use with transit, biking and walking. It sets up a new hierarchy of streets that allow through-traffic and reinforce access to existing neighborhoods, centers and transit stations. This new network will allow transit to be incorporated in a way that is affordable, appropriately spaced and inherent to the system.

The new network will be implemented by first investing in operational and reconstruction improvements, and then by increasing new roadway capacity at key locations using a context sensitive design process that compliments adjacent land uses. In recognition of Tulsa's continued need for automobility, not all roadway improvements will result in multi-modal streets. Some parts of the network will consist of

Commuter streets, which provide for truck and longer distance auto trips. They provide a viable alternative to congested expressways or stop and go arterials and support more auto-oriented land-uses such as industrial, manufacturing, warehousing and other low density types.

New Transportation Planning Process Tools

Public investment in both on-street and off-street facilities to accommodate alternative modes of travel will allow the City to provide a vital and efficient multi-modal network of streets. These investments should be preceded by small area planning efforts that uses a context sensitive solutions process and sustainable network modeling. Under this approach, even small projects can be an opportunity to make meaningful improvements. In repaving projects, for example, an edge stripe can be shifted where adequate right of way exists to create more room for cyclists. In routine work on traffic lights, the timing can be changed to better accommodate pedestrians walking at a slower speed.

The maintenance and reconstruction of existing infrastructure and the findings of sub-area, corridor and small area planning should be used to prioritize infrastructure investments. This plan defines a number of tools to increase the durability, sustainability and livability of Tulsa's streets.

Access Management

Access management means the planning, design and implementation of land-use and transportation strategies that control the location and flow of vehicular traffic into and out of businesses and residential developments. Access management currently is dealt with on a case-by-case basis through the development review process. Where it is feasible, commercial driveways are consolidated as redevelopment occurs in high traffic corridors.

In order to improve access management, a coordinated and consistent access management policy is needed. Such a policy should address the different street types and functional designation of streets, including the nature and intensity of the adjacent land use. In specific problem areas on existing commercial roadways, corridor access management plans should be developed and implemented.

Tulsa should incorporate a range of strategies and techniques for access management in its zoning, subdivision, development review, and transportation design standards and guidelines.

Intelligent Transportation Systems

Auto delay and transit headways can be improved by optimizing traffic signal equipment, using high speed communication to alert drivers and transit riders of travel information and improving coordination amongst emergency response agencies during unforeseen interruptions to the transportation system. The current Tulsa Regional ITS Implementation Plan should be updated to reflect *Our Vision for Tulsa's* emphasis on multi-modal travel. The revised plan should shift the focus from highway video surveillance and digital message boards to arterial street traffic management and transit coordination.

Context Sensitive Solutions

Properly planning for the size, alignment and character of new roads and the retrofit of existing roads to compliment sustainable land development patterns, cultural, historical and natural resources of the community is essential to realizing *Our Vision for Tulsa*. Currently new roads are sized based upon maximizing capacity for the automobile, aligned to meet the desired speed determined by functional classification with little regard for complimenting the adjacent land use. Requests for exceptions to the current roadway design standards from neighborhoods and developers are handled on a case by case basis and are approved at the discretion of the engineering department. Similar to the access management recommendation above, a coordinated and consistent CSS policy is needed. Appendix Transportation I offers a sample CSS policy and process.

Sustainable Network Initiative

A network is a structure of streets and highways that serves and connects multiple places and people via multiple modes of travel. Sustainable networks represent a cost effective alternative to expensive grade separations, interchanges and corridors that require extensive right-of-way purchases. Sustainable networks also require local streets to be highly connected with the arterial system. This connectivity increases the opportunities for and performance of other modes of

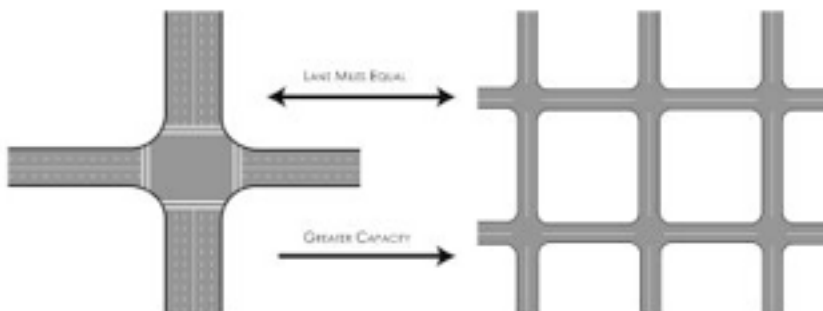
travel, such as walking, bicycling, and taking transit and improves emergency response times. Sustainable networks take a greater level of planning and creative design to build, but the result is sustainable in terms of capital and maintenance costs. Appendix Transportation III describes several planning and modeling processes that INCOG and the City should consider when performing roadway widening, grade separation, or new street classifications.

Modernize Street Funding

Partnerships with local business groups and community organizations are essential to ensure that special streetscaping associated with context sensitive streets and other infrastructure are properly maintained. The City should institute a variety of tools to allow business and residential property owners to assist in constructing and maintaining the infrastructure and amenities developed.

Local Improvement Districts (LIDs), Local Maintenance Districts, Business Improvement Districts (BIDs) and other special districts can be used to construct and maintain infrastructure such as streets, adjacent streetscaping, curb and gutters, water and drainage utility systems, sidewalks, and alleys. These programs usually require landowners to agree to a special property tax assessment, which are used to fund the improvements. Tulsa currently uses a similar approach,

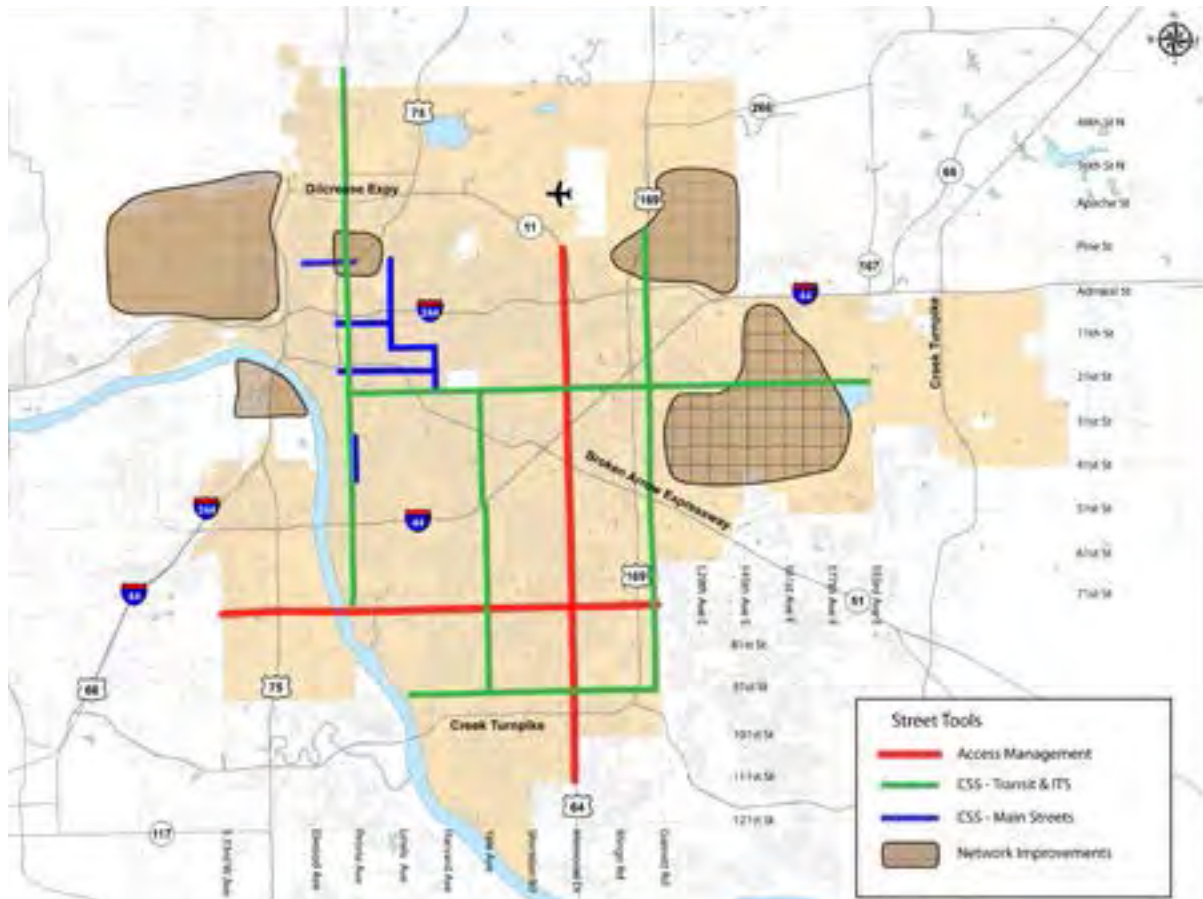
Figure 9: Capacity of Network



Where applicable, new street networks should use a variety of routes, rather than high-volume multi-lane facilities.

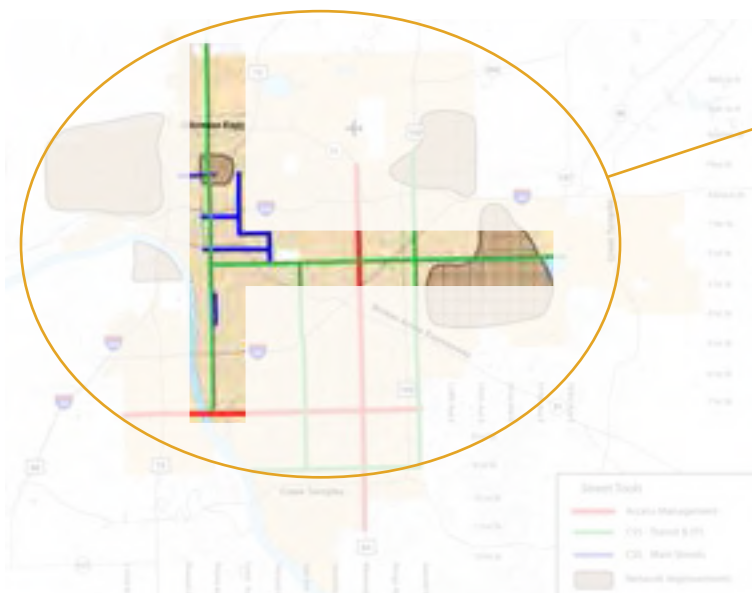
Source: Kimley-Horn and Associates, Inc.

Figure 10: Tulsa 2030 Goal Street Tool Recommendations



Source: Kimley-Horn and Associates, Inc.

Figure 11: Tulsa 2030 Goal Transit Tool Recommendations



EXPANDED TRANSIT

21st Street and Peoria Avenue make up the “Big T” (turn the page clockwise), the spine of a new expanded form of transit that will be coordinated with roadway design, traffic signal operation and sustainable land development patterns.

tax increment financing (TIF), as redevelopment tool. The ability to apportion the cost of improvements to more than one property owner and the ability to spread costs over time are two of the biggest advantages of improvement districts. In addition, these districts may be able to benefit from lower cost public financing (this may require voter approval). The larger, more expansive LIDs and BIDs also allow property owners who are unfamiliar with construction, contracting, engineering, or financing to rely on the City to undertake the process for them. The City can act as an agent to manage the project's design and construction.

In addition to these voluntary measures, demands for capacity improvements can be fulfilled through developer impact fees. This funding mechanism is commonly used to offset the costs required to serve new development. When new development comes to a community, a number of services are required to serve them; including roadways, water lines, sewer facilities, schools, parks, fire stations, libraries and police stations. Throughout Oklahoma, a number of cities are considering impact fees; Oklahoma City implemented a program in 2009.

As mentioned previously, Tulsa's abundance of lane miles is creating a maintenance and operation crisis for the city. One of the strategies for achieving a fiscally sustainable system supports major improvements to the street system based on detailed sub-area or corridor studies, which use a Context Sensitive Solutions process to coordinate sustainable land development patterns with street, transit, pedestrian and bicycle improvements to create a complete street. Figure 10 2030 Tulsa Street Tools Recommendations illustrates the application of the CSS process and highlights several catalyst corridors.

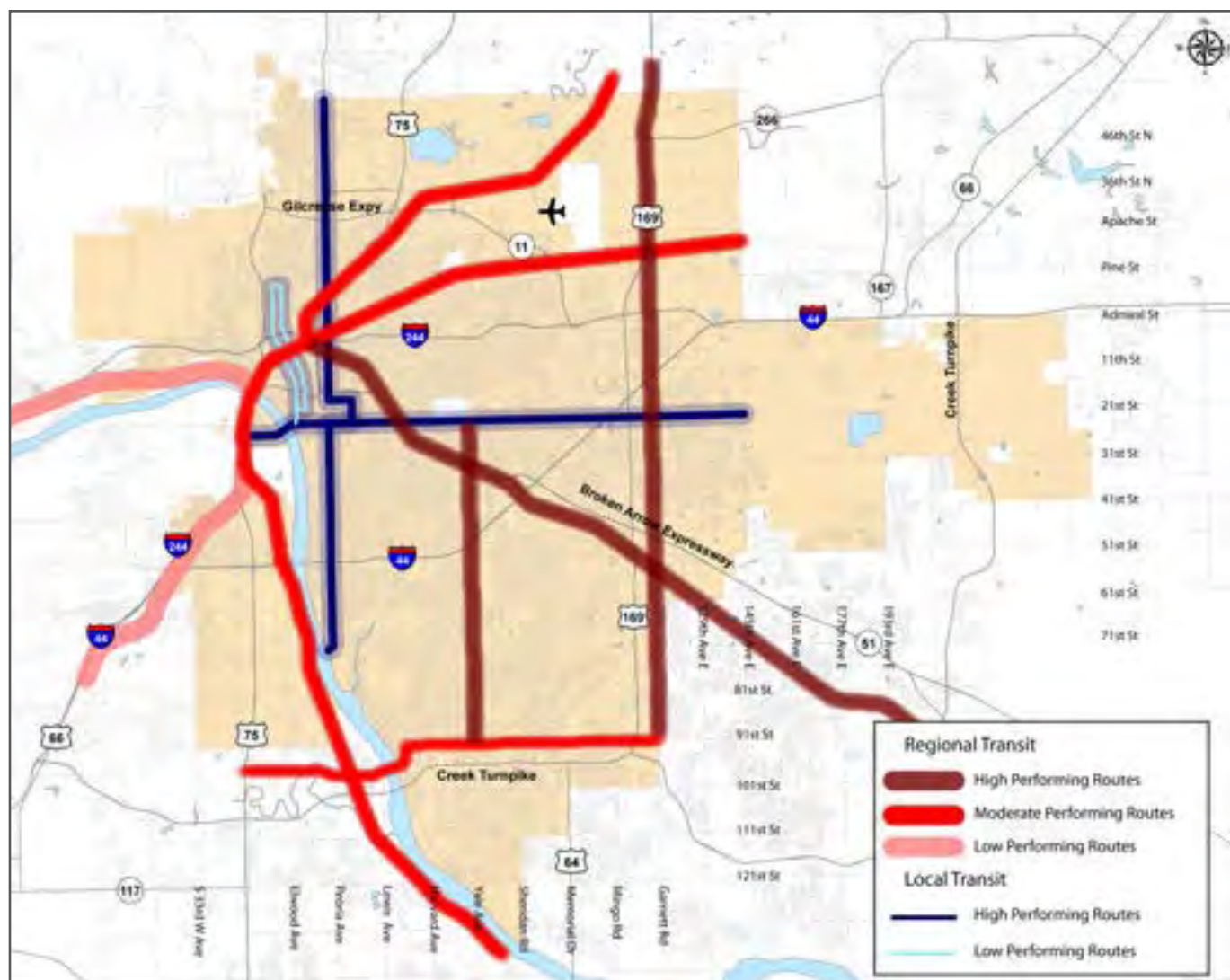
Transit System Enhancement Tools

As a tool, transit represents opportunities to provide expanded transit services, including streetcar, light-rail transit (LRT), bus rapid transit (BRT), commuter rail and high-frequency bus. Such improvements may result in new bus routes including circulator routes, higher frequencies on existing routes, appropriately-sized buses for the type of service required, increasing transit access through park-n-rides, better pedestrian connections and amenities, and improved bike access and amenities. Transit improvements should also be coordinated with roadway design projects and the programming and installation of Intelligent Transportation Systems (ITS) such as bus priority signalization, real-time bus route and transfer information at user-friendly kiosks, and information from variable message signs. These tools not only enhance transit in terms of competing with the automobile for convenience and travel times, but act as a solid public investment that stimulates private interest in development and re-development of Tulsa.

Current Use of Transit as a Tool

The Metropolitan Tulsa Transit Authority (MTTA) currently provides the only fixed-route transit service in the Tulsa Region. The routing and operation of its approximately 128 buses provides a high-quality ride experience and does an admirable job of servicing transit-dependant populations. As mentioned previously, the current system is not attractive to choice riders and employers that seek transit that supports the business community. The system's growth is severely hampered by automobile oriented street design, low population density, and the lack of complementary pedestrian and bicycle infrastructure.

Figure 12: Tulsa 2030 Goal Transit Performance



Source: Kimley-Horn and Associates, Inc.

TULSA 2030 GOAL TRANSIT PERFORMANCE

The Tulsa 2030 Goal Transit Performance map illustrates the performance for new transit routes and technologies based on preliminary transit demand modeling. The high performance routes are most viable for Federal Transit Administration funding, while the moderate to low performance routes could require local funding. The performance map is useful for prioritizing further study of the transit system in light of the demographic changes described in Our Vision for Tulsa.



Commuter Rail: Commuter rail service connects the large master planned communities around the region, the surrounding towns and villages, and even nearby cities, with the urban core.

Bus Rapid Transit (BRT): Bus Rapid Transit has the unique ability to function in either an exclusive right-of-way or in mixed traffic, however, the most common application assumes an exclusive right-of-way for operational efficiency and safety.

Light Rail Transit (LRT): Light Rail Transit refers more to this mode's relative simplicity and operational flexibility than to actual vehicle weight or cost. With an overhead power supply, light rail systems can operate in mixed traffic and widely ranging alignment configurations.

Future Use of Transit as a Tool

Our Vision for Tulsa articulates the opportunity for transit expansion and defines a strategy for the delivery of transit in coordination with improvements to land development patterns, context sensitive roadway designs and the addition of high-capacity fixed route transit corridors. Transit is a key to realizing *Our Vision for Tulsa* because it enables the City to increase tax revenues without extending infrastructure and enables denser development because of a reduced need for parking and roadway widening. Equitable and sustained funding for transit must be identified for the transit system to grow. Transit fares should not be expected to sustain the system, rather it should be considered a part of the economic strategy to create new centers and neighborhoods in Tulsa that are sustainable and livable.

Regional Rapid Transit System

Connecting Tulsa to the region through a rapid transit system will further position it as the regional employment leader. Regional rapid transit either uses existing freight rail corridors or re-purposes existing traffic lanes for exclusive transit use. In Tulsa, some of the most congested freeway corridors have parallel rail facilities or roadways that could be used for passenger rail and bus rapid transit, respectively.

The U.S. 169 and Broken Arrow Expressways experience the highest peak hour traffic congestion in the region. Projected ridership levels for a commuter rail line that runs along the Union Pacific right-of-way adjacent to the Broken Arrow Expressway are eligible for consideration of Federal Transit Authority funding. PLANiTULSA addressed the need for future growth in the corridor to be transit-oriented to support the long term viability of the corridor.

Traffic congestion in the U.S. 169 Expressway corridor represents an opportunity for Bus Rapid Transit to provide a safe, reliable and efficient alternative for commuters seeking to access to Tulsa's employment centers. PLANiTULSA explored the application of Bus Rapid Transit in this corridor using expressway or adjacent arterial right-of-

way. While both alignments provide an opportunity to relieve congestion, the arterial placement provides more opportunities for sustainable land development forms. A transit alignment alternatives analysis should consider both ridership and development potential.

Transit Access

The City has initiated a new public works effort to establish the need for retrofit of public facilities such as bus shelters and civic facilities to meet the needs of persons with disabilities. The Tulsa Americans with Disabilities Act Transition Plan should be expanded upon to include a comprehensive look at infrastructure needed to link bus stations and stops to retail, employment, educational, medical, civic and residential areas. In partnership with the private sector, the Transit Access Program should emphasize:

- **Improving the doorstep to transit stop experience**
- **Encouraging the integration of transit stops and stations into new and existing developments**
- **Enhancing the appearance and character of transit stops in neighborhoods and business areas**
- **Improving the level of maintenance at stops in response to complaints from the community**

High Frequency Bus

Transit priority improvements should be completed in certain areas to improve the operation of transit travel in congested areas by using priority green phases, exclusive bus lanes and special bus stops that decrease passenger loading times and improve the ability of the bus to reenter the traffic stream. These measures should be implemented on key arterial streets and major bus transit corridors beginning with Peoria Avenue and

21st Street as depicted in the Vision Map. The concept of timed-transfers should be tested and implemented. A timed-transfer station should be constructed adjacent to the intersection of 21st and Utica. The primary purpose of a timed-transfer system is to synchronize all or select transit routes so that they meet almost simultaneously at the same location during regular intervals. This will help minimize wait times between transfers. 21st at Utica Avenue is also a prime location for the application of Transit Oriented Development and creation of a park-once district.

Development-Oriented Transit

This program seeks to expand transit for the purpose of promoting economic development in under-served areas that lack adequate access to transportation.. Similar to how the streetcar suburbs of the past defined areas like Sand Springs, the provision of new transit into areas of growth as defined by *Our Vision for Tulsa* can promote a land development pattern that is much more dense, livable and sustainable from a fiscal and environmental standpoint. PLANiTULSA has defined development oriented transit opportunities in the form of streetcar and light rail (see map). The implementation of these transit lines should be explored through public-private partnerships with property owners, private developers, foundations and civic groups.

Transit-Oriented Development

In response to future rail, BRT and streetcar service growth should be encouraged around transit facilities by supporting Transit-Oriented Development (TOD). TOD is a way for Tulsa to make long-range coordinated transportation and land use decisions that will provide a variety of housing and mobility options and create active places where people can live, work, shop, interact and recreate. The program will address: transportation access for pedestrians, bicycles, transit and automobiles; the type and density of land use; urban design; and parking. The program also works with private property



High Frequency Bus: High Frequency bus service operates in mixed traffic and has short stop spacing. Increased efficiency of this service comes from intelligent transportation systems that provide real-time information to users via web and mobile communication devices.

Transit Oriented Development (TOD): TOD creates a higher density residential development within walking distance of transit, in particular light rail and bus rapid transit. Costs of these developments can be taken on by developers, but cities can introduce incentives to promote TOD development. In time, tax revenues from these developments can contribute back to local infrastructure, making them value-added projects.

Streetcar: Streetcars function as a hybrid between buses and light rail transit. Oftentimes, streetcars are implemented in downtown areas and other large activity centers.

owners and potential developers to help implement and develop incentives for TODs. Potential TOD incentives include reductions in parking requirements for mixed-use zone districts and tax increment financing to assist with operating and maintaining the transit facility.

Streetcar

Fun to ride and clean-running streetcars will generate a big community pay-off, both in terms of development dollars and enhanced livability for Tulsa. Streetcars work best to spur development and stabilize neighborhoods by connecting current destinations, such as Downtown Tulsa with emerging eclectic neighborhoods. Potential areas include 18th and Boston as well as areas that have potential for infill, such as the vacant land near the OSU and Langston University campuses. *Our Vision for Tulsa* describes a streetcar line that would revitalize Boulder Avenue and Cincinnati Avenue through downtown and into immediately adjacent neighborhoods.

Pedestrian Enhancement Tools

As a tool, pedestrian enhancements become the primary transportation element that connects all travel modes. Increased pedestrian amenities and well-planned pedestrian connections enhance walking as a viable form of transportation, especially when integrated into transit-oriented developments.

A “pedestrian-friendly” environment is essential to the success of many of the other concepts defined in *Our Vision for Tulsa* including mixed-use centers, increased transit use, main streets and park once districts.

BENEFITS OF PEDESTRIAN ENHANCEMENTS AND TRAVEL INCLUDE:

- **Reduced vehicle miles traveled and less environmental pollution.**
- **Increased community and social interaction and potentially less crime because of increased activity and observation by pedestrians.**
- **Improved health due to exercise and stress reduction.**
- **Additional open space, park trails, view corridors, visual relief and aesthetics in business areas and other neighborhood districts.**
- **Interconnections and access for all citizens to parks, campus districts, entertainment and public facilities (including museums, zoos, sports stadiums, entertainment facilities and special events among others).**
- **Reduction of individual travel costs (auto maintenance, parking, fuel).**



Multi-Use Trail: A multi-use trail is a route separated from other roads by a barrier or open space, that is designed to accommodate a mix of non-automotive users (e.g. walkers, runners, strollers, wheelchair users, roller skaters, and cyclists).

Current Use of Pedestrian Enhancements as a Tool

Pedestrian enhancements currently are addressed on an individual basis through Tulsa's development review process. Standards are applied to projects as related to issues such as building placement, building entryway location and pedestrian connections.

Tulsa constructs new and improved pedestrian facilities through the use of a Capital Improvement Program (CIP). Special attention has been paid to providing curb ramps and other facilities to accommodate persons with disabilities. Tulsa is actively pursuing a transition plan that will move the city to full compliance with the American with Disabilities Act (ADA). Tulsa has 67 miles of off-street multi-use trails that are used for recreational walking and jogging.

Future Use of Pedestrian Enhancements as a Tool

The multi-modal and residential collector streets described in *Our Vision for Tulsa* must apply to everyone traveling along the road. A sidewalk without adequate curb ramps is useless to someone using a wheelchair. A street with an awkwardly placed public transportation stop without safe crossings is dangerous for transit riders. At the same time, a road with heavy freight traffic must be planned with those vehicles in mind and pedestrian access should be limited. Older adults and children face particular challenges as they are more likely to be seriously injured or killed along a roadway.

The future use of pedestrian enhancements will focus on improving non-vehicular access to new centers and existing destinations. Priority locations for enhancements should be transit stations and stops, routes from neighborhoods to schools and along multi-modal corridors, residential collector and main streets. These

enhancements come in the form of better coordination between public works and private development to create a cohesive pedestrian environment, complete sidewalk connections, reduce neighborhood street speeds with traffic calming and slow speed design and enhance and improve location and coordination of transit stops into new developments and public works projects.

Bicycle Enhancement Tools

Bicycle enhancements help provide a viable alternative to driving for the commuter cyclist and facilitate bicycle travel for the recreational cyclist. Successful enhancements emphasize adequate, well-maintained, continuous and secure facilities. Connection of the bicycle system to other modes consists of connections to the travel system itself and to the end of the trip. Many bicycle facilities, especially trails, have multiple commuter and recreational users and should be designed for this multiple use. A bicycle-friendly environment consists of significant regional trails linked to a network of major streets with striped bicycle lanes and/or signed bicycle routes. The system maximizes connections to other modes such as pedestrian routes and transit, and minimizes unsafe interactions with auto traffic at intersections.

BENEFITS OF BICYCLING INCLUDE:

- **Fewer vehicle miles traveled and less environmental pollution.**
- **Reduced land and financial resources devoted to vehicle parking and travel lanes.**
- **Improved health through exercise and stress reduction.**
- **Reduced individual travel costs (auto maintenance, parking, fuel).**

Current Use of Bicycle Enhancements as a Tool

The use of bicycles is a key component to realizing *Our Vision for Tulsa*. They are seen as an extension of the transit system, an alternative to private, single-occupancy vehicles and important factor in the health and livability of the population. The plan calls for expanding the 41 miles of on-street bikeways in the City of Tulsa with concepts like those used on the 3rd Street/4th Place bikeway, 36th Street, 56th Street, and the north-south connector.

Future Use of Bicycle Enhancements as a Tool

The multi-modal streets defined in this chapter will enhance the existing off-road multi-use path system and will result in the creation of a network for all modes of travel including bicycles, pedestrians and transit users. A network approach helps to balance the needs of all users. Instead of trying to make each street perfect for every traveler, Tulsa should create an interwoven array of streets that emphasize different modes and provide quality accessibility for everyone. This means in some instances auto travel lanes should be repurposed for bicycle and/or transit priority. *Our Vision for Tulsa* should be referenced during any public works project to guide design and enhance the bicycle network.



Multi-Modal Street Design: Multi-modal streets emphasize bicycle, pedestrians and transit infrastructure. They can be located in a number of different areas such as town centers, commercial districts, regional centers, employment centers and residential neighborhoods. Multi-modal streets can be a main street or a large arterial, but the focus remains on moving people and not just automobiles.

SIX LIVABILITY PRINCIPLES

The U.S. Department of Transportation, Housing and Urban Development, and the Environmental Protection Agency have developed an interagency partnership to help improve access to affordable housing, transportation options, and lower transportation costs while protecting the environment in communities nationwide. They developed the following six livability principles to guide policy and development:

Provide more transportation choices:

Develop safe, reliable and economical transportation choices to decrease household transportation costs, reduce our nations' dependence on foreign oil, improve air quality, reduce greenhouse gas emissions and promote public health.

Promote equitable, affordable housing: Expand location- and energy-efficient housing choices for people of all ages, incomes, races and ethnicities to increase mobility and lower the combined cost of housing and transportation.

Enhance economic competitiveness: Improve economic competitiveness through reliable and timely access to employment centers, educational opportunities, services and other basic needs by workers as well as expanded business access to markets.

Support existing communities: Target federal funding toward existing communities — through such strategies as transit oriented, mixed-use development and land recycling — to increase community revitalization, improve the efficiency of public works investments, and safeguard rural landscapes.

Coordinate policies and leverage investment: Align federal policies and funding to remove barriers to collaboration, leverage funding and increase the accountability and effectiveness of all levels of government to plan for future growth, including making smart energy choices such as locally generated renewable energy.

Value communities and neighborhoods: Enhance the unique characteristics of all communities by investing in healthy, safe and walkable neighborhoods — rural, urban or suburban.

Transportation

Part IV: Conclusions

Prior to the PLANiTULSA planning process, a sustained effort has been underway to recast local and national transportation systems so they expand choices and contribute to financial and environmental sustainability. The transportation engineering and planning community has developed context sensitive, multi-modal facilities that support land use goals.

Summary

Today Tulsans enjoy relatively low travel congestion and a high degree of auto-mobility. Tulsa's planners and engineers have built a roadway system that moves automobiles very well. But, the emphasis on the automobile has come at the expense of other transportation choices. Thus the reasons for modifying the planning, programming and implementation of transportation programs in Tulsa are less a matter of mitigating traffic congestion and more about equity for all users and new economic development opportunities that can be realized with transit and unique street designs. Using Tulsa's transportation networks more efficiently will also contribute to the fiscal sustainability of the system.

The six livability principles (sidebar, this page) and the subsequent changes to the federal funding mechanism bode well for the implementation of PLANiTULSA. The priorities of this plan not only align with new federal initiatives, but they address the desire of residents to improve the transport system. The PLANiTULSA public input process registered support for expanded choices in the form of transit, bicycling and walking. Transition to include these forms of travel will take the courage of today's leaders and officials to resist the temptation to react to traffic congestion by only utilizing roadway capacity fixes and look for long-term solutions using the tools identified during this public visioning process.

Guiding Principles for Transportation

Capturing these hopes, dreams and aspirations for Tulsa's future is essential as we move forward in making our future vision a reality. The Citizens' Team, a diverse group of volunteers, developed the following guiding principles. These principles serve as the foundation for future planning efforts, and will ensure that the comprehensive plan remains consistent with the vision.

- The city invests in the critical infrastructure necessary to develop a robust and diversified economy.
- A variety of transportation options serve the city, so that all Tulsans can go where we need to go by driving if we want, but also by walking, biking or using public transit.
- The transit system is designed as a consumer good and attracts people without a vehicle, as well as people who have a vehicle and choose to use an alternative.
- Tulsa's civic, business and government institutions ensure that everyone has equal opportunity and access to housing, employment, transportation, education and health care, regardless of background, ethnicity, or neighborhood.
- Schools are safe, easy to walk and bike to, and part of a world-class education system.
- Residents have easy access to parks and natural areas.
- City planning and decision-making is an inclusive and transparent process.
- Once adopted, city-wide and neighborhood plans are funded, implemented and monitored for performance.
- Residents have a voice in solving their community's problems today and are a part of planning for tomorrow.

Transportation Part V: Priorities, Goals & Policies

This section is organized into priorities, goals and policies that if followed will move Tulsa towards the community's vision.

Priorities are the big idea topical areas that address the guiding principles. They capture big picture changes that must occur to implement the plan.

Goals establish specific, measurable, attainable and realistic objectives that guide plan implementation by ensuring that the community and stakeholders have a clear awareness of what must happen to move Tulsa toward the Vision.

Policies delineate the steps needed to achieve the goals.

IMPLEMENTATION & ACTION PLAN:

*In addition to **priorities, goals and policies**, the Plan recommends the **Strategic Actions** that should be taken in the first 3 to 5 years following plan adoption. These strategic actions are found in the Implementation and Action plan.*

Transportation Priorities

Transportation decisions should be focused on improving the range and quality of Tulsa's travel options, supporting land use goals and maintaining fiscal sustainability. Our Vision for Tulsa provides an overview of the top transportation priorities. This section includes detailed priorities, goals and policies that build on the transportation priorities described in the Vision.

TRANSPORTATION PRIORITY 1

Provide a Wide Range of Reliable Transportation Options So Every Tulsan Can Efficiently Get Where They Want To Go

Goal 1—

All Tulsans have a variety of transportation options for getting around the city. Policies to support this goal include:

- 1.1 Coordinate closely with MTTA to provide for transit-supportive enhancements in the high frequency bus, bus rapid transit, streetcar, light rail and commuter rail corridors.
- 1.2 In coordination with INCOG, establish a grant program to fund small area and neighborhood transit-oriented development planning efforts.
- 1.3 Prioritize infrastructure investments for high capacity transit corridors.

Goal 2—

Tulsa has a sustainable network of roadways, trails and transit infrastructure that is well maintained and not a burden on future generations to operate. Policies to support this goal include:

- 2.1 Adopt a network approach to transportation projects that focuses on connecting people to places — ultimately allowing places to become more intense centers of economic development.
 - Consider operational and reconstruction priorities prior to roadway expansion and extensions.
 - Explore an addition to the local roadway project development process that includes the examination of a street network alternative.
 - Re-tool the regional travel demand model to be sensitive to transit and internal capture factors.
 - Refine the regional project selection criteria to consider multi-modal measures of effectiveness.
 - Amend the subdivision regulations to require a roadway connectivity index to be applied to all future subdivisions and developments.
 - Encourage development of an interconnected and diverse street pattern to ease congestion, more evenly distribute traffic, and offer flexibility of routes.

TRANSPORTATION PRIORITY 2 Maintain and Enhance Tulsa's Existing Transportation System Through Strategic Investments

Goal 3—

The city's transportation system is cost-effective and adequate to meet the needs of the current and projected population. Policies to support this goal include:

- 3.1. Develop transportation projects using a context sensitive solutions process that involves stakeholders early in the process.
- 3.2. Use a mixture of quantitative and qualitative measures to prioritize transportation infrastructure projects and monitor the system for operational and maintenance issues.
- 3.3. In coordination with INCOG, create a robust region-wide travel demand modeling system that estimates transit and internal trip capture based upon land use sensitivities.
- 3.4. In coordination with INCOG, calibrate the region-wide travel demand model with a periodic travel survey that provides detailed travel information for motorists, transit users, pedestrians, and cyclists.
- 3.5. Develop a survey-based system to prioritize and track the city's street pavement program performance.
- 3.6. Investigate optimization and intelligent transportation options prior to capacity improvements.
- 3.7. Work with INCOG and adjacent cities and counties and the state to maintain and/or expand the transportation system in ways that are plan-driven, user-friendly and fiscally sustainable.

Goal 4—

Tulsa has high performance operations for all modes of travel; this is achieved by preserving and optimizing the current transportation system using the latest technology and programs. Policies to support this goal include:

- 4.1. Prioritize transportation system optimization, transportation demand management and transit enhancements over roadway widening.
- 4.2. Create a transportation demand management program that promotes travel choices using a business to business outreach model that is incentivized with a means of recognizing businesses and individuals within the community.
- 4.3. Conduct traffic and transit modeling to compare capacity additions to system optimization measures and prioritize projects accordingly, relying less on engineering judgment and programmatic prioritization methods.
- 4.4. In coordination with INCOG, invest in a transportation operations center to serve the region with intelligent transportation system tools and report traffic and transit conditions in real-time.

Goal 5—

The allocation of transportation funds is modernized to align with the vision. Policies to support this goal include:

- 5.1. In partnership with INCOG, develop a program that will administer new federal grants aimed at sustainable development and livable communities.

- 5.2. Leverage new federal funds with private investment to achieve a positive land use-transportation connection, which will improve mobility, enhance air quality, support economic growth, and ensure the financial stability of the transportation system.
- 5.3. Explore transportation funding sources including user fees, development impact fees and public-private partnerships. Review best practices from other locales.

Goal 6—

The amount of taxable land is increased and the burden of providing parking on a parcel by parcel basis is reduced. Policies to support this goal include:

- 6.1. Establish off-street parking standards to reflect actual parking demand.
 - Evaluate parking requirements for each land development zoning classification to take into account mixed-uses, transit availability (or future services), and other factors that mitigate on-site parking demand.
 - Create a shared parking district overlay to be used in conjunction with a shared parking analysis to estimate actual parking needs. For redeveloping areas, investigate the availability of parking and seek means to provide new parking through on-street or public parking lots.

TRANSPORTATION PRIORITY 3

Ensure That Transportation Investments Enhance the Land Uses They Serve

Goal 7—

Transportation facilities fit their physical setting and preserve scenic, aesthetic, historic and environmental resources, while maintaining safety and mobility. Policies to support this goal include:

- 7.1 Enhance transportation Tulsa's right-of-ways so they both serve as great public places and promote multi-modal travel.
 - Enhance current roadways with a combination of light fixtures, signs, and sidewalks to make the city's roads unique, and to help residents and visitors recognize that they are in Tulsa.
 - Provide comfortable and attractive pedestrian and bicycle facilities within existing and new developments.
 - Build upon the connectivity concepts in INCOG's 2030 Bicycle and Pedestrian Plan by expanding the scope of Public Works' current ADA Transition plan to address studying and prioritizing the need for connections to off-street trails from neighborhoods and regional destinations.
 - Correlate a mixed use land use development strategy to minimize auto trips and roadway congestion through internal capture of vehicular trips.
 - Prioritize sidewalk, curb ramp and crosswalk rehabilitation and construction projects according to ranking that takes into account concentrations of persons with disabilities, public facilities, mixed use development and transit stop locations.

7.2 Consider aesthetic needs as an equal to vehicular capacity demands when planning and designing transportation right-of-ways.

7.3 Institute a context sensitive solutions approach to transportation infrastructure by recognizing that flexibility in project development and design is necessary to balance safety, mobility, economic development, and environmental issues for new and redesigned urban transportation facilities.

- Adopt the Institute of Transportation Engineer's Recommended Practice for Designing Major Urban Thoroughfares for Walkable Communities.
- Re-define the project design process to consider community objectives and plans prior to capacity and level of service determinations.
- Adopt a broad set of roadway right-of-way types and functions and define streets as building-face to building-face.
- Establish a process for soliciting, analyzing and funding requests for context sensitive design treatments to existing roadways.

Goal 8—

Traffic safety and mobility are improved. Policies to support this goal include:

- 8.1 Adopt an access management policy for major thoroughfares and create a traffic safety review panel that will identify recommendations for accident-prone areas.
- Conduct an incident management analysis and define crash hotspots.
 - Create a model access management policy and apply to critical thoroughfares.
 - Fund an access management and traffic safety program to address reoccurring collision

sites with appropriate corrective actions.

- Form and proceed with a monthly meeting of the traffic safety review panel.

Goal 9—

Disentangle freight and local traffic to improve safety and mobility for all users. Policies to support this goal include:

- 9.1 Address freight movements from both the land use and transportation perspectives and actively manage them for superior operation and safety.
- 9.2 Conduct a freight movement study and identify bottlenecks and critical local destinations.
- 9.3 Plan and seek partners to develop an air, rail, land and sea intermodal facility.
- 9.4 Design future major highway right-of-ways to accommodate freight rail, if feasible, and seek a by-pass of the current downtown route.

Goal 10—

Gilcrease Expressway is completed as an important element to the future economic growth and development of north and west Tulsa. Policies to support this goal include:

- 10.1 Make it a priority to complete the expressway immediately and focus on assisting with the economic growth it will bring in nearby areas.
- 10.2 Ensure that this area will be made more accessible by the Gilcrease Expressway.
- 10.3 Prepare the area for development with plans that incorporate PLANiTULSA concepts and building blocks, through small area plans, master development plans or other types of plans as appropriate, to direct orderly, fiscally-sustainable growth.

TRANSPORTATION PRIORITY 4

Provide Multiple Transportation Choices to All Tulsans

Goal 11—

Streets contribute to the urban environment. Policies to support this goal include:

- 11.1 Adopt a coordinated access management policy.
- 11.2 Expand funding for maintaining and, reconstructing existing infrastructure needed for both Areas of Growth and Areas of Stability.
- 11.3 Pursue main street, residential and multi-modal enhancements using a context sensitive solutions process on the following catalyst corridors:
 - Main Street- Cherry Street and Harvard Avenue
 - Residential- 6th Street
 - Multi-modal- Pine Street, Peoria Street and 21st Street
- 11.4 Revise the Regional ITS Architecture and focus resources on corridors programmed for transit integration, specifically Peoria Avenue, 21st Street, 91st Street, Yale Avenue and Garnett Road, as depicted on Transportation Vision Map.
- 11.5 Provide assistance to local community organizations and business groups to form local improvement districts and business improvement districts to ensure adequate funding for construction and maintenance of streetscaping and other infrastructure.

- 11.6 Ensure annual funding through CIP and Transportation Improvement Program processes, coordinated with INCOG, MTTA and ODOT.

Goal 12—

Tulsans can rely on a variety of transit options to take them to jobs, shopping and entertainment. Policies to support this goal include:

- 12.1 Consistently support the improvement of the system with additional local funding and continue identification and application for State and Federal dollars.
- 12.2 Enhance bus transit services with higher frequency bus service, improved stations/stops and priorities for intelligent transportation systems (ITS) investments (including bus priority signalization) on the Big T route, which includes Peoria Avenue and 21st Street as portrayed in the Vision Map.
- 12.3 Establish a timed transfer point at Utica and 21st streets and promote transit oriented development and park-once districts.
- 12.4 Design and Re-design the following roads for accommodating BRT:
 - Garnett Road
 - 91st Street
 - Yale Avenue
- 12.5 Develop a transit-oriented development program incentives, including: promotion of shared parking; creation of new zone districts and/or overlays that allow for reduced parking requirements and support a mix of transit-supportive land uses; and development of dedicated funding to “land bank” key land parcels near stations to preserve future development opportunities.

- 12.6 Develop a development-oriented transit program to explore public-private partnerships to create transit programs that do not currently meet the Federal Transit Authorities program funding.

Goal 13—

Pedestrians have easy access to jobs, shopping and recreation. Policies to support this goal include:

- 13.1 Support the ADA Transition Plan objective to perform a calculated sidewalk inventory of key civic and private destinations and neighborhoods and expand and include information to develop a Pedestrian Master Plan for the entire city that will include:
- Workshops to elicit the public's pedestrian priorities and concerns.
 - A review of pedestrian elements recommended in other city plans and a review of public feedback from the pedestrian workshops.
 - Creation of a tool to prioritize improvements by identifying important pedestrian corridors and destinations in the city (i.e. arterial and collector streets served by transit, neighborhood destinations, downtown, TODs, pedestrian shopping corridors, schools, parks and large entertainment facilities).
 - Identification and prioritization of improvements.
 - Creation of pedestrian amenity guidelines for Areas of Growth and Areas of Stability.
 - Continue program for providing curb ramps and other facilities to accommodate persons with disabilities and improve access to transit. In conjunction with the curb ramp program, review the road and sidewalk system and the pedestrian crossing areas to make sure they provide access to persons with disabilities.
- Development of partnerships that are coordinated with Tulsa's Parks and Recreation Department to enhance pedestrian connections between parks and other recreational facilities.
 - Investigation of funding opportunities.
- 13.2 Revise the city's current sidewalk maintenance policy. Currently, adjacent property owners are responsible for sidewalk improvements. A new policy needs to be developed concerning the extent of the city's involvement in and funding for maintaining and enhancing sidewalks. This should include developing a dedicated funding source for sidewalk maintenance and enhancement, and/or the use of local improvement districts to fund streetscape improvements (including sidewalks, street furniture, trees, and other amenities).
- 13.3 Coordination with MTTA, INCOG and ODOT and adjacent municipalities to invest in pedestrian infrastructure to support transit ridership in expanded transit corridors.
- 13.4 Ensure the continued development of sidewalk improvements with other improvements on major arterial corridors where opportunities to enhance the pedestrian environment exist.

Goal 14—

Tulsans safely and efficiently use bicycles to go to work, shop and recreation areas. Policies to support this goal include:

- 14.1 Develop a Bicycle Master Plan and revise the Trails Master Plan as necessary to focus on connecting neighborhoods with destinations, such as employment, shopping and recreation. The master plan should include priorities to:

- Improve integration of on-street bicycle facilities with Tulsa parks and off-street trail system through the use of road diets, traffic calming, signage, bike lanes, and shared lane markings.
- Improved circulation into and around downtown. This includes additional on-street pavement markings and exploring a bicycle boulevard concept using a lane of existing traffic.
- Continued efforts to expand bicycle advocacy, education, and enforcement.
- Adopt a complete streets policy and add coordinate funding and simultaneous construction of bike facilities with street, drainage, and other infrastructure improvements.
- Review of private and public development projects to ensure adequate bicycle parking and access. Amend Tulsa's zoning ordinance to require bicycle parking in new development, based on a review of best practices. The number of bike parking spaces required by the ordinance should be determined based on the total off-street parking spaces required. Specific rules and regulations governing the dimensions and design of bicycle parking should be adopted.
- Develop detailed inventory of bicycle facilities (routes, parking, amenities) and bicycle plans as part of the small area planning process.
- Establish dedicated funding to implement the Bicycle Master Plan and revised Trails Master Plan.

Economic Development

Introduction

The health, quality of life and sustainability of a city is anchored in its ability to retain and create jobs that pay a family wage and an environment where businesses can thrive. A sound economic development plan and accompanying strategy are central to realizing Tulsa's full potential. To achieve the community goals set out in Our Vision for Tulsa, economic development must be thoroughly integrated with the land use, transportation, housing, and other key elements of the plan. A strong, diverse economy will provide many of the resources necessary to accomplish plan goals. However, economic prosperity does not happen on its own. It requires a strategic approach with clearly articulated priorities, goals, and strategies for implementation.

In this chapter we provide an analysis of the Tulsa economy, including long-term socioeconomic trends, an assessment of key industry clusters, and a look at entrepreneurial activity. We then describe the key priorities that will guide Tulsa's economic development efforts for future decades. This chapter ends with a list of goals, setting the bar for the city's economic development efforts.

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Economic Development

Part I: Analysis & Findings

Long-term, Socioeconomic Trends

Who lives in Tulsa? Successful economic development planning requires a thorough understanding of area demographics. In this section, we discuss relevant demographic trends from 1990 through 2008, and projections for 2030.

Since 1990, Tulsa has had a flat or declining total population. According to estimates from the U.S. Census Bureau, between 2000 and 2005, Tulsa's household population decreased by about 12,000 (-3%). It has rebounded somewhat since, with a 2006-08 household population estimate of 373,051.¹

However, growth continues at a healthy pace for the region as a whole. The seven-county Tulsa Metropolitan Statistical Area (MSA) grew from 859,532 people in 2000 to 916,079 in 2008, a gain of 56,547 residents (7%). Since 1970, the seven counties that make up the MSA have grown by 60%, whereas the City of Tulsa has grown by 16%.

The City continues to be more racially and ethnically diverse than Tulsa County or the broader Tulsa region. In 2008, 69% of Tulsa residents were white, compared to 76% in the County, and the region. The non-white population in the City is growing in share,

Chart 1. City of Tulsa Population, 1990-2008

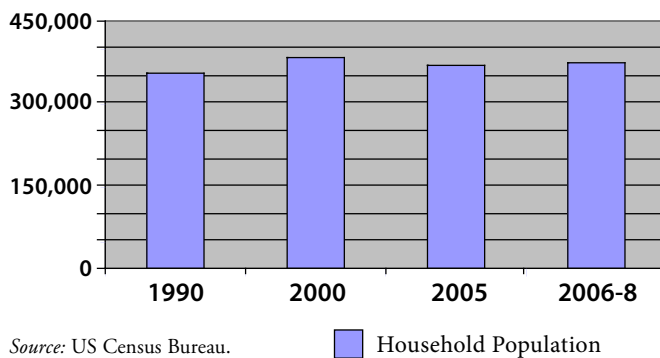
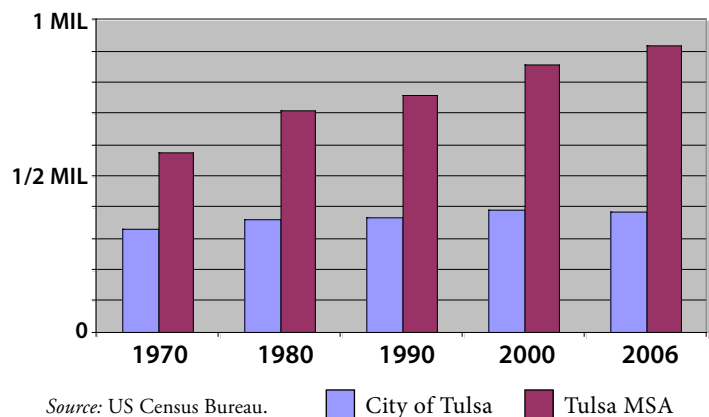


Chart 2. Tulsa MSA Population, 1970-2008



¹ The U.S. Census Bureau's American Community Survey does not include people living in group quarters in its estimates; these figures are for residents living in households only.

Table 1. City of Tulsa Population by Ethnicity, 1990–

Race	1990	2000	2008	% Change	
				1990–2000	2000–2008
White	79%	70%	69%	-9%	-1%
Black	14%	15%	15%	2%	0%
American Indian	5%	5%	3%	0%	-1%
Asian or Pacific Islander	1%	2%	2%	0%	0%
Other	1%	3%	3%	2%	-1%
Two or More Races	N/A	4%	6%	N/A	2%

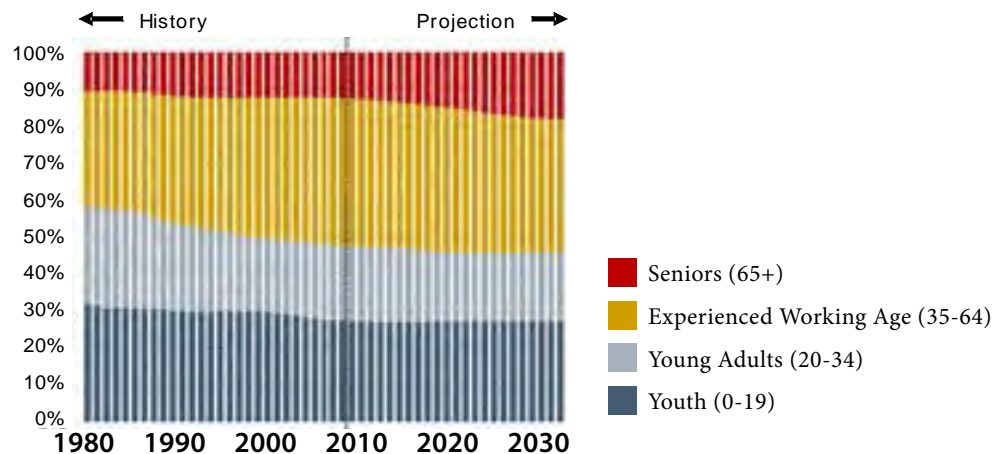
Source: T.U.S. Census 1990, 200, American Community Survey 2008
Note: Two or More Races data not available for 1990.

Table 2. City of Tulsa Population by Age, 1990 – 2008

Age	1990	2000	2008	% Change	
				1990–2000	2000–2008
Under 9	15%	14%	15%	0%	1%
10–19	13%	14%	12%	1%	-1%
20–29	17%	16%	15%	-1%	0%
30–39	17%	14%	13%	-3%	-1%
40–49	13%	15%	13%	2%	-2%
50–59	9%	11%	13%	2%	2%
60–69	9%	7%	9%	-2%	2%
70 +	8%	10%	9%	1%	0%

Source: U.S. Census 1990, 2000, American Community Survey 2008

Chart 3. City of Tulsa Population by Age, 1980 – 2030



Source: US Census Bureau (accessed via Moody's Analytics)

as the proportion of Tulsa residents who are white fell between 1990 and 2000, and again between 2000 and 2008, as shown in Table 1.

Since 1990, the City has experienced subtle shifts in the distribution of population by age group. Youth and young adults (ages 24 and under) have declined as a portion of total population, from 34% in 1990 to 29% in 2008. This has been accompanied by an increase in the proportion of residents above the age of 50, from 26% to 31% during the same time period. These trends are expected to continue in future years,

with the aging of the baby-boom generation, and the decreasing number of children per household. Table 2 shows trends in Tulsa's population by age group.

Chart 3 illustrates the Tulsa metropolitan area's projected age profile up to 2030. Households made up of baby boomers (those born between 1946 and 1960) are more likely to have just one or two people after their children move away. According to the U.S. Census Bureau, in 2006, about one third of Tulsa's households consisted of one person; over two thirds (69%) of households consisted of one or two people.

Economic Development

PART I: ANALYSIS & FINDINGS

Table 3. City of Tulsa Educational Attainment for Population 25+, 2000 – 2013

	% of Population 25+			Change in Share	
	2000	2008	2013	2000-2008	2008-2013
No High School	5%	3%	3%	-1%	-1%
Some High School	11%	7%	5%	-4%	-2%
High School Graduate	25%	30%	32%	4%	2%
Some College, No Degree	24%	20%	18%	-4%	-2%
Associates Degree	6%	7%	8%	1%	0%
Bachelor's Degree	19%	22%	23%	3%	2%
Graduate Degree	9%	10%	11%	1%	1%

Source: Tulsa Metro Chamber, 2009 Tulsa Demographics.
Data from Experian/Applied Geographic Solutions

Table 4. City of Tulsa Households by Income Level, 1990 – 2013

	1990	2000	2008	2013
\$0–\$24,999	75,011	57,610	44,524	38,424
\$25,000–\$74,999	66,906	79,312	76,592	75,170
\$75,000–\$149,999	9,791	21,989	30,720	34,074
\$150,000 +	2,987	6,801	11,640	14,976

Source: Tulsa Metro Chamber, 2009 Tulsa Demographics.
Data from Experian/Applied Geographic Solutions

Note: Household income is reported in nominal dollars (not adjusted for inflation).

Educational attainment is on the rise for Tulsa residents. From 2000 to 2008, the percentage of residents ages 25 and older that had not earned a high school degree declined from 16% to 10%. During the same period, the percentage of residents ages 25 and over with a bachelors or graduate degree increased from 28% to 32%. Table 3 shows the educational attainment for Tulsa residents.

Table 4 shows Tulsa households by income level. The median household's income in Tulsa has risen from \$26,000 in 1990 to \$39,000 in 2008 (nominal dollars). Per capita income has experienced similar growth during this time period, increasing from \$15,000 to \$29,000 (nominal dollars). If these figures are adjusted for inflation, however, there is virtually no real growth in median household income or per capita income since 2000.

Employment in Tulsa

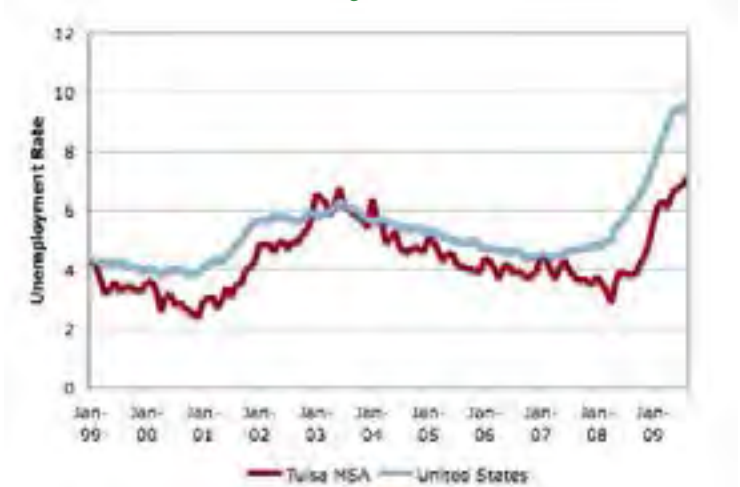
Tulsa's economy tends to rise and fall with the rest of the country. In the last 20 years, Tulsa slid into national recessions in 1980, 1981-2, 1990-1, 2001, and 2009. Each recession has brought rising unemployment and lagging sales tax revenue, often interrupting City of Tulsa operations as well as scheduled capital investments.

At times, economic recessions have been prolonged by local factors. For instance, the "oil bust" of 1982-4 followed on the heels of the 1981 national economic recession. And in 2001, the energy, aviation, and telecommunications sectors were hit particularly hard, leading to slow job recovery locally.

Tulsa is no stranger to hard times, but a closer examination of long-term economic trends yield some surprising facts. For most of the 10-year period between 1999 and 2009, Tulsa's unemployment rate was substantially lower than the national average as shown in Chart 4. The difference in unemployment rate between the US and the Tulsa region has become more pronounced over the current recession in 2009. The most recent data from September 2009 shows the unemployment rate in the Tulsa region at 7.0%, the highest it has been this decade, but still lower than the national rate of 10.2%. Tulsa's relatively strong real estate market coupled with rising oil prices appear to have mitigated, at least to a degree, the effects of the worst economic downturn since the Great Depression of the 1930s.

According to the American Community Survey, 3.1% of white residents above the age of 16 were unemployed in the Tulsa MSA in 2008. Nearly 8.0% of black residents and 7.0% of American Indian residents were unemployed at this time. Three percent of Hispanic or Latino residents were unemployed in 2008.

Chart 4. Unemployment Rate for Tulsa MSA and United States, Jan. 1999 – Aug. 2009



Source: Bureau of Labor Statistics, Accessed 11/10/2009.

Note: Data for Tulsa MSA is not seasonally adjusted.

Table 5. Unemployment by race, Tulsa MSA, 2008

	Hispanic	White	Black	American Indian	All Other Races
Population 16+	43,327	553,895	55,596	41,962	56,951
In Labor Force	34,172	372,337	37,288	28,902	38,272
Employed	33,138	360,781	34,356	26,891	36,191
Unemployed	1,034	11,556	2,932	2,011	2,081
Percent Unemployed	3.0%	3.1%	7.9%	7.0%	5.4%

Source: U.S. Census American Community Survey 2008

Economic Development

PART I: ANALYSIS & FINDINGS

Table 6. Tulsa MSA Employment by Industry Sector, 2000 – 2007

	2000	2007	% Change
Educational Services	5,100	7,100	39.2%
Natural Resource and Mining	5,200	6,700	28.8%
Other Services	14,500	17,900	23.4%
Administration, Support, Waste Management Services.	29,200	35,900	22.9%
Health Care and Social Assistance	42,700	50,500	18.3%
Construction	19,600	21,900	11.7%
Professional, Scientific and Technical Services	18,100	20,100	11.0%
Government	47,800	52,400	9.6%
Leisure and Hospitality	34,200	35,400	3.5%
Wholesale Trade	17,600	18,200	3.4%
Financial Activities	25,000	25,400	1.6%
Transportation and Warehousing	19,200	18,700	-2.6%
Utilities	3,500	3,300	-5.7%
Manufacturing	55,700	51,500	-7.5%
Retail Trade	49,100	45,100	-8.1%
Management of Companies and Enterprises	6,400	5,800	-9.4%
Information	15,000	10,000	-33.3%
Total Nonfarm	407,700	425,800	4.4%

Source: Oklahoma Employment Security Commission, Current Employment Statistics from the Bureau of Labor. Accessed on 10/2/2009.

Table 6 shows a breakdown of employment by industry sector in the Tulsa MSA in 2007.² The Tulsa region had 425,800 jobs. Sectors with the most employment were Government, Manufacturing, Health Care and Social Assistance, and Retail Trade. Prior to the recession, the Tulsa region experienced significant job growth in the last decade. Overall employment in the Tulsa MSA increased 4.4% from 2000 to 2007. The fastest growing sectors during this period were Educational Services, Natural Resources and Mining, and Administration, Support, and Waste Management Services. The information sector (Broadcasting, Publishing, and Data Processing) experienced the largest decline in employment.

The Tulsa Metro Chamber of Commerce, in collaboration with the City of Tulsa and other regional partners, has completed an analysis of key industry clusters. The most recent analysis was conducted by Market Street Services, Inc., and the results were described in the Target Business Review, published in July 2008. The purpose of the study was to identify key industries that have the greatest potential to create new jobs and wealth, to be the focus of the region's economic development resources. Market Street identified six priority target industries, as well as two emerging targets. For a detailed description of these clusters and their contributions to the Tulsa economy, please see the Market Street: Marketing & Existing Targets Review: Target Business Review.

PRIORITY TARGETS:

- **Aviation and Aerospace**
- **Health Care**
- **Professional Services and Regional Headquarters**
- **Energy**
- **Machinery and Electrical Equipment Manufacturing**
- **Transportation, Distribution, and Logistics**

EMERGING TARGETS:

- **Information Security**
- **Entertainment and Tourism**

² This is the most recent year for which data was available from the Bureau of Labor Statistics, Current Employment Statistics. This data does not reflect the heavy job losses that occurred in 2008 and 2009.

Several of these clusters depend on Tulsa's transportation infrastructure, and related industries and assets. Tulsa relies on Tulsa International Airport, Jones Riverside Airport, the Port of Catoosa and highway freight to receive/deliver goods to the Tulsa area. The Transportation, Distribution, and Logistics cluster supports the region's large manufacturers and wholesalers. Continued investments in Tulsa's transportation infrastructure (including major enhancements of Tulsa International Airport's cargo capacity) is important to support Tulsa's key clusters.

Market Street calculated location quotients (LQ) for four of the priority clusters, shown in Table 7.³ Each of these clusters has high regional employment, and pays a high average wage to their employees. Transportation, Distribution, and Logistics was the largest cluster (more than 27,600 employees), though its relatively low LQ suggests Tulsa does not have a comparative advantage in this field. The Energy cluster had the largest LQ of any priority cluster, indicating a strong advantage in Tulsa compared to the country as a whole. Businesses in the Energy cluster include: oil and gas extraction, electric power generation, and scientific research and development services.

Market Street identified two emerging target industries: Information Security, and Entertainment and Tourism. Currently, these industries possess the potential to become viable economic engines for the region, due to high growth potential and existing momentum within the region. However, compared to the nation, Tulsa does not have a competitive advantage in these fields. Market Street recommends keeping an eye on these industries in future years, because they possess the potential to become viable economic engines for regional economic development.

Table 7. Summary of Priority Clusters, Tulsa MSA (2007)

	Jobs	LQ	Average Wage
Transportation, Distribution and Logistics	27,652	0.99	\$48,343
Machinery and Electrical Equipment Manufacturing	11,994	2.80	\$52,343
Energy	10,932	3.19	\$78,850
Aviation and Aerospace	5,393	2.59	\$51,061
Health Care	N/A	N/A	N/A
Professional Services and Regional HQ	N/A	N/A	N/A

Source: Market Street "Marketing & Existing Targets Review: target Business Review" for Tulsa, OK. 7/2008.

Note: Market Street had insufficient data to calculate employment, location quotients and average wages for Health Care and Professional Services and Regional Headquarters clusters.

Recent investments in the Tourism industry include expansion and construction of the Convention Center, the BOK Center, and the ONEOK Field adjacent to downtown. Continued investments in tourism are necessary for Tulsa to develop a competitive advantage in this industry. The Information Security industry also shows promise, including the long-standing partnership between the National Security Agency and the University of Tulsa Information Security program.

The conclusion of the Market Street analysis was:

"Ultimately, growth of target industries is realized through strategies encompassing recruitment, retention and expansion of existing companies, entrepreneurship and small business development, workforce and training development, and optimization of local competitiveness. Importantly, determination of regional industries to target does not preclude the Tulsa Metro Chamber from acting on other development opportunities that may arise. These reactive activities are important, though the proactive targeting of priority regional growth industries will more effectively move Metro Tulsa towards greater economic diversity and sustainability."

³ A location quotient measures the relative concentration of an industry. In this instance, Market Street compared a cluster's portion of employment in the Tulsa MSA, to the cluster's portion of employment nationally. Location quotients (LQs) higher than 1.0 indicate the cluster is more highly concentrated in the Tulsa economy, suggesting a comparative advantage in that cluster. Data limitations prevented Market Street from calculating LQs for the Health Care and Professional Services and Regional Headquarters clusters.

Entrepreneurship in Tulsa

For over 100 years, Tulsa's economy has been shaped to an extraordinary degree by ambitious entrepreneurs. Harry Sinclair and the Phillips brothers were among pioneering entrepreneurs in the first half of the 20th century. Williams Companies, QuikTrip, BOK Financial, and Bama Pie stand as proof that more recent entrepreneurial ventures can grow to be large, venerable, and loyal companies in Tulsa's future.

Even more important to Tulsa's economy are the thousands of small businesses that employ 80% of Tulsa's workforce. Forbes Magazine cites tax incentives, low startup costs, affordable homes, and friendly citizens as reasons for naming Tulsa one of the best places in the country to launch a business in 2009.

Entrepreneurship is important in sustaining economic growth and remaining competitive in a changing economy. However, entrepreneurship is a tricky area for the public sector to influence. A mix of cultural and economic forces combine to encourage entrepreneurial activity.

The State of Oklahoma is fertile ground for entrepreneurs. Oklahoma has received the "District of Creativity" distinction, which is an international designation for areas interested in fostering innovation, and entrepreneurial creativity. Statewide efforts to foster entrepreneurial activity include the Oklahoma Creativity Project. The project was launched in 2008 to showcase the creativity and innovation of Oklahomans in a variety of fields. The State's Small Employer Quality Jobs incentive honors small businesses in an even more commutable form, by offering up to a 5% rebate on wages paid for newly created jobs.

The City of Tulsa does not require general business licenses, which makes it difficult to measure the level of entrepreneurial activity in Tulsa, or analyze trends over time. The City should work with regional partners like the Tulsa Metro Chamber, Oklahoma Small Business Development Center, and other private, public, and nonprofit groups to improve methods for quantitatively monitoring the level of entrepreneurship in the region.

Conversations with representatives of groups who deal with small businesses identified a lack of funding as the main issue limiting entrepreneurial activity in Tulsa. Even before the global financial crisis in 2008, there were not many lenders willing to support local entrepreneurs with venture capital, though it is worth noting that several banks in the area are very supportive of small businesses once they've established themselves.

Another obstacle to entrepreneurship is a lack of access to the infrastructure and relationships needed to start a business. Local organizations focused on supporting entrepreneurship have expressed that there is a prevalent need for infrastructure in terms of start-up space, networking, funding, and mentoring for entrepreneurs. Given sufficient business infrastructure, the creative class in Tulsa has the talent and expertise to fuel long-term economic growth. Tulsa's institutions of higher education can play a key role here. For example, the International Business and Entrepreneurship Institute within the University of Tulsa Collins College of Business offers students a gateway to "real world" entrepreneurial ventures.

Economic Development

Part II:

PLANiTULSA Economic Development Priori-

PRIORITY 1

Spur and Support Entrepreneurial Ventures and Small Businesses

Entrepreneurship and innovation fuel business creation and economic growth. Entrepreneurs are creative, intelligent individuals with big ideas that could lead to successful new businesses. When these individuals are willing to accept the risk of starting a business, and given the necessary guidance, technical assistance, and access to capital then their ideas can lead to successful new companies that transform Tulsa's economy.

Small businesses (generally defined by having less than 100 employees) are another key component of a strong economy. These small businesses are found in every industry sector. Although entrepreneurship and small businesses are closely linked, we discuss each of them separately in this section.

Entrepreneurship

Fear is one barrier common to those with new business ideas. A contributing factor is the lack of knowledge about how to start a business. The City of Tulsa, and other regional partners (the Tulsa Metro Chamber, colleges/universities, foundations, etc.), can be a catalyst for entrepreneurial activity by: providing education and training for would be entrepreneurs to increase their chances of success, being accessible to answer questions, help with rules/regulations, permits, and documents, providing links to resources, and creating a climate that encourages entrepreneurship.

Accessibility means being where people shop, meet, or bank with business start-up experts. The City should be accessible and responsive to all prospective entrepreneurs, with a variety of business ideas — because you never know what next idea will make it big. Someone who is unemployed in Tulsa could

Tulsa's economic development plan should be focused on top priorities to maximize their effectiveness. Clearly articulating these priorities will also help coordinate the economic development efforts of regional partners (both private and public). We have identified four main priorities for the Tulsa economic development plan:

- **Spur and support entrepreneurial ventures and small businesses.**
- **Connect education and training institutions with private and public sectors.**
- **Retain industry clusters that are strong now, cultivate new clusters with future potential.**
- **Support aggregation of employers downtown and in neighborhood and regional centers.**

have the idea for the next Bama Pie or Nordam, but they need that spark or encouragement to step forward and take that chance.

The City has a one-stop center for permitting, zoning, and licenses. This concept should be expanded to include other services necessary for prospective entrepreneurs, like business assistance, low interest loans, grants, access to mentors, etc.

During economic downturns it is particularly important to focus on entrepreneurial activity. New businesses started at the end of a recession can have a higher success rate than businesses started at other times in the economic cycle. This is due largely to the availability of skilled labor, less competition, and lower costs of doing business.

Small Business

Small businesses play a critical role in Tulsa's economy. Statewide, small businesses (those with less than 100 employees) accounted for 40% of total employment in 2005.⁴ Small businesses support neighborhood commercial districts, providing entertainment, shopping, and services. These businesses contribute to the City's quality of life, and create vibrant neighborhoods where people want to live and work. Supporting small businesses will strengthen Tulsa's economy for years to come.

Most large businesses started small with a good idea and hard work. When these businesses evolve locally they often build a strong allegiance to the community, even if they branch out nationally or internationally. It is important for the City to continue to communicate with and nurture these firms with assistance programs and tools to help retain them in the city or metro area. Retaining and growing small businesses needs

to be a central theme in the city/regional economic development plan and strategy. Expanding and diversifying the economy effectively starts with small businesses. Essentially, a large corporation is the product of a successful small business. The small businesses of today that are able to survive may choose to grow into the big corporations of tomorrow. The role of the City and its partners is to provide assistance programs and a nurturing environment for these local businesses to thrive.

PRIORITY 2

Connect Education and Training Institutions with Private/Public Sectors

Education is a fundamental tool for successful, sustainable economic development. A highly-educated work force with the skills and training necessary for growing industries is vital for Tulsa to compete in the global economy. Tulsa is fortunate to have a number of public and private institutions of higher-education in the region, including:

- Community Care College
- Langston University
- Northeastern State University
- Oklahoma State University - Tulsa
- Oklahoma Wesleyan University
- Oral Roberts University
- Platt College
- Southern Nazarene University – Tulsa
- Spartan College of Aeronautics and Technology
- St. Gregory's College for Working Adults
- Tulsa Community College
- Tulsa Technology Center
- University of Oklahoma – Tulsa
- University of Phoenix
- University of Tulsa
- Vatterott College

⁴ U.S. Census Bureau Business Dynamics Statistics, accessed on 10/5/2009.

These higher education institutions are centers of innovation and workforce development and play a role in economic development in the region. However, these efforts are separate and fractured, and lack coordination at the regional level. The City should identify the significant research capabilities and economic development efforts of each institution, and look for opportunities for collaboration among public agencies, private businesses, and institutions of higher education.

Education plays a powerful role in providing the workforce with training necessary for a growing economy. The City should coordinate with regional institutions to align workforce development efforts to match the skills needed by target industries. To do this, the City must communicate with representatives of the industry clusters it has elected to focus on to understand what skills are most beneficial for their workforce. The City should then develop a coordinated approach with regional institutions to ensure the curricula focuses on developing these skills.

Workforce Oklahoma is a statewide workforce development system where business leaders, educators and employment professionals work together to achieve job growth, employee productivity and employer satisfaction. Offices in Tulsa provide a range of services to match up local businesses with qualified workers, provide training opportunities for Tulsa residents, and assist individuals in making career decisions. Additionally, Workforce Oklahoma puts a particular emphasis on careers in key industry clusters.

In addition to colleges and universities, K-12 schools play multiple economic development roles. First, having a high quality K-12 system helps attract and

retain high-quality firms and their employees, many of whom want the best education possible for their children. Second, not all high school graduates go on to various forms of higher education. Making sure these graduates have skills that can help launch their careers is important for Tulsa's economic and community health, as well as one's personal well-being. Finally, for those unable to complete high school, the K-12 system needs to provide links to alternative educational/training providers to help keep people and the community as productive as possible.

Oklahoma and the Tulsa community do an exemplary job of focusing on early education. Oklahoma has the best record of four-year-olds attending public preschool programs, in the nation.⁵ The City should work with K-12 schools to ensure all students have access to a quality education that prepares them to join the workforce or go on to higher education.

PRIORITY 3

Retain Industry Clusters That Are Strong Now, Cultivate New Clusters

Over the last 15 years, the description and evaluation of regional economies have increasingly turned to industrial clusters as the unit of analysis. The defining characteristics of a cluster are (1) multiple companies and institutions, (2) linked by interdependencies in the production of some related goods or services, and (3) operating in the same geographic region (usually defined as a metropolitan area or smaller).

⁵ According to the National Institute for Early Childhood Research (NIERR).

Earlier in this chapter, we discussed the target industry clusters that have been identified for Tulsa. These are clusters with the greatest potential to create new jobs and wealth in the region. The target clusters include:

- Aviation and Aerospace
- Health Care
- Professional Services and Regional Headquarters
- Energy
- Machinery and Electrical, Equipment Manufacturing
- Transportation, Distribution, and Logistics

These are expected to grow quickly, diversify the regional portfolio, contribute to a brand, or provide or suggest the presence of business opportunities and services that attract the creative class of workers and entrepreneurs.

Focusing economic development policies around these six key clusters can lead to a more efficient use of resources. It allows for the coordination of otherwise disparate efforts at business retention, expansion, and workforce development. Additionally, it allows the city, institutions of higher education, and other regional partners to develop in-depth knowledge and expertise in these disciplines and increase the likelihood of developing important innovations to fuel economic growth.

Another purpose of identifying target clusters is to assess the competitive advantages of the Tulsa region. These clusters were identified, in part, because they are larger and more concentrated in Tulsa than the nation as a whole. The city should investigate what led to the success of these clusters, and how can the city can protect, enhance, and capitalize on those factors. One way to do that is to interview and survey firms in target

clusters: Why are they here? What factors are most important to their growth? And what policies does the City have that affect those factors?

Collaboration is necessary for setting regional economic development policies. Different jurisdictions will have different competitive advantages. The City of Tulsa has an obligation to pursue economic development policies that are in the interest of the citizens it serves. There are several ways to do that, and some may be better for the rest of the region and, ultimately, the city itself. The economic development goals and strategies proposed in this plan consider the impacts to the larger region.

PRIORITY 4

Support Aggregation of Employers Downtown, in Centers and Existing Industrial Areas

The Downtown core, and other neighborhood and regional centers provide ideal opportunities for a high concentration of commercial and retail employers. At the same time, the City's existing industrial areas are a valuable asset for the community, providing many family-wage jobs for area residents. The needs of industrial employers are different than employers downtown or in neighborhood centers, so we discuss them in two separate sections.

Downtown and Centers

Development in downtown and other centers is a key component of creating a sustainable city, allowing for a more efficient use of land and improved mobility. A vibrant downtown is important for maintaining a high quality of life for Tulsa residents and businesses. The Land Use Chapter and the city's Tulsa Downtown Master Plan goes into greater detail on the role of downtown in providing employment, housing, entertainment, shopping, and other services. Other important centers include the Eastgate Metroplex, a

former shopping mall that has been converted into a business center with commercial offices and start-up companies. Plans for the center include the addition of retail components to service local demand, as well as mixed-use housing and a new neighborhood on an adjacent site. Northland, in Tulsa North, also represents an opportunity for locating employment, local-serving retail, and a mix of housing options.

The aggregation of employment downtown and in various centers is critical to the success of these neighborhoods. Maintaining a jobs / housing balance in these areas allows residents to work closer to their homes, reducing the cost and time of their daily commute, and allowing them to take advantage of alternative transportation options.

Employers and residents in these centers are also offered opportunities for shopping, dining, entertainment and other services. As more people work and live in them, additional services are provided and these centers, will become even more desirable places to live, contributing to a vibrant urban economy and environment.

Encouraging employers to locate near one another in a dense urban environment also tends to support collaboration among firms, strengthening connections between the private and public sectors, as well as institutions of higher learning. Aggregating employers downtown will facilitate interactions among firms and employees, supporting innovation and collaboration.

The historic building stock in downtown provides appealing space for small businesses and start-ups. Financial incentives already exist for rehabilitation and adaptive reuse of these buildings. The federal government offers historic tax credits for reuse of historic buildings, and the State of Oklahoma matches these credits. By taking advantage of these credits, building owners can afford to improve these buildings

to make them more attractive to small businesses. The community benefits from reduced vacancies downtown, and greater inducement to experience new development on vacant surface lots, which then creates a more dynamic downtown.

Perhaps most importantly, focusing growth downtown and in various centers is a sustainable development pattern. Development patterns of the past 50 years have been characterized by suburban sprawl, with residential and employment moving further away from city cores to take advantage of cheap land and reduced congestion. However, these development patterns are unsustainable, consuming large amounts of open space, increasing our dependence on single-occupancy vehicle (SOV) commutes, expanding the costs of providing urban services, and contributing to environmental hazards. By focusing on compact urban development in downtown and various neighborhood centers, the City of Tulsa will take the lead in acting locally to increase the efficiencies of investing public dollars to grow the city, while at the same time combating these environmental challenges.

Existing Industrial Areas

Industrial development is an important component of a strong economy. Industrial firms provide high-paying jobs, and produce goods for export, bringing new money into the local economy. It can be challenging, however, to provide adequate land for industrial uses. In the past, these firms required lots of space on flat, affordable land, and needed be located away from residential and commercial areas, as they often generated noise, heavy truck traffic, and air pollution.

With modern pollution laws and other regulations, the line between industrial uses and other commercial uses is blurred. Industrial uses have an increasing need for high accessibility, visibility, and multi-modal transportation connections. Mixing employment

types can be beneficial for an area, for example, manufacturing artificial limbs in a medical complex, or putting restaurants in a manufacturing district.

To strengthen the industrial sector in Tulsa, a regional approach is required. Tulsa needs to work with neighboring jurisdictions to ensure there is an adequate supply of industrial land. The first step is projecting demand for industrial land for the future. Analyzing past development patterns, and future socio-demographic projections will allow Tulsa to make reasonable predictions on the amount of land required for future industrial development.

The region should maintain an inventory of developable industrial land. All jurisdictions in the region should coordinate their land use planning and zoning efforts to ensure that sufficient land is set aside to accommodate long-term industrial development. It is likely that much of this land will be outside the City of Tulsa, where land is more affordable, and it is easier to avoid conflicts with incompatible adjacent land uses.

The inventory of developable land should be kept up-to-date, and be made available online for prospective developers. All relevant site characteristics should be recorded, including a description of the infrastructure serving the sites. “Shovel ready” sites, those with all necessary infrastructure to support immediate development, should be marketed and promoted for industrial firms considering relocating to the Tulsa region.

The importance of adequate infrastructure in attracting industrial development should not be overlooked. Ensuring there is vacant land available with the appropriate zoning is a start. However, industrial firms often have specific infrastructure needs. Transportation access is of critical importance. Industrial users need adequate transportation access to ship their products by truck and by heavy rail. Some users may also require

access to sea or air ports. Additionally, many industrial firms use large amounts of water, wastewater, and electricity. To attract industrial development, whether for expanding existing companies or recruiting new ones, Tulsa needs to ensure that vacant industrial land has access to the variety of infrastructure that companies and developers may require.

Land within the City of Tulsa may not be appropriate for all industrial development. Many industrial firms do not need to be centrally located, where land is relatively scarce, and rents are high. Land outside of Tulsa, at the urban fringe, could be better suited for some industrial firms, particularly those that are likely to conflict with other urban land uses.

Areas within the City of Tulsa that are already zoned for industrial development should be marketed towards industrial firms that are compatible with other urban users, e.g., those that require relatively small lot sizes, and emit low levels of noise and air pollution. These types of industrial uses are becoming more prevalent, and in many cases segregation of commercial uses and urban industrial uses is no longer beneficial. General employment zones should be able to accommodate industrial development and a wide variety of other employment types.

The City’s efforts at business recruitment should focus on attracting companies that will strengthen existing industry clusters. Target clusters with a significant industrial component include: Aviation and Aerospace, Energy, and Machinery and Electrical Equipment Manufacturing. Tulsa International Airport should play a central role in industrial development efforts targeted towards the aviation and aerospace cluster.

Another target cluster, health care, may not seem to fit the category of industrial development. However, this cluster includes more than just hospitals, nursing homes, and ambulatory health centers. The health care

cluster includes scientific research and development services, as well as manufacturing of pharmaceuticals, medicines, and medical equipment and supplies.

The health care industry is an important and growing industry cluster in Tulsa. Nationally, of the twenty occupations expected to grow the fastest between 2006 and 2016, nine of them are in the health care field. It is reported by the Tulsa Metro Chamber that health care employment represented 30,000 workers, and contributed \$1.4 billion in payroll income to the Tulsa economy. The Target Business Review, conducted by Market Street indicated that short- and long-term challenges for Tulsa's health care industry will be competition for qualified workers. While the region's educational institutions graduate well-trained personnel, they are often drawn to other regional markets.

Although the city cannot necessarily affect wage prices, it can assist the local health care industry to attract and retain workers by encouraging the creation of medical districts to facilitate the growing need for medical services, the supply of high-quality housing, ancillary services and facilities including medical office buildings, and amenities near medical centers. These efforts can help reduce transportation costs for workers, support high-capacity transit investments that also serve other parts of the city, and enhance the value of these areas with additional businesses and services.

Health care institutions frequently engage in master planning efforts. These plans often are closely held because they involve sensitive land acquisition issues. However, when an expansion or change is planned, some collaboration and negotiation between the health care institution, the city and neighbors is needed. Resolving issues between the campus and neighborhoods early, rather than during implementation can greatly improve relations in and around the district. Furthermore, the city and neighbors can identify investments or synergies

near the campus that may benefit the surrounding area. Tulsa University's recent effort for their campus plan, which involved a great deal of engagement with the city and neighbors, is a fine example for other institutions around the city.

Major health care providers and health care training institutions in Tulsa include (in alphabetical order):

- Community Health Connection
- Hillcrest Health Care System
- Morton Health Center
- Oklahoma State University Medical Center/Center for Health Sciences
- Southcrest Hospital
- St. Francis Health System
- St. John Health System
- Tulsa Community College
- Tulsa Technology Center
- University of Oklahoma-Tulsa School of Community Medicine
- University of Tulsa (TU)

Tulsa should leverage its regional assets, including numerous hospitals, medical centers, and institutions of higher education to become more competitive in the industrial sectors of the health care cluster.

A highly skilled and educated workforce is necessary to attract industrial development. These jobs often require very specific training, and extensive experience. Tulsa should coordinate with regional universities, community colleges, and other institutions of higher education to ensure students receive the necessary education and training to work in growing industrial sectors. Tulsa's workforce is already educated in sectors identified as key clusters. Existing firms in these clusters have helped Tulsa develop a skilled labor pool. Tulsa can capitalize on these skills, by attracting new industrial development in these clusters.

Guiding Principles for Economic Development

Capturing these hopes, dreams and aspirations for Tulsa's future is essential as we move forward in making our future vision a reality. The Citizens' Team, a diverse group of volunteers, developed the following guiding principles. These principles serve as the foundation for future planning efforts, and will ensure that the comprehensive plan remains consistent with

- Downtown Tulsa acts as a thriving economic engine and cultural center for the entire region.
- Entrepreneurs, small businesses and large employers find Tulsa an easy place to do business.
- Business owners are able to easily find adequate and attractive space for expanding businesses into downtown, along main streets, or in employment centers.
- The city invests in the critical infrastructure necessary to develop a robust and diversified economy.
- The city has the ability to monitor trends, spot key opportunities and meet challenges strategically.
- Schools are safe, easy to walk to, and part of a world-class education system.
- Employment areas provide nearby access to services such as child care, groceries and restaurants.
- Tulsa has pockets of density to provide for a more livable, pedestrian-friendly and cost-efficient community.
- Tulsa's civic, business and government institutions ensure that everyone has equal opportunity and access to housing, employment, transportation, education and health care, regardless of background, ethnicity, or neighborhood.

Economic Development

Part III: Priorities, Goals & Policies

This section is organized into priorities, goals and policies that if followed will move Tulsa towards the community's vision.

Priorities are the big idea topical areas that address the guiding principles. They capture big picture changes that must occur to implement the plan.

Goals establish specific, measurable, attainable and realistic objectives that guide plan implementation by ensuring that the community and stakeholders have a clear awareness of what must happen to move Tulsa toward the Vision.

Policies delineate the steps needed to achieve the goals.

IMPLEMENTATION & ACTION PLAN:

*In addition to **priorities, goals and policies**, the Plan recommends the **Strategic Actions** that should be taken in the first 3 to 5 years following plan adoption. These strategic actions are found in the Implementation and Action plan.*

Economic Development Priorities

Economic Development decisions should be focused on improving the quality of life of all of Tulsa's citizens so that Tulsans in all parts of the city benefit from future growth and development. Our Vision for Tulsa provides an overview of the top economic development priorities. This section includes detailed priorities, goals and policies that build on the land use priorities described in the Vision.

Many of these goals and priorities will require substantial input from the business community, and therefore coordination with various chambers will play a key role. Where appropriate to accomplish these goals, the City should look to form collaborative partnerships with privately funded economic development organizations.

ECONOMIC PRIORITY 1

Spur and Support Entrepreneurial Ventures and Small Businesses

Goal 1—

Businesses have easy access to a full range of economic development assistance. Policies to support this goal include:

- 1.1 Establish a one-stop shop within the City where businesses can access information on all economic development programs and redevelopment tools.
- 1.2 Provide an economic development tool kit that identifies all available City, state and federal programs including loans, grants and technical assistance programs available to businesses.
- 1.3 Streamline the permitting process to improve efficiency of doing business with the City. Businesses looking to relocate, or expand in Tulsa, and entrepreneurs interested in starting a new business must overcome a number of hurdles. The City should examine the wide-range of services provided to businesses and

entrepreneurs (design review, licenses, etc.) to ensure the process is as efficient and user friendly as possible.

- 1.4 Provide economic development training for elected officials and key City staff members to ensure City leaders are knowledgeable about economic development issues, trends, and tools.
- 1.5 Eliminate existing barriers to small business development found in the zoning code. These barriers include high parking requirements in dense urban areas, which limit the utility of the land and prevent reuse of existing storefronts and business space by small entrepreneur with limited time and resources.

Goal 2—

Entrepreneurs have thriving businesses and contribute to the local economy. Policies to support this goal include:

- 2.1 Expand revolving loan funds and technical assistance for small and micro business start-ups.

- 2.2 Collaborate with non-profits that provide assistance to entrepreneurs and innovators through incubation facilities, trainings, support services.
- 2.3 Ensure local universities and community colleges provide adequate training for aspiring entrepreneurs and the workforce skills their emerging companies will need.

ECONOMIC PRIORITY 2

Connect Education and Training Institutions with Private and Public Sectors

Goal 3—

The City, local chambers of commerce, and other privately funded economic development organizations work closely with institutions of higher education to collaborate on economic development policies and implementation. Policies to support this goal include:

- 3.1. Develop and refine pertinent programs and curricula to better address job skills required for employment in target industry clusters including priority targets such as Aviation and Aerospace; Health Care; Professional Services and Regional Headquarters; Energy; Machinery and Electrical Equipment Manufacturing; and Transportation, Distribution and Logistics. Emerging targets include Information Security, Entertainment and Tourism. Curricula should also stress leadership and entrepreneurial skills that will benefit students, regardless of which industry sector they choose to work in.
- 3.2. Establish/expand internship opportunities with local businesses and public agencies for high school, trade school and college/university students.
- 3.3. Collaborate with colleges and universities, the public school system and other large public agencies to adopt procurement policies that more strongly support local businesses particularly those owned by minorities and women, as well as those which are newly emerging.

ECONOMIC PRIORITY 3

Retain Industry Clusters That Are Strong Now, Cultivate New Clusters

Goal 4—

Investment strategies support existing and emerging industry clusters. Policies to support this goal include:

- 4.1 Work with industry leaders in target clusters to identify public and private actions and investments to strengthen competitive advantages of the region.
- 4.2 Prioritize infrastructure projects that support retention and expansion of businesses in target clusters.
- 4.3 Utilize land within the city effectively by taking advantage of existing infrastructure, assistance programs and tools to help existing clusters expand and nourish the next generation of clusters.
- 4.4 Partner with health care and educational institutions to develop plans and implementation strategies for the creation of medical, hospital or educational districts that can accommodate growing needs of medical facilities, the supply high quality housing and supporting businesses and services for employees and clients.

- 4.5 Encourage health care and educational institutions to continue to define their space and operating requirements through campus plans, to share campus plans with the city and campus neighbors and to ensure that boundaries will interface well with the surrounding district. This can be accomplished through small area plans, planned unit developments, campus district zone changes, or similar processes that include robust public involvement.
- 4.6 The city should leverage the economic activity generated by health care and educational institutions such as demand for housing, services, retail, lodging and office uses nearby, as part of or in coordination with campus planning efforts.
- 4.7 Coordinate campus district planning with transit planning and investments.
- 4.8 Promote the continued growth and development of industry clusters and sectors, as key components in the quality of life of all Tulsa's citizens while recognizing that all parts of the city benefit from the continued growth and development of industry clusters and sectors.

ECONOMIC PRIORITY 4

Support Aggregation of Employers Downtown, Neighborhood and Regional Centers, and Existing Industrial Areas

Goal 5—

New development supports vibrant, sustainable, transit-oriented communities. Policies to support this goal include:

- 5.1 Revise City code to encourage infill development, and provide developers with guidelines and design prototypes for

attractive, quality, in-fill development. Examples include adding mixed-use zoning districts, and creating a parking overlay district (in combination with reduced parking requirements).

- 5.2 Release a small number of RFQs for demonstration projects that exemplify the desired sustainable in-fill development types on publicly-owned parcels.
- 5.3 Develop a phased approach and financing plan for multi-modal transportation infrastructure that includes bikes, streetcar, bus rapid transit, and light rail.

Goal 6—

Downtown Tulsa is the core of the regional economy. Policies to support this goal include:

- 6.1 Expand the development tool kit to enable adaptive re-use and occupancy of historic and viable older buildings downtown that are currently vacant. This should include designation of National Register districts in downtown, enlarging the tax increment area to incorporate the entire downtown, and offering property tax freezes on historic buildings to further encourage their adaptive re-use.
- 6.2 Enter into partnerships and provide appropriate tools that will bring about more new, sustainable mixed-use, and residential development on vacant or underutilized sites owned by the private sector, public agencies and religious institutions.
- 6.3 Examine and apply alternative ways to utilize the City's parking authority so that it can become a more effective vehicle in stimulating adaptive re-use and new mixed-use development.

Goal 7—

Ensure the region maintains an adequate supply of land to accommodate long-term demand for industrial development, in collaboration with privately funded economic development organizations. Policies to support this goal include:

- 7.1 Maintain a database of shovel-ready industrial sites with adequate infrastructure to rapidly respond to potential industrial development.
- 7.2 Capture Tulsa's share of industrial development through aggressive marketing, application of Enterprise Zones and other economic development tools. This will support higher job-density in the City, and a more efficient development pattern that takes advantage of vacant sites within the City, and existing infrastructure.
- 7.3 Assemble industrial sites under public ownership where appropriate (through the Port and/or redevelopment authority) so they can be prepared, marketed and disposed of to industries that meet city and regional goals such as targeted industries and/or quality jobs.

Goal 8—

Tulsa's industrial development efforts focus on target clusters. Policies to support this goal include:

- 8.1. Offer tax credits, land assembly assistance, or other incentives for industrial development in target cluster industries that emerge locally or are attracted to the City with the potential to support existing businesses in target clusters.
- 8.2. Bolster the database of shovel-ready industrial sites, with information on site characteristics that would be desirable for target clusters. For example, describe connections and proximity

to assets and infrastructure, e.g., sites near the Tulsa International Airport to attract firms in the Aviation and Aerospace cluster, or distance to major freeways to attract firms in the Transportation, Distribution, and Logistics cluster.

Goal 9—

The City's labor force has the education and skills to support industrial firms. Policies to support this goal include:

- 9.1 Work with local unions, guilds, labor organizations, and trade schools to encourage increased participation and membership from Tulsa's young adults, and others entering the work force. Look for ways to expand apprenticeships and other educational opportunities for individuals from diverse socioeconomic backgrounds.
- 9.2 Collaborate with labor organizations and higher education institutions to provide educational opportunities for older workers that need to adapt their skills to new careers.
- 9.3 The City should collaborate with schools, and higher education institutions to ensure curricula provide students with the education and skills to be successful in the work force. This should include skills to succeed in industrial sectors that are strong today, and/or expected to grow in the future.

Housing

Introduction

Housing planning and development is something that affects every resident of Tulsa. Well-planned, balanced housing means that each Tulsan has an affordable home, and that residents can choose from a variety of housing styles, sizes and neighborhoods. On the larger level, it means ensuring housing availability and affordability that will keep people in Tulsa and attract new residents and jobs to the city.

The analysis, goals and policies described in this plan are intended to look into the future. This chapter describes Tulsa's current housing inventory, the future demographic trends that will impact its future housing needs, the results of a housing needs analysis, goals for the future of housing in Tulsa, and the policies and implementation actions that will enable Tulsa to realize its vision for the future.

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Housing Part I: Tulsa's Housing Today

Tulsa's Housing Chapter is based on the premise that every household should have high-quality options which cost less than 30% of the household's gross income — housing affordability. For example, a household earning Tulsa's median income of \$39,373 (2008 American Community Survey) could afford to spend about \$980 per month on housing-related expenses. While low-income households frequently have the hardest time finding housing that is affordable to them, this definition of affordability is much broader than simply low-income housing.

Charts 1 and 2 show a comparison of today's matches and mismatches in Tulsa's housing inventory by this definition of housing affordability. This is done by comparing the actual incomes of Tulsa's households with the actual housing costs converted to an affordable income. For renters, it means that there are more renters at both the upper and lower ends of the spectrum than there are units. Essentially some very low-income renters are spending more than 30% of their income on housing and many middle and upper-income renters are spending less than 30% of their

Chart 1: Comparing Actual Rental Household Incomes with Occupied Units Affordable at Each Income Level (2007)

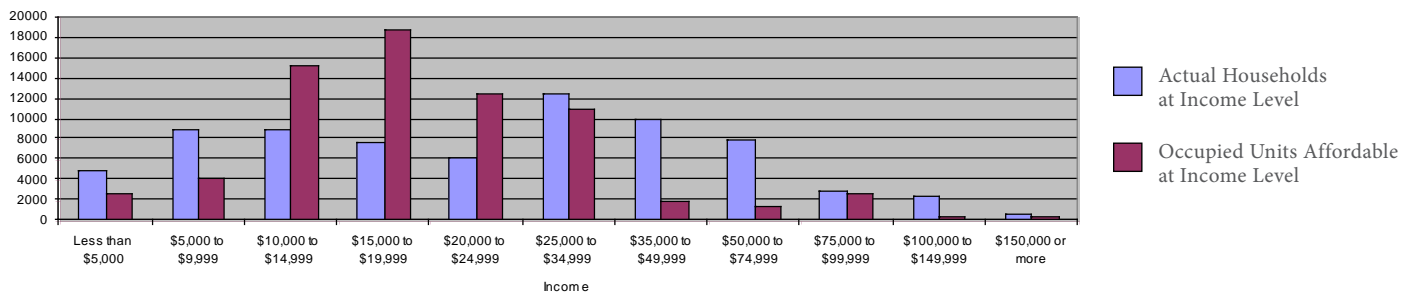


Chart 2: Comparing Actual Owner Household Incomes with Occupied Units Affordable at Each Income Level (2007)

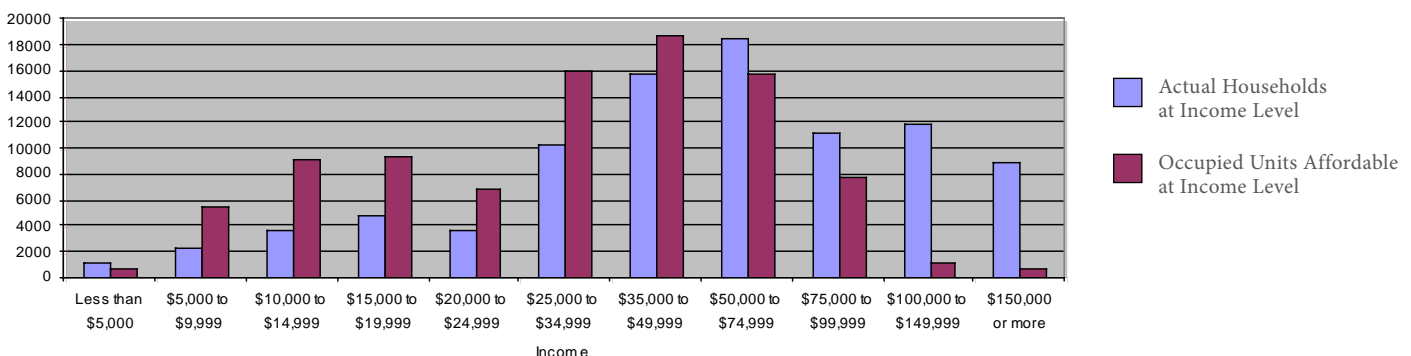
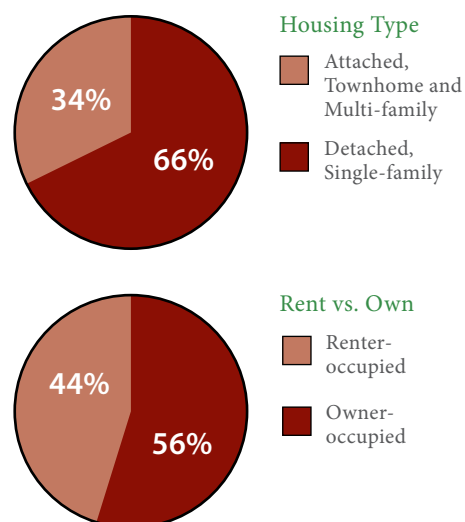


Chart 3: Snapshot of Tulsa's Housing Supply



Median owner-occupied value: \$109,000

Median rent: \$632/month

Source: American Community Survey

Table 1: Tulsans Living in Unaffordable Housing (2008 ACS)

		Tulsa	Oklahoma	U.S.
% of Renters	Paying Over 30% of their income	46%	40%	46%
	Paying Over 50% of their income	24%	20%	23%
% of Owners	Paying Over 30% of their income	23%	19%	28%
	Paying Over 50% of their income	9%	7%	12%

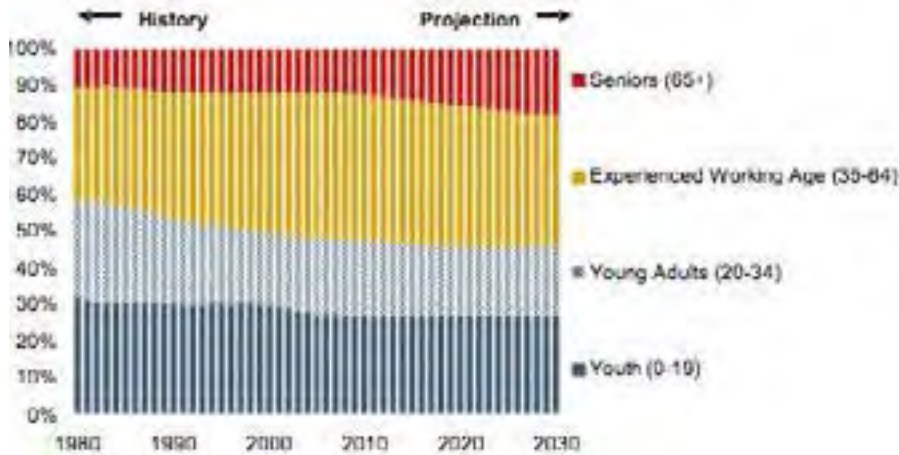
incomes on housing. Tulsa's owner-occupied housing is better-matched — and almost one-third of the city's owners do not have a mortgage. However, there are many Tulsa households that earn over \$100,000 for which there may be an important market opportunity for high-amenity urban housing options.

In Tulsa, about 23% of households in owner-occupied housing were economically stressed, spending more than 30% of their income on housing and housing-related costs; 9% were in even greater stress, spending over 50% of their incomes on housing. Of renters, 40% were spending over 30% of their incomes on housing

with 20% of rental households spending over 50%. This highlights a need for more affordable options in Tulsa.

Given that the second largest expense for most households is transportation, the design and placement of housing in walkable, transit-accessible neighborhoods can also contribute to convenient, accessible housing in neighborhoods across the city. Nationally, combined housing and transportation costs of less than 48% of a household's gross income is considered affordable, according to the Center for Neighborhood Technology.

Chart 4. Tulsa Metropolitan Area's Historic and Projected Age Profile



Source: US Census Bureau (accessed via Moody's Analytics)

The Future will be Driven by Shifting Demographics

Historically, Tulsa's residential development has been dominated by single-family homes. However, some local and national trends point toward the benefits of a more diverse housing that would meet the needs of Tulsa's future citizens. The most prominent housing-related trends include demographic shifts, competition for employers and employees, and energy issues.

Again, demographic changes in Tulsa will determine the needs for planning in the city. Nationally, households are getting smaller and older. As the senior population continues to grow, it will drive demand for smaller, more easily-maintained homes that are located closer to services and shopping. Additionally, as seniors tend to have lower and/or fixed incomes, housing units targeted for the senior market may have to be less costly than typical single-family homes. Tulsa's aging population is one factor in the city's declining household sizes, and points to a growing need for housing desirable for one- and two-person households. Related to demographic changes, current economic shifts indicate that cities increasingly compete for both employers and a more mobile workforce. A balanced, affordable mix of

housing types will provide communities like Tulsa with a critical advantage.

Finally, one of the biggest challenges facing Tulsa, the nation, and the world will be addressing climate change. According to the U.S. Department of Energy, a significant and growing amount of the nation's greenhouse gas emissions come from residential buildings. In the context of planning Tulsa's future housing inventory, this presents an extraordinary opportunity. This plan, including the Housing Chapter, are designed to align Tulsa's land use, transportation, economic and housing goals toward reducing the city's energy use and climate impact.

Planning for energy efficient housing will also save Tulsans money. According to the Lawrence Berkeley National Laboratory and the federal government's Home Energy Saver program, energy upgrades to an average home in Tulsa could reduce annual energy bills by \$527 (from \$1,724 to \$1,197). Clearly, major savings are possible on a city-wide basis.

Housing Part II: Tulsa's Future Housing Need

The housing needs analysis indicated that Tulsa's housing supply and demand are well-matched for many income groups and there are some opportunities to develop new housing that will meet gaps in Tulsa's current inventory, along with accommodating the city's future population growth. The appendix to this Housing Chapter provides a more detailed description of the methodology and growth forecasts used in this analysis.

Tulsa's rental housing inventory is relatively well-fit with its population; most of the city's renters earn under \$35,000/year and most rental units are priced accordingly. In the future, there will be demand for both additional rental units for both lower income households (those earning less than \$15,000 annually), along with moderate to high income households

(those earning over \$35,000 annually). These rental units would serve to accommodate some families who are likely overpaying (spending over 30% of income on housing) and some upper-middle and high-income households who would like to rent but cannot find high-amenity and more expensive rental housing available.

Owner-occupied housing in Tulsa holds a larger share of total housing in the city and is in general, mostly priced for households with annual incomes of less than \$75,000/year. Future demand for ownership housing in this price range (often described as "workforce ownership housing") will continue; there will also be increased demand for higher-income housing in an urban setting, as seen in many other cities of Tulsa's size.

Chart 5: 2030 Rental Demand Compared to Current Housing Inventory

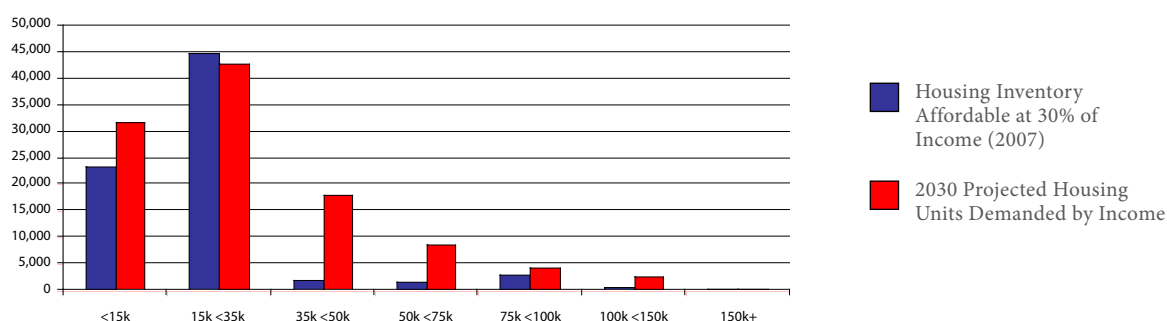
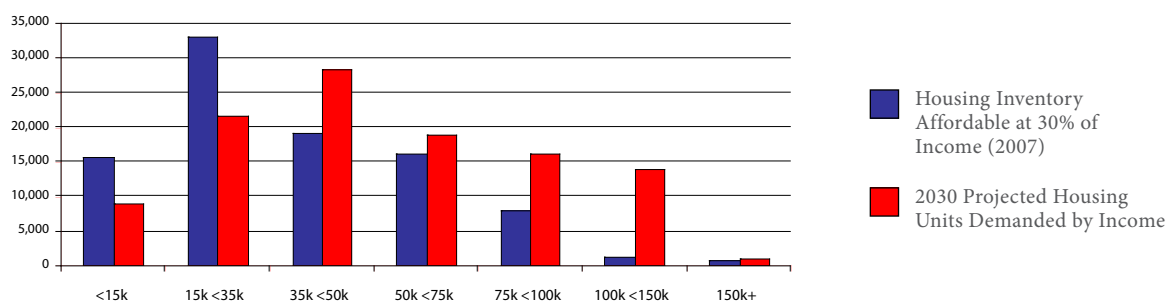


Chart 6: 2030 Ownership Demand Compared to Current Housing Inventory



Expanding the Palette of Housing Options to Meet Tulsa's Future Needs

Tulsa has an opportunity to augment its existing housing supply with types of housing which, though they may be relatively new to Tulsa, have been built in other cities with much success. This plan is designed to expand housing to Tulsa to include high-quality rental and ownership housing targeted at the whole income and demographic spectrum — from young professionals to families to seniors. Lastly, these housing types will be most successful in proximity to transit, or designed as part of transit-oriented development (TOD).



Single-Family Homes on Smaller Lots

Large-lot subdivisions consume large amounts of land and infrastructure. By broadening the range of lot sizes in new neighborhoods, Tulsa can diversify the housing supply and still retain its tradition of single-family neighborhoods. In particular, Tulsa has an opportunity to develop new single-family homes on lots ranging in size from 3,500 to 5,000 square feet. Some small lot single-family designs include homes oriented around a communal courtyard or cottage-style homes. Others are designed in more traditional patterns. These smaller lot single-family homes would be primarily owner-occupied.



Townhomes

Townhomes are generally two to three stories tall and designed in a compact arrangement. Townhomes are attached to other townhomes, and generally include shared maintenance and other services. These homes fit well in many types of residential neighborhoods and can be used as infill development, where appropriate, in sizes as small as two or four units per building and on lots as small as 10,000 square feet. Townhomes can also be clustered around environmental constraints on parcels which could not effectively support single-family development. Townhomes can vary considerably in design and architectural style, and may be either owner- or renter-occupied.



Live/Work Units

Live/work units usually are designed to include two or three levels that combine residential and small business

space. The “work” area is typically located on the ground floor and features large windows and flexible spaces for offices, retail, or services. The “live” area is typically on the upper floors and often resembles a townhome in design. Live/work units are well-suited for the needs of neighborhood and personal services like salons and travel agencies or professional offices for architects, accountants, or attorneys. Most live/work units are owner-occupied, but some may be rented.



Multi-Family (Low-, Mid- and High-Rise)

Multi-family generally refers to housing with five or more units. Multi-family housing has become stigmatized in some parts of the country as only a low-income rental housing type. However, a number of successful multi-family developments, at a range of price-points and scales, are helping to break this stigma. This can be the ideal housing type for young singles and couples and older residents who want the combination of proximity to lively areas and a low maintenance lifestyle. Tulsa's future multi-family housing will vary in size and style and be designed to fit into the scale of the existing neighborhoods. For example, high-rise units will be reserved for higher density urban areas.

While most multi-family units in Tulsa today are rental, the city is expected to see future demand for both high quality rental and ownership multi-family. In particular, some condominium projects would be well-suited for entry-level buyers while others may appeal to high income households.



Multi-Family in Mixed-Use Buildings

In addition to multi-family in single-use buildings, many cities — American and otherwise — have developed areas with mixed-use buildings that include both retail and residential uses. Mixed-use condominiums and apartments are combined with ground floor retail or office space, usually on a main street or transit corridor. They typically feature internal access so the street frontage is reserved for storefronts. These buildings can be owner- or renter-occupied; in many cases they could also provide student housing in or around mixed-use campuses.

Tulsa 2030 Goal and Tulsa's Housing Need

The Tulsa 2030 Goal was designed to meet Tulsa's demand for a variety of housing types and address the gaps in housing by income range. A housing need analysis was conducted to ensure that Tulsa can fill in gaps in the city's existing housing supply and meet the needs of its future demographics, such as those of an aging population.

Based on this analysis, the Tulsa 2030 Goal included about 64% single-family homes, 8% townhomes and 28% multi-family units, both ownership and rental. While this new housing mix reflects a shift from current trends, it would also serve to meet the affordability needs of Tulsa's future citizens.

The diversity and location of housing was designed to fit best with Tulsa's existing character. This means that the most compact condos and apartments would be located in the downtown and along major corridors. Townhomes and compact single-family homes would be located on small parcels in existing single-family

neighborhoods which have struggled with challenges such as vacant lots and abandonments or are in areas of transition. This would help ensure that there is housing to meet every Tulsan's need, while preserving the city's single-family neighborhoods.

In the Tulsa 2030 Goal, Tulsa's downtown would see about 2,000 new units, 90% of which would be apartments or condos — many in mixed-use buildings with retail on the ground floor. This housing would range from condos with many amenities to entry level housing for young professionals and couples to senior-oriented apartments designed for a maintenance-free lifestyle.

The Tulsa 2030 Goal extends beyond downtown and across the city. For example, North Tulsa would see about 8,800 new units, most of which would be single-family homes. Tulsa 2030 Goal considered the strong infill development potential of North Tulsa, along with opportunities for commercial space.

Table 2. Tulsa 2030 Goal Compared with Projected Demand by Type of Unit

	City-wide Projected Demand	Tulsa 2030 Goal
Single-Family	65%	64%
Townhome	8%	8%
Multi-Family	27%	28%

Table 3. Today's Housing Units Compared with Tulsa 2030 Goal (by Affordable Income Range)

Affordable Income Range	Today's Housing	Tulsa 2030 Goal
<\$15,000	23%	19%
\$15,000-\$35,000	46%	29%
\$35,000-\$50,000	13%	21%
\$50,000-\$75,000	10%	13%
\$75,000-\$100,000	6%	9%
\$100,000-\$150,000	1%	8%
\$150,000+	1%	1%
Total	100%	100%

Major Lessons Learned

This analysis, along with the results from the PLANiTULSA public engagement process, points to several conclusions that guide the goals and policies of this Housing Chapter.

It is critical that Tulsa preserve its existing housing inventory.

Tulsa's highly-regarded strong neighborhoods provide a solid base for further development of a thriving city. A strong housing revitalization and rehabilitation program in targeted areas would help revive some neighborhoods which may be struggling. At the same time, the City must prioritize preserving Tulsa's historic homes and neighborhoods. Criteria for rehabilitation funding may include historic designation, proximity to transit, access to commercial areas or location within a tax increment finance (TIF) district.

Tulsa needs a range of new housing types at various affordability levels for both renters and owners.

The housing types include single-family homes and apartments already familiar to the Tulsa market and new housing types such as residential units in mixed-use developments and urban townhomes. As demographics shift, Tulsa's residential developers should consider housing design as well as size to serve a diverse mix of household composition and family size anticipated for the life of this plan. Additionally, the analysis indicates significant demand to provide more housing choices for people that make more than \$100,000 a year for purchase, and rentals for people who make more than \$50,000 per year.

Downtown Tulsa presents significant opportunities to provide new homes for Tulsans seeking urban-style living.

The PLANiTULSA citizen engagement process, parallel with national trends, showed strong preferences from diverse age groups for opportunities to live in a

walkable downtown. Tulsa has underutilized historic buildings which could be retrofitted for housing. The downtown area also has vacant land and surface parking lots which could be redeveloped as mixed-use residential development.

Transit-oriented projects should be developed along key corridors.

As described previously, Transit Oriented Development (TOD) refers to housing and other uses which are developed around major transit hubs or stops. These developments are more compact than typical single-family neighborhoods with homes in mixed-use buildings, multi-family buildings and townhomes. Transit-oriented development would also be included outside of the downtown area — for example, North and South Peoria Avenue is highlighted in the Land Use and Transportation chapters as the type of corridor with strong transit-oriented potential.

Tulsa needs more housing options for post-secondary students.

Successful colleges and universities are typically surrounded by quality, affordable student housing. Off-campus student housing includes apartments and single-family homes, primarily for rent, which are near campus and also accessible by transit, bike or on foot. The city and local public and private universities should partner to identify opportunities for new student-focused housing, as has been developed at the University of Tulsa and is contemplated at some of the other higher education institutions in Tulsa. In particular, planning for student housing could leverage funding from Tulsa's urban renewal program areas, particularly around OSU-Tulsa and Langston University.

Guiding Principles for Housing

Capturing these hopes, dreams and aspirations for Tulsa's future is essential as we move forward in making our future vision a reality. The Citizens' Team, a diverse group of volunteers, developed the following guiding principles. These principles serve as the foundation for future planning efforts, and will ensure that the comprehensive plan remains consistent with the vision.

- Newcomers feel welcome to move to Tulsa, find a home and join the community.
- Future development protects historic buildings, neighborhoods and resources while enhancing urban areas and creating new mixed-use centers.
- Tulsa has pockets of density to provide for a more livable, pedestrian-friendly and cost-efficient community.
- Tulsa permits opportunities for a full range of housing types to fit every income, household and preference.
- Tulsa is a cohesive city where we have the ability to create safe, healthy lives for ourselves and our families.
- New buildings meet high standards for energy and water efficiency while delivering high quality spaces and architectural design.

Housing Part III: Priorities, Goals & Policies

This section is organized into priorities, goals and policies that if followed will move Tulsa towards the community's vision.

Priorities are the big idea topical areas that address the guiding principles. They capture big picture changes that must occur to implement the plan.

Goals establish specific, measurable, attainable and realistic objectives that guide plan implementation by ensuring that the community and stakeholders have a clear awareness of what must happen to move Tulsa toward the Vision.

Policies delineate the steps needed to achieve the goals.

IMPLEMENTATION & ACTION PLAN:

*In addition to **priorities, goals and policies**, the Plan recommends the **Strategic Actions** that should be taken in the first 3 to 5 years following plan adoption. These strategic actions are found in the Implementation and Action plan.*

HOUSING PRIORITY 1**Promote Balanced Housing Across Tulsa**

The City should further develop its ability to preserve existing single-family areas, in concert with building new housing types and creating places that will retain current residents and be attractive to future residents, including young people and entrepreneurs.

Goal 1—

A robust mix of housing types and sizes are developed and provided in all parts of the city. Policies to support this goal include:

- 1.1 Establish land use and zoning designations that permit the creation of single-family homes on small and medium sized lots, attached townhomes, and cottage or courtyard style housing. These housing types should be permitted in new and existing residential neighborhoods where appropriate.
- 1.2 Establish land use and zoning designations that permit the construction of mixed-use condominiums, apartments, and live-work lofts along corridors, downtown, and in new centers.
- 1.3 Establish land use and zoning designations that permit higher density mixed-use housing along transit lines and near station areas.
- 1.4 Work with the development community and other stakeholders to plan, design and build one or more catalytic mixed-use projects based on the PLANiTULSA innovative building model prototypes.
- 1.5 Encourage adaptive reuse of historic buildings as a key strategy to ensure a diverse housing mix.

Goal 2—

Tulsa maintains an adequate supply of land with appropriate zoning designations to meet anticipated housing demand. Policies to support this goal include:

- 2.1 Establish and maintain a forecast of housing type needs, and set periodic goals for housing production.
- 2.2 Monitor housing development activity, developable land supply, residential zoning capacity and owner-occupancy rates to inform progress toward housing goals and to enable midcourse adjustments.
- 2.3 When engaging in a small area planning process, as defined in the Land Use Chapter, ensure that the mix of housing types provided for in the plan reflect citywide needs.

Goal 3—

Downtown Tulsa offers expanded opportunities in which to live. Policies to support this goal include:

- 3.1 Develop and execute an action plan to expand the range of housing options downtown, including retrofitting existing office buildings such as condominiums or apartments and building new multi-family buildings.
- 3.2 Collaborate with area philanthropic foundations and other institutions to develop incentives, leverage historic tax credits, and other programs to support catalytic downtown projects.
- 3.3 Develop and utilize an infill and revitalization toolkit to help facilitate housing development downtown.
- 3.4 Pursue creating National Register districts downtown in order to preserve its architectural heritage while leveraging tax credits.

Goal 4—

A healthy city-wide balance between jobs and housing is maintained. Policies to support this goal include:

- 4.1 Work to coordinate its business retention, recruitment, and other economic development activities with housing development programs.
- 4.2 Coordinate with Tulsa businesses to create Employer Assisted Housing programs, including down payment assistance, low-interest loans or rent assistance.

Goal 5—

Tulsa's existing housing inventory is revitalized, preserved and maintained. Policies to support this goal include:

- 5.1 Utilize the Area of Growth and Stability Map to focus large-scale development into areas that can support new development (areas of growth) without being detrimental to existing neighborhoods (areas of stability).
- 5.2 Maintain and expand incentives for revitalization and rehabilitation of existing housing into good condition in targeted areas.
- 5.3 Create a set of sample revitalization and renovation plans, which could be approved through a streamlined permitting process. These plans could be promoted via City-supported low cost loans and modest rehabilitation subsidies.
- 5.4 Preserve housing that has been designated as historic by creating and expanding historic designations and refining and updating design review criteria.

- 5.5 Conduct additional surveys of historic buildings and work to preserve additional historic housing by expanding the number of National Register listings.

- 5.6 Create and encourage the use of an infill and revitalization toolkit to help facilitate housing development in existing residential neighborhoods where appropriate and desired.

Goal 6—

Employee housing options in medical centers, hospital areas, and educational campuses are enhanced through collaboration between the city, the medical and educational communities and other stakeholders. Policies to support this goal include:

- 6.1 Partner with local health care and educational institutions to encourage the development of attractive, high quality housing and supporting businesses and services that support and are supported by higher education, medical, or hospital districts.

HOUSING PRIORITY 2

Ensure Housing Affordability for All Residents

Every Tulsa resident should have the opportunity to live in housing that is affordable to them.

Goal 7—

Low-income and workforce affordable housing is available in neighborhoods across the city. Policies to support this goal include:

- 7.1 Work with for-profit and non-profit developers to encourage new mixed-income developments across the city.
- 7.2 Ensure that land use and zoning regulations allow a mix of housing types, including single-family homes, cottage homes, townhomes, condominiums and apartments that serve people at a variety of income levels.

Goal 8—

The combined cost of housing and transportation to Tulsa's residents is reduced. Policies to support this goal include:

- 8.1 Coordinate planning of housing and public transportation with the goal of helping residents reduce housing and transportation costs to less than 48% of gross income.

HOUSING PRIORITY 3

Encourage Energy-Efficient Housing Across Tulsa

A focus on sustainability in housing in Tulsa is one which could not only reduce the city's overall energy use, but also save its residents significant money.

Goal 9—

Tulsa promotes the use of energy conservation and sustainability strategies in existing and new housing. Policies to support this goal include:

- 9.1 Promote energy-efficiency programs in order to reduce both residents' energy usage and costs.
- 9.2 Work with developers and stakeholders to promote the development of more "green" projects, based on a performance standard or building efficiency and sustainability rating program. The performance standard should be based on a widely accepted and measurable methodology.

- 9.3 Encourage the development of unit types and sizes, including multi-family units and townhomes, which have lower energy use per unit than single-family homes.

Goal 10—

Housing planning is coordinated with transportation planning to maximize the benefits of transportation investments. Policies to support this goal include:

- 10.1 Coordinate land use and transportation planning to ensure that new housing is easily accessible to multiple transportation options, including walking, bicycling, and public transportation.
- 10.2 Work with developers to create transit-oriented projects in prime areas that include key corridors and the downtown.

Parks, Trails and Open Space

Introduction

This chapter of Tulsa’s Comprehensive Plan describes how Our Vision for Tulsa will bring “nature into the city” for current and future residents and visitors, through a robust and interconnected network of parks, trails and open space for the City of Tulsa. The goals and policies at the end of this chapter will guide the City in efforts to protect sensitive landscapes threatened by future development, and to best buffer and complement the relationships between the built and natural environments in regards to new construction, redevelopment, and land use changes. The goals and policies will also provide guidance for sound decisions related to open space, parks, and natural areas and support of natural systems within the city.

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Parks, Trails and Open Space

Part I: The Value of Parks and Open Space



Travertine Creek, in the Chickasaw National Recreation Area, located in the foothills of the Arbuckles near Sulphur.

Beautiful, inspiring, and accessible parks and open space are essential to the health of a city. The American ideal of unrestricted public access to nature and natural areas represents democracy in action and a highly-valued aspect of American life. Starting in the late 1800s, the United States government designated certain areas with unprecedented natural beauty for public use, thus unavailable for industry and development, to ensure that all people — regardless of wealth or position in society — might enjoy them. This concept did not exist in Europe or elsewhere around the world, where areas of natural beauty were controlled as the private estates of aristocrats. The result of this uncommon, populist policy — called America's best idea — was the establishment of a national parks system that continues to protect grand landscapes such as Yosemite, Yellowstone, the Grand Canyon, and in Oklahoma, the Chickasaw National Recreation Areas (originally known as Platt National Park).

Subsequently, the national parks movement spurred local communities to develop their own parks programs and to designate open spaces for the benefit of their citizens. Access to parks and open space generates direct and indirect benefits to communities including: access to natural beauty, improved public health, more opportunities for family interaction, civic pride and community cohesion, tourism spending, stormwater retention and pollution mitigation.

Economic Value

Natural areas, parks and green/open space can provide important benefits in ways that reduce local infrastructure costs and actually improve environmental health, including stormwater management, air pollution mitigation, and

urban cooling. Recent studies concur that parks have a positive impact on nearby residential property values. For example, the Trust for Public Land calculates that all dwellings within 500 feet of parks enjoy at least a five percent increase in assessed property value.¹ Superior parks and open space also draw employers who are in turn able to attract high caliber workers interested in quality of life amenities Tulsa can offer.

Health and Community Value

Parks provide respite from the built environment and the rigors of urban living. As places where people gather to celebrate important occasions, interact as a community, play sports and exercise, and even grow gardens, parks often allow urban dwellers to experience nature in their daily lives. Recent research suggests that access to parks encourages exercise and physical activity that leads to direct health benefits,² increasingly important as we learn more about health problems such as heart disease and diabetes, with direct links to lack of exercise and physical inactivity. Parks and open space also build social capital and the sense of community by providing places and activities for neighbors to gather and develop human relationships. Whether at sports fields and facilities, park benches or flower gardens, hiking trails or nature study classes/events, parks and open space encourage community interaction, communication, and cohesion.

Environmental Value

Parks and open space provide habitat for flora and fauna in an increasingly urban world. Parks and open space connected by a system of natural corridors provide

wildlife with the ability to migrate more successfully and therefore support regional ecosystems. The trees, shrubs, soils, and plants within our parks and open spaces filter environmental pollutants to cleanse our environment for the benefit of all living things.

As cities increase the amount of impervious surfaces — or “hardscape” — such as sidewalks, roads, buildings, and parking lots, they also increase the amount of water runoff. When rainfall hits pavement or other hard surfaces it isn’t able to soak into the soil. Instead, runoff funnels into storm drains that lead to our local streams and rivers such as the Arkansas River. Excess runoff can cause flash flooding and increase the filtration and treatment burden on water treatment facilities, which is both expensive and resource intensive. Parks and open space allow natural filtration through absorption by collecting precipitation and runoff in plantings, tree wells, and soil. Allowing rainwater to naturally recharge benefits groundwater supplies and capitalizes on the pollution filtration of plants and soil.

Air pollution in urban areas is a costly and significant concern because of its impact on young children and aging populations, overall community health, and the destruction of infrastructure. Smog, acid rain, greenhouse gases from oil combustion, and air pollutants are dangerous to the health and well being of any city. Trees, shrubs, and leaves of plants provide a critical filtration service by actively removing nitrogen dioxide, sulfur dioxide, carbon monoxide, ozone, and some particulates. Parks and urban trees also absorb pollutants including carbon dioxide, providing an important carbon sequestration sink and improving local air quality.

¹ Peter Harnik and Ben Welle, *Measuring the Economic Value of a City Park System*, The Trust for Public Land, 2009, p 1.

² Peter Harnik and Ben Welle, *Measuring the Economic Value of a City Park System*, The Trust for Public Land, 2009, p 7.

Parks, Trails and Open Space

PART I: THE VALUE OF PARKS AND OPEN SPACE



OPEN SPACE AND PARK BENEFITS FOR TULSA

Parks and open space provide:

Recreational opportunities like hiking, walking, swimming, sports, gardening

Community gathering places for picnics, barbeques, and parties

Shade and sunlight throughout the seasons

Stormwater retention and filtration

Air and water pollution filtration

Natural beauty, inspiring views and vistas

Reflection and communion with nature

Habitat for diverse flora and fauna

Improved home values

Transportation Value

By connecting parks and open space with recreational, multi-use, pedestrian and bicycle trails, people, families, workers, and wildlife can more easily reach important destinations. Surveys conducted in 2009 during the development of the master parks plan for Tulsa found, in particular, that residents want better bike and pedestrian connections and trails between work, school, and home. Safe routes to school should include bicycle trails and paths that provide quick and safe transfer between neighborhoods, and to and from school facilities. Improved pedestrian and bicycle connections to community facilities such as schools, libraries and city services, as well as work places encourage people to walk or bike, thus improving public health and air quality and requiring less reliance on automobiles.

Trails and bike and pedestrian paths also serve as low cost transportation alternatives that serve multiple purposes. Natural corridors between open space areas are important for migrating wildlife to reach food and link to critical habitat and can simultaneously incorporate multi-use paths to connect pedestrian and bicycle transportation across the city.

Tourism Value

Parks attract visitors and contribute to the character and personality of a place. Mohawk Park, Turkey Mountain and River Parks are popular destinations in Tulsa that help define the city and invite others to come experience what's special here. Through destination parks and open spaces that attract non-locals to plan holidays and overnight stays in Tulsa, and to patronize the city's restaurants, shops, and accommodations, parks and open space can play an important role in Tulsa's tourism economy. Visitors come to Oklahoma — one of the most biologically diverse areas in North America — to experience the state's diverse ecoregions, including the Cross Timbers region in which Tulsa is located, and the nearby Tallgrass Prairie Preserve. The city has an opportunity to leverage the potential of nature tourism and become another great city built upon a foundation of world class parks and open space.

Parks, Trails and Open Space

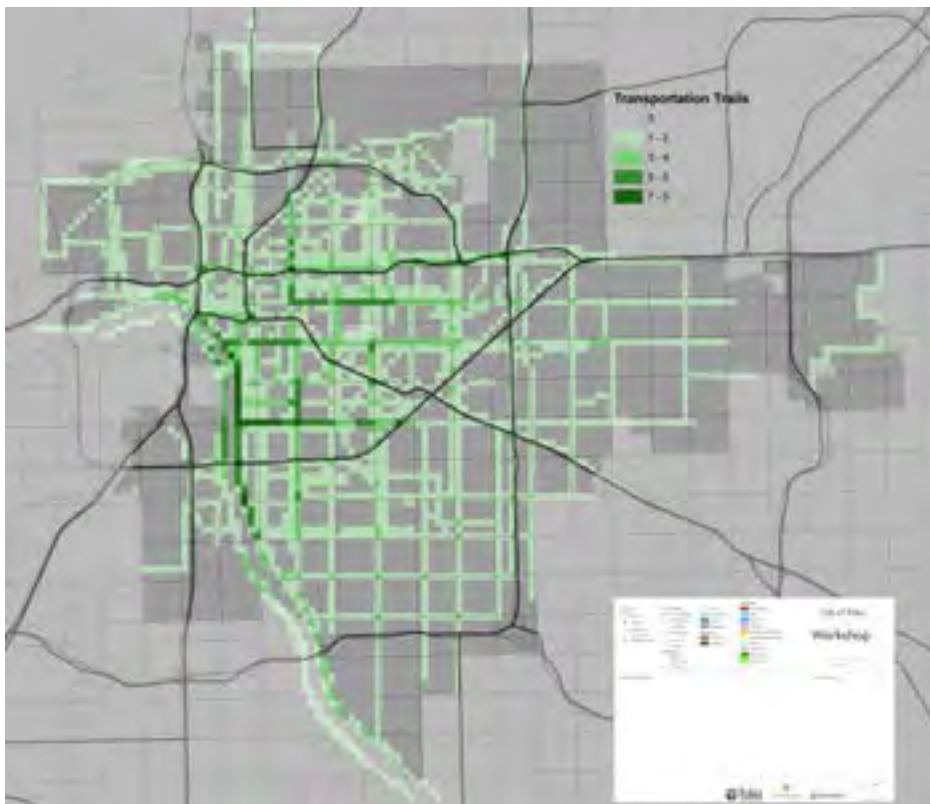
Part II: Public Input

PLANiTULSA Workshops

More than 1,500 participants attended a series of public events during the PLANiTULSA planning process including several city-wide workshops and seven small area workshops. Participants worked in groups to produce over 200 maps depicting their visions for Tulsa's future. The resulting maps, showing how participants would accommodate future growth through land use and transportation changes, indicated a commonly held desire to increase the amount of

pedestrian and bicycle connections across the city, to make it easier to travel from neighborhoods to places of work, to schools, natural areas, and downtown. Figure 1 shows a composite workshop map where participants indicated a desire for new trails, bike boulevards, or other bike and pedestrian transportation infrastructure. In particular, participants in small area workshops noted how the parks and open space system could be improved in their respective communities.

Figure 1: PLANiTULSA Workshop Bike and Pedestrian Trails



Source: Fregonese Associates

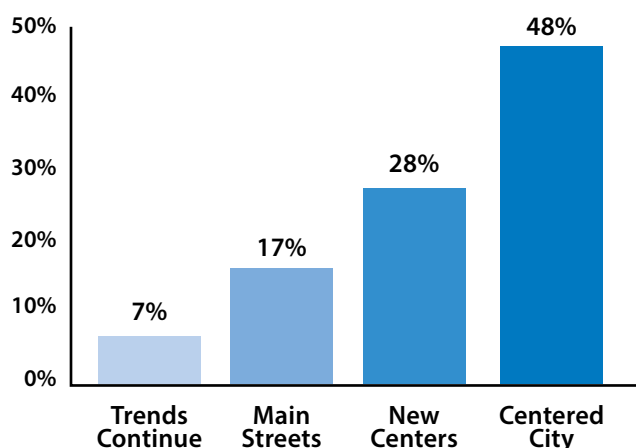
In north Tulsa, participants said they want more trails to take advantage of natural areas and two new parks to serve existing neighborhoods with higher density development. Participants in east Tulsa said they want better access to parks and trails, to increase bike connections from neighborhoods, and to utilize the natural corridors within floodplain areas for trails and pedestrian links.

Parks, Trails and Open Space

PART II: PUBLIC INPUT

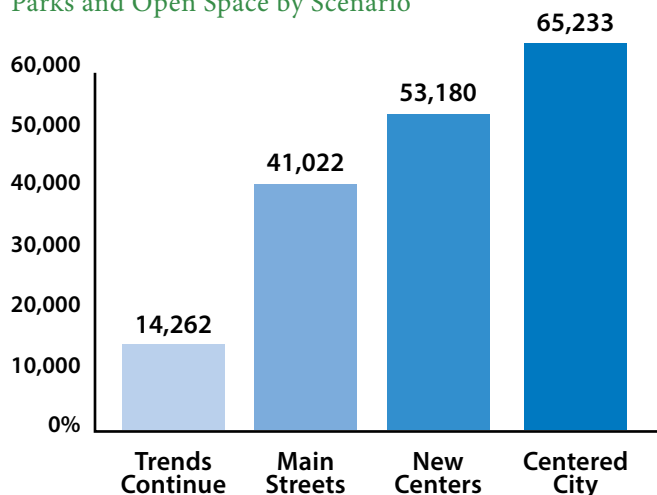
The only survey question that directly addressed the topic of parks and open space asked participants to identify the scenario that “makes it easy for me to access parks, the river, and open space.” Survey respondents chose Scenario D and C, respectively, as their first and second choice.

Chart 1: PLANiTULSA Survey Results — Scenario Preference for Access to Parks, the River and Open Space



Source: Fregonese Associates

Chart 2: Amount of New Residents Living Near Parks and Open Space by Scenario



Source: Fregonese Associates

PLANiTULSA Survey

During the PLANiTULSA planning process, the city conducted a survey designed to gauge the public's preferences for the future of Tulsa. More than 5,500 people participated in the “Which Way, Tulsa?” survey, which was distributed at community events and meetings, and was available on the city's web site. The survey presented a series of four growth scenarios — each telling a different story about Tulsa's future — to test a range of growth impacts. Citywide and small area workshop inputs directly informed the development of these scenarios, which showed how different land use and transportation patterns could influence where people work, live, play, and how they get around town.

The PLANiTULSA survey results indicate that respondents want new households to locate close to existing parks and open space and/or be within walking distance of new parks and open space.

Tulsa Parks Master Plan Survey

During the development of the Tulsa Parks Master Plan, concurrent with the PLANiTULSA planning process, the City of Tulsa conducted a series of surveys through a random sampling of regional households and an open-link web survey, and a web survey distributed to agency representatives, stakeholders, and associations. In total, the city received 1,306 survey responses, which included many respondents particularly interested or associated with parks and open space. The surveys asked questions related to the type and frequency of use of parks and open space in Tulsa, the importance parks and open space have to the community, individual preferences regarding available services and facilities, and possible funding sources the city should consider in order to overcome budget shortfalls. The responses allowed the City to conduct rigorous analysis of public attitudes on parks and open space; a summary of survey results are available in the Tulsa Parks Master Plan Executive Summary.

Type and Frequency of Park Use

Among the facilities and amenities currently available in Tulsa, parks were used by the greatest proportion of respondents. Of survey respondents, nearly all had used a park at least once in the last 12 months, three-quarters had used city trails, and nearly 60 percent had visited a nature center or open space area. Close to half of respondents had used community centers and city sports fields at least once in the last 12 months. Recreation programs and outdoor swimming pools experienced the lowest utilization. According to respondents, city trails are the most frequently used facilities, with an average of 34.6 visits in the past 12 months. Parks are also frequently utilized, at 20.6 times a year. Other types of facilities were used substantially less often, each less than seven times per year.

Importance to the Community

It is clear that Tulsans highly value parks and open space in the city. All types of facilities were rated “very important” by a strong majority of respondents. Parks were top rated, with 94 percent of respondents “very important” rating. The other facilities in rank order included: city trails, city athletic/sports fields, community centers, recreations programs, and outdoor swimming pools.

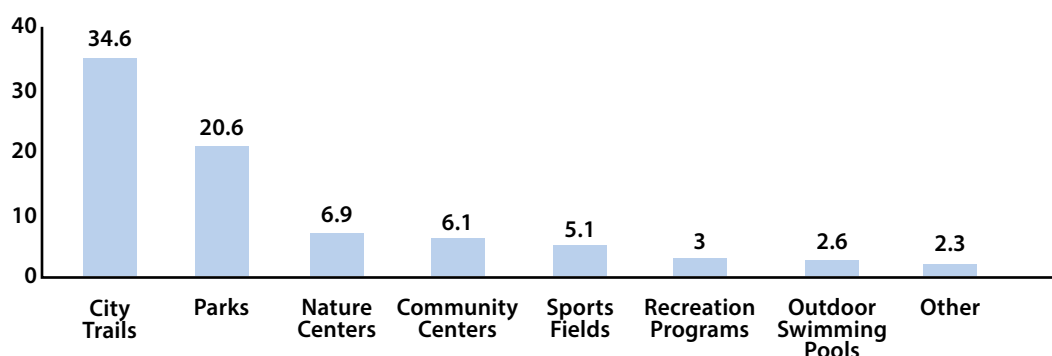
Satisfaction

Tulsans are also generally satisfied with existing park facilities. Respondents were asked how well parks, recreation facilities, and programs meet the needs of the community. Both parks and city trails received high positive satisfaction ratings, with over 75% of respondents very satisfied. Well over a majority of respondents also expressed satisfaction with the following facilities: city athletic/sports fields, community centers, nature centers or open space areas, and recreation programs. Outdoor swimming pools received the lowest satisfaction rating.

Areas of Improvement

Respondents were asked about the types of barriers that prevent them from using city facilities and possible areas for improvement. Safety and security were the top-cited concerns that prevented respondents from using facilities. Other major barriers to use included the need for more restroom facilities, and a lack of awareness of the facilities and amenities offered by city parks. The survey provided a list of outdoor facilities that could be added, expanded, or improved. The results show that additional trails, trail connections, playgrounds, and restrooms are most important facilities desired by Tulsans.

Chart 3: Current Usage of City of Tulsa Facilities and Programs – Average Frequency of Use in the Last 12 Months



Source: Tulsa Parks Master Plan Draft, 2009

Mohawk Park is a regional attraction for Tulsans of many ages.



Funding Sources and Future Direction

Respondents were asked how to best cover the funding gaps needed to pay for operations and maintenance costs of new parks and recreation facilities and programs in the future. The respondents favored the creation of a new dedicated funding source through a vote of the people: nearly two-thirds of respondents were “strongly in favor” of this option as opposed to 17 percent who were “strongly opposed.”

The survey asked respondents if they were willing to support a number of different funding mechanisms to pay for operations and maintenance costs of new parks and recreation facilities, trails, and programs in Tulsa. The reallocation of general sales tax funds and fees from unobtrusive oil drilling in large tracts of undeveloped park land received the strongest support with 53 percent saying they would “definitely” or “probably” support such option.

Parks, Trails and Open Space

Part III: Nature in the City

As outlined in the previous sections, parks and open space provide extensive value with multiple benefits. Parks and open space add economic value to properties and the city's tourist economy, improve the health and well being of the community, and provide important ecological function to maintain a clean environment. To fully capitalize on these benefits, the City of Tulsa wants to expand and enhance our current parks, trails, and open space areas into a more robust and interconnected regional parks and open space system.

Tulsans also recognize we need to protect and capitalize on the city's local natural assets, including Mohawk Park, the Arkansas River, Turkey Mountain Urban Wilderness Area, and more than 100 miles of existing regional trails. Tulsans want to maintain these assets for children in the community, future generations, and where possible, bring nature and parks into the city for everyone to enjoy.

Bring Nature into the City

Our Vision for Tulsa calls for integrating natural areas into the fabric of the city. Access to Tulsa's natural environments should not just be found in the suburbs but also throughout the city, in the form of pocket parks, street trees, large scale regional parks, nature parks, riverfront trails, community gardens, and undeveloped natural areas. Even small pocket parks can provide important ecological function such as filtering runoff by way of vegetated bioswales along parking lots, commercial buildings, and city streets. Natural parks with limited paving can absorb excess precipitation and provide habitat even within the

confines of a downtown block. And areas of small habitat such as butterfly gardens can benefit important pollinators and birds, as well as offer color and beauty to employees and visitors enjoying an outdoor urban space. Throughout the city, in small patches and larger swaths, nature should be a visible and therapeutic buffer to the noise and starkness of the built environment.

Because more and more people will likely move to cities in the future, it is critical to make cities beautiful, healthy and enjoyable places. Bringing nature into the city can be achieved through many means, including innovative stormwater management practices, connecting the city with bike and pedestrian paths, distributing parks and open space equitably and regionally, restoring ecological function through hybrid parks and other strategies, and strengthening our connections to the Arkansas River.

Lead in Stormwater Management

Already the City of Tulsa is a leader in floodplain and stormwater management and design, evidenced by Rooftop to River, the Tulsa program for urban watershed management, and innovative incentives that engage property owners in on-site stormwater management. Expected increases in region-wide development and urbanization, however, indicate that more can be done. New programs could include design competitions, education, and training for the creation of landscaping treatments on public as well as private land that absorbs stormwater while also providing some habitat such as rain and habitat gardens at schools, in backyards, and eco-roofs on municipal buildings.

Provide Quick and Safe Access to Parks and Open Space

Within existing neighborhoods and future areas of growth, the city needs to work with developers, park planners, the county, and others to ensure that all residents enjoy quick and safe access to parks and open space from their homes, schools, neighborhoods and work places. From these places, residents should have ready access to parks and open space, ideally within a five-minute walking or biking distance. Parks and open spaces serve our neighborhoods and communities as places where community members gather, interact, and learn from one another. Our parks need to be safe, functional, well-maintained, and distributed around the city and the region so that all neighborhoods enjoy equal right to public parks and open space facilities.

Safety and security are also very important considerations. Careful planning needs to occur to ensure city parks have “eyes on the park” throughout the day and evening to keep activities and people safe and protected. This may entail encouraging the development of mixed-use buildings near parks, where businesses and residents provide a steady stream of people watching over the park environment. Parks in residential areas need proper lighting, posted hours of operation, security when necessary, and removal of any hazards such as poisonous plants to ensure a family-friendly and safe environment.

Coordinate Distribution of New Parkland

It will be important for the city and its Parks Department to work with the Tulsa’s three independent school districts — Tulsa Public Schools, Union, and Jenks — to coordinate the distribution, maintenance, and location of area pools, parks, sports fields, and other amenities across school and public land to ensure a cost

effective and equitable system without overlap, waste, and missed opportunities. The city needs to identify and build new funding sources for the provision of parks system planning and maintenance to improve and update existing facilities and build new facilities such as fountains, plazas, water features, hybrid parks designed to enhance ecological functions and pocket parks that encourage positive family and community interaction and gathering. Additionally, the city must identify underserved areas and communities lacking significant or high quality parks, open space areas, and community facilities and develop a comprehensive plan to fill the gaps in order to ensure an equitable distribution of open space and park facilities across the city regardless of socioeconomic status. Many of the parks facilities need renovation and upgrades to adapt to the community’s changing needs and activity preferences.

Restoring Ecological Function

Starting with an inventory of native landscapes, wildlife corridors, pristine ecosystems, and natural areas, the City can focus growth away from such areas and work with other regional partners including the county, state, federal government, and nonprofit organizations to acquire and protect these important natural habitat areas. In addition the city should work with the parks department and other partners to restore ecological function and natural habitat within its network of regional open spaces including the Turkey Mountain Urban Wilderness Area, Mohawk Park, and sites along the Arkansas River. These regional parks include some untouched habitat that requires support and protection from further disruption. Restoring ecological function will include fighting non-native species which increasingly threaten and displace native plants and animals, conducting habitat restoration such as native plantings, and restoring riparian and wetland function and flow.

In tandem with the strategy of directing development away from sensitive and threatened wilderness and habitat areas, the City of Tulsa can protect and enhance the natural environment within the city. The City can design parks that help restore ecological function, provide local and migrating bird habitat, restore urban streams, reduce flash flooding by sustainably managing stormwater runoff, and renaturalize green spaces using native plants. These strategies lessen some park maintenance costs, where native grasses and plants require no mowing, lessen the need for fertilizers or herbicides, and help restore the connection Tulsans have to the beautiful and threatened natural environment of the tallgrass prairies. These “hybrid” parks within cities have an important role to play by providing fringe habitat for songbirds and pollinating insects that support regional agriculture and natural plant propagation, and by offering people opportunities to learn and connect with natural systems.

Strengthen Connections to the River

The Arkansas River runs a vital lifeline through the city of Tulsa, valuable not only for trade and recreation, but also as habitat for many types of wildlife. The river area supports industry, provides natural habitat, offers a place for recreation and exploration, and provides a venue for large outdoor events and entertainment. The river supports some of the last remaining habitat for the endangered Interior Least Tern, as well as winter habitat for bald eagles. These areas need to be protected and buffered from possible disturbance or future development.

Through the PLANiTULSA planning process, Tulsans indicated a desire for better connections to the river to help make the river part of every day life in Tulsa. The City envisions an interconnected system of riverfront bike and pedestrian trails across bridges and into the

downtown to allow workers, students, and residents to reach the city center, midtown, and local as well as regional destinations. Riverfront paths that are separated from roads provide recreational opportunities and safer passage than bike lanes along roadways. Often the source of great civic pride and supported by river parks, these amenities invite artists, families, workers on lunch breaks, tourists, and others to relax and enjoy the surroundings. The riverfront can host festivals and events such as a summer concert series, rallies and speeches, music festivals, boating events and other cultural fairs. Continued investment in the river area is important to maintain and improve it for enjoyment of all Tulsans.

In riverfront areas that can support new development, urban design and construction should be oriented toward the river, include a mix of uses, and capitalize on the river’s recreational and scenic qualities by including patios, gardens, seating areas, and public spaces with river views, and river access via trails. The riverfront can become a vibrant center of around-the-clock activity that includes residences, offices, restaurants, retail, and specialty businesses catering to residents.

PART III: NATURE IN THE CITY

- Multi-Use Trail
- Bicycle Trail
- Hiking Trail
- Parks
- Open Space
- Floodplain

Tulsa Goal 2030

Tulsa 2030 Goal, the growth and development concept that will serve as a benchmark for the Comprehensive Plan, was designed to improve supply and access to parks and open space in Tulsa.

The following tables presents a comparison of the Trends Continue scenario and the Tulsa 2030 Goal. In part, due to the larger amount of total development in the city under Tulsa 2030 Goal, a greater amount of new parkland would be created.

The number of new Tulsans with access to city and regional parks would also be much greater under Tulsa 2030 Goal. Over three times as many households and nearly four times as many jobs would be located within one-half mile of parks.

Tulsa 2030 Goal would result in greater support for park and open space resources by bringing more people within closer walking distance. Parks thrive when they can serve as the center of a community or neighborhood, and have many users throughout the day.

Table 1: Scenario Comparison of New Parkland

	Trends Continue	Tulsa 2030 Goal
New Parks (acres)	167	349

Source: Fregonese Associates

Table 2: Scenario Comparison Access to Parkland

	Trends Continue	Tulsa 2030 Goal
Added Housing Units within 1/2 mile of Parks	6,483	21,073
Jobs within 1/2 mile of Open Space	5,915	19,443

Source: Fregonese Associates

Parks, Trails and Open Space

Part IV: Tulsa's Green Infrastructure

In-town parks provide places to relax, walk the dog, and gather for picnics and sporting events.



Green infrastructure encompasses the entire network of environmental assets and interconnected system of floodplains, wetlands, riparian areas, tree canopy, parks, open space, and other undeveloped natural areas in a region. Cities depend upon green infrastructure for stormwater collection and filtration, natural cleansing of pollutants, flash flood mitigation, urban heat island moderation, wildlife habitat corridors, as well as for the public's recreational enjoyment. Green infrastructure provides important ecological functions including supporting healthy soils and clean water, and provides places for people to play, reflect, and enjoy the outdoors.

Tulsa's Natural Environment

The City of Tulsa is located in the crosstimbers and southern tallgrass prairie ecoregion of northeastern Oklahoma, a land of variable soils, prairie grasses, oak woodlands, hardwoods, and the historic home of buffalo and antelope. This ecoregion acts as a link in the chain of oak forests that extend from Canada to Central America, providing critical habitat to migratory birds. This habitat is now under threat of fire suppression, urbanization, and invasive species such as the eastern red cedar.³ The City of Tulsa can help protect the last remaining areas of this ecoregion within city boundaries by focusing new housing and business construction within existing areas of development and actively identifying and protecting remaining vestiges of this habitat at risk from future development.

³ The Nature Conservancy, *The Crosstimbers and Southern Tallgrass Prairie Ecoregion: Preserving the Last Remnants of the Fertile Blackland Prairie*.

Tulsa Parks and Open Space

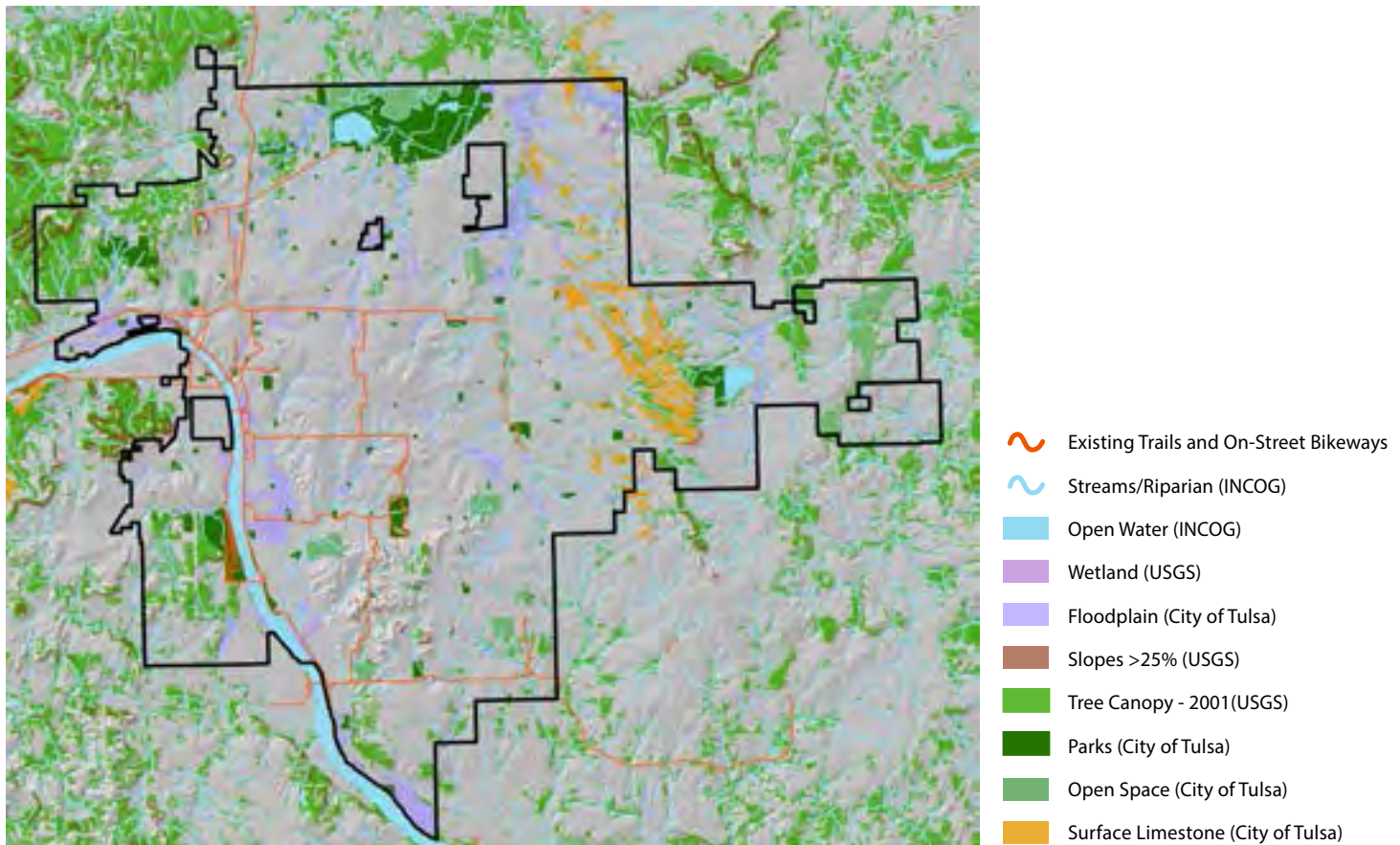
The City of Tulsa manages 130 parks covering roughly 6,000 acres and including nature centers, golf courses, the WaterWorks Art Studio, Clark Theatre and Heller Theatre at Henthorne, Tulsa Zoo & Living Museum, and the Tulsa Garden Center. The Tulsa parks system includes many swimming pools, sports fields, playgrounds, tennis courts, water playgrounds, The River SkatePark, picnic shelters, community centers, fitness facilities, gymnasiums, meeting rooms and facilities, trails and more. Based on the findings of the Tulsa Parks Master Plan, Tulsa has a well-distributed system of parks and recreation facilities that meets a wide range of needs. The City is now challenged to maintain its existing infrastructure of aging parks and to bring its parks and recreation system into a new century of needs, desires, and conditions.

Table 3: Tulsa's Green Infrastructure

Land Characteristic	Acres
Total Land within City Limits	128,397
Water (rivers, streams)	2,486
Riparian Habitat	4,719
Wetlands (including buffers)	193
Floodplain	16,316
Steep Slopes (25%+)	366
Constraints Subtotal	24,080

Source: Fregonese Associates

Figure 3: Tulsa's Green Infrastructure



Source: Fregonese Associates

Parks, Trails and Open Space

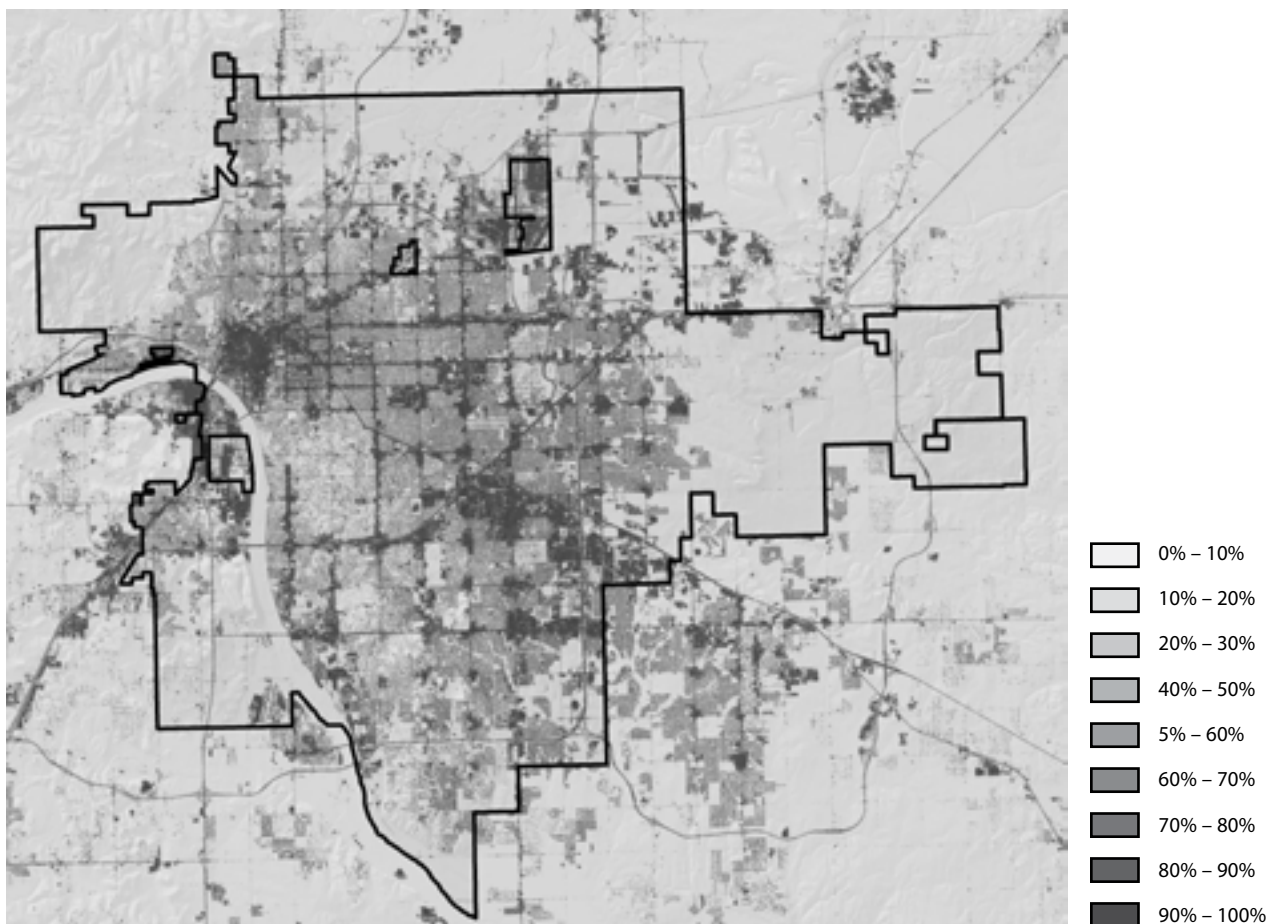
PART IV: TULSA'S GREEN INFRASTRUCTURE

River Parks

Tulsans enjoy access to over 800 acres of riverfront land stretching 42 miles along the Arkansas River through a public trust created by the City of Tulsa and Tulsa County called the River Parks Authority. The River Parks Authority strives to maintain, enhance and develop the Arkansas River and land adjacent to the river for the economic and cultural benefit of the community and to promote public use of all River Parks land and facilities. River Parks includes an extensive trail system that weaves together public art, family picnic areas, open lawns, a wilderness refuge at

Turkey Mountain, and community facilities such as an amphitheater and a floating stage. River Parks offers many popular recreational areas including Zink Dam and Lake, the Turkey Mountain Urban Wilderness Area, and areas for fishing and rowing. The area includes a total of 26 miles of asphalt-surfaced recreational trails that incorporate picnic areas, playgrounds, fountains, bronze wildlife sculptures, sweeping city views, and rugged hiking and equestrian trails. Through River Parks, the River Parks Authority demonstrates how public and private partnerships can successfully provide valued public services and amenities.

Figure 4: Tulsa's Impervious Surface



Source: Fregonese Associates

Turkey Mountain Urban Wilderness Area

The Turkey Mountain Urban Wilderness Area which is managed by the River Parks Authority, includes hundreds of acres of undeveloped property along west bank of the Arkansas River. At an elevation far above the river, this area offers spectacular views of the city as well as access to the river, oak forests, two large ponds, migratory bird viewing, and hiking, mountain biking, and horseback riding trails. The area supports many migratory birds including warblers, tanager, grosbeak, flycatcher, and other residents such as screech owls and woodpeckers. Turkey Mountain is a treasured escape from city life into wilderness.

Pedestrian and Bicycle Trails

The Tulsa area residents enjoy an interconnected system of bicycle and pedestrian trails maintained by several different entities including the City of Tulsa's Parks Department, Public Works Department, River Parks Authority, Broken Arrow Parks, Tulsa County Parks, Jenks Parks Department, the Town of Skiatook, and the City of Sand Springs. The city offers many north-south bike routes. The key trail corridors include the Riverparks Trails from 11th Street to 101st Street (east bank) and from Southwest Boulevard to Turkey Mountain (west bank area); the Mingo Trail, the Osage trail and the Creek Turnpike Trail. The Tulsa Trails are part of a 283-mile planned trail system envisioned in the Regional Trails Master Plan. The current system of trails provides a solid foundation from which to expand and connect to underserved parts of the city and create a larger and more interconnected system to support bicycle and pedestrian travel and recreation throughout the region and the inner city. In particular, the east and northeast parts of the city have limited bike and pedestrian trails and should be the focus of future trail development, acquisition, and expansion.

River Parks and bike and pedestrian trails provide recreational and transportation options for many Tulsans.



Parks, Trails and Open Space

Part V: Tulsa Parks, Trails, and Open Space

Arkansas River Corridor Master Plan

The Indian Nations Council of Governments (INCOG) completed the Arkansas River Master Plan in 2005 to develop a “multi-purpose, conceptual, comprehensive Arkansas River Corridor Plan that addresses flood damage reduction, ecosystem restoration and economic development opportunities consistent with the communities overall vision for growth and development.”⁴ The plan identifies ways to create a meaningful connection between the riverfront and surrounding communities. The plan examined economic, physical, environmental, ecological, and legal constraints and identified opportunities to achieve the “highest and best” use of the river land through projects like low water dams, an expanded trail system, ecosystem restoration, bridge construction, and the selection of development opportunity areas. The Army Corps of Engineers will use the plan as a framework to work with public agencies and other groups to implement projects. In general, the Arkansas River Corridor Vision and Master Plan reflect the same underlying values identified during the PLANiTULSA process: connecting people with nature and expanding opportunities for living, working, and recreation.

Tulsa’s Comprehensive Plan has been designed to reflect the vision and goals of the Arkansas River Corridor Master Plan. Plan categories and zoning designations along the riverfront should be applied in a manner that supports the concepts detailed in the Master Plan.

City of Tulsa Parks Master Plan

Concurrent with the update of the Tulsa Comprehensive Plan, the City of Tulsa developed a new Parks Master Plan in 2009. The Tulsa Parks Master Plan provides a clear direction for the park system and establishes goals and strategies to pursue in the future. The Tulsa Parks Master Plan has been directly integrated into the goals, strategies, and actions outlined in Part VI of this chapter.

During the parks master planning process, the City of Tulsa learned it has a well-distributed system of parks and recreation facilities that serve a wide range of needs. Although the parks service area is vast and spread out, most communities have good access to parks. An inventory of park land determined that,

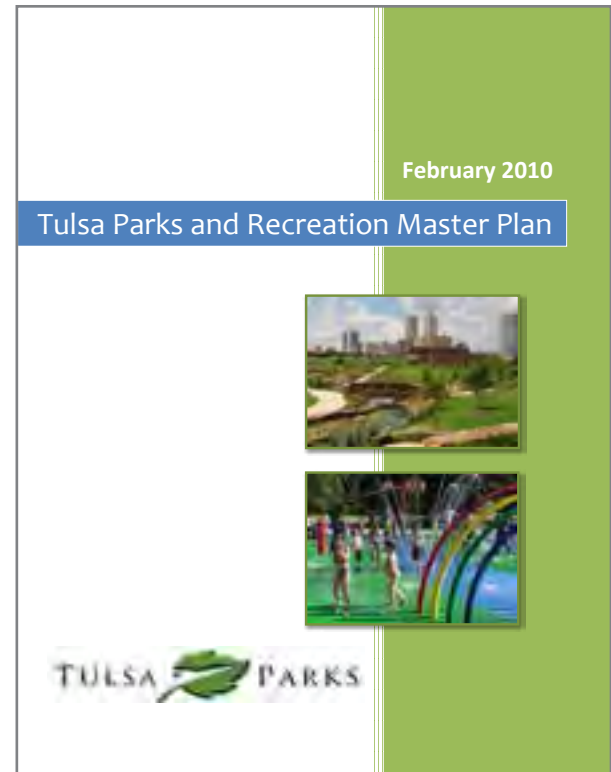
⁴ The Guernsey Team, *Final Arkansas River Corridor Phase II Master Plan and Pre-Reconnaissance Study*, presented to the Army Corps of Engineers, October 2005.

with 22 acres of park land per 1000 persons (8,321 acres of total park area), the city determined that it provides an adequate amount of park land for a mid-sized city with a low population density. The City recognizes gaps on a small scale where additional park land could augment the quality of life in certain areas, but all developed areas of the city do have access to some type of park land.⁵

Instead, the city will focus on the quality and spatial distribution of services and amenities that park lands provide to patrons in areas throughout the city. Many community facilities such as swimming pools or playgrounds, are aging, and in need of repair. Similarly, the condition of many Tulsa parks, which were either built or dedicated during the same time period — many in the 1960's — warrants replacement, refurbishment, or repurposing.⁶

Tulsa's parks system recognizes the need to adapt and respond to the changing needs, lifestyles, and desired activities of the region's population. Parks patrons in various age groups have expressed interest in new activities such as rock climbing, skateboarding, and yoga, and expanded activities for seniors, if such programs were available through community centers and parks. The city should conduct an organized inventory and evaluation of existing park facilities to determine which facilities could use maintenance, repair, and upgrading, and which warrant replacement. From this comprehensive survey, the City can then establish a priority-based system for repairs and replacements.

Figure 5: Tulsa Parks Master Plan



Source: City of Tulsa

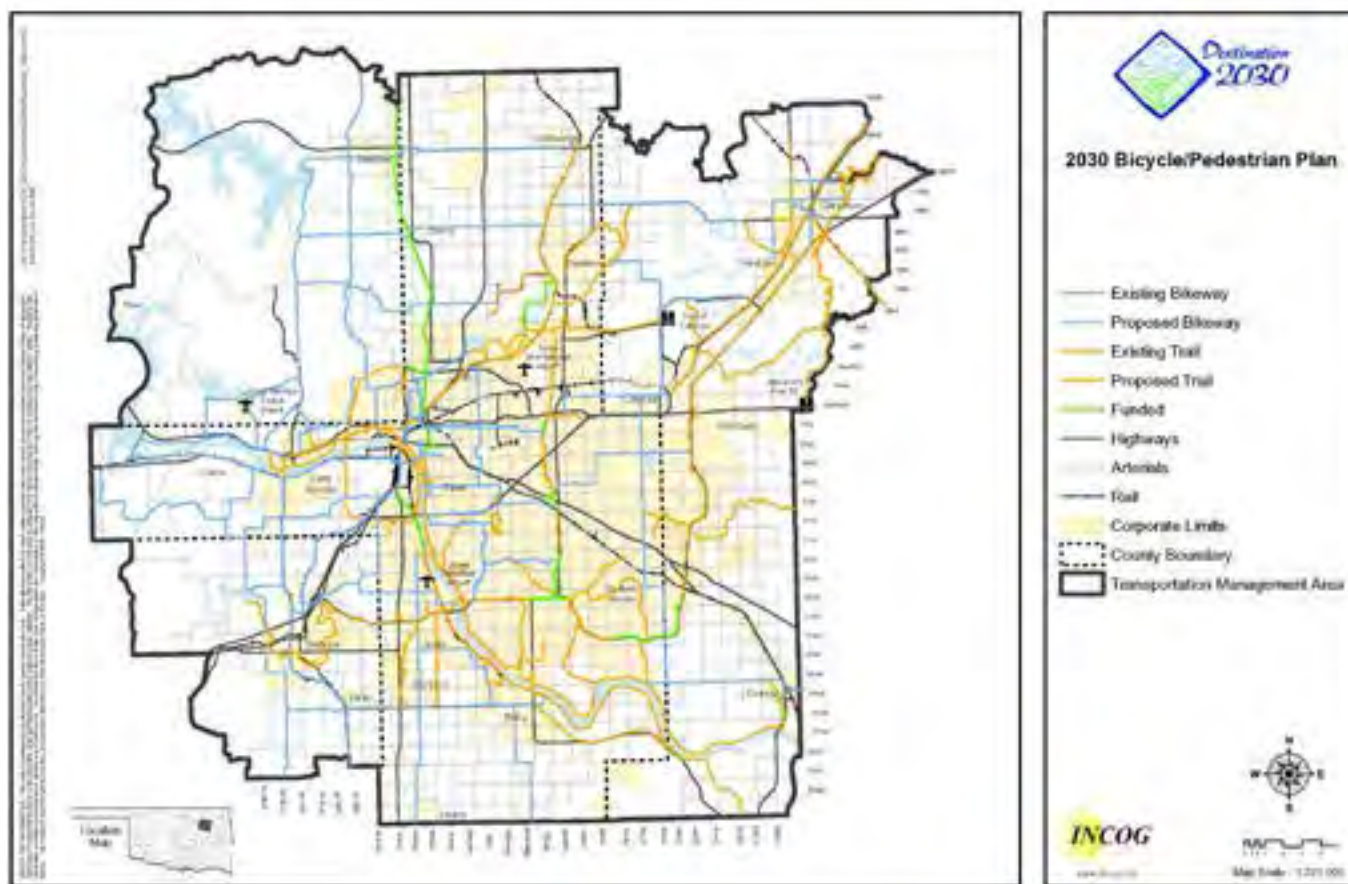
⁵ City of Tulsa Parks Department, *Parks Master Plan*

⁶ *Ibid.*

Destination 2030 Bicycle/Pedestrian Plan

INCOG developed the Destination 2030 Long Range Transportation Plan (LRTP), which anticipates transportation needs for 25 years into the future. The plan's geographic extent includes the 1,200 square miles of the Tulsa Transportation Management Area comprising Tulsa County, portions of Creek, Osage, Rogers, and Wagoner counties and cities within the region, including Tulsa. The LRTP includes a series of planned bikeways and trails for 2030 that will be pursued cooperatively by the city, county, and INCOG.

Figure 6: INCOG 2030 Bicycle/Pedestrian Plan Map



Source: INCOG

Guiding Principles for Parks, Trails and Open Space

Capturing these hopes, dreams and aspirations for Tulsa's future is essential as we move forward in making our future vision a reality. The Citizens' Team, a diverse group of volunteers, developed the following guiding principles. These principles serve as the foundation for future planning efforts, and will ensure that the comprehensive plan remains consistent with the vision.

- Residents have easy access to parks and natural areas.
- City parks provide open space, available to each neighborhood, with access to fields, natural areas and greenways for outdoor relaxation and recreation.
- Schools are safe, easy to walk to, and part of a world-class education system.
- Once adopted, city-wide and neighborhood plans are funded, implemented and monitored for performance.
- Tulsa is a cohesive city where we have the ability to create safe, healthy lives for ourselves and our families.
- The arts as well as cultural and historic resources are celebrated.
- The disparity in life expectancy between areas of the city should be eliminated by addressing access to services and public health issues.

Parks, Trails and Open Space Part VI: Priorities, Goals

This section is organized into priorities, goals and policies that if followed will move Tulsa towards the community's vision.

Priorities are the big idea topical areas that address the guiding principles. They capture big picture changes that must occur to implement the plan.

Goals establish specific, measurable, attainable and realistic objectives that guide plan implementation by ensuring that the community and stakeholders have a clear awareness of what must happen to move Tulsa toward the Vision.

Policies delineate the steps needed to achieve the goals.

IMPLEMENTATION & ACTION PLAN:

*In addition to **priorities, goals and policies**, the Plan recommends the **Strategic Actions** that should be taken in the first 3 to 5 years following plan adoption. These strategic actions are found in the Implementation and Action plan.*

Parks, Trails and Open Space Priorities

Parks, trails, and open space-related land use decisions should focus on ensuring that Tulsans live within walking or biking distance of a quality neighborhood park and that Tulsa's natural environment be integrated into the fabric of the city. Our Vision for Tulsa provides an overview of the top environmental priorities, and this section includes detailed priorities, goals and policies that strengthen the Vision's parks, trails, and open space objectives.

PRIORITY 1

Ensure a Clean and Healthy Arkansas River

Goal 1—

Stormwater is captured and cleaned through landscape design, downspout disconnection, and other environmentally-friendly techniques. Policies to support this goal include:

- 1.1 Partner with businesses, city departments, and property owners to implement innovative stormwater solutions as demonstration projects. These projects can demonstrate creative approaches to stormwater management at highly constrained sites, showcase creative design, and provide much needed additional capacity for the City's sewer system.
- 1.2 Address pollution at its source through innovative waste reduction and source control measures.
- 1.3 Implement a program to implement green infrastructure improvements, starting with problematic streets that contribute the most runoff volume and pollutants to the stormwater system.
- 1.4 Conduct an evaluation of upland sources of contamination to the City stormwater conveyance system. The evaluation should lead to identification of parties responsible for contamination. The City should work with these parties to prevent future recontamination.
- 1.5 Identify areas critical for regional groundwater recharge and consider the use of overlay zoning to limit the types of uses and activities, as well as require better treatment of stormwater in these areas.
- 1.6 Continue to work closely with the Indian Nations Council of Government (INCOG) to implement new standards for Integrated Storm Water Quality Management (ISWM).
- 1.7 Provide leadership to other governments within the region by adopting new stormwater standards that adequately mitigate the potential impact of new development on existing development, the stormwater system and on the natural environment.

- 1.8 Develop regulations and stormwater management standards for alternative methods of development that retain natural site drainage and reduce impervious (pavement) coverage. Standards will address stormwater quality treatment and stormwater conveyance/detention.
- 1.9 Develop landscaping standards to appropriately manage run-off created by impervious surfaces.
- 1.10 Establish standards to limit the amount of impervious surface that can result from development activity, as part of a comprehensive stormwater management strategy. Such standards should consider the range of conditions that might be relevant in denser, redevelopment areas as well new development areas.
- 1.11 Promote low impact development strategies and designs as a way to manage stormwater runoff, including techniques such as vegetated swales, biofilters, eco-roofs, green streets, pervious pavement and other methods that mimic natural processes.
- 1.12 Consider shared parking and other parking reduction strategies to more effectively minimize paved areas.
- 1.13 Develop alternative street designs and standards which allow for narrower streets and associated infrastructure, resulting in less pavement.
- 1.14 Develop alternative street designs and standards that allow for greater filtration and more appropriate stormwater conveyance.

Goal 2—

Non-point pollution is reduced through low impact development principles, creative building practices, and smart site design that can retain and treat stormwater generated on-site. Policies to support this goal include:

- 2.1 Recognize the relationship between upland watershed conditions and river and stream health when planning and designing development.
- 2.2 Transform redevelopment and infrastructure projects into opportunities to improve watershed conditions through creative building and site design and use of innovative materials and techniques.
- 2.3 Through education, incentives, and regulation, promote low impact development principles that emulate natural water flow, minimize land disturbance, and incorporate natural landscape features into the built environment.
- 2.4 Promote the use of alternative landscaping that is native or climate tolerant and erosion resistant.
- 2.5 Through education and outreach, promote the use of and where feasible require non-phosphorus fertilizer and other environmentally safe lawn products in buffer areas, along riparian corridors and in floodplains.
- 2.6 Limit the use of pesticides and harmful herbicides in natural areas and open space managed or maintained by the City of Tulsa.

PRIORITY 2

Strengthen Connections to the Arkansas River

Goal 3—

Maintain a strong connection between the city and the Arkansas River. Policies to support this goal include:

- 3.1 Support implementation of the Arkansas River Corridor Master Plan to establish better connections with the riverfront area.
- 3.2 Expand, maintain, and enhance an interconnected system of parks, trails, and open spaces along the Arkansas River and nearby watersheds.
- 3.3 Provide ample, safe connections for pedestrians and bicyclists between neighborhoods and the water's edge.
- 3.4 Using a variety of tools over time, develop a continuous trail along both sides of the Arkansas River that complements the existing and planned riverfront uses and recognizes the vital contribution to Tulsa's economy made by industries located along the river.
- 3.5 Integrate the results of INCOG's Arkansas River Corridor Master Plan discussion into a river plan and corresponding greenway ordinances to protect public access, recreational uses and provide a natural buffer between development and the riverfront.

- 3.6 Foster partnerships among the City, public agencies, schools, community organizations, and businesses to enhance coordination of river-related efforts and maximize the impact of investments.

- 3.7 Expand public awareness of river-related issues through education and outreach, stewardship activities, and community celebrations.

- 3.8 Seek funds from other public agencies, foundations, and business sponsors to support river projects and programs.

Goal 4—

Promote the Arkansas River as a centerpiece of life in Tulsa. Policies to support this goal include:

- 4.1 Orient new development within riverfront areas towards the river.
- 4.2 Act to enhance the Arkansas River as Tulsa's centerpiece by shaping the city's urban form, industrial development, environmental health, public spaces, river communities, and neighborhoods towards the river.
- 4.3 Consider the history and special qualities of the Arkansas River when designing buildings, landscaping, streets, parks, and public art in waterfront districts.
- 4.4 Create and enhance community gathering places such as parks, residential districts, or retail districts near the Arkansas River.

- 4.5 Ensure that any future reconfiguration of major transportation thoroughfares through downtown will enable improved access between neighborhoods and the river and address the needs of freight, rail, and automobile traffic to and through downtown.
- 4.6 Develop a comprehensive plan package that includes plans for riverfront communities, a river greenway plan, design guidelines, and recommendations for natural resource restoration.

Goal 5—

Improve recreational opportunities along the Arkansas River. Policies to support this goal include:

- 5.1 Enhance non-motorized transportation connections to the riverfront.
- 5.2 Create a variety of settings to accommodate a diverse range of river-related recreational opportunities.
- 5.3 Expand opportunities for boating, fishing, and other recreational activities.
- 5.4 Incorporate public art, viewpoints, and educational displays about Tulsa's history, and natural environment into the design of the trail and open space system.
- 5.5 Conduct a study of Arkansas River water-based recreation needs and river facilities.
- 5.6 Continue to expand and support annual riverfront festivals and cultural events, music festivals, and holiday celebrations to encourage community interaction and civic pride in the waterfront.

PRIORITY 3

Increase Tulsa's Tree Canopy

Goal 6—

A healthy and diverse tree canopy is protected and restored to enhance neighborhood livability, provide habitat for wildlife, and improve air and water quality.

Policies to support this goal include:

- 6.1 Develop an Urban Forestry Master Plan to guide overall management and preservation of the tree canopy throughout the city. This plan will include a Street Tree Master Plan to guide planting trees during development and redevelopment and to designate appropriate trees for plantings along major roads and corridors.

THE STREET TREE MASTER PLAN SHOULD INCLUDE:

- A methodology to implement the Street Tree Master Plan.
- Standards for public streets, planting strip width and design.
- Potential funding sources including utility bill surcharges for planting, initial maintenance, sidewalk repair and replacement by City crews.
- Potential funding sources needed to replace damaged, dying or removed trees.
- Evaluation compliance with the Street Tree Master Plan.
- Standards for the level of development or redevelopment that would trigger compliance with the plan.

- 6.2 Determine Tulsa's baseline tree canopy coverage and establish a monitoring program to be updated regularly.
- 6.3 Set annual targets for increasing the tree canopy coverage in concert with population and development density increases.
- 6.4 Work to achieve a sustainable urban forest that contains a diverse mix of tree species and ages in order to use the forest's abilities to reduce stormwater runoff and pollution, absorb air pollutants, provide wildlife habitat, absorb carbon dioxide, provide shade, stabilize soil, and increase property values. Develop a list of preferred species to guide private property owners in choosing locally appropriate trees.
- 6.5 Develop additional regulatory tools to preserve tree canopy based on an analysis of the existing tree canopy and identification of priority areas.
- 6.6 Implement tree planting requirements for new developments, including parking lots and building setback areas.
- 6.7 Develop a program to facilitate greening of streets and sidewalks by property owners in collaboration with organizations such as "Up With Trees," the local public and private school systems and private entities.

PRIORITY 4

Restore Ecological Function in Tulsa's Natural Areas

Goal 7—

Watersheds are protected and enhanced.

Policies to support this goal include:

- 7.1 Update and improve City programs to protect, conserve and restore significant natural resources and habitats as part of a comprehensive watershed management strategy including education, incentives, regulation, and technical assistance.
- 7.2 Establish ecologically viable corridors for fish and birds and other wildlife through habitat protection and restoration.
- 7.3 Avoid development in floodplains and wetlands areas.
- 7.4 Utilize best management practices such as native plant restoration, natural discharge and onsite filtration, and other innovative, dynamic solutions to restore ecological function of Tulsa's natural areas.

Goal 8—

Ecologically sensitive areas are identified and prioritized. Policies to support this goal include:

- 8.1 Update and/or create maps to clearly delineate the boundaries of sensitive areas and floodplains. Identify and map areas of potential citywide significance to minimize conflicts with development.
- 8.2 Establish a system for designating ecologically sensitive areas worthy of protection.

- 8.3 Particularly in riparian areas, establish standardized buffer widths based on resource type and adjacent topography.
- 8.4 For riparian areas, base buffer widths on water quality function and wildlife habitat needs. Establishing standardized buffers may require that precise boundaries be delineated prior to environmental review for new development, particularly in riparian areas.
- 8.5 Identify key natural landmarks and scenic views.
- 8.6 Evaluate connectivity between open spaces and natural areas.
- 8.7 Require environmental review of projects occurring within ecologically sensitive areas, with a priority of reviewing impacts on floodplains, riparian areas and areas with slopes exceeding 12 percent.
- 8.8 To minimize land condemnation, target willing sellers of properties that are vacant or otherwise available for public acquisition to increase public open space, particularly those properties within the designated buffer zone, riparian areas and floodplain. Special attention and priority will be given to those areas with low economic value unsuitable for development. In addition, evaluate the responsibility of managing newly acquired lands, the potential for restoration of these lands, and potential and need for public access. Comprehensively evaluate the multiple values of open space for wildlife habitat, recreation and trails, stormwater conveyance, and protection of scenic views.

Goal 9—

Natural and sensitive areas are protected and preserved. Policies to support this goal include:

- 9.1 Establish sensitive area criteria; use criteria to establish areas of conservation.
- 9.2 Prioritize programs to protect key resources by obtaining and maintaining a comprehensive data base.
- 9.3 Establish a system to designate specific areas as ecologically sensitive and worthy of protection.
- 9.4 Establish buffer zones and protection areas around key ecologically sensitive areas to prevent future development within those boundaries except for recreational facilities.
- 9.5 Particularly in riparian areas, establish minimum buffer widths based on resource type and adjacent topography. For riparian areas, buffer widths should be based on water quality function and wildlife habitat needs.

Goal 10—

Sensitive areas are protected by regulating development on affected sites. Policies to support this goal include:

- 10.1 In areas of growth, continue to conduct watershed-wide master drainage planning consistent with the citywide drainage master plan and in coordination with the small area planning process.
- 10.2 Preserve undeveloped floodplain areas for stormwater conveyance.
- 10.3 Investigate compensation programs or zoning measures to allow transfer of development rights from environmentally constrained areas to unconstrained areas.

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- 10.4 Continue to update and use best management practices for development within or near floodplain and watershed areas.

GOAL 11—

Open space is protected.

Policies to support this goal include:

- 11.1 Develop a comprehensive strategy for open space protection to include such as tools as greenbelts, open space zoning, conservation easements and density transfers to restrict urban development in environmentally sensitive areas.
- 11.2 Evaluate the potential effectiveness of methods to regulate development in environmentally sensitive areas to protect the ecology and to prevent incompatible development.
- 11.3 Restrict development within the floodplain. Where alternatives are not feasible, require balanced cut and fill to prevent loss of flood storage capacity and appropriate mitigation to prevent loss of ecological values.

PRIORITY 5

Improve Access and Quality of Parks and Open Space

GOAL 12—

Neighborhoods have adequate access to parks and open space areas. Policies to support this goal include:

- 12.1 Work with other government agencies and community partners to improve walkable access to parks and recreation opportunities throughout Tulsa.

- 12.2 Make parks desirable destinations for walking by providing comfort and convenience facilities, especially restrooms and drinking fountains, wherever possible and feasible.
- 12.3 Partner with schools, libraries and other public places to provide amenities close to homes.
- 12.4 Look for opportunities for trails in areas that currently have few or none and connect these areas to existing trails.
- 12.5 Provide trails and loop walks within existing parks.
- 12.6 Develop partnerships with utility companies for trail corridors.
- 12.7 Work with public agencies and community groups to ensure safe pedestrian corridors.
- 12.8 Provide trail links to specific destinations like schools.
- 12.9 Add and improve sidewalks through a sidewalk improvement program; prioritize areas based on adjacency to schools and community centers.
- 12.10 Connect existing undeveloped areas in parks with developed park areas.
- 12.11 Convert parts of exiting parks to more natural conditions, where feasible.
- 12.12 Create a series of Local Destination Parks throughout Tulsa.

- 12.13 Achieve appropriate levels of parks services for all parts of Tulsa.
- 12.14 Maintain existing facilities as appropriate.
- 12.15 Provide additional components in areas with relatively low levels of service.
- 12.16 Provide new parks and components as warranted by population growth and changing demographics.

Goal 13—

Partnerships and collaborative efforts support the management and provision of parks and open space. Policies to support this goal include:

- 13.1 Strategically increase partnerships and collaborative efforts.
- 13.2 Investigate partnerships with medical and health organizations.
- 13.3 Create new and formalize existing partnerships with equity agreements.
- 13.4 Strengthen intergovernmental agreements with schools.
- 13.5 Consider an “adopt-a-park” program by civic organizations and school groups to help with park maintenance, beautification and civic pride.
- 13.6 Explore neighborhood work days to promote community caretaking of city parks.
- 13.7 Explore murals of historic significance on park facilities.
- 13.8 Explore implementation of a “workcreation” program for children to participate in the maintenance of park facilities by completing simple tasks in place of paying admission fees.
- 13.9 Create a “Park Ambassador” program where residents living adjacent to parks are trained to perform regular inspections in exchange for a small stipend or free park admission, contributing to park oversight and cultivating neighborhood investment.
- 13.10 Maximize and manage potential partnerships and alliances with public and private schools, neighborhood organizations, foundations, and volunteers.

Goal 14—

Parks and recreational facilities are updated to address changing needs and desires. Policies to support this goal include:

- 14.1 Add comfort and convenience features to parks.
- 14.2 Identify park components that need to be updated or replaced and develop a schedule, budget and methodology to complete improvements.
- 14.3 Evaluate existing pools to determine those that are functional, need repairs or should be decommissioned and removed. Formulate plan to take appropriate action for each pool.
- 14.4 Identify parks throughout the City for upgrade and develop an action plan to accomplish upgrades.

Parks, Trails and Open Space

PART VI: GOALS, PRIORITIES AND POLICIES

- 14.5 Use design charrettes to develop concepts for each park, reflecting the character and context of each facility's unique surroundings.
- 14.6 Involve the community in the creation and design of local destination parks to reflect the community's history and diversity.
- 14.7 Coordinate Parks and Recreation Department's existing and future Capital Improvement Program (CIP) projects with City's Finance and Public Works Departments Programs.
- 14.8 Work to ensure inclusion of parks projects within the City's CIP at appropriate levels.
- 15.3 Evaluate and manage existing partnerships to ensure benefit is appropriate to the city's expenditures.
- 15.4 Analyze existing partnerships based upon value to the city.
- 15.5 Maximize recreation program management.
- 15.6 Establish service objectives and a system to measure the needs and effectiveness of programs and activities. Use this system to:
 - Conduct standard and consistent evaluations for recreational programs and activities.
 - Conduct program life cycle analyses.
 - Develop new programs or expansions in top priority areas.
 - Develop procedures and policies to track program participation.
- 15.7 Create and implement cost recovery policies.
- 15.8 Create Task Force for strategic planning, finance, and development.
- 15.9 Pursue alternative funding sources to implement the plan.

PRIORITY 6

Improve Parks and Open Space Management

GOAL 15—

Planning and development of parks and trails is coordinated with the Comprehensive Plan and Parks Master Plan. Policies to support this goal include:

- 15.1 Consider combining the existing City Parks and Recreation Department with the River Parks Authority and the Tulsa County Parks Department.
- 15.2 Appoint a task force to fully explore the programmatic advantages, financial benefits, and resource savings associated with combining the Park entities.

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Appendix

Land Use Small Area Planning

What Is a Small Area Plan?

A small area plan is any plan that addresses the issues of a portion of the city. Small area plans can cover as little as 10 acres or even thousands. The advantage of a small area plan is its ability to engage issues and people at an intimate scale. The result can be a richly detailed plan that addresses the area's unique issues with tailored solutions.

Small planning areas usually have a cohesive set of characteristics, such as an existing or future corridor, center, or other element. Accordingly, small area plans should be used in areas of growth and transition areas, focusing resources where change is anticipated and desired. The Small Area Planning process is designed to generate widespread stakeholder consensus that will lead to efficient adoption and implementation of the plan.

The small area planning process is designed to minimize the need for excessive hearings and review of projects. Small area plans, ideally, are developed by property owners and area stakeholders then implemented through zoning changes that allow the kinds of development described in PLANiTULSA.

A citizen advisory committee, who helps guide the process, is a group of informed citizen stakeholders including, but not limited to — landowners, residents, business owners, architects, developers, and builders who have an interest in the area. This advisory committee should represent a full range of interests who meet on a regular basis to critically review analysis and products at each step of plan formation.

Prior to the PLANiTULSA comprehensive plan update, INCOG and Tulsa's Planning Department began working with selected communities to create neighborhood plans. The small area and neighborhood planning process will be an important implementation element of the comprehensive plan. To ensure consistency between these plans and overarching city goals, this section lays out a process for how to conduct small area plans and use their results to direct zoning, infrastructure, and other implementation elements.

Where Should Small Area Planning Take Place?

The small area planning process should be used in areas where significant change is expected and the development in question would be at the scale of a new neighborhood and include many landowners. For example, when there is a proposal to extend utilities and infrastructure to an undeveloped area that will support a large number of new households or jobs, a small area plan should be used to guide that development. Small area plans may be conducted in Areas of Stability, but the time and resources are better put to use in Areas of Growth.

Small area plans need not be used for more routine planning actions, such as developments or subdivisions of land under single ownership. In these instances, a subdivision, zone change, PUD or other process under the zoning code is sufficient. However, individual landowners of large tracts may elect to do a small area plan if they choose.

Another instance where this process should be used is in already-developed areas where new growth or redevelopment is expected, such as neighborhoods along a corridor that will receive significant transit investment.

Small Area Planning Process

The following are the major steps in the standardized planning process.

STEP 1

Define Boundary

The first step is to identify a study area boundary. The area should be broad enough to cover the area under study without being so broad as to dilute the focus.

STEP 2

Community Participation

The next step is developing an appropriate and effective community participation strategy for the plan. Selections from a variety of participation methods should be used to form a basic strategy that aims to: inform a broad variety of citizens, provide ample opportunities for interested citizens to give their feedback to the process, and give more active citizens an opportunity to directly interact in the process. Some methods for citizen participation are described here. Depending on the size and complexity, several of these methods may be used for one planning effort.

Citizen Advisory Committee

A citizen advisory committee is a group of informed citizen stakeholders including but not limited to landowners, residents, business owners, architects, developers, and builders who have an interest in the area. This advisory committee should represent a full range of interests and meet on a regular basis to critically review analysis and products at each step of plan formation.

These citizen committees are useful as a sounding board for new ideas, to ensure that plan content reflects the values of stakeholders in the area, and as a creative force to develop innovative ideas for the small area.

Charrette or Workshop

An effective participation technique is a charrette or public input workshop, events in which participants actively design a future for the area using maps, aerial photographs, and drawings. For example, participants may identify how they would like to see land uses change, identify landmarks and historic sites to be preserved, decide where additional growth should go, use the Context Sensitive Solutions methodology to define preferred street typologies, and identify key public improvements to enhance the area.

Strengths, Weaknesses, Opportunities and Threats Analysis

SWOT (strengths, weaknesses, opportunities and threats) Analysis is an effective participation method to engage the ideas of many people on an equal basis. The results can be used throughout the process to generate a vision statement, check identified issues, and ascertain that implementation covers the identified needs. It can also help to focus planning efforts on those issues that are having the greatest impact on the area.

Finally, organizing the resulting strengths, weaknesses, opportunities, and threats by topic is useful throughout the planning process. Within the plan document, the appropriate comprehensive plan subject should organize the results of the SWOT analysis.

Newsletters, Often Including Surveys

Periodic newsletters can be delivered through the mail to inform a broader constituency. An early newsletter may contain a response survey. In some cases such

newsletters can be distributed effectively through the internet, which also provides a medium for public response and comment.

Open Houses

Open houses are a good way to inform citizens by giving them opportunities to interact with planners and stakeholders. Open houses also help foster a sense of community in a neighborhood, district, or along a corridor to further galvanize support for the planning process.

STEP 3

Assessment — Inventory and Analysis

In this step, technical analysis of the plan is completed. Each plan should address the following issues as they apply to the study area.

Environmental Features

Determine the location of environmentally sensitive and constraining lands based on maps and information from a variety of sources that show locations of environmentally sensitive areas such as flood plains, wetlands, and brownfield sites.

Land Use

Identify the existing land uses and recent development trends in the area. This analysis should include air photos and field surveys. Each small area plan should review and address the growth concepts in *Our Vision for Tulsa* and the land use and street designations in and the Comprehensive Plan. In addition, each plan should examine the boundaries of the Areas of Stability and Areas of Growth.

THE STEPS ARE:

1. Refine the land use Plan Map by updating and correcting the boundaries of the land use typologies and other geographic errors
2. Refine boundaries of the areas of stability
3. Refine boundaries of the areas of growth
4. Compare current zoning with the refined map

Transportation

Gather and review the following transportation planning items:

1. Functional classification of streets
2. Street design typologies from the Comprehensive and Transportation Plan Maps
3. Transit routes and frequency of service
4. Bike routes
5. Pedestrian connections, especially related to destinations
6. Planned transportation improvements
7. On-street and off-street parking capacity, especially in retail or employment areas

Legacies

Legacies have three primary components — historic preservation, urban design, and parks and open space. Define existing historic structures, historic districts and design review districts.

1. Identify additional structures and buildings, not historically designated, that may have historic significance
2. Identify urban design characteristics to be respected and enhanced
3. Map parks, parkways, open spaces

Housing

Providing diverse housing options is one of the primary goals of Tulsa's vision and comprehensive plan. Each small area plan should:

1. Identify housing characteristics, including predominant architectural styles and housing types. Types of housing include single-family residential, townhouses, duplexes to four-plexes, apartments and condominiums.
2. Identify housing trends including recent development activity and sales and rental prices. This is useful in unearthing threats and opportunities to the desired vision of the area. Census data and permit data can be used to determine the numbers and types of housing recently built, indications of what will be built in the future.

Economic Development

In many areas of the city, maintaining and creating jobs is an important goal. Each small area plan should:

1. Define and characterize business or employment areas
2. Identify other economic generators

Neighborhoods

Neighborhoods are the building block of Tulsa's residential community. For neighborhood plans in particular, it is important to evaluate the neighborhood as a unique entity as well as a part of the city. An inventory of community facilities and services should be conducted. What facilities (schools, libraries, and community centers) and services (grocery stores, shopping, gathering places) are needed in the area? Understanding future needs of a population requires identifying the demographic characteristics of the existing population, and

associated recent trends. Census data, neighborhood profiles, and capacity analysis are useful tools to do so. Arts and cultural facilities and program requirements are part of identifying neighborhood services as well.

Education (Neighborhood Plans Only)

The presence, location, and accessibility of educational facilities are key to the health of all neighborhoods in the city. Neighborhood plans should:

1. Map all schools, public and private
2. Identify additional school facilities needed in the neighborhood, as well as ways that existing schools can be better used for recreation, adult education, or other community needs. Recommendations regarding additional facilities are most persuasive if they are supported with demographic trend data.

Human Services (Neighborhood Plans Only)

Identify available human service programs and additional program needs of the existing and expected population. Again, this requires identifying the demographic characteristics of the existing population, recent trends, and coordination with the City and other agencies.

STEP 4

Vision Statement

A vision statement should answer the question: "What do we want this area to be in 10 to 20 years?" The first step in developing a vision statement is to refine the key opportunities derived from the SWOT analysis. Next, write a concise vision statement describing the area at a specific time in the future, for example 10 to 20 years in the future. The vision statement may be organized into a set of guiding principles, which are statements of values and goals

used to measure implementation recommendations of the plan in terms of how well they meet the area's vision, how well they build upon the key opportunities, and how well they address the key threats of the area.

STEP 5

Civic Responsibilities and Citywide Context

An important tenet of small area planning is that neighborhoods must not solve their problems at the expense of adjacent districts or neighborhoods or the city as a whole. Accordingly, each neighborhood can creatively plan for their share of expected growth, but a plan that deflects growth to adjacent neighborhoods outside the subject area is inappropriate.

In addition, each small area plan should address a set of civic responsibilities that, if addressed, will improve the livability of the city as a whole. An example of civic responsibility would be the provision within each neighborhood of a variety of housing types necessary to accommodate people of different ages and income levels. By addressing this responsibility, Tulsa can be an accessible place for many different types of individuals and families. Small area plans should follow the Guiding Principles developed during the PLANiTULSA process to ensure they reflect citywide priorities.

STEP 6

Plan Recommendations

Each recommendation should be tied to an issue that defines the problem and a goal that defines the desired outcome. The recommendation is a concise statement about what should be done to solve the problem. Plan recommendations should be organized by goal or issue, which may or may not correspond to the assessment topics.

Once the recommendations are complete, standard tools can be applied to create an implementation program. The tools fall into three categories — regulatory, public investment or partnership. Some recommendations may need only tools from one category; however, more complex recommendations may use tools from all three categories.

Initiating a Small Area Planning Process

Small area planning is a partnership between the city and its constituents — residents, businesses, institutions, and other government entities. None of these entities alone can develop an effective plan. As there likely will be demand for more planning than the city has resources, it is essential to use consistent criteria to evaluate and prioritize requests for small area plans.

PLANiTULSA's Strategic Implementation Plan outlines a number of criteria to establish priorities for small area planning:

- Key catalytic projects identified in the Strategic Implementation Plan
- Evidence of disinvestment: deteriorating housing, and high vacancy, unemployment and poverty rates.
- A great amount of change is evident or anticipated.
- Needs for public facilities and /or physical improvements.
- Opportunities for infill or redevelopment
- Opportunities to influence site selection, development or major expansion of a single, large activity generator
- Opportunity for development in conjunction with transit enhancements.

The Planning Director with assistance from the Planning Commission will evaluate neighborhoods, corridors, and districts using these criteria and establish priorities. The Planning Director will allocate available resources and establish a time frame for initiating a project. Like-minded organizations may be able to supplement city resources by assisting with public involvement and participation in the planning process.

Required Format

For ease of administration, each small area plan should follow the same basic format, which is reflected in the content described above. Within this basic format, flexibility is allowed as long as the minimum content outlined in this chapter is addressed.

In addition to the basic order, and minimum content, each plan should:

1. Utilize standardized tools
2. Summarize recommendations
3. Determine priorities among the recommendations

Tools For Small Area Plans

Land use and transportation conclusions in the plan should use standard tools contained in Tulsa's Redevelopment Toolkit. If a new tool is needed, it will be developed for use in other neighborhoods as well. The use of standardized tools keeps the administrative burden on the City within a reasonable level, and enables recommendations to be more quickly drafted and implemented.

Regulatory Tools

Regulatory tools can be implemented to shape, encourage and discourage future land use changes.

Zoning options include:

- Keep zoning as is
- Amend language in code
- Rezone to new district
- Apply basic overlay zones — e.g. transit or parking district overlay
- Prepare a specific overlay zone district — in the form of additional or modified design standards, land use standards or development standards of the underlying base zone. Additions, modifications, and limitations should utilize the standardized format and content of the revised Tulsa zoning code.

DESIGN REVIEW

Design tools that may be used are included below. These tools supplement objective design standards applied through zoning.

- Recommend areas for administrative formal design review. This is accomplished through a specific overlay zone, with clear and objective design standards. Administrative design review is either ministerial, with zoning counter approval or administrative, with zoning administrator review and approval. Where possible, use standards that are already adopted, or standards similar to those already adopted in the Revised Zoning Code.
- Recommend areas for formal design review by a review board. This is also accomplished through a specific overlay zone with design guidelines. As this tool involves inherent expense and delay, it should be reserved for special issues, with costs to be borne by the district.

ZONING

HISTORIC DISTRICT

If all other design tools are insufficient and the vicinity has historical significance, an historic district may be recommended.

PUBLIC INVESTMENT TOOLS

Public investments in an area have an immediate impact and are not subject to market conditions and private decisions. However, they are subject to a competitive budgetary process. Neighborhoods should prioritize desired investments based on a cost-benefit analysis to ensure that the most beneficial investments are addressed earliest.

TRANSPORTATION

Transportation investments include:

- Street improvements including storm drainage
- Medians
- Shared parking districts
- Transit improvements
 - o New bus routes
 - o Improved bus service
 - o Streetcars
 - o Fixed-route buses
 - o Rail Transit
 - o Local circulator buses
 - o Additional transit stops
 - o Improvements to transit stops
- Bike lanes, routes, paths
- Sidewalk improvements
- Priority signals for pedestrians, bikes and transit
- Neighborhood traffic management
- Traffic enforcement
- Street trees/detached walks
- Street furniture

PARKS

Parks investments include:

- Green streets—beautified pedestrian connections between parks
- Parks
- Open spaces
- Plazas

FACILITIES

Some neighborhoods need key civic facilities such as:

- Recreational centers
- Libraries
- Ball fields

PARTNERSHIPS

In the absence of a strong private development market that is able to produce positive change without public money, partnerships can be formed between public and private partners. In areas of change, a partnership can help galvanize additional private investment by changing market perceptions. In areas of stability, partnerships can be useful tools in developing affordable housing or in beautifying a business district.

Examples of investments that can be accomplished through partnerships include:

- Shared parking lots or structures
- Business Improvement Districts
- Tax Increment Financing (TIF) districts
- Brownfield mitigation
- Affordable housing
- Land assemblage
- Business recruitment
- Façade improvement loans
- Business incubator
- Pilot projects
- Financial assistance (loans, grants, rebates).

Implementation of Small Area Plans into Citywide Policies and Priorities

Plan Adoption

Because of the importance of small area plans in directing future resource allocation, adoption involves thorough evaluation, as well as formal action.

1. A completed plan draft is formally submitted to the Planning Director.
2. The Planning Director directs a multi-agency technical review committee to evaluate the plan format, contents, and process. The committee recommends changes as needed. The recommended changes, if any, are reviewed by the entity that drafted the plan and then a revised plan is submitted.
3. The Planning Director transmits the revised plan to the Planning Commission for a work session to review the contents, committee recommendations, and compatibility with *Our Vision for Tulsa* and the Comprehensive Plan.
4. The Planning Commission conducts a public hearing and adopts the plan based on the review committee's findings and public testimony.
5. The City Council approves the plan as a supplement to the Comprehensive Plan.

The adopted plan is put into digital format and published electronically. Limited numbers of printed copies will be available.

City Commits to Implement Conforming Plans

Plans that are adopted by TMAPC and approved by City Council as policy must be in conformance with the Comprehensive Plan. Small area plans benefit from this arrangement because the city, upon approval, commits to implement the policy aspects of the

plan into city regulations. Also, the city commits to address the programmatic aspects of the plan subject to competitive budget processes where requests are considered relative to the importance of other city budget requests.

After adoption and approval, the neighborhood plan should include a process to periodically review and update the implementation of its recommendations into city policies and investments.

Evaluation of Plan

Plan implementation and investment will be guided in part by criteria that evaluate effectiveness. Plans will employ measures of success that demonstrate the quantity and quality of both effort and outcome. Using standardized sets of relevant benchmarks for forecasting and tracking improving conditions will ensure that decisions are cost effective and sustainable. The Outcomes and Indicators developed for this purpose will form the basis of the PLANiTULSA Monitoring Plan.

Summary of Priorities

1. Small area plans must be in agreement with *Our Vision for Tulsa* and the Comprehensive Plan prior to adoption by TMAPC and approval by City Council. If the small area plan complies, it may be adopted forthwith. If the small area plan conflicts with them, it must be reconciled, either through amendment to the small area plan or the Comprehensive Plan.
2. The city shall establish a standardized process for small area plans.
3. The city shall establish a standardized format for small area plan documents.
4. The city shall establish a standardized set of tools to implement small area plans. Programmatic elements should be prioritized within the plan

document.

5. Small area plans must address a minimum set of civic responsibilities as defined by the city. Civic responsibilities should include at a minimum housing diversity and transportation system integrity.
6. The city shall commit to implement small area plans that are in agreement with *Our Vision for Tulsa* and the Comprehensive Plan.
7. Programmatic elements will be subject to the city's competitive budget process. The city shall utilize objective benchmarks to help determine spending priorities.
8. Existing small area plans remain in effect, but shall be reviewed for effectiveness of implementation, and new plans and updates shall meet the requirements of the Comprehensive Plan.

Appendix

Transportation I

Context-Sensitive Solutions and Design

Context sensitive solutions (CSS) is a collaborative, interdisciplinary approach that involves all stakeholders to develop a transportation facility that fits its physical setting and preserves scenic, aesthetic, historic and environmental resources, while maintaining safety and mobility. CSS is an approach that considers the total context within which a transportation improvement project will exist.

~ Federal Highway Administration (FHWA)

Common planning and design standards for transportation are established at a national level for construction and maintenance of a safe and efficient transportation system that is predictable and uniform across an interconnected and interdependent conglomeration of states, regions, and municipalities. These guidelines are based on “best practices” that are continually progressing from theoretical and empirical research. Federal transportation policy for the development and application of design standards is a reflection of need from a host of governmental units, advisory groups, and constituencies through a federal legislative process.

Historically, planning and design standards were formed from theories of economics, demographics, community development, and engineering theory and application. More recently these standards have been questioned as to their influence on urban sprawl, dysfunctional and disconnected communities, air quality and the overall relationship to skyrocketing energy consumption.

These sustainability-based initiatives have formed a powerful block of public interest. Smart Growth, Complete Streets, Transit Oriented Development (TOD), New Urbanism, Walkable Communities, Safe Routes to School, and Context Sensitive Solutions are interrelated concepts. They have positively influenced the form, policy, and expenditures associated with recent Federal Transportation Acts and the related missions of both the Federal Highway Administration (FHWA) and Federal Transit Administration (FTA).

In 2009, the American Association of State Transportation Officials (AASHTO) released guidance to context sensitive design as a set of alternative roadway design standards. The current governing AASHTO standards, often cited as limiting creative community based transportation system development, are now being supplemented by concepts outlined in *Designing Walkable Urban Thoroughfares: A Context Sensitive Approach*, prepared by the Institute of Transportation Engineers (ITE) under the sponsorship of the Congress for New Urbanism (CNU), FHWA and EPA.

Guided by professionals in transportation planning, design and engineering with guidance CNU founders, the landmark ITE publication’s recommendations have formed the connection between transportation and land use. To define best practices for this publication, the knowledge base of this team was augmented with research and observation of the European placemaking experience of communities within the Netherlands, Great Britain, and Denmark, as well as case studies of several American cities, including San Francisco, Seattle, Portland, and Boulder, and even Chicago and

Table 1: Conventional vs. CSS Approach to Transportation Design

Conventional	CSS Approach
Context:	Context:
Urban Rural	Downtown Centers Corridors New Residential Existing Residential Employment
Design criteria primarily based on:	Design criteria primarily based on:
Functional Class Design Speed Forecast Travel Demand Level of Service	Neighborhood plans/objectives Functional Class Thoroughfare Type Adjacent Land Use
	

Source: ITE

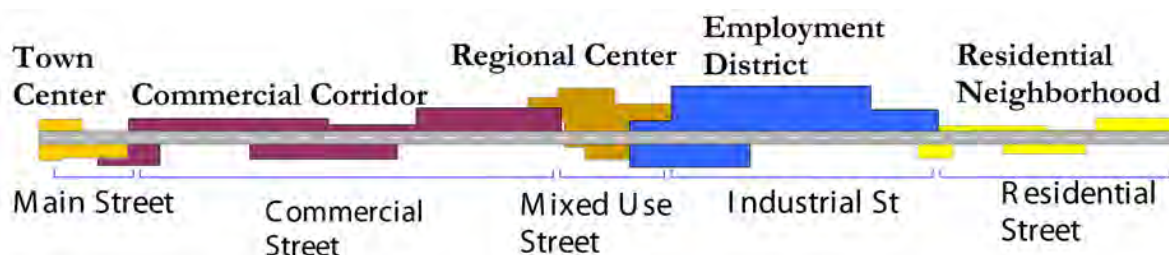
New York City, all places associated with congestion but also with urban vitality. These cities demonstrate that concepts such as traffic calming, shared and/or living streets, and pedestrian/bicycle networks integrated with modern transit systems have proven to be extremely effective for safety, quality of life, and economic development through “smart growth.”

Table 1 compares a few of the design criteria that practitioners use in street design. The conventional approach provides design guidance for essentially two contexts, rural and urban. In the conventional

approach the same design criteria is used for urban areas regardless of the intensity or type of development.

The CSS approach provides a finer grain of classification in which the design criteria may change. In addition to the urban or rural context zone, the design criteria divides land use into residential and commercial categories, which further influence the selection of design criteria. Conventional thoroughfare design is based primarily on functional class, design speed and often is governed by travel

One Size Does Not Fit All



demand and level of service criteria. In CSS these are still important criteria, but they are balanced with other context-related criteria including community objectives, thoroughfare type and the type and intensity of the adjacent land uses.

To achieve CSS, the city must recognize that flexibility in project development and design is necessary to balance safety, mobility, economic development, and environmental issues for new and redesigned urban transportation facilities. The city should institutionalize this stance by adopting the Institute of Transportation Engineers' *Designing Walkable Urban Thoroughfares: A context Sensitive Approach* and consider the following broad policy changes:

- Streets defined building-face to building-face
- High degree of land use-transportation integration
- Increased focus on arterial streets as public space
- Multi-modal capacity and quality of service
- Multi-modal access and safety
- Active right-of-way and curb-side management
- Heightened user-provider interface

Context Sensitive Street Cross Sections and Implementation Process

To achieve land use-transportation connectivity and promote neighborhood revitalization and economic growth, more flexibility is needed in roadway design and re-design. PLANiTULSA concludes that Tulsa can achieve multi-modal travel and more livable streets using its current network of streets. Creating a process to identify streets in need of re-design and addressing requests from property owners and developers for context sensitive solutions for roadways is fundamental to the incremental transformation from an auto oriented transport system to a multi-modal, livable network.

The following pages detail alternative cross sections for designing new thoroughfares in Tulsa. However, much like the ITE manual for *Context-Sensitive Solutions in Designing Major Urban Thoroughfares*, this document remains as a guide to implement new street design and not standardized cross sections based on functional classification. Each new street design should be based on the small area planning process that has either taken place or will take place in the future. The cross sections focus on a number of different street types: Main Streets, Multi-Modal Streets, Commuter Streets, and Residential Collector Streets. They are based upon the current standards and are grounded in national standards, such as AASHTO and ITE.

MAIN STREETS

Main streets serve the highest intensity retail and mixed land uses in Tulsa's areas such as downtown and in regional and neighborhood centers. Like multi-modal streets, main streets are designed to promote walking, bicycling, and transit with a continuous urban street frontage and public spaces. Generally, main street activities are concentrated along a two to eight block area, but may extend further depending on the type of adjacent land uses and neighborhoods.

Main streets typically have only two lanes, but can be designed with two to four travel lanes. On-street parking usually is provided to serve adjacent land uses. Unlike typical strip commercial developments, main streets offer the ability to park once and walk amongst various destinations, thus reducing arterial

trip making. One solution is to create convenient on-street parking or to provide a shared public parking lot. Careful consideration must be given to the appropriate design and numbers of parking lots to maintain the area's walkability.

More attention should be given to make the street frontage walkable and to provide walking and biking connections to adjacent neighborhoods, with further emphasis on tree lawns and detached walks. Within the parking lane, tree wells may be used to create a double row of street trees in combination with a tree lawn. To further create a pedestrian-friendly atmosphere, main streets have wide sidewalks, street furniture, outdoor cafes, plazas, and other public spaces.

INITIAL PRIORITY ELEMENTS

- Wide sidewalks with transit access and pedestrian plazas
- Bicycle facilities
- Curb extensions
- Tree lawns
- On-street parking

SECONDARY PRIORITY ELEMENTS

- Medians
- Width and number of travel lanes

EXAMPLES OF TRAFFIC MANAGEMENT FEATURES

- Narrower travel lanes
- Alternative paving material
- Tree planters in parking lane
- On-street parking
- Reduced pedestrian crossing distances at intersections, using curb extensions, traffic islands, and other measures
- Raised intersections
- High-visibility crosswalks

CROSS SECTION INDICATOR KEY

	●	● ●	● ● ●
Volume	Low 2,500 - 10,000 Vehicles per day	Medium 10,000 - 20,000 Vehicles per day	High 20,000 - 50,000 Vehicles per day
Speed	Low <25 MPH	Medium 25 - 35 MPH	High >35 MPH
Transit	Poor Narrow Lanes Poor Context	Moderate Normal Sized Lanes Good Context	Excellent Wide Outside Lanes Vibrant Context
Parking	Poor No Parking	Moderate Some Parking	Excellent On-Street Parking
Bike	Poor No Bike Facilities High Speeds	Moderate Some Bike Facilities Medium Speeds	Excellent Bike Facilities, Low to Medium Speeds
Walk	Poor Narrow Sidewalks Poor Context	Moderate Average Sidewalks Good Context	Excellent Wide Sidewalks Vibrant Context

Use this cross section indicator key to better understand the recommended traffic volume, speed, transit service, parking, bike, and walk-related attributes of main streets when looking at the cross sections on the next two pages.

TRANSPORTATION/LAND USE BUILDING BLOCKS

Downtown	Centers	Corridors	New Residential	Existing Residential	Employment
●	●	●	○	○	○

- Applicable
- Not Applicable
- Acceptable

This chart indicates that the main street cross section would apply within downtown, center, and corridor areas.

Main Streets Cross Sections

CURRENT URBAN ARTERIAL

Volume
• •
Speed
• •
Transit
• •
Parking
•
Bike
•
Walk
• •



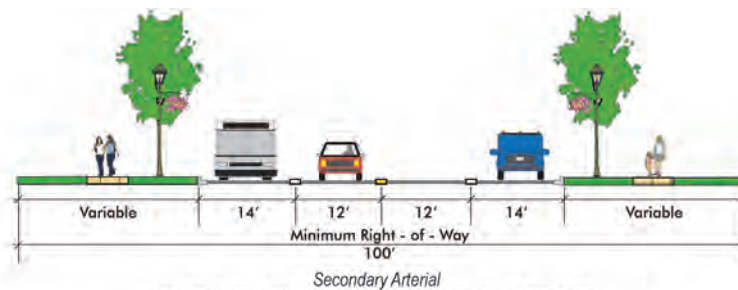
URBAN ARTERIAL, MAIN STREET

Volume
•
Speed
•
Transit
• •
Parking
• • •
Bike
• •
Walk
• • •



CURRENT SECONDARY ARTERIAL

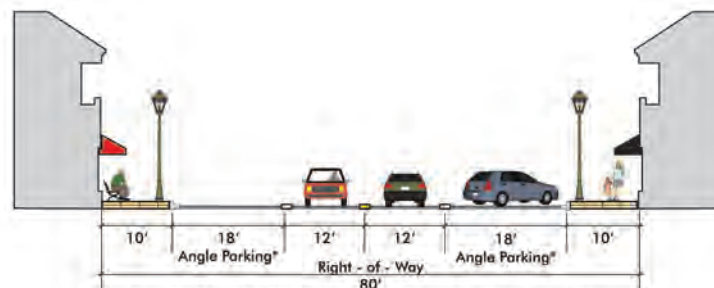
Volume
• •
Speed
• •
Transit
• •
Parking
•
Bike
•
Walk
•



* Center median will be used where design and operating conditions dictate

SECONDARY ARTERIAL, MAIN STREET

Volume
•
Speed
•
Transit
•
Parking
• • •
Bike
• •
Walk
• • •



* ITE Manual recommends angle parking to be 17'8" for 45° stalls with an adjacent lane width of 12'8"

MULTI-MODAL STREETS

Multi-modal streets emphasize plenty of travel choices such as pedestrian, bicycle and transit use. Multi-modal streets are located in high intensity mixed-use commercial, retail and residential areas with substantial pedestrian activity. These streets are attractive for pedestrians and bicyclists because of landscaped medians and tree lawns. Multi-modal streets can have on-street parking and wide sidewalks depending on the type and intensity of adjacent

commercial land uses. Transit dedicated lanes, bicycle lanes, landscaping and sidewalk width are higher priorities than the number of travel lanes on this type of street. To complete the street, multi-modal streets require frontages that address the street and provide comfortable and safe refuge for pedestrians while accommodating automobiles with efficient circulation and consolidated or shared parking.

INITIAL PRIORITY ELEMENTS

- Dedicated transit lanes
- Transit priority at intersections
- Wide sidewalks with transit access
- Bicycle lanes on designated bike routes
- Bicycle facilities
- Tree lawns
- On-street parking

SECONDARY PRIORITY ELEMENTS

- Width and number of travel lanes (on collector and local streets)
- Medians

EXAMPLES OF TRAFFIC MANAGEMENT FEATURES

- Landscaped medians
- On-street parking
- Street trees
- Narrower travel lanes
- Traffic circles and roundabouts
- Reduced pedestrian crossing distances at intersections, using curb extensions, traffic islands, and other measures

CROSS SECTION INDICATOR KEY

	●	● ●	● ● ●
Volume	Low 2,500 - 10,000 Vehicles per day	Medium 10,000 - 20,000 Vehicles per day	High 20,000 - 50,000 Vehicles per day
Speed	Low <25 MPH	Medium 25 - 35 MPH	High >35 MPH
Transit	Poor Narrow Lanes Poor Context	Moderate Normal Sized Lanes Good Context	Excellent Wide Outside Lanes Vibrant Context
Parking	Poor No Parking	Moderate Some Parking	Excellent On-Street Parking
Bike	Poor No Bike Facilities High Speeds	Moderate Some Bike Facilities Medium Speeds	Excellent Bike Facilities, Low to Medium Speeds
Walk	Poor Narrow Sidewalks Poor Context	Moderate Average Sidewalks Good Context	Excellent Wide Sidewalks Vibrant Context

Use this cross section indicator key to better understand the recommended traffic volume, speed, transit service, parking, bike, and walk-related attributes of multi-modal streets when looking at the cross sections on the next several pages.

TRANSPORTATION/LAND USE BUILDING BLOCKS

Downtown	Centers	Corridors	New Residential	Existing Residential	Employment
●	●	●	◐	◐	●

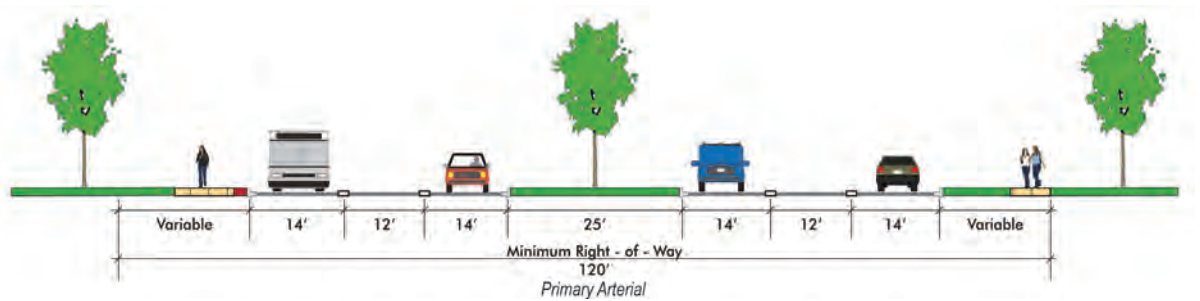
- Applicable
- Not Applicable
- ◐ Acceptable

This chart indicates that multi-modal streets would apply within downtown, center, corridor, and employment areas. Multi-modal streets would also be acceptable in new residential and existing residential areas.

Multi-Modal Street Cross Sections

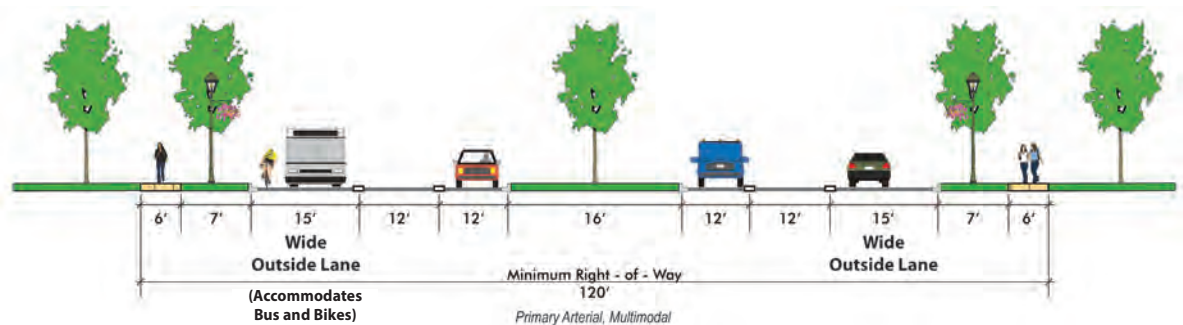
CURRENT PRIMARY ARTERIAL

Volume
• • •
Speed
• • •
Transit
• •
Parking
•
Bike
•
Walk
•



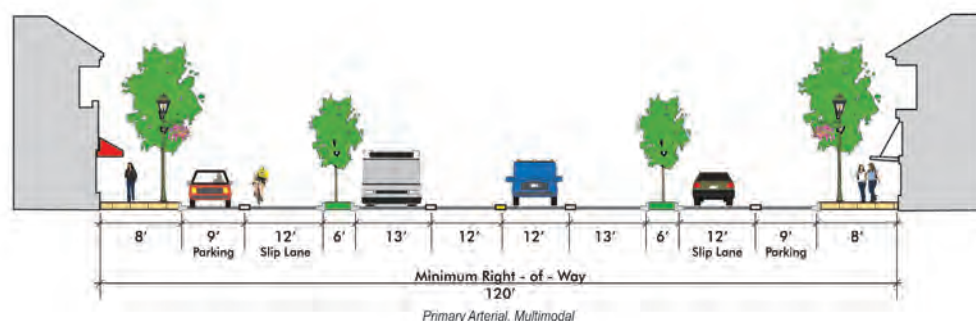
PRIMARY ARTERIAL, MULTI-MODAL STREET

Volume
• • •
Speed
• • •
Transit
• • •
Parking
•
Bike
• • •
Walk
•



PRIMARY ARTERIAL, MULTI-MODAL STREET

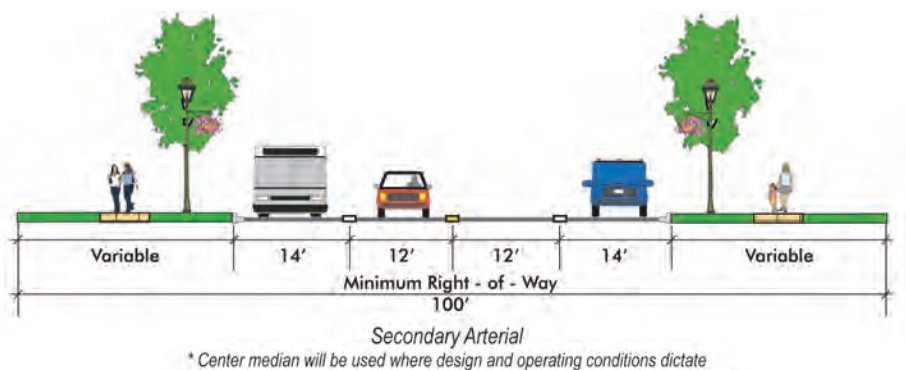
Volume
• •
Speed
• •
Transit
• •
Parking
• • •
Bike
• • •
Walk
• • •



Multi-Modal Street Cross Sections

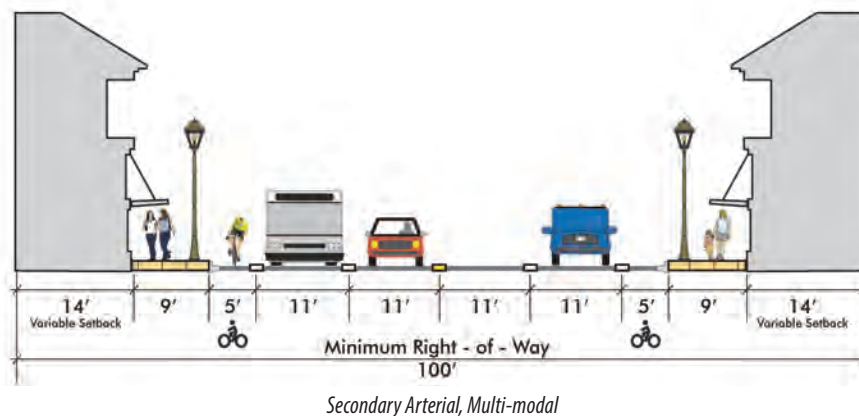
CURRENT SECONDARY ARTERIAL

Volume
• •
Speed
• •
Transit
• •
Parking
•
Bike
•
Walk
•



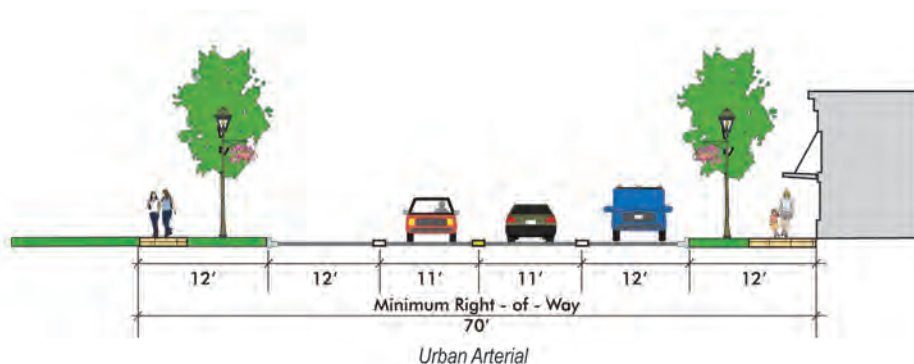
SECONDARY ARTERIAL, MULTI-MODAL STREET

Volume
• •
Speed
• •
Transit
• •
Parking
•
Bike
• • •
Walk
• • •



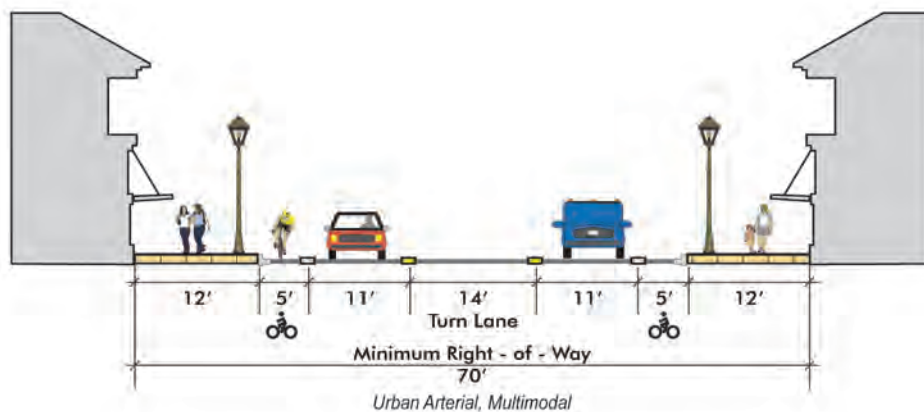
CURRENT URBAN ARTERIAL

Volume
• •
Speed
• •
Transit
• •
Parking
•
Bike
•
Walk
• •



URBAN ARTERIAL, MULTIMODAL STREET

Volume
• •
Speed
•
Transit
•
Parking
•
Bike
• • •
Walk
• • •



COMMUTER STREETS

These arterials typically serve commercial areas developed with small retail strip centers, with buildings set back from parking lots along the frontage. Because of this, strip commercial arterials have many intersections and driveways that provide access to adjacent businesses. Historically, this type of street often is highly auto-oriented and tends to discourage walking and bicycling. On-street parking is infrequent.

Commuter streets are designed with multiple lanes divided by a landscaped median or a continuous two-

way left turn lane in the center. Commuter streets are designed to balance traffic mobility with access to nearby businesses. However, because there are so many intersections and access points on commercial streets, they often become congested. Improvements to these streets should come in the form of access management, traffic signal timing and creative intersection lane capacity improvements. Along with providing access to employment centers, commuter streets are also applicable in industrial contexts.

INITIAL PRIORITY ELEMENTS

- Number and width of travel lanes
- Medians
- Transit accommodations

SECONDARY PRIORITY ELEMENTS

- Pedestrian facilities
- Bicycle facilities
- Tree lawns
- Two-way center left-turn lanes
- On-street parking

EXAMPLES OF TRAFFIC MANAGEMENT FEATURES

- Medians
- Consolidated driveways
- Synchronization of traffic signals
- On-street parking
- Narrower travel lanes
- Reduced pedestrian crossing distances at intersections, using curb extensions, traffic islands, and other measures

CROSS SECTION INDICATOR KEY

	●	● ●	● ● ●
Volume	Low 2,500 - 10,000 Vehicles per day	Medium 10,000 - 20,000 Vehicles per day	High 20,000 - 50,000 Vehicles per day
Speed	Low <25 MPH	Medium 25 - 35 MPH	High >35 MPH
Transit	Poor Narrow Lanes Poor Context	Moderate Normal Sized Lanes Good Context	Excellent Wide Outside Lanes Vibrant Context
Parking	Poor No Parking	Moderate Some Parking	Excellent On-Street Parking
Bike	Poor No Bike Facilities High Speeds	Moderate Some Bike Facilities Medium Speeds	Excellent Bike Facilities, Low to Medium Speeds
Walk	Poor Narrow Sidewalks Poor Context	Moderate Average Sidewalks Good Context	Excellent Wide Sidewalks Vibrant Context

Use this cross section indicator key to better understand the recommended traffic volume, speed, transit service, parking, bike, and walk-related attributes of commuter streets when looking at the cross sections on the next pages

TRANSPORTATION/LAND USE BUILDING BLOCKS

Downtown	Centers	Corridors	New Residential	Existing Residential	Employment
○	◐	◐	○	◐	●

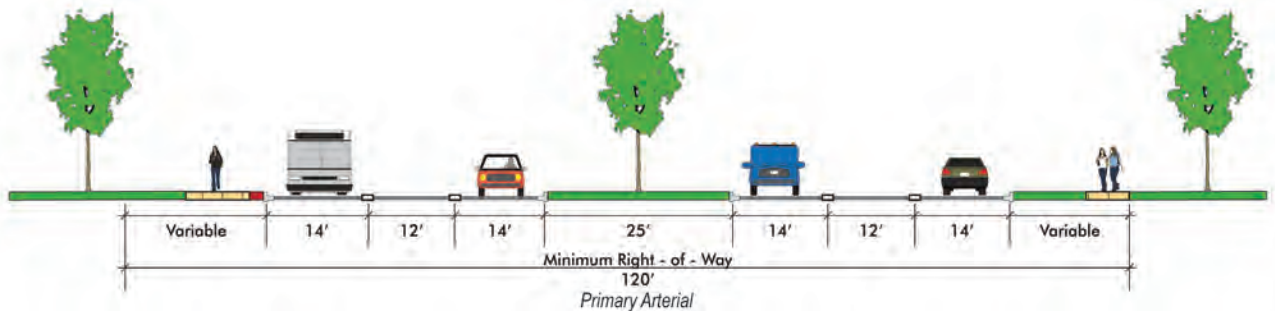
- Applicable
- Not Applicable
- ◐ Acceptable

This chart indicates that commuter streets would apply within employment areas, and would be acceptable in corridor and center areas.

Commuter Street Cross Sections

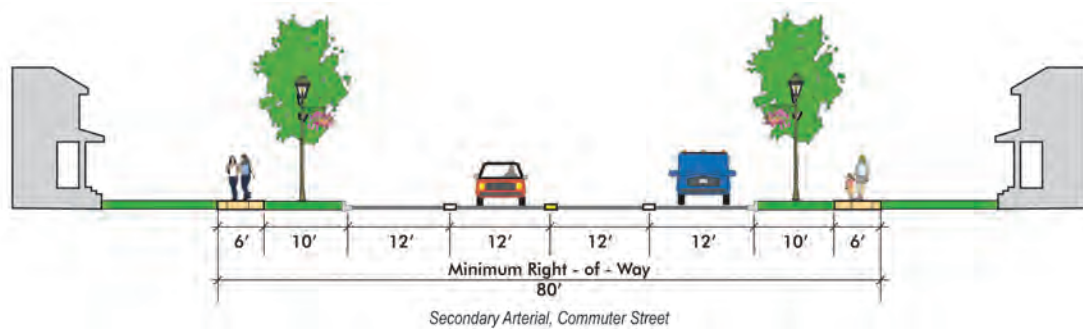
PRIMARY ARTERIAL, COMMUTER STREET

Volume
• • •
Speed
• • •
Transit
• •
Parking
•
Bike
•
Walk
•



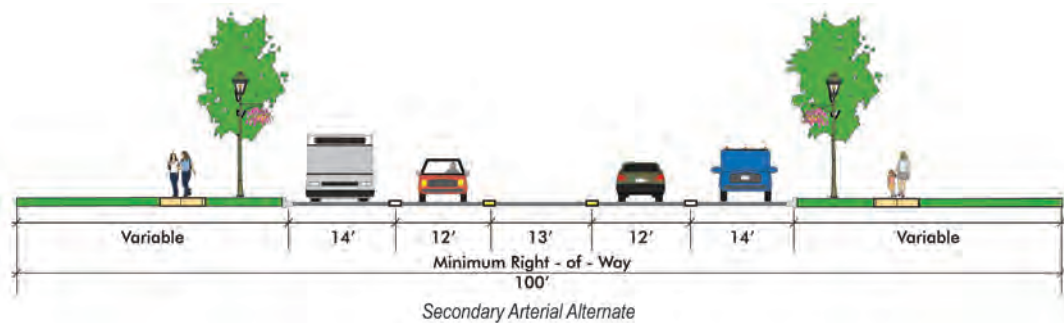
SECONDARY ARTERIAL, COMMUTER STREET

Volume
• •
Speed
• •
Transit
• •
Parking
•
Bike
•
Walk
•



SECONDARY ARTERIAL ALTERNATIVE, COMMUTER STREET

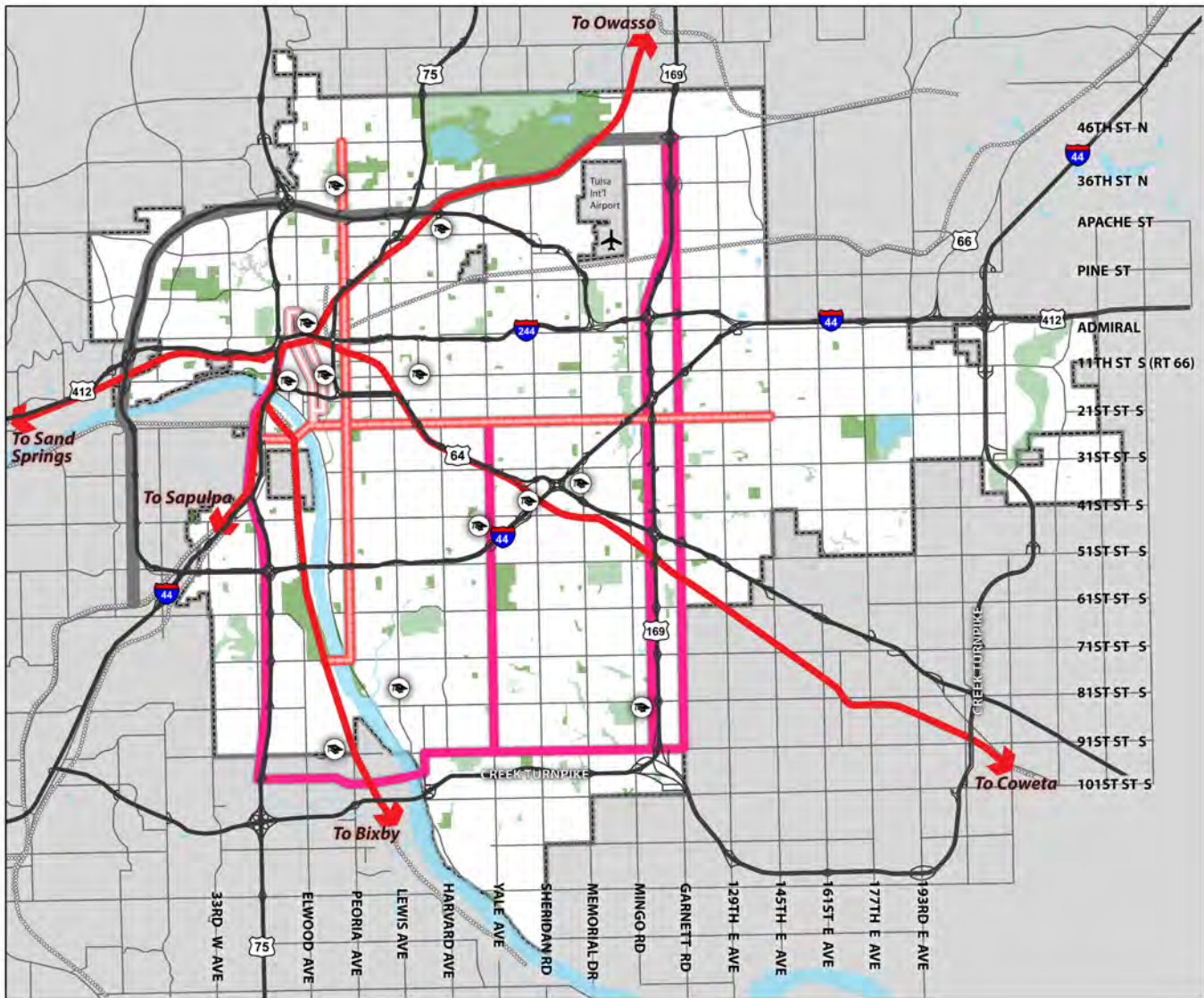
Volume
• •
Speed
• • •
Transit
• •
Parking
•
Bike
•
Walk
•










Appendix

TRANSPORTATION I: CONTEXT-SENSITIVE SOLUTIONS AND DESIGN

TRANSPORTATION VISION: TRANSIT SYSTEM



TRANSIT

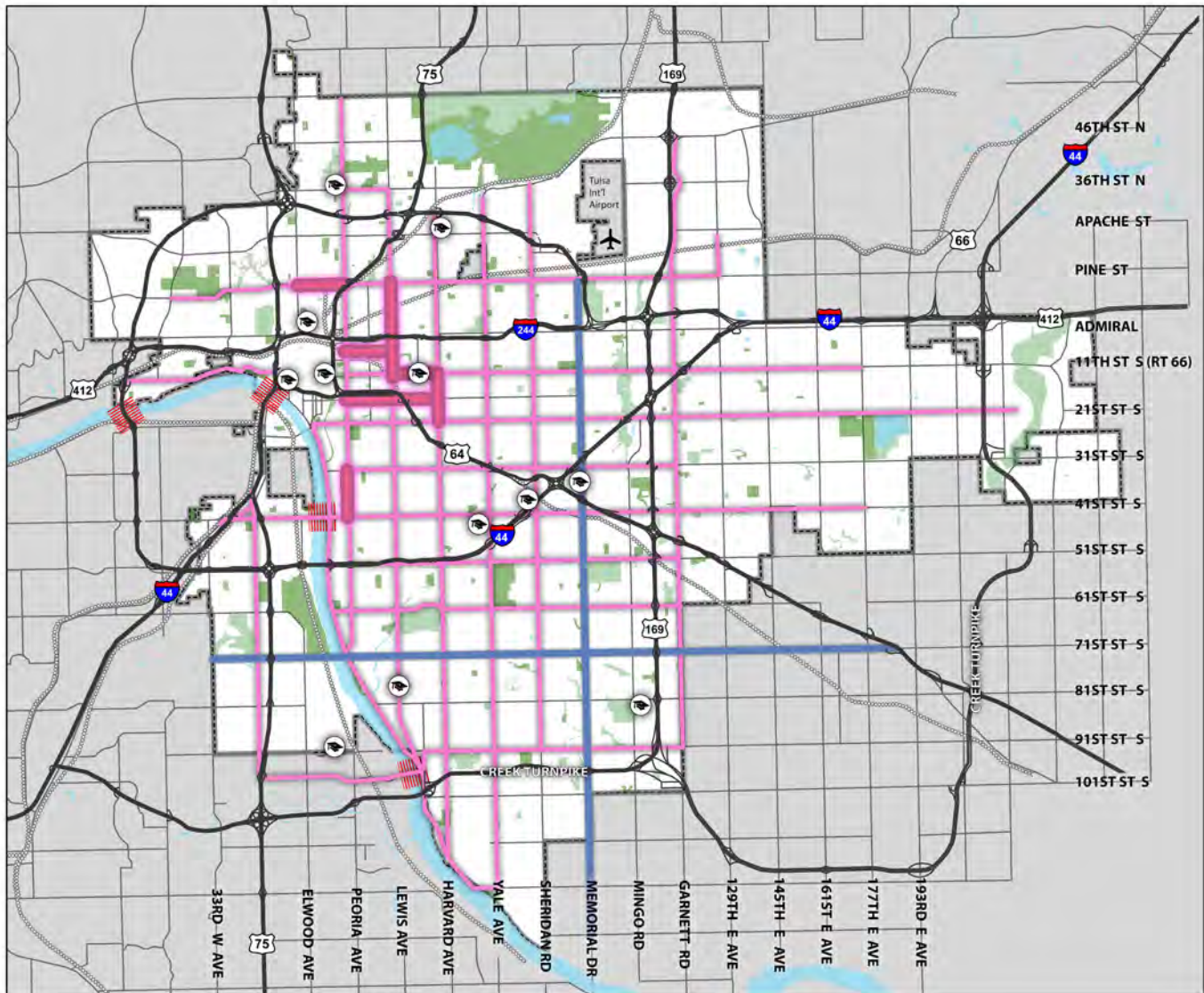
-  Rail Transit
-  Streetcar
-  Frequent Bus
-  Bus Rapid Transit
-  Freight Corridor
-  Parks
-  Open Space

The PLANiTULSA Transportation Vision illustrates the improvements to the street, transit, bicycle and pedestrian assets.








- Alignments that extend beyond the City of Tulsa's boundaries do not represent policy or investment obligations on the part of other jurisdictions.
- The two BRT corridors shown on HWY 169 and Garnett Road illustrate potential alignments; the exact alignments and technologies of transit investments may be refined during a formal alternatives analysis (AA). See Transportation Appendix III.
- At posting/publication, the multi-modal bridge at HWY I244 and the Arkansas River is in the design stage.

TRANSPORTATION I: CONTEXT-SENSITIVE SOLUTIONS AND DESIGN

TRANSPORTATION VISION: MULTI-MODAL STREETS



ROADWAY

-  Main Street
-  Commuter Corridor
-  Multi-Modal Corridor
-  Possible Multi-Modal Bridge
-  Existing/Planned Freeway
-  Parks
-  Open Space

The PLANiTULSA Transportation Vision illustrates the improvements to the street, transit, bicycle and pedestrian assets.

- Alignments that extend beyond the City of Tulsa's boundaries to not represent policy or investment obligations on the part of other jurisdictions.
- The exact alignments and technologies of transit investments may be refined during a formal alternatives analysis (AA). See Transportation Appendix III.
- At posting/publication, the multi-modal bridge at HWY 1244 and the Arkansas River is in the design stage.

Commuter Street Traffic Management Features



SIGNAL TIMING

Signal timing along a corridor can increase the efficiency of the street by allowing for the highest possible number of vehicles to pass through an intersection in the shortest amount of time. It also can improve the air quality of the city because travel time and idling are reduced. This technique can be used to increase capacity on corridors and is less expensive than adding lanes.



ACCESS MANAGEMENT

Access Management defines a set of strategies to make the best use of existing transportation facilities and to enhance transportation improvements. Through strategies such as installing raised medians, and providing adequately spaced driveways, access management will significantly improve the level of safety, efficiency, and effectiveness of the transportation system.



ADVANCED SIGNAL SYSTEMS

As traffic patterns change throughout the day, the operation of a signal controller can be adjusted to match the needs at each intersection. This technology allows a local controller to match the time assigned to each signal phase with actual traffic conditions. It also provides information about how the system can be optimized to manage traffic under special circumstances, such as concerts or sporting events, and when to perform system maintenance.



INTERSECTION IMPROVEMENTS

Improvements to congested intersections can significantly affect traffic flow on commuter corridors. When coordinated with signal timing, the introduction of left and right turn bays at intersections can decrease the potential volume of congested intersections. Each intersection should be analyzed individually to identify its unique challenges.

RESIDENTIAL COLLECTOR STREETS

These streets strengthen neighborhood cohesion, promote alternative transportation, calm traffic and connect recreational destinations. These residential street designs should be used in new housing developments, to ensure that new neighborhoods provide a comfortable pedestrian realm, and can also serve as models for retrofitting existing neighborhood streets.

In both cases, these residential streets tend to be more pedestrian-oriented than commuter streets, giving a higher priority to the pedestrian experience by providing landscaped medians, tree lawns, sidewalks, on-street parking, and bicycle lanes.

Residential streets consist of two to four travel lanes, but place a much higher priority on pedestrian and bicycle friendliness than on auto mobility.

INITIAL PRIORITY ELEMENTS

- Sidewalks
- Tree Lawns
- On-street parking
- Landscaped medians
- Bike lanes on designated bicycle routes

SECONDARY PRIORITY ELEMENTS

- Number and width of travel lanes (especially collector and local streets)

EXAMPLES OF TRAFFIC MANAGEMENT FEATURES

- Medians
- On-street parking
- Street trees
- Narrower travel lanes
- Traffic circles and roundabouts
- Reduced pedestrian crossing distances at intersections, using curb extensions, traffic islands, and other measures
- Diverters

CROSS SECTION INDICATOR KEY

	●	● ●	● ● ●
Volume	Low 2,500 - 10,000 Vehicles per day	Medium 10,000 - 20,000 Vehicles per day	High 20,000 - 50,000 Vehicles per day
Speed	Low <25 MPH	Medium 25 - 35 MPH	High >35 MPH
Transit	Poor Narrow Lanes Poor Context	Moderate Normal Sized Lanes Good Context	Excellent Wide Outside Lanes Vibrant Context
Parking	Poor No Parking	Moderate Some Parking	Excellent On-Street Parking
Bike	Poor No Bike Facilities High Speeds	Moderate Some Bike Facilities Medium Speeds	Excellent Bike Facilities, Low to Medium Speeds
Walk	Poor Narrow Sidewalks Poor Context	Moderate Average Sidewalks Good Context	Excellent Wide Sidewalks Vibrant Context

Use this cross section indicator key to better understand the recommended traffic volume, speed, transit service, parking, bike, and walk-related attributes of residential collector streets when looking at the cross sections on the next pages

TRANSPORTATION/LAND USE BUILDING BLOCKS

Downtown	Centers	Corridors	New Residential	Existing Residential	Employment
●	●	○	●	●	○

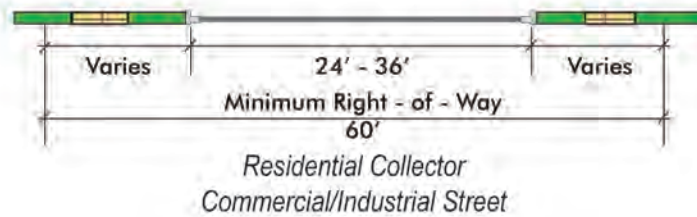
- Applicable
- Not Applicable
- ◐ Acceptable

This chart indicates that residential collector streets would apply within downtown, center, new residential, and existing residential areas.

Residential Collector Street Cross Sections

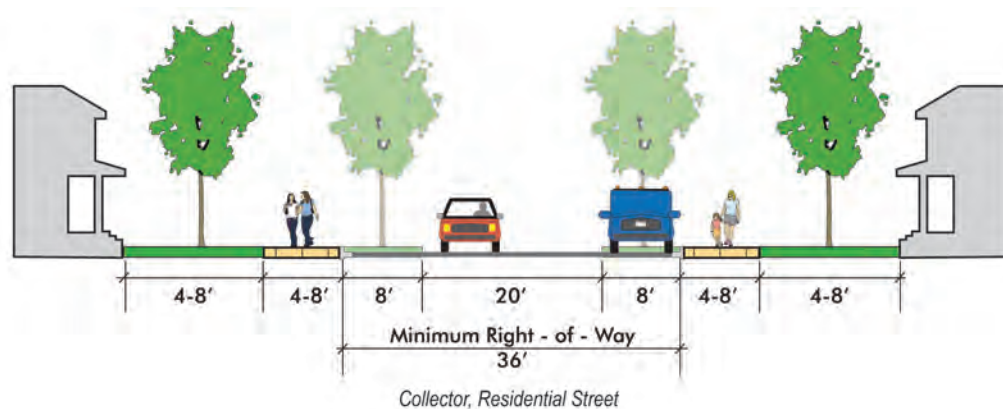
CURRENT RESIDENTIAL COLLECTOR

Volume
•
Speed
•
Transit
•
Parking
• •
Bike
• •
Walk
•



36' RESIDENTIAL COLLECTOR*

Volume
•
Speed
•
Transit
•
Parking
• •
Bike
• • •
Walk
• • •



**effectively 20' of thru traffic with optional curb extensions*

How Transportation Building Blocks Relate to Land Use

The overarching approach to integrating land uses and transportation facilities is known as Context Sensitive Solutions (CSS). This process, detailed in the Transportation Chapter, provides more detailed direction for balancing or prioritizing the infrastructure for each mode of travel in the context of the adjacent land uses. CSS takes an interdisciplinary approach to street design that will further encourage coordination between traffic engineers, planners, urban designers, architects, emergency response officials, and the community when designing new streets or reconstructing existing streets. This approach fosters communication with those designing other elements of the community and results in better facilities and places.

Implementation

For the City to successfully use CSS to meet the travel needs of all Tulsa residents, it must institute a process for considering citizen and developer requests for its use. In some instances CSS may not be appropriate and the city should maintain its ability to deny requests for flexibility in roadway design. Conversely, it needs an objective process that assures unbiased consideration of legitimate requests. CSS should be a part of all small area planning process and used to address citizen, property owner and developer requests.

The following steps will assure that CSS is used most effectively to benefit the City, its residents and

its economy:

- Institutionalize CSS per the above definition and designate responsible staff and resources
- Create public information about the program and make it available to neighborhood associations, business organizations and general public through the small area planning process and the city web-site
- Establish guidelines for residents and business owners to petition the city to consider CSS
- Accept petitions annually and use selection criteria to prioritize request for further study, funding and design

Appendix

Transportation II Urban Corridors

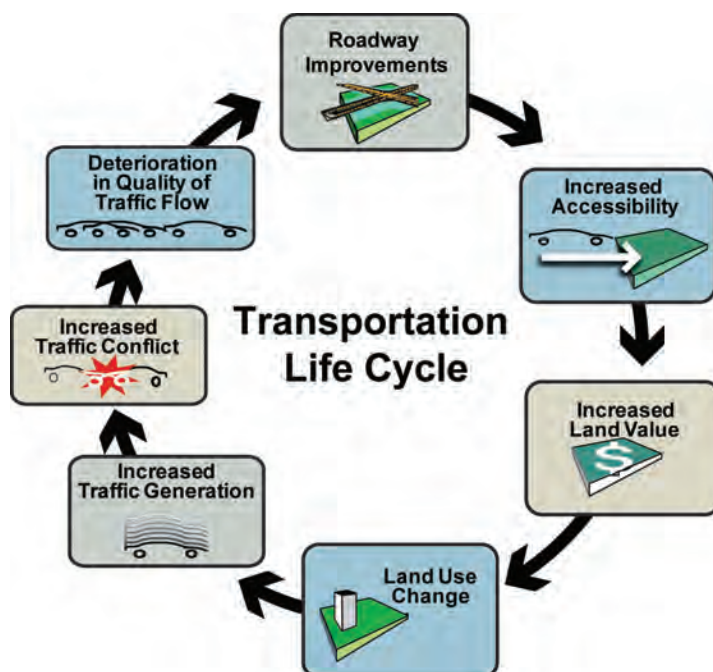
URBAN CORRIDOR PLANNING

Corridors are transportation pathways that provide for the movement of people and goods between and within activity centers. A corridor encompasses a single or multiple transportation routes or facilities (such as thoroughfares, public transit, railroads, highways, bikeways, etc.), the adjacent land uses and the connecting network of streets.

Traditionally, corridors were analyzed by identifying high automobile congestion locations through traffic counts and travel demand models. Then congestion was addressed by building automobile capacity improvements with added lanes or building new roads in a parallel corridor to diffuse the traffic. This traditional process leads to a perpetual need for improvements to the roadways system as depicted in Figure 1. The cycle of making roadway improvements without considering potential land use changes has resulted in a land development pattern that is auto-centric and costly in terms of quality of life and maintenance.



FIGURE 1: TRANSPORTATION LIFE CYCLE



PLANiTULSA identifies a new process to guide the decision-making for urban corridors. The process comprehensively addresses future transportation needs and recommends a series of physical improvements and operational and management strategies within a corridor. Using this process, corridor planning fills the gap between long-range transportation planning and project development. It identifies and provides a link between neighborhood planning and corridor transportation planning and provides an opportunity to direct future development within the corridor to meet *Our Vision for Tulsa's* growth and economic development goals.

Integrating Context Sensitive Solutions (CSS) in urban corridor thoroughfare planning requires stakeholders to consider the economic, social, and environmental consequences of alternatives. The outcome of CSS in urban corridor thoroughfare planning goes beyond street improvements. It defines the short-term and long-term needs of the corridor,

develops goals and objectives that will achieve the vision of the corridor and evaluates feasible multi-modal alternatives.

Finally, urban corridor planning promotes interagency cooperation and broad stakeholder and public involvement. It integrally addresses transportation improvements, land development and redevelopment, economic development, scenic and historic preservation, community character and environmental enhancement in a unified process. Because urban corridor planning affects a broad spectrum of the community, public and stakeholder involvement is a central element of the process. Corridor planning addresses issues within the corridor prior to project development for specific transportation improvements.

The basic steps in the process, and how CSS principles can be integrated, are described below. Following this overview is a discussion of four potential corridors which the City could focus on as catalyst projects in the near future:

1. East-Side Bus Rapid Transit (BRT)
2. High Frequency Bus, Timed Transfer Station and TOD at Utica Avenue and 21st Street
3. Cherry Street conversion to a Main Street
4. Park-Once District on Harvard at 11th

Corridor Vision and Study Area Determination

The process begins by developing a vision for the corridor. The vision is a corridor-wide expression of how the facility and the areas it serves will look, function, and feel in the future. From the vision, goals and objectives define a framework for how to implement the vision.

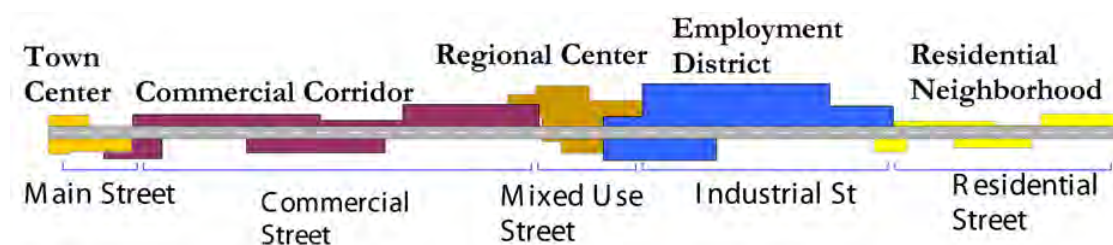
Public and stakeholder input and involvement are critical to developing a vision, as the vision should reflect the goals and objectives of the community and address more than the transportation function of the corridor.

The PLANiTULSA *Vision* and Comprehensive Plan should be used to guide the corridor visioning process. In addition to developing a vision, goals and objectives for a corridor can occur as part of a locally-sponsored (City or INCOG) long-range transportation plan, small area planning process or as a stand-alone urban corridor planning process. Because the corridor visioning process feeds directly into the project needs step, the two may be conducted together.

FIGURE 2: CSS PROCESS OVERVIEW



FIGURE 3: CORRIDOR DEVELOPMENT “ONE SIZE DOES NOT FIT ALL”



Project Needs and Corridor Context

Defining the current or future context for a corridor goes hand-in-hand with defining specific project needs. If the corridor includes areas envisioned as main streets or neighborhood centers, those areas may need to receive improved transit or pedestrian capacity.

Stakeholder input should identify values, issues, priorities and goals and objectives for the corridor. Much of this input will help form criteria for assessing alternatives later in the project. The project needs assessment should result in a problem statement that reflects the needs of all users as well as the corridor's existing — and future — context and characteristics.

It should be noted, however, that not every transportation improvement along a corridor will have the same purpose, as illustrated in Figure 3. Techniques such as those found in the Institute of Transportation Engineers' *Designing Walkable Urban Thoroughfares: A Context Sensitive Approach*, can provide guidance for how to design the facility to function well across a variety of areas and contexts.

Alternatives Development

The alternatives need to address the problem statement identified in the project needs step and also reflect the community vision and objectives. Stakeholder input is necessary to identify values,

issues, priorities and criteria for assessing alternatives. The CSS outcome of this step is an inclusive problem statement, a short-range and long-range vision for the corridor and goals and objectives that will direct the development of alternatives.

With a CSS approach, the needs may be stated in terms of context, economic, or other community aspects, as well as mobility needs. The CSS outcome of this step is to provide decision makers with a wide range of choices, derived in a collaborative and participatory process. The alternatives should be competitive in that they address as many of the goals and objectives as possible. Solutions should be innovative and flexible in the application of design guidance.

The initial step is to establish a street cross section concepts for the corridor area in question. PLANiTULSA outlines four overarching street typologies:

- Main Streets
- Multi-modal Streets
- Commuter Streets
- Residential Streets

However, the cross section is not the entire solution. The solutions should include ways to enhance and meet the needs of the context, activities generated by adjacent and nearby land uses and objectives that are part of the community vision for the corridor. To

the extent not already included in the community vision, consideration should also be given to potential environmental consequences when developing the corridor alternatives. Alternatives may include different alignments and parallel routes, modal combinations, roadside treatments, interaction with adjacent development, streetscape approaches, business and community activity and support infrastructure. The important thing to remember is that the alternatives in CSS are developed to meet the full range of a specific community or neighborhood's objectives.

The PLANiTULSA plan outlines a number of transportation tools that provide improvements to the transportation system in Tulsa. In many instances one tool may not be only solution. A number of complementary tools can be used to benefit the area or corridor. Depending on the type of enhancement (Street, Transit, Pedestrian or Bicycle) different tools are available for use and implementation in the plan. Figure 4 lists the mobility tools.

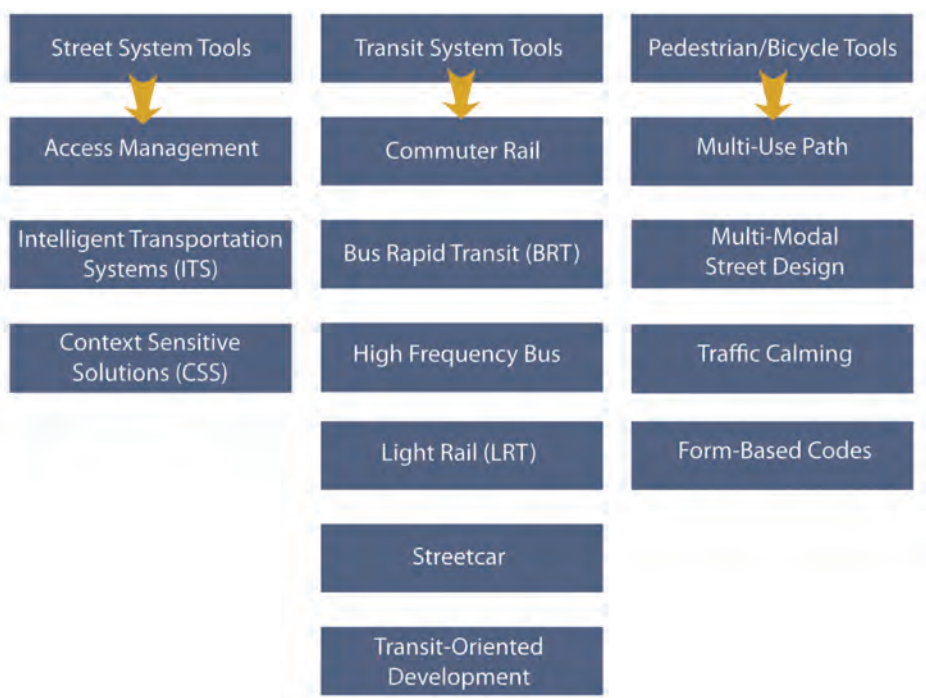
Alternatives Evaluation

The goal of the alternatives evaluation is to provide an objective and balanced assessment of impacts, trade-offs and benefits of each alternative. This requires careful selection of, and stakeholder agreement on, evaluation criteria. The criteria need to reflect not just transportation objectives, but the community and environmental objectives as well. Examples of evaluation criteria categories include:

MOBILITY: travel demand, roadway capacity, level of service, travel time, connectivity, circulation, access, truck movement, and access to multiple travel modes.

SOCIAL AND ECONOMIC EFFECTS: socioeconomic and cultural environment (historic, cultural and archaeological resources), residential and business displacement/dislocation, socioeconomic and equity, neighborhood integrity and cohesion, economic development, place making qualities.

FIGURE 4: TRANSPORTATION TOOLS IDENTIFIED IN TRANSPORTATION CHAPTER



ENVIRONMENTAL EFFECTS: positive and negative effects on the natural environment (air, water, and soil quality, habitat areas and wildlife corridors, wetlands, and floodplains).

COST-EFFECTIVENESS AND AFFORDABILITY: capital costs, operations and maintenance costs, achievement of benefits commensurate with resource commitment, and sufficiency of revenues.

OTHER FACTORS: compatibility with local and regional plans and policies, constructability, and construction effects. The alternatives evaluation step includes a comprehensive evaluation of applicable issues and options using selected criteria such as those described above, including modal capacity, alignment, design concepts, costs, right-of-way, environmental, social and economic impacts, operations, and safety. Alternatives can be a combination of capital improvements and management and operations strategies.

The outcome of this step is the clear communication of trade-offs to the public, stakeholders and decision-makers, developed and discussed in a transparent and participatory process.

Selection of Preferred Alternative

The selection of a preferred alternative is a consensus based process. Consensus building in this step engenders community ownership in the selected alternative and helps achieve a commitment towards implementation of the plan or project.

The CSS process uses an array of tools for selecting, refining and building consensus on alternatives. A successful selection of a preferred alternative is one that is compatible with the context(s), reflects the needs of all users, and best achieves the objectives and vision established for the corridor.

The selection of a preferred alternative leads to either the development of a detailed corridor plan, such as a thoroughfare plan, access management plan, scenic preservation plan, streetscape plan, or economic vitalization plan, or it can lead to the preliminary design of an individual thoroughfare, network of thoroughfares, or multi-modal transportation corridor with parallel thoroughfares, rail, transit, highway and bikeway systems.

Corridor planning varies in level of effort ranging from large-scale planning efforts for corridors in newly developing areas to small-scale planning of segments of individual thoroughfares within constrained rights-of-way. The outcome of corridor planning ranges from broad policies to citywide and regional long-range transportation plans to multi-modal systems plans, and to local thoroughfare plans and individual segment concepts and designs.

The following are potential catalyst corridors within the City of Tulsa. In general, these case studies identify the corridor planning process and illustrate the range of projects that can be served by an urban corridor planning process that incorporates CSS.

Catalyst Corridor #1: East-Side Bus Rapid Transit (BRT)

STEP 1

Identify Corridor Vision and Determine Study Area

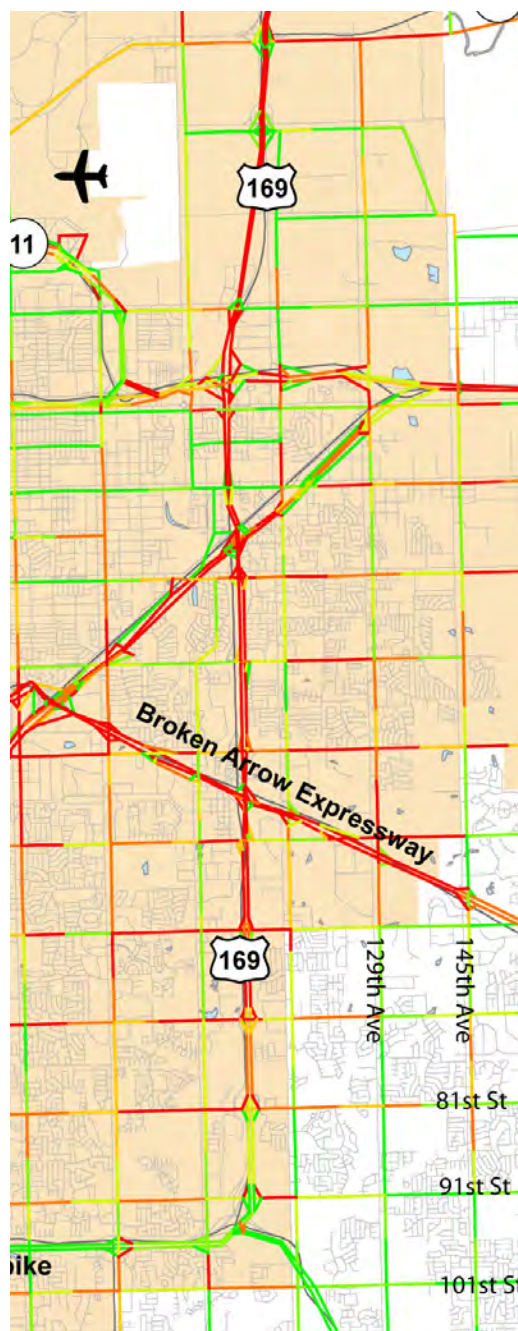
The U.S. 169 Expressway provides north-south mobility for the east-side of Tulsa using 6 vehicular lanes for automobile traffic. The vision for this corridor is to be multi-modal. Strategically integrating transit, transit oriented development and walkable places into the corridor will provide greater travel choices for Tulsa residents, while improving the regional through traffic capacity. To accomplish this, the study area must include trip patterns beyond the City of Tulsa, thus one half-mile on either side of U.S. 169 Expressway from Owasso city limits to the Creek Turnpike was considered.

STEP 2

Determine Area Context and Needs

Currently, the corridor has over 90,000 cars of average daily traffic with 6 freeway lanes facilitating this vehicular movement. Major employment and commercial destinations in the corridor attract travelers from all parts of the region, but the predominant travel pattern is from northern and southern suburban cities to Tulsa destinations, such as the multiple shopping centers and Hospitals

FIGURE 5: 2030 CONGESTION
ALONG THE MINGO EXPRESSWAY



within one mile of the corridor. Currently, planned land uses in the corridor will result in increasing levels of congestion. Figure 5 shows that in 2030 the corridor will have a failing level of service even after

the expressway is expanded to 8-lanes. The traffic growth is mostly a product of increasing suburban development outside of the City of Tulsa and auto-oriented development within the City.

Our Vision for Tulsa defines an alternative future for the corridor that results in a more sustainable traffic pattern. Anchoring three of the City's new mixed use development centers, an intermodal center, an employment center and a neighborhood center challenges the transportation system to provide for a traffic pattern that is very different from the current one. The future traffic pattern will be less oriented toward suburban origins and dispersed corridor destinations to local neighborhood origins and mixed-use center destinations. To be successful the transportation system must be integrally connected to future land development patterns and not be reactive to future traffic demands.

STEP 3 Alternatives Development

Crafting transportation investments in the corridor to support *Our Vision for Tulsa's* emphasis on sustainable development requires planners and engineers to view the corridor as a part of a new multi-modal network for Tulsa. For transit to have a positive impact on the trip patterns and support sustainable land development patterns, its stations must be located in a walkable location. The idea of locating transit stations within a quarter mile of walkable locations is a fundamental tenant of transit oriented development (TOD). Bus Rapid Transit (BRT) can facilitate TOD if it is placed in a right-of-way that permits its stations to be in close proximity to potential TOD sites.

BRT technology involves the high frequency/high capacity buses acting in a separated facility like a bus lane. If signals are warranted in a corridor with BRT, they typically involve signal pre-emption and signal priority to maintain high quality service for

the transit riders. BRT corridors can move over 10,000 persons per hour which has the equivalent of over 4 highway lanes. A few alternatives for placement of a potential BRT line in this corridor are:

1) WITHIN THE U.S. 169 EXPRESSWAY RIGHT-OF-WAY (ROW)—THE EXPRESSWAY ALIGNMENT

The benefits to placing the line within the expressway ROW include:

- Increased efficiency of transit service
- Increased person capacity due to the BRT being located on a separate facility with no other modes
- Limited ROW acquisition

The negatives of this corridor alignment include:

- Significant costs of construction of overpasses and stations to avoid conflicts with current traffic operations on the expressway
- Limited access to walkable neighborhoods resulting in a need for park and ride lots
- Limited benefit to surrounding land development potential

2) ALONG A PARALLEL FACILITY—THE ARTERIAL ALIGNMENT

The benefits to placing the line on a parallel facility include:

- Reduced capital costs due to decreased need for grade separations
- Supports sustainable land development by locating stations in close proximity to development sites
- Potential for increased value capture
- Multi-modal access will increase ridership because patrons will be able to access stations via TOD facilitated walking, biking and bus circulation instead of park and ride, thus reducing air pollution and improving

community health

The negatives of this corridor alignment include:

- Reduction in transit travel times due to BRT being impacted by signals and vehicular conflicts
- Potential additional ROW can increase the costs of implementation; however, some of these costs could be recovered through value capture mechanisms

STEP 4

Alternatives Evaluation

While the initial ridership of a U.S. 169 Expressway BRT is greater than an arterial BRT alignment, the consultant team found them both to be viable and worthy of further detailed ridership estimates. The arterial alignment will produce a more sustainable land development pattern, thus ensuring an ever growing pool of potential riders. Park and ride transit operations typically have a short growth period in ridership and level off quickly as choice riders are not as likely in a suburban development pattern. A formal alternatives analysis (AA) should be performed on this corridor to establish ridership estimates; however, the PLANiTULSA process revealed that the corridor could attract 40,000 riders and could have as many as 100,000 if it is integrated into a city-wide multi-modal network. The future AA process should consider more than just ridership. Incorporating the new HUD-DOT-EPA livability principles and goals of *Our Vision for Tulsa* will require the AA to consider livability, sustainability, economic development and the leveraging of public investments into the consideration of transit alignments, technology and service decisions.

STEP 5

Selection of a Preferred Alternative

Advancing the six livability principles adopted by

the DOT-HUD-EPA Partnership for Sustainable Communities and the new PLANiTULSA land use and transportation integration goals will require greater inter- and intra-agency coordination to accomplish the multi-modal initiatives. Multi-modal systems are formed from multi-disciplinary plans, project development coordination and sustainable land development regulations that consider the mobility of multiple modes. Linear thought processes that typically drive major public and private investments must be supplanted with methods for meeting mobility and livability desires from the perspective of the end user.

To facilitate this, the perspective on transportation planning and project development must focus on connecting land use and transportation at the regional, district and corridor level. Multi-modal transportation paired with sustainable land development initiatives have the ability to solve mobility issues while using existing knowledge and physical resources. A new multi-modal perspective would re-orient projects and initiatives to an outcome that seeks to benefit all users and create sustainable outcomes.

The PLANiTULSA workshops revealed a strong desire for transit in this corridor and overwhelming support for mixed-use, walkable centers. To realize the vision of a multi-modal system, multiple, connected transportation options must be present and land development must be coordinated. Then the system will afford a person the opportunity to travel to places where they work, live and play, in a convenient way. This change over time to a multi-modal system can begin today with the alignment of transit in this corridor to support *Our Vision for Tulsa's* sustainable land development pattern of walkable neighborhoods and centers.

Catalyst Corridor #2: High Frequency Bus, Timed Transfer Station and TOD at Utica Avenue and 21st Street

STEP 1

Identify Corridor Vision and Determine Study Area

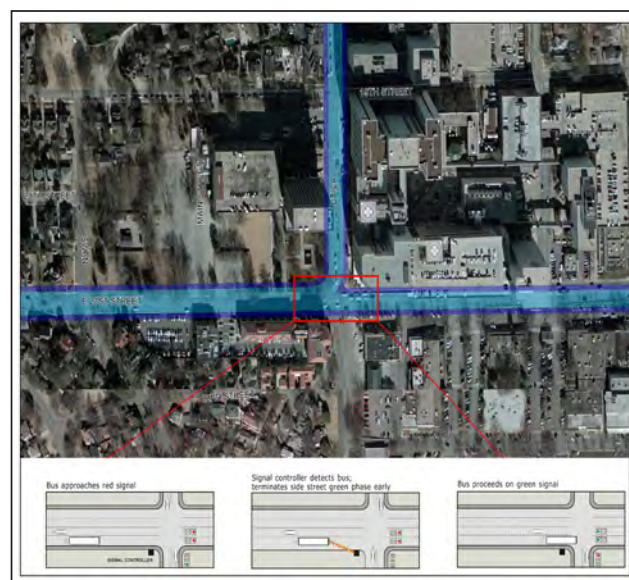
21st Street is an important east-west arterial and Peoria Avenue is a high-volume north-south arterial that connects Brookside to downtown and from downtown to the North Tulsa. Currently, the Peoria transit route contains the highest ridership in Tulsa and is one of Tulsa's more vibrant streets. In the PLANiTULSA planning process, citizens identified this location as a destination for a number of service and retail employment opportunities. Because this area is quite urban in form, transit, pedestrian and bicycle infrastructure improvements were emphasized, in lieu of the current auto-centric design. Implementing a new multi-modal approach in this area can help solidify Peoria as a key destination while reducing the need for the automobile to travel between areas of the city.

STEP 2

Determine Area Context and Needs

The PLANiTULSA transportation vision describes Peoria Avenue and 21st Street multi-modal corridors with frequent bus operations. Peoria Avenue and 21st Street must transition to a multi-modal operation with priority placed on moving people via high frequency transit. The corridors will need to be coordinated with adjacent land development to achieve transit stations that are integrated into walkable mixed-use and single family neighborhoods. Prioritizing transit in the signal system and providing queue jumps at intersections will require a partnership with the Public Works Department.

FIGURE 6: SIGNAL PREEMPTION EXAMPLE
IN THE UTICA AVE/21ST ST INTERSECTION



STEP 3

Alternatives Development

High frequency bus lines are different from typical bus lines in many ways. Frequent buses are line haul oriented, meaning they typically stay on one major corridor throughout the route. The headways on these routes can be as low as five minutes depending on the time of day. Frequent bus lines also have features like intelligent systems operations which use GPS technology to make transit riders aware of wait times. Pre-emption and priority signal operation are recommended in these corridors to increase efficiency and travel times. Figure 6 depicts locations where signal preemption could be used in the corridor.

STEP 4

Alternatives Evaluation

A formal alternatives analysis (AA) should be performed to establish ridership estimates on these corridors. Initial analysis conducted during the PLANiTULSA process found the potential for high performance transit ridership. The future AA process should consider more than just ridership. Incorporating the new HUD-DOT-EPA livability principles and PLANiTULSA goals will require the AA to consider livability, sustainability, economic development and the leveraging of public investments into the consideration of transit alignments, technology and service decisions.

STEP 5

Selection of a Preferred Alternative

The preferred alternative for this corridor should advance the six livability principles adopted by the DOT-HUD-EPA Partnership for Sustainable Communities and the new transportation and land use integration goals.

Catalyst Corridor# 3: Cherry Street Conversion to a Main Street

STEP 1

Identify Corridor Vision and Determine Study Area

Cherry Street is home to 21 restaurants and some of Tulsa's finest local and regional art galleries. With the most locally owned businesses in town, Cherry Street includes a variety of retail and home décor shops, salons, and more. The vision is for this area to be the main street of the vibrant and stable neighborhood and further attract locally owned businesses and appropriate urban residential development. Generally, main street activities are concentrated along a two to eight block area, but may extend further depending on the type of adjacent land uses and the area served. The Cherry Street study area extends between Utica and Peoria on 15th Street.

STEP 2

Determine Area Context and Needs

The PLANiTULSA vision describes Cherry Street as a Downtown Neighborhood. These are areas located outside but are tightly integrated with the Downtown Core. Downtown Neighborhoods are primarily pedestrian-oriented and are well-connected to the Downtown Core via local transit.

Cherry Street should be fully adapted into a main street with priority placed on improving the pedestrian realm, increasing public on-street parking, reducing street crossing distances and frequency and enhancing streetscape elements. The transit connection to downtown will be provided by the Peoria High Frequency Bus Line.

STEP 3

Alternatives Development

By placing more emphasis on making the street frontage walkable and direct walking and biking connections to adjacent neighborhoods, tree lawns and detached walks are prioritized over travel lanes. The alternatives were based upon national best practices for converting four lane undivided urban roadways to three lane and two lane facilities. Variations of these lane conversions were tested to better accommodate pedestrians and on-street parking.

STEP 4

Alternatives Evaluation

Using the daily traffic counts, the traffic engineer estimated peak hour turning movement volumes at the intersections of 15th and Peoria and 15th and Utica and tested them using a Synchro traffic model (Figure 7). The traffic engineer concluded that intersection delay was less than a few seconds and level of service was unchanged for through movement and the left turn level of service was greatly improved. Any diversion of traffic due to the reduction in lanes will be absorbed by the parallel facilities of the Broken Arrow Expressway and 21st Street.

Pedestrian and bicycle level of service was not quantitatively tested during this analysis, but qualitatively, the preferred alternative describes a design that has reduced pedestrian crossing distances, frequent mid-block crosses, expanded sidewalks and pedestrian refuge islands.

STEP 5

Selection of a Preferred Alternative

For the purposes of illustrating the urban corridor planning process, this catalyst project simulated the consensus building step that engages the community in the selected alternative by allowing them to score the alternatives (See Figure 8).

Figure 9, on the next page, illustrates a conceptual design of the preferred alternative.

FIGURE 7: SYNCHRO TRAFFIC MODEL OF 15TH, PEORIA & UTICA

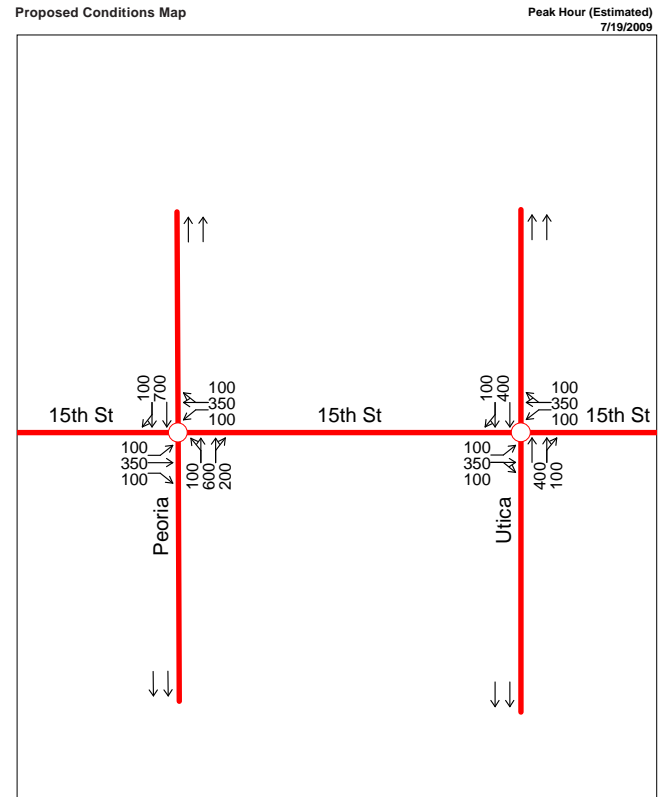
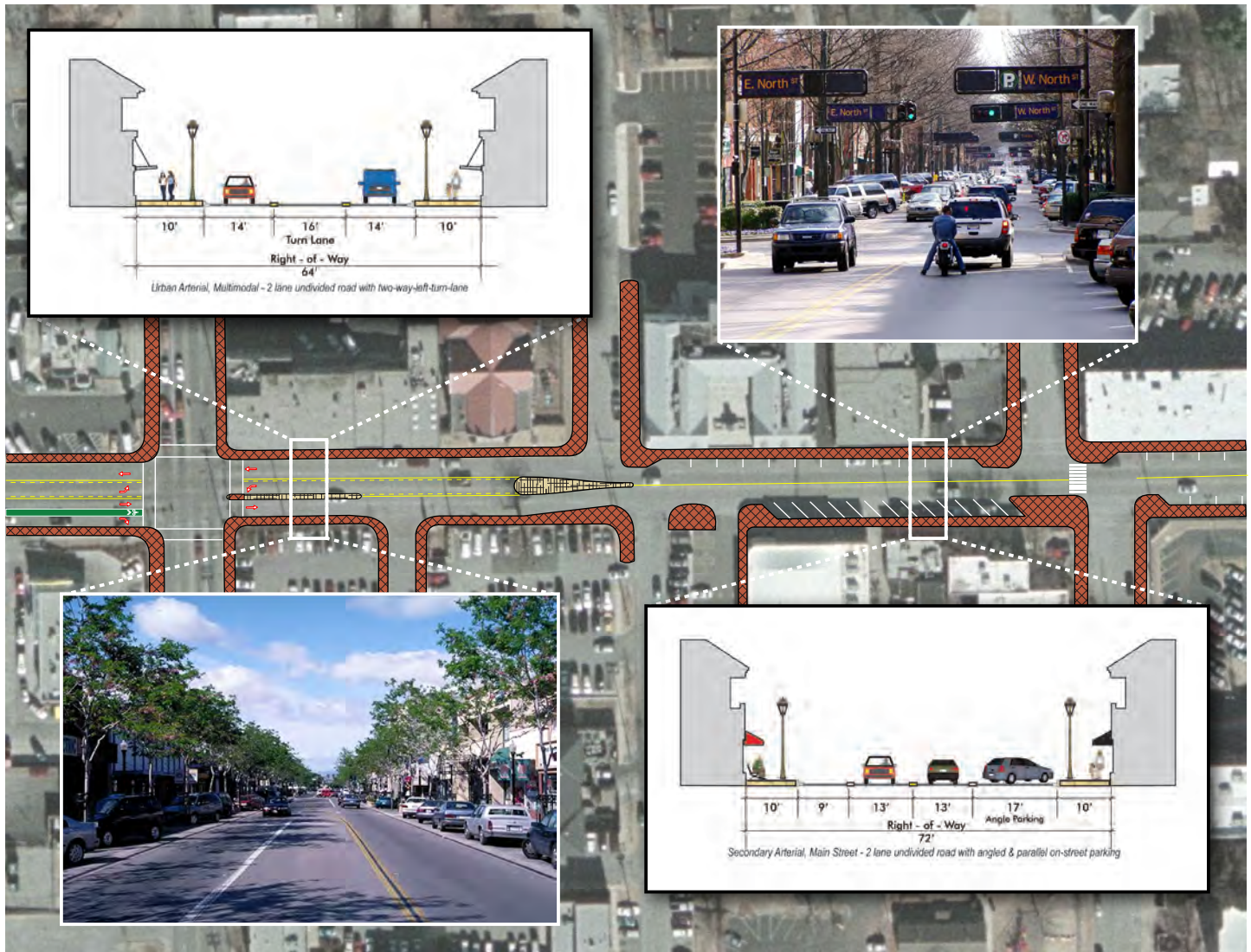


FIGURE 8: SCORING MATRIX OF THE TWO ALTERNATIVES

	Auto Level of Service	Pedestrian Access	Bicycle Access	On-Street Parking	Safety (# of conflict points)
	Alternatives				
Existing Cross Section	++	-	-	+	--
Alternative	+	++	+	++	++

++ Good (achieves objectives)
 + Fair
 - Poor
 -- Fails to achieve objectives

FIGURE 9: CONCEPTUAL DESIGN ALTERNATIVE



Catalyst Corridor #4: Park-Once District on Harvard Avenue at 11th Street

STEP 1

Identify Corridor Vision and Determine Study Area

Adjacent to the University of Tulsa, the segment of Harvard Avenue from 7th Street to 14th Street has potential for re-investment in the form of higher density mixed-use development. Over four thousand students, staff and faculty represent a significant market for retail and service related growth. A key element of the vision is to promote density and encourage walkable developments through the efficient use of parking resources. The vision is to be able to park-once and walk amongst various businesses in the corridor.

STEP 2

Determine Area Context and Needs

PLANiTULSA envisions this area as a main street. Historically, Harvard Avenue functioned as a main street. In the recent past it has assumed more typical strip commercial development patterns that emphasize automobile over pedestrian access, lot parking over on-street parking and front doors directed towards parking lots instead of sidewalks.

This study recognized that parking conflicts are among the most common problems facing designers, operators, planners and investors seeking to revitalize the corridor. Such problems can be often defined either in terms of supply (too few spaces are available, somebody must build more) or in terms of management (available facilities are used inefficiently and should be better managed). Management solutions will best serve this area's parking issues because they support more strategic planning objectives:

- Reduced development costs and increased affordability
- More compact, multi-modal community planning (smart growth)
- Encourage use of alternative modes and reduce motor vehicle use (thereby reducing traffic congestion, accidents and pollution)
- Improved user options and quality of service, particularly for non-drivers
- Improved design flexibility, creating more functional and attractive communities
- Ability to accommodate new uses and respond to new demands
- Reduced impervious surface and related environmental and aesthetic benefits

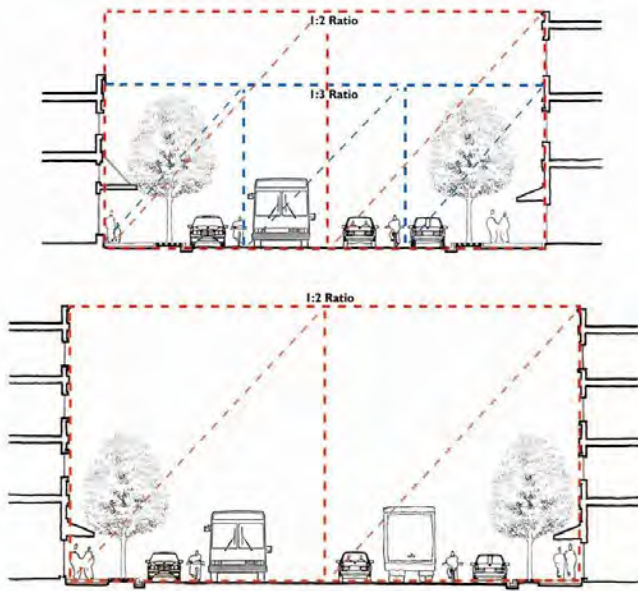
The key to the successful revitalization of Harvard Avenue is convenient parking, either on-street or in a shared public parking lot. In order to ensure the walkability of Harvard Avenue, careful consideration must be given to the design elements, sizes, and numbers of parking lots.

STEP 3

Alternatives Development

For main streets to promote walking, bicycling, and transit, parking issues must be resolved at the onset of the redevelopment process. The most fundamental element of a main street is walkability. Walkability includes more than sidewalks for pedestrian access. People will choose to walk if distances between attractions are less than a one-quarter mile, destinations are practical (grocery or pharmacy) and the walk is pleasant and interesting. This last element is achieved by creating a human scale as depicted in Figure 10. The prevailing building heights of two to three stories in relation to the street cross section create a good human scale in relation to the street cross section of Harvard Avenue. The gaps in the

FIGURE 10: IDEAL HEIGHT TO STREET WIDTH RATIO,
ITE CSS MANUAL



human scale occur when the building frontage is interrupted by parking lots, auto scaled developments and vacant lots. These gaps are perpetuated by the use of conventional planning tools that determine how much parking to provide at a particular site based on recommended minimum parking standards dictated by Tulsa Zoning Code. This provides an index or parking ratio used to calculate the number of spaces to supply at a particular location. These are unconstrained and unadjusted values, which generally reflect the maximum supply that could be needed.

Tulsa is considering the adoption of a zoning category that establishes parking management districts. This district would provide adjusted parking requirements and a management plan for a particular area, such as a main street corridor. The parking management district will set the parking spaces available for public use (including spaces that are available for sharing on a contractual basis) in the district. Accordingly, the Harvard Avenue at 11th Street area, under such a zoning category could begin to provide parking through Shared Use Agreements among users and future shared parking lots. For purposes of meeting

parking standards, the entire area within the parking management district would be considered one lot and would require the provision of a minimum amount of spaces. In order to measure compliance for a new site plan or certificate of occupancy, the applicant must provide a table demonstrating compliance with the requirements of the parking management district. The parking management district must demonstrate how the new development's parking needs will be met, using shared, public or contract spaces. Figure 11, adapted from the Victoria Transport Institute, outlines the adjustments to the parking thresholds that can be used by the district and/or applicant to reduce the parking need.

The entity responsible for managing the required parking within the parking management district, limited to the board of a public improvement district (PID), tax increment financing reinvestment zone (TIF), or parking authority such as the Tulsa Parking Authority, the City, or other governmental entity established under Oklahoma law must provide a plan of action to fulfill parking and walkability requirements with a list of contingency projects that are phased in accordance to the pace of development and re-development. A sample contingency plan might include:

- Shared parking agreements
- On-street parking signage and markings
- Off-street shared parking signage
- On-street parking meters
- Pedestrian crossings, curb-extensions and intersection landscaping
- Public parking lot and signage
- Corridor streetscaping
- District parking garage
- Florence Avenue bicycle boulevard
- Indianapolis Avenue realignment and public plaza

FIGURE 11: PARKING MANAGEMENT STRATEGIES, EVALUATION AND PLANNING (VICTORIA TRANSPORT INSTITUTE)

Factor	Description	Typical Adjustments
Geographic Location	Vehicle ownership and use rates in an area.	Adjust parking requirements to reflect variations identified in census and travel survey data.
Residential Density	Number of residents or housing units per acre/hectare.	Reduce requirements 1% for each resident per acre: Reduce requirements 15% where there are 15 residents per acre, and 30% if there are 30 residents per acre.
Employment Density	Number of employees per acre.	Reduce requirements 10-15% in areas with 50 or more employees per gross acre.
Land Use Mix	Range of land uses located within convenient walking distance.	Reduce requirements 5-10% in mixed-use developments. Additional reductions with shared parking.
Transit Accessibility	Nearby transit service frequency and quality.	Reduce requirements 10% for housing and employment within ¼ mile of frequent bus service, and 20% for housing and employment within ¼ mile of a rail transit station.
Carsharing	Whether a carsharing service is located nearby.	Reduce residential requirements 5-10% if a carsharing service is located nearby, or reduce 4-8 parking spaces for each carshare vehicle in a residential building.
Walkability	Walking environment quality.	Reduce requirements 5-15% in walkable communities, and more if walkability allow more shared and off-site parking.
Demographics	Age and physical ability of residents or commuters.	Reduce requirements 20-40% for housing for young (under 30) elderly (over 65) or disabled people.
Income	Average income of residents or commuters.	Reduce requirements 10-20% for the 20% lowest income households, and 20-30% for the lowest 10%.
Housing Tenure	Whether housing are owned or rented.	Reduce requirements 20-40% for rental versus owner occupied housing.
Pricing	Parking that is priced, unbundled or cashed out.	Reduce requirements 10-30% for cost-recovery pricing (i.e. parking priced to pay the full cost of parking facilities).
Unbundling Parking	Parking sold or rented separately from building space.	Unbundling parking typically reduces vehicle ownership and parking demand 10-20%.
Parking & Mobility Management	Parking and mobility management programs are implemented at a site.	Reduce requirements 10-40% at worksites with effective parking and mobility management programs.
Design Hour	Number of allowable annual hours a parking facility may fill.	Reduce requirements 10-20% if a 10 th annual design hour is replaced by a 30 th annual peak hour. Requires overflow plan.
Contingency-Based Planning	Use lower-bound requirements, and implement additional strategies if needed.	Reduce requirements 10-30%, and more if a comprehensive parking management program is implemented.

This table summarizes various factors that affect parking demand and optimal parking supply.

STEP 4 Alternatives Evaluation

A comprehensive parking management program that includes an appropriate combination of cost-effective strategies can usually reduce the amount of parking required at a destination by 20-40%, while providing additional social and economic benefits.

As a demonstration project, this area should be analyzed every five years to demonstrate the ability of main streets to park-once and walk amongst various destinations, thus reducing arterial trips by auto. Figure 12, on the next page, describes a list of reductions that should be tested.

Special care is needed when predicting the impacts of a program that includes multiple parking management strategies. Be careful to take into account strategies with overlapping impacts. For example, Transportation Management Associations (TMAs) provide an institutional framework for implementing strategies that directly affect parking requirements. While it would be true to say that a TMA can reduce parking requirements by 10-30% compared with not having such an organization, it would be incorrect to add the demand reductions of the TMA to the impacts of the individual strategies it helps implement.

FIGURE 12: PARKING MANAGEMENT STRATEGIES, EVALUATION AND PLANNING (VICTORIA TRANSPORT INSTITUTE)

Strategy	Description	Typical Reduction	Traffic Reduction
Shared Parking	Parking spaces serve multiple users and destinations.	10-30%	
Parking Regulations	Regulations favor higher-value uses such as service vehicles, deliveries, customers, quick errands, and people with special needs.	10-30%	
More Accurate and Flexible Standards	Adjust parking standards to more accurately reflect demand in a particular situation.	10-30%	
Parking Maximums	Establish maximum parking standards.	10-30%	
Remote Parking	Provide off-site or urban fringe parking facilities.	10-30%	
Smart Growth	Encourage more compact, mixed, multi-modal development to allow more parking sharing and use of alternative modes.	10-30%	✓
Walking and Cycling Improvements	Improve walking and cycling conditions to expand the range of destinations serviced by a parking facility.	5-15%	✓
Increase Capacity of Existing Facilities	Increase parking supply by using otherwise wasted space, smaller stalls, car stackers and valet parking.	5-15%	
Mobility Management	Encourage more efficient travel patterns, including changes in mode, timing, destination and vehicle trip frequency.	10-30%	✓
Parking Pricing	Charge motorists directly and efficiently for using parking facilities.	10-30%	✓
Improve Pricing Methods	Use better charging techniques to make pricing more convenient and cost effective.	Varies	✓
Financial Incentives	Provide financial incentives to shift mode such as parking cash out.	10-30%	✓
Unbundle Parking	Rent or sell parking facilities separately from building space.	10-30%	✓
Parking Tax Reform	Change tax policies to support parking management objectives.	5-15%	✓
Bicycle Facilities	Provide bicycle storage and changing facilities.	5-15%	✓
Improve Information and Marketing	Provide convenient and accurate information on parking availability and price, using maps, signs, brochures and the Internet.	5-15%	✓
Improve Enforcement	Insure that regulation enforcement is efficient, considerate and fair.	Varies	
Transport Management Assoc.	Establish member-controlled organizations that provide transport and parking management services in a particular area.	Varies	✓
Overflow Parking Plans	Establish plans to manage occasional peak parking demands.	Varies	
Address Spillover Problems	Use management, enforcement and pricing to address spillover problems.	Varies	
Parking Facility Design and Operation	Improve parking facility design and operations to help solve problems and support parking management.	Varies	

This table summarizes the parking management strategies described in this report. It indicates the typical reduction in the amount of parking required at a destination, and whether a strategy helps reduce vehicle traffic, and so also provides congestion, accident and pollution reduction benefits.

STEP 5

Selection of a Preferred Alternative

Developing an integrated parking plan requires the following steps:

DEFINE SCOPE

Define the geographic scope of analysis, such as the site, street, district/neighborhood and regional scale. It is desirable to plan for a walkable area, such as a business district or neighborhood, since this is the functional scale of parking activities.

DEFINE PROBLEMS

Carefully define parking problems. For example, if people complain of inadequate parking it is important to determine where, when and to whom this occurs, and for what types of trips such as deliveries, commuting, shopping or tourism.

STRATEGIC PLANNING CONTEXT

Parking planning should be coordinated with a community's overall strategic vision. This helps ensure that individual decisions reflect broader community objectives.

ESTABLISH EVALUATION FRAMEWORK

Develop a comprehensive evaluation framework. This provides the basic structure for analyzing options, ensuring that critical impacts are not overlooked and different situations are evaluated consistently.

SURVEY CONDITIONS

Survey parking supply (the number of parking spaces available in an area) and demand (the number of parking spaces occupied during peak periods) in the study area.

IDENTIFY AND EVALUATE OPTIONS

Develop a list of potential solutions using ideas from this report and stakeholder ideas. Evaluate each option with respect to evaluation criteria.

DEVELOP AN IMPLEMENTATION PLAN

Once the components of a parking management plan are selected, the next step is to develop an implementation plan. This may include various phases and contingency-based options. For example, some strategies will be implemented the first year, others within three years, and a third set will only be implemented if necessary, based on performance indicators such as excessive parking congestion or spillover problems. Figure 13 depicts a conceptual parking management strategy with locations for a surface parking lot (near term) and potential structured garage (long-term).

The preferred alternative should result in a minimum reduction of 5 to 15% from existing parking requirements. The parking district will also represent a change from current practices, thus various obstacles must be overcome for parking management to be implemented. Current planning practices are based on the assumption that parking should be abundant and provided free of charge, with costs borne indirectly, incorporated into building construction costs or subsidized by governments. Current parking standards tend to be applied inflexibly, with little consideration

of demographic, geographic and management practices that may affect parking requirements. Parking management requires a change in the current development, zoning and design practices. Public officials, planners and the public will have to change the way they think about parking problems and solutions, and become familiar with the full menu of available parking management strategies and the benefits they can provide. It requires institutions and relationships, such as transportation management associations, and activities to improve enforcement and addressing potential spillover impacts.

The strategies and steps outlined in this section can be employed at this location and other areas. PLANiTULSA identifies many potential Main Street areas where parking management strategies can remove barriers to growth while preserving the walkability and the integrity of the built environment.

FIGURE 13: CONCEPTUAL PARKING MANAGEMENT STRATEGY



Appendix

Transportation III Sustainable Network Initiative

A network is a structure of streets and highways that serves and connects multiple places and people via multiple modes of travel. A network approach to transportation projects focuses on connecting people to places — ultimately allowing places to become more intense centers of economic development. A highly-networked system of streets, with at least 150 intersections per square mile, has redundant routes, compact block sizes, sidewalks, narrower streets and a greater capacity than unconnected street systems. In Tulsa, older core neighborhoods like downtown, Lacy Park and Maple Ridge are good examples; many suburban neighborhoods developed more recently exemplify disconnected networks.

Well-connected networked streets provide greater mobility and access. By their nature, networked streets provide shorter, more direct routes between destinations. This increases the efficiency and reliability of the road network. During times of congestion or construction, drivers have more opportunities to switch to different routes and avoid delay. This is especially important for emergency responders as they need the fastest, most direct route to a fire or medical emergency.

Networked streets improve health and safety. In addition to improving emergency access and response times — by providing multiple, more direct routes — networked streets can reduce vehicular crash severity. A system of compact blocks and streets increases the opportunities for and performance of other modes of travel, such as walking, bicycling, and taking transit.

Finally, sustainable networks represent a cost effective alternative to expensive grade separations, interchanges and corridors that require extensive right-of-way purchases. Creating networks takes a greater level of planning and creative design, but their results are sustainable in terms of capital and maintenance costs. INCOG and the City of Tulsa should examine a network alternative to any major roadway widening, grade separation or new functionally classified street analysis.

Project Development Process — Network Alternative Analysis

INCOG and the City of Tulsa should explore an addition to the local roadway project development process that includes the examination of a street network alternative. In place of study *corridors*, study *areas* should be examined for their capacity to move people via multiple transportation modes. This process would evaluate improvements from a network perspective, and not just corridor metrics.

Traditionally, the key performance measure for transportation planning has been vehicular Level of Service (LOS) — a measure of automobile congestion. Sustainable network planning takes a broader look at how the system serves all users. Tulsa should measure success through a number of ways: the miles of on-street bicycle routes created; new linear feet of pedestrian accommodation; changes in the number of people using public transportation, bicycling, or walking (mode shift); number of new street trees; and/

or the creation or adoption of a new multi-modal LOS standard that better measures the quality of travel experience. The fifth edition of the Transportation Research Board's *Highway Capacity Manual*, due in 2010, will include this new way of measuring LOS. Cities like San Francisco and Seattle have already begun to develop their own standards including:

Conventional

- Vehicle hours of delay
- Speed
- Volume/capacity
- Vehicle miles traveled
- Volumes of auto trips
- Transit trips

Enhanced

- Mode share (walk, bike, transit, auto)
- Accessibility measures
- Lane miles by functional class
- Connectivity indices (intersections/sq. mi.)
- Travel time
- Route directness

This process will require portions of the travel demand model to be updated with a finer grain of network detail and possible use of a micro-scale model to examine network and modal conflicts. This process should result in roadway solutions that meet the current traffic demands by building a street network that can adapt to future changes in energy availability and personal travel choices.

Project Development Process-Multi-Modal Alternative Analysis

A multi-modal transportation system is described as a network of facilities designed for shared use with seamless linkages between at least two or more modes of transportation.

A multi-modal system requires coordination between multiple, connected transportation options and land development. The resulting system will allow people the opportunity to conveniently travel to places where they work, live and play.

Effective multi-modal transportation systems require a phasing of implementation through incremental investments over decades. Investments will require the involvement of complementary transportation agencies over short-term and long-term capital improvement cycles and planning periods. For example, Copenhagen, Denmark, which is considered a model for pedestrian-friendly streets, gradually realized its multi-modal vision over a 30-year period. It formed consensus for significant change in its urban form and its citizens' lifestyles by demonstrating the benefits of that change over time.

Extensive inter- and intra-agency coordination is needed to coordinate and accomplish the many projects and initiatives inherent in developing a multi-modal transportation system. Multi-modal systems are derived from multi-disciplinary plans — project development coordination and smart growth land development regulations that consider the mobility of multiple modes. Linear thought processes that typically drive major public and private investments must be supplanted with methods to meet mobility and livability desires of end users.

During the PLANiTULSA process, travel demand modeling software was used to estimate how street connectivity, walkability, mixed-use developments, and transit investments could mitigate future traffic congestion. These methods should be further developed and adopted for all future transportation planning efforts in the region.

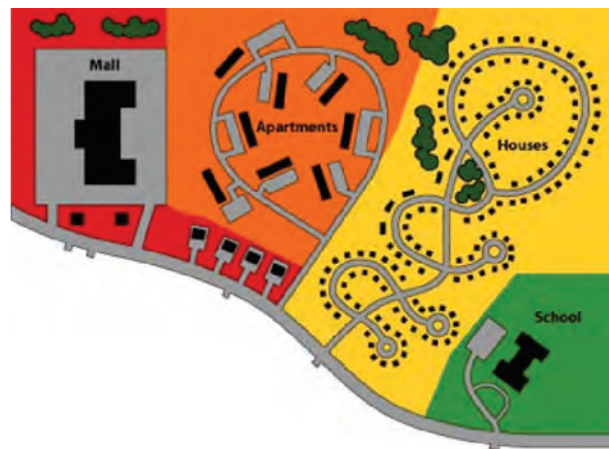
Project Development Process — Subdivision Connectivity Analysis

In concert with the Network Alternatives Analysis, private development in these areas should be designed with a well-connected street system. Neighborhoods designed with one or two streets feeding into a collector or arterial have several negative impacts. Trips are typically longer, even when “as the crow flies” distances are short. They usually require a motorist or pedestrian to make some portion of the trip on a major road or arterial. All of these factors add to greater capacity needs on arterials, thus increasing capital and maintenance costs, while discouraging short trips on foot.

A well-connected street system, in contrast, has many short streets and intersections and few dead-ends. Travel can be more direct, because the network provides many different routes, instead of one or two main corridors. Trips between destinations within the neighborhood can stay within the neighborhood, lessening the need for more arterial capacity. Travel by foot or bicycle is easier on these networks. These networks can include cul-de-sacs, as long as they are not so frequent as to impede direct travel.

COMPARING NETWORK CONNECTIVITY

A disconnected network is not walkable and requires the use of arterial for local trips.



A connected network provides many routes for local travel, makes walking and biking easier, and lessens the impact on arterials.

Connectivity Criteria

To ensure that local travel places fewer demands on arterials and is easier to do by foot and bike, Tulsa should adopt a set of connectivity standards for new neighborhoods and subdivisions. The following is a sample set of criteria for these standards.

General Criteria

A proposed development or subdivision should provide multiple direct connections in its local street system to and between local destinations, such as parks, schools, and shopping, without requiring the use of arterial streets. New development or subdivisions should incorporate and continue all collector and local streets stubbed or planned at its boundary. Dead-end streets that are not cul-de-sacs should not be permitted except in cases where such streets are designed to connect with future streets on abutting land. Gated street entries on public streets into residential neighborhoods or developments should not be allowed.

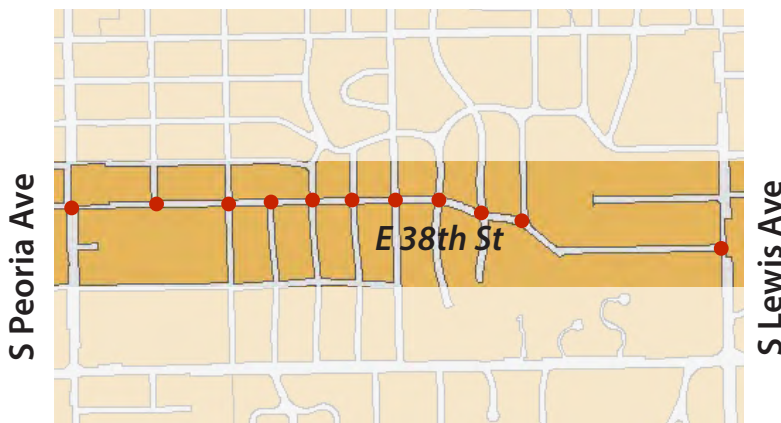
Street Connectivity Standards

New developments and subdivisions should be designed with streets with eight to ten intersections per mile. Most intersections are street-to-street, but other types of junctions should also count toward meeting the connectivity standard:

- Pedestrian or bicycle trail access points
- Alley access points (ungated)
- Sharp curves with 15 mpg design speeds or less
- Cul-de-sacs no more than 250 feet in length
- Cul-de-sacs up to 500 feet in length, if they include a pedestrian connection to another street or trail

Connectivity standards are not intended to force new development to take place only on a grid-type layout. Many of Tulsa's early neighborhoods were built with with curvilinear streets that are a pleasure to travel on but still provide good connections. By using a set of flexible standards, like those above, developers will still have a great deal of flexibility in how they design their projects.

GOOD CONNECTIVITY IN TULSA



A one-mile segment of East 38th Street, between South Peoria and Lewis Avenues, has eleven connections. The streets surrounding it are not on a uniform grid, but they permit travel through the neighborhood.

Appendix

Housing Methodology and Assumptions

Tulsa's future housing needs analysis used a model to determine what kinds of housing Tulsans might demand in the future, and to identify market opportunities. The model's results are driven by current and projected demographics and local tenure (ownership versus rental) choices. The model's outputs include needed housing units by tenure by income range. The model was used to find gaps that may represent current unmet needs and future housing needs.

In many areas around the country, the standard practice for estimating future housing need has been to simply extrapolate past trends forward in order to determine future housing requirements. However, it seems unlikely that the future is going to mimic the past. Fregonese Associates' Balanced Housing Model was used to determine the need by tenure choice and income level. In this model, "affordable" is not referring to low-income housing, but rather to the relationship between incomes and housing costs. The "30% rule" assumes that housing is only affordable for a household if it spends less than 30% of its gross income on housing expenses.

The model approach was based on research showing that two variables — age of head of household (Age-A) and household income (Income-I) — demonstrated significantly stronger correlation with housing tenure than other variables, including

household size. These two variables are the primary demographic variables for the model. As one might expect, different Age/Income (AI) cohorts make significantly different housing tenure choices. For example, a household headed by a 53 year-old that earns \$76,000 is likely to make a different housing choice than one headed by a 29 year-old that earns \$28,000.

In the data sources for the population estimate, people living in group quarters and occupied housing units were taken from 2007 American Community Survey (ACS) of the Census Bureau. The number of households in each AI cohort for Tulsa was calculated by using census data to determine the percentages of households that are in the 28 AI cohorts (4 age cohorts and 7 income cohorts).

The census-generated tenure parameters used in the model represent the probabilities of being a renter or homeowner for each of the 28 AI cohorts. Based on these tenure parameters, the model allocates those households in each AI cohort to an indicated number of rental and ownership units that are affordable for the Income range for that cohort. The model then aggregates the units demanded within each income range to show the total units that could be afforded at each income range by tenure.

Appendix

HOUSING: METHODOLOGY AND ASSUMPTIONS

In the housing chapter, we made several assumptions in order to translate the future housing demand by price-point and tenure (rental and owner) into housing demand by type of unit. These assumptions were based on a combination of our market research in Tulsa, national research studies related to shifting housing preferences, and the housing preferences of residents in other American regions.

First, in order to estimate Tulsa's demand by unit type and by income, we made specific assumptions of the unit preferences of Tulsa's future population by tenure and income. For renters, we assumed that demand for single-family housing would range from almost none from households earning less than \$15,000 annually to 85% of households earning over \$100,000 annually. For owner-occupied housing, we assumed that demand for single-family housing would range

from 60% for households earning less than \$35,000 annually to over 90% for households earning over \$100,000 annually. Related to these assumptions were complementary ranges of townhomes and multi-family units (which includes both condominiums and rental apartments). We created the future demand profile for Tulsa using the assumptions identified in the Tulsa Future Housing Demand Profile table.

Then, in order to compare this future housing demand profile with the Tulsa 2030 Goal, we made assumptions about the percentage of each building prototype — rental or owner. It should be noted that since each prototype building was considered to be exclusively renter or owner-occupied, the percentages identified in the Building Prototypes table reflect the percentages of buildings of each type.

Tulsa Future Housing Demand Profile

	Percentage
Single-Family	65%
Townhouse	8%
Muti-Family	27%

Building Prototypes Rental and Ownership Mix	Type of Unit	Percent Rental	Percent Owner
Mixed-Use Residential Retail - 4 Story	Multi-Family	80%	20%
Live Work - 2 Story	Townhome	10%	90%
Mixed-Use Apartment Retail - 2 Story	Multi-Family	100%	0%
Residential Retail - 10 Story	Multi-Family	80%	20%
High Density Condo or Apartment - 5 Story	Multi-Family	70%	30%
Apartment	Multi-Family	90%	10%
Townhome	Townhome	20%	80%
Cottage Home	Single-Family	10%	90%
Single-Family 5-8K lot	Single-Family	5%	95%
Single-Family 8-15K lot	Single-Family	0%	100%
Single-Family Estate	Single-Family	0%	100%
Single-Family Rural	Single-Family	0%	100%

Finally, the detailed pro-forma analysis behind the prototype buildings allowed us to estimate the affordable price points for rental and ownership households for the average unit in each of Tulsa's prototype buildings. It is assumed that each prototype household's monthly housing costs would equate to no more than 30% of the household's gross monthly income.

Building Type	Renter Category (by Income)	Owner Category (by Income)
Mixed-Use Residential Retail - 4 Story	\$35,000 < \$50,000	\$35,000 < \$50,000
Live Work - 2 Story	\$15,000 < \$35,000	\$35,000 < \$50,000
Mixed-Use Apartment Retail - 2 Story	\$15,000 < \$35,000	\$15,000 < \$35,000
Residential Retail - 10 Story	\$15,000 < \$35,000	\$15,000 < \$35,000
High-Density Condo or Apartment - 5 Story	\$15,000 < \$35,000	\$35,000 < \$50,000
Apartment	\$15,000 < \$35,000	\$15,000 < \$35,000
Townhome	\$50,000 < \$75,000	\$35,000 < \$50,000
Cottage Home	\$35,000 < \$50,000	\$35,000 < \$50,000
Single-Family 5-8K lot	\$50,000 < \$75,000	\$50,000 < \$75,000
Single-Family 8-15K lot	\$50,000 < \$75,000	\$75,000 < \$100,000
Single-Family Estate	\$75,000 < \$100,000	\$100,000 < \$150,000
Single-Family Rural	\$75,000 < \$100,000	\$100,000 < \$150,000

Appendix Glossary

The following terms are used in the PLANiTULSA Comprehensive Plan. The glossary is not intended to be used to interpret policy, but rather as a reference for citizens on concepts used in the plan.

ACCESS MANAGEMENT: A practice of ensuring that roads, driveways, and other access points to a transportation system are designed and located in a way that limits traffic congestion.

AREAS OF GROWTH: Parts of the city where growth, development, or redevelopment is expected to occur over the life of the plan. Such places can include downtown, undeveloped land, and underutilized parcels along major corridors.

AREAS OF STABILITY: Parts of the city which are expected to remain largely unchanged over the life of the plan. Such places can include existing single-family neighborhoods, parks and open space.

ARTERIAL STREET: A street that provides a direct route for long-distance travel within the city. The streets that form the square mile grid such as 51st Street, 61st Street, Harvard Avenue and Lewis Avenue are arterial streets.

BENCHMARKS: A specific measure used to track progress toward a defined goal or objective.

BEST MANAGEMENT PRACTICES (BMP): Methods, measures, practices, and maintenance procedures intended to prevent or reduce water pollution.

BIG BOX: A large single-tenant, warehouse-like retail building, such as membership buying clubs and home improvement stores, typically with a large surface parking lot.

BROWNFIELD: Abandoned, idled, or under-used industrial and commercial sites where redevelopment is complicated by environmental contamination. They can be in urban, suburban, or rural areas.

BUFFER: An area of land, which may include landscaping, tree stands, berms, walls, fences, and building setbacks, that is located between land uses of different character or intensity, and is intended to mitigate potential negative impacts of the proximity and adjacency of such different uses.

BUILD-OUT CAPACITY: An estimate of the total amount of housing, employment, and retail uses that would be created if all of Tulsa's land were developed at the densities and intensities described by the plan. Calculating build-out capacity is a way of testing whether a plan is sufficient to meet the amounts of new households and jobs forecast over the life of the plan.

BUS RAPID TRANSIT (BRT): An enhanced system of bus transit that uses such features as specially designed buses, dedicated bus lanes, traffic signal priority and off-board fare collection. BRT is a less expensive alternative to light rail that can be designed to share many of the attractive features of light rail while offering greater flexibility for integration into existing roadways.

BUSINESS IMPROVEMENT DISTRICT (BID): A special tax assessment district in which property owners agree to have additional charges placed on their tax bills in order to fund services beyond those provided by the local government. These services can include extra maintenance, improved street lighting, beautification, promotional activities, and heightened security

CAPITAL IMPROVEMENT PROGRAM (CIP, 5-YEAR CAPITAL PLAN): The City's short range list of approved public infrastructure projects and equipment purchases laid out on a schedule for implementation. The CIP provides a link between the City's long-range plan (PLANiTULSA comprehensive plan) and the annual budget.

CHARRETTE: An intense, extended meeting in which government officials, citizens, developers and community leaders work collaboratively to develop a solution to a design problem. The charrette is intended to provide an alternative to what can otherwise become an adversarial process by developing joint ownership over the solutions developed.

COMMUNITY DEVELOPMENT CORPORATION: A non-profit corporation established to conduct programs and undertake development projects in support of a community. They are generally formed to focus on real estate development, economic development, and neighborhood investment and revitalization in economically distressed areas.

COMMUTER STREET: A multi-lane road designed to carry automobiles and freight traffic. Access management techniques are used to minimize curb cuts, which can slow traffic and contribute to congestion. They are contrasted with multi-modal streets, which are designed to accommodate transit, pedestrians, cyclists, as well as autos.

COMPREHENSIVE PLAN: An overarching policy guide

for a city's growth, development, and management. It is designed to implement a citywide Vision, which describes the look, function and feel of the city in the future, as expressed by its citizens today.

CONNECTIVITY: See Street Connectivity

CONTEXT SENSITIVE SOLUTIONS (CSS): The practice of developing transportation projects that fit into the character of surrounding neighborhoods while maintaining safety and mobility. Designed through a collaborative process that involves all stakeholders, the resulting projects serve all users including transit, bicycles and pedestrians, and meet the needs of the neighborhoods through which they pass.

COTTAGE HOME: A detached or semi-detached home on a smaller than average lot. Cottage homes are often clustered around a common space such as a yard or playground. Cottage homes provide some of the benefits of a typical single-family home, at a lower cost and higher density.

CUL-DE-SAC: A local street having one end open to vehicular traffic and the other end permanently closed at a vehicular turnaround.

CURB CUTS: Driveways and other interruptions in the continuity of street curbs between street intersections, designed to accommodate ramps to vehicular access to sites abutting the street. Curb cuts may be designed for a range of vehicles including trucks, automobiles, bicycles and wheelchairs.

DENSITY: The number of dwelling units per a unit of land area, usually expressed as the ratio of residential units per acre.

DETACHED WALK: A sidewalk that is separated from the street by a tree lawn or vegetation so that pedestrians are better protected from adjacent travel lanes.

DOWNTOWN CORE: Building block of the PLANiTULSA land use plan. The downtown core is Tulsa's primary business district, located within the Inner Dispersal Loop. The downtown core is envisioned as a center of employment, housing, entertainment, shopping, and recreation for the Tulsa region.

DOWNTOWN NEIGHBORHOODS: Building block of the PLANiTULSA land use plan. Downtown neighborhoods are located adjacent to the downtown core, and include both high density employment and housing. Downtown neighborhoods include the Brady Village District, the Pearl District, and the OSU-Langston University campuses.

EXISTING RESIDENTIAL NEIGHBORHOOD: Building block of the PLANiTULSA land use plan. The consist primarily of already-developed areas with single-family homes. These areas are not envisioned as areas of major growth or change over the life of the plan.

FEE SIMPLE DEVELOPMENT: A development designed with each unit on its own lot, so that owners maintain title to the property and structures. Single family detached dwellings, and sometimes row housing can be "fee simple". Condominiums are not "fee simple" because the land is owned in common.

FISCAL SUSTAINABILITY: Refers to the ability of local government to adequately fund the capital improvements and operations of its urban infrastructure and services.

FIXED GUIDEWAY: Transit service that uses exclusive, or controlled rights-of-way or rails. The term includes heavy rail, commuter rail, light rail, and bus service operating in exclusive or controlled rights-of-way.

FLEX-SPACE: A building providing flexibility among office and other uses such as manufacturing, laboratory, warehouse, etc.

FLOODPLAIN: The land area susceptible to inundation by water as a result of flood. Typically a floodplain is geographically defined by the likelihood of a flood of a certain severity.

FLOOR AREA RATIO: The total floor area of a building or buildings (including all floors in a multi-story building) on a lot, divided by the lot area.

FORM-BASED ZONING CODE: An alternative to conventional zoning that regulates the physical form of a building while placing much less emphasis on land use and parking. The look, scale, and layout of an area are controlled, but building owners and occupants have much lower off-street parking requirements and greater flexibility in the type of activities and uses for their properties.

GEOGRAPHIC INFORMATION SYSTEMS (GIS): A computer based mapping and database tool that allows users to create detailed maps depicting information that varies over geographic areas. GIS also enables interactive searches and analysis of spatial information.

GROWTH CAPACITY: The amount of growth that an area could reasonably accommodate based on zoning code and other development constraints.

GROWTH FORECAST: An approximation of expected growth in population, employment, housing, and other socioeconomic indicators, based on specific policy decisions and market assumptions.

GROWTH SCENARIOS: Several alternative arrangements of land uses, jobs and housing developed to represent possible future realities. Scenarios are developed to study and illustrate the potential effects of particular policies or investments based on known trends and driving forces. They can help inform decisions that affect the future.

GROWTH TARGETS: Numbers representing increases in population, housing, jobs, and other socioeconomic indicators that are established as goals to guide policy and to provide a framework for monitoring development activity.

HEAT ISLAND EFFECT: The effect in urban areas of increases in materials (particularly concrete) where heat is stored and radiated back into the environment. This effect has been known to increase downtown temperatures by more than 10-degrees when compared with surrounding areas. Increased air temperature caused by the heat island effect speeds up the reactions that form smog.

HIGH FREQUENCY BUS: A bus transit service that operates with short spacing between stops, and operates in traffic in traffic (unlike Bus Rapid Transit, which usually has a dedicated lane). High Frequency Bus lines usually arrive every 15 to 20 minutes, and provide real-time arrival information for riders via web, mobile phone, or reader board services.

IMPLEMENTATION: The execution of a plan or policy. Implementation in city planning often is measured by the extent to which the private market can create the types of housing, employment, or places envisioned in a plan.

IMPLEMENTATION MEASURE: A specific technique, strategy or new tool designed to bring about the success of a specific plan goal or objective.

IMPLEMENTATION MONITORING: An on-going evaluation of whether the outcomes envisioned in a plan are being met. Common measures include whether a targeted amount of housing was built over a period of time (i.e. the number of apartment or condominium units constructed in downtown neighborhoods per year). Monitoring is crucial to ensure that a plan achieves the city's vision.

IMPERVIOUS SURFACE COVERAGE: The percentage of lot area that is covered by solid or dense surface through which rain or irrigation water cannot penetrate. Large areas of impervious surface can increase stormwater runoff as well as the cost of stormwater management programs.

INCOG: Indian Nations Council of Governments, a voluntary association of local governments in the Tulsa region. Members include Creek, Osage, Tulsa, Wagoner, and Rogers counties, and their affiliated cities and towns. INCOG also serves as the federally recognized Metropolitan Planning Organization (MPO) responsible for the distribution of federal transportation funding among many jurisdictions.

INFILL: New construction on undeveloped, underdeveloped or redeveloped sites in areas which are already largely built.

INFRASTRUCTURE: Streets, curbs, gutters, and stormwater, wastewater, and water distribution systems generally owned and maintained by the City or other public agency. Public investments such as transit, parks, libraries and schools are also included.

INTEGRATED STORMWATER MANAGEMENT: A strategy to mitigate non-point source pollution and manage conveyance of stormwater using traditional techniques as well as alternative strategies such as: overall site design to preserve natural drainage characteristics and improve on-site treatment of run-off by harnessing the natural filtering properties of plants and allowing water to recharge naturally through the soil.

INTELLIGENT TRANSPORTATION SYSTEMS (ITS): An overarching term for the use of information and communication technologies to improve transportation systems. Applications include using data from traffic cameras, satellite global positioning systems, and other real-time systems to manage signals, flexible traffic lanes, and other tools. In sum, ITS makes efficient use of a transportation system's total capacity, to lessen congestion and/or the need for bigger facilities.

JOBS-HOUSING BALANCE: The distribution of employment relative to occupied housing in a particular area. Balancing housing and jobs is intended to provide choices for citizens in a wide range of income levels to work close to where they live. By contrast, jobs-housing imbalance results in longer trips to and from work and can result in increased traffic congestion and the need to construct more and larger roads.

LAND USE: The policies and guidelines for transforming the natural environment into built environment such as farms and cities. Land use categories describe how places will look, feel and function, according to an overall plan. Land use policies guide zoning regulations, which apply specific standards to individual development projects.

LEVEL OF SERVICE (LOS): Standards used to measure the quality or effectiveness of a service such as police, fire protection, or library, or the performance of a facility, such as a street or highway.

LIVE/WORK UNITS: A hybrid of a small retail or office space and a dwelling unit. Typically live/work units have store-front type entries on the ground floor, with living areas upstairs.

LOCAL DESTINATION PARK: A destination park by size, program, and location provides space and recreation activities for a defined service area, the entire city, or significant geographic segment of the city's population. Destination parks offer a variety of components that appeal to a range of ages, interests, and abilities. (From Tulsa Parks Master Plan, 2010)

MAIN STREET: Building block of the PLANiTULSA land use plan. A main street is a mixed-use area, usually with retail shops, restaurants, services, and offices. They can also include residential uses, located above businesses. Main streets usually serve as the center of a neighborhood and are well-connected with surrounding residential areas.

METROPOLITAN PLANNING ORGANIZATION (MPO): A regional government unit that provides service planning, particularly planning for the transportation system.

MIXED-USE CORRIDOR: A land use designation consisting of a combination of high capacity transportation facilities, such as roads, bus or rail lines, and bikeways or sidewalks with connections to commercial, retail, employment and residential uses. They serve as major transportation spines for the city and provide surrounding neighborhoods with amenities and services.

MIXED-USE DEVELOPMENT: A combination or comingling of business and residential land uses, either in the same building or in an arrangement of buildings. Mixed-use developments were common in many cities prior to the mid-twentieth century, after which single-use zoning practices tended to separate homes and businesses from one another.

MULTI-MODAL TRANSPORTATION: The use of more than one type of transportation, particularly the use of modes like bicycles and buses in addition to or other than the single-occupant automobile.

MULTI-MODAL STREET: A transportation facility that includes many modes of travel, including autos, transit, bicycles and walking. They can have multiple lanes, street trees and typically have on-street parking to serve businesses and residences. Development along multi-modal streets is usually more dense and intense than that found on a main street.

NEIGHBORHOOD CENTER: Building block of the PLANiTULSA land use plan. A neighborhood center is a small-scale retail and service area that serves surrounding neighborhoods. It may include some housing, such as condominiums, apartments, or townhomes.

NEW RESIDENTIAL NEIGHBORHOOD: Building block of the PLANiTULSA land use plan. A new residential neighborhood consists of single-family homes on a well-connected street network, can also include townhomes or small-scale apartments or condominiums, and is usually located near Town or Neighborhood Centers.

ONE-STOP-SHOP: A service location where multiple needs can be met in one place. In the context of permitting, a one-stop-shop provides information, forms, and staff assistance to obtain a variety of permits.

OVERLAY: A mapped zone that imposes a set of requirements in addition to those laid out by the underlying zoning regulations. Overlay zones commonly address issues such as environmental conditions, design review requirements or historic preservation.

PEDESTRIAN-FRIENDLY: The design of a development plan or area in a manner that encourages walkability. Relevant design elements include density, site layout, building orientation, infrastructure, lighting, and security.

PERFORMANCE MONITORING: Ongoing evaluation of whether a plan and its policies are delivering their stated outcomes.

PERFORMANCE STANDARDS: Verifiable, measurable levels of service in terms of quantity, quality, and timeliness.

PLANITULSA PROTOTYPE DEVELOPMENT: PLANiTULSA created several conceptual buildings that illustrate how a revised zoning code could enable the market to produce housing, retail, and employment environments not typically found in Tulsa. The Prototype Developments consist of architectural renderings and financial models that demonstrate feasibility. The plan recommends that the City of Tulsa engage with the development community to approve and build one or more of the prototypes as demonstration projects for the new plan and zoning code.

PLANNED UNIT DEVELOPMENT (PUD): A zoning classification that allows flexibility in the design of a subdivision or development project. PUDs can be designed to protect open space or environmentally sensitive areas by clustering development around them.

POLICY: A statement of values and goals to guide the City in making future decisions. Policies may be found within each major goal defined by this plan.

PUBLIC ART: Includes monuments, fountains, murals, sculptures, mosaics or other works of art in any media that are permanently or temporarily planned, executed and installed in public locations for the benefit of the community. Public art enhances public spaces by making them more lively, interactive, interesting and aesthetically pleasing.

PUBLIC-PRIVATE DEVELOPMENT: A government service or private business venture which is funded and operated through a partnership of government and one or more private sector companies

REGIONAL CENTER: Building block of the PLANiTULSA land use plan. Regional centers are mid-rise mixed-use areas with large-scale employment, retail, and civic or educational uses. They attract many workers, residents, and visitors every day, and are considered transit hubs.

RESIDENTIAL COLLECTOR STREET: Roadways consisting of two to four travel lanes, designed with on-street parking, landscaped medians, street trees, and sidewalks to serve pedestrians. These streets are used in neighborhoods, where auto traffic is slow and quiet.

RETURN ON INVESTMENT: The monetary benefit gained from an investment of resources in a development project, usually expressed as a percentage of the original investment.

RIGHT OF WAY (ROW): The area of land owned and controlled by the public or by a utility/railroad company which contains a road, rail line, pipeline, utility, trail or other improvement. Rights of way provide access to infrastructure from multiple properties. The right of way for a roadway may extend

beyond the boundaries of the road curb and sidewalk.

SCENARIO PLANNING: A technique used to test a set of possible futures, based on current or projected trends. The scenarios themselves are usually computer models of a city or region; households, jobs, transportation investments and other factors are arranged on the landscape and then tested using mathematical techniques. Scenarios allow communities to see how decisions today (e.g., locations of new neighborhoods) will affect them tomorrow.

SHARED PARKING DISTRICT: Parking that is used at different times by different users via an agreement to share the spaces. For instance, shops or offices that are open during the day might share spaces with residents who generally need parking only during the early morning, overnight and in the evening. Shared parking enables more efficient use of existing parking spaces, saves on construction and maintenance cost, and facilitates compact urban development.

SMALL AREA PLAN: A plan for a clearly defined part of the city, developed in collaboration with area stakeholders to make specific recommendations for land use, zoning, transportation and other public investments. Small area plans are developed in collaboration with area stakeholders (also known as a *neighborhood plan*).

STREET CONNECTIVITY: The extent to which street systems provide multiple routes and connections serving the same origins and destinations, allowing for the dispersion of traffic through several routes, and redundancy in the case of congestion or blockage.

STREETCAR: An electric rail-borne vehicle, of lighter weight and construction than a train, designed for the transport of passengers on tracks running primarily on arterial streets.

STREETSCAPE: The visual and experiential character of

the linear space defined by the buildings adjacent to a street. The elements of a streetscape include building façades, landscaping, sidewalks, paving, street furniture such as benches, kiosks, trash receptacles, and fountains, and complemented with signs, awnings, and street lighting.

SUBDIVISION: Any division of land into one or more lots (5 lots require a subdivision), parcels, tracts, or areas, or any division of land for sale, development or lease, as a condition of zoning, involving the right-of-way or alignment of an existing or proposed street or highway. (Source: City of Tulsa Subdivision Regulations and Title 19 OS 863)

SUSTAINABLE: Capable of being continued with minimal long-term effect on the environment.

SUSTAINABLE DEVELOPMENT: Development approaches which avoid environmental degradation, while still providing for the needs of economic development, social equity and justice. In its strictest sense, it is development which “meets the needs of the present without compromising the ability of future generations to meet their own needs”.

MAJOR STREETS AND HIGHWAYS PLAN: The City’s plan for a hierarchical street classification system that distinguishes streets based on their ability to move automobile traffic. It identifies roadways based on their functional classification, which serves as the official basis for determining right-of-way requirements and numbers of traffic lanes. Future streets plan updates will focus on context sensitive design, rather than simply moving traffic.

TARGET INDUSTRY CLUSTERS: A set of businesses that benefit from sharing information or labor pools in a local economy. For example, the health care industry consists of hospitals, pharmaceutical manufacturers, medical researchers, and manufacturers of medical

devices. Innovation and investment can be stimulated when clusters are encouraged to grow, add new industries, and collaborate.

TIF (TAX INCREMENT FINANCING): A redevelopment tool used to provide dedicated funding within well defined districts for public investments such as infrastructure improvements, by capturing the future increase in tax revenue generated by appreciation in property values as a result of those improvements.

TOD (TRANSIT ORIENTED DEVELOPMENT): Development that is specifically designed to take advantage of transit infrastructure such as light rail stations. Transit Oriented Developments typically include a mix of residential commercial, and office uses in close proximity to transit stations, higher densities, and an environment that encourages walking.

TOWN CENTER: A medium-scale mixed-use area with retail, employment and housing that serves several neighborhoods or districts. It can serve as main transit hub, and is designed to allow visitors to park once and walk to multiple destinations.

TOWNHOUSE/TOWNHOME: A single-family home that shares walls, but not entrances, with several other units. Also known as rowhouses, townhouses and townhomes provide a housing option that is less expensive than a detached single-family home, but provides more privacy than an apartment or condominium.

TRAFFIC CALMING: The use of engineering, educational, and enforcement measures, such as parallel parking, speed humps, traffic circles, narrow lane widths, and lower posted speed limits, intended to discourage speeding and improve the usability of a street for pedestrians and cyclists.

TRANSIT: Also known as mass transit or public

transportation, and includes buses, trains, light rail and street cars, and dial-a-ride service. These systems work best when riders are able to walk from home or office to a transit stop, ride transit and then continue on foot to their final destination. Transit services provide an additional travel option for residents in urban areas.

TRANSPORTATION DEMAND MANAGEMENT: Programs designed to encourage changes in travel behavior in order to reduce car trips made by persons driving alone. These programs usually encourage car pooling and transit or bicycle use by such measures as employment of a Transportation Demand Manager to facilitate alternatives to driving alone or the installation of showers for employees commuting by bicycle.

TREE LAWN: An area often planted with trees and grass between a street and the sidewalk of that street.

URBAN DESIGN GUIDELINES: Specific guidelines crafted to assure that the overall placement and form of buildings in an area are compatible with their surroundings and will achieve goals such as providing a more comfortable and enjoyable environment for walking.

VENTURE CAPITAL: Wealth that can be invested in a business enterprise. Typically, venture capital is used to fund businesses that are new and somewhat risky, but have the potential to grow rapidly.

VMT (VEHICLE MILES TRAVELED): A measure of the total number of miles that automobiles are driven within a defined area. VMT serves as a benchmark for determining the efficacy of policies designed to reduce the dependence on the automobile.

WALKABLE OR WALKABILITY: A non-technical term

that refers to the overall suitability of a place for pedestrians. Walkability is not determined by the presence of sidewalks alone. Walkability can be greatly enhanced by ensuring that sidewalks are wide, shaded from the sun by trees or awnings, and protected from traffic by parallel parking. The most walkable streets offer window shopping and, ironically, outdoor seating areas.

ZONING: Local laws used by jurisdictions to regulate the uses of land, buildings, and structures within designated areas. These laws are contained in the City of Tulsa Zoning Ordinance.

ZONING CAPACITY: Calculation of the overall quantity of development that is possible in an area based on the maximum density of development permitted by zoning standards. Residential zoning capacity is typically expressed as the number of dwelling units permitted and commercial and industrial zoning capacity is described as the amount of square feet permitted. Zoning capacity is only an estimation of development that is permissible and does not reflect what the market can support.

AMENDMENTS INVENTORY

SMALL AREA PLANS ADOPTED PRIOR TO 2010 COMPREHENSIVE PLAN

Name	Effective Date	Resolution #
Kendall Whittier Plan	May 1991	1832:718
Springdale Area Plan	Nov 1993	1952:745
Charles Page Blvd. Plan	Oct 1996	2080:781
Brookside Infill Plan	Nov 2002	2326:845
Crutchfield Neighborhood Plan	Jun 2004	2381:862
6th Street Infill Plan	Jan 2006	2429:873
East Tulsa Area Plan Phase I	Nov 2006	2464:880
East Tulsa Area Plan Phase II	May 2007	2478:886
Sequoyah Neighborhood Plan	May 2007	2478:887
Riverwood Neighborhood Plan	Oct 2008	2530:893
Southwest Tulsa Plan Phase I	May 2009	2546:896

AMENDMENTS TO THE COMPREHENSIVE PLAN

This chart will be updated as amendments are adopted.

CPA #	Type	Location/Page #	Description	Effective Date	Resolution #
1	SAP	Downtown	Tulsa Downtown Master Plan	Oct 2010	2585:901
2	SAP	SW Tulsa	Southwest Tulsa Plan Phase II	Jun 2011	2602:903
3	SAP	Brady Arts District	Brady Arts District Small Area Plan	Feb 2013	2641:906
4	SAP & LU	Eugene Field	Eugene Field Small Area Plan	Jun 2013	2650:907
5	LU	N & S of Gilcrease Pkwy from Osage Dr to N 41st W Ave	New Neighborhood & Neighborhood Center designations changed to Town Center & Employment	Aug 2013	2656:908 2656:909
6	LU	SE/c 41st St & Harvard Ave	Existing Neighborhood designation changed to Neighborhood Center	Sept 2013	2658:912
7	LU	N of NE/c 91st St & S Yale Ave	Neighborhood Center designation changed to Employment	Sept 2013	2658:912
8	LU	S of SW/c Memorial Dr & Admiral Pl	Existing Neighborhood designation changed to Mixed Use Corridor	Sept 2013	2658:912
9	LU	E of SE/c 41st St & 129th E Ave	Open Space designation changed to Existing Neighborhood	Sept 2013	2658:912
12	LU	LU 87	Added 17" x 22" Land Use Map	Sept 2013	2658:912
13	S&G	LU 88	Added 17" x 22" Stability & Growth Map	Sept 2013	2658:912
14	SAP	LU 89	Added 17" x 22" Small Area Plans Map	Sept 2013	2658:912

Type Descriptions:

[SAP] = Small Area Plan [LU] = Land Use Map [S&G] = Stability & Growth Map [TEXT] = Comprehensive Plan Text

Appendix

AMENDMENTS INVENTORY

AMENDMENTS TO THE COMPREHENSIVE PLAN

This chart will be updated as amendments are adopted.

CPA #	Type	Location/Page #	Description	Effective Date	Resolution #
15	TEXT	AP 63	Added Amendments Inventory page to Appendix of Comprehensive Plan	Sept 2013	2658:912
16	LU & S&G	(1) SW/c I-44 & S 33rd W Ave (2) N of NW/c W 51st St S & S 33rd W Ave (3) NW/c W 51st St S & S 32nd W Ave	Existing Neighborhood designation changed to Neighborhood Center; and Area of Stability designation changed to Area of Growth	Sept 2013	2658:912
17	LU	NE/c of N Osage Dr & W Apache St	New Neighborhood designation changed to Employment	Sept 2013	2658:912
18	LU	E of SE/c E Admiral PI & I-44	Town Center designation changed to Employment	Sept 2013	2658:912
19	SAP	Pearl District (6th Street Infill Plan amendments)	Amended boundaries of the Plan area, and subareas on the 6th Street Infill Plan land use map	April 2014	2668:917
20	SAP	Pearl District (6th Street Infill Plan amendments)	Reconcile titles and boundaries of subareas to conform to the 6th Street Infill Plan land use map	April 2014	2668:917
21	SAP	Pearl District (6th Street Infill Plan amendments)	Amended text in the 6th Street Infill Plan regarding street closures, parking, housing, and subarea descriptions	April 2014	2668:917
22	SAP LU S&G	36th Street North Corridor	36th Street North Corridor Small Area Plan	Dec 2013	2660:913
23	SAP LU S&G	Utica Midtown Corridor	Utica Midtown Corridor Small Area Plan	Jan 2014	2662:914
24	SAP LU S&G	SW Tulsa	West Highlands/Tulsa Hills Small Area Plan	April 2014	2670:922
25	LU & S&G	SE/c of Pine St & Memorial Drive	Open space designation changed to Employment; and Area of Stability designation changed to Area of Growth	Feb 2014	2667:916
10	LU & S&G	SW Blvd to 71st St S along AR River	Assigned Parks and Open Space & Area of Growth designations	Oct 2014	2680:925
11	LU & S&G	E 26th St S to E 33rd PI, East of Riverside Drive	Existing Neighborhood & Mixed Use Corridor designation changed to Parks and Open Space; Area of Stability designation changed to Area of Growth	Oct 2014	2680:925

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AMENDMENTS INVENTORY

AMENDMENTS TO THE COMPREHENSIVE PLAN

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CPA #	Type	Location/Page #	Description	Effective Date	Resolution #
26	LU	SE of the SE/c of E Admiral Pl S & S 145th East Ave	New Neighborhood designation changed to Employment	Oct 2014	2680:925
27	LU	SE of the SE/c of E 11th St S & S Lynn Lane Rd	New Neighborhood designation changed to Mixed-Use Corridor & Employment	Oct 2014	2681:926
28	LU	Citywide	Consolidate Park and Open Space designations into one Park and Open Space designation	Oct 2014	2680:925
29	TEXT	LU 32,33,75	Modify definition for Mixed-Use Corridor; Add definition for Parks and Open Space; Amend Policy 2.5	Oct 2014	2680:925
30	LU	S of the SE/c E Admiral Pl and S 145th E Ave	New Neighborhood designation changed to Employment designation	Jan 2015	2685:928
31	LU	S and E of the SE/c S Memorial Dr and E Admiral Pl	Town Center and New Neighborhood designations changed to Employment designation	Dec 2014	2684:927
32	LU & S&G	N of the NE/c E 15th St S & S Delaware Ave	Existing Neighborhood designation changed to Main Street designation; Area of Stability changed to Area of Growth	June 2015	2697:932
34	LU & S&G	SW/c E 71st St S & S Riverside Dr	Parks and Open Space designation changed to Mixed-Use Corridor; Area of Stability designation changed to Area of Growth designation	July 2015	2698:934
36	LU & S&G	N of the NW/c E 15th St S & S Delaware Pl	Existing Neighborhood designation changed to Main Street designation; Area of Stability changed to Area of Growth	July 2015	2700:937
37	LU	N of the Broken Arrow Expressway & East of 129th E Ave	Employment designation changed to Town Center designation	Oct 2015	2705:938
38	LU	SW/c of E 96th St S & S Garnett Rd	New Neighborhood designation changed to Regional Center designation	Dec 2015	2710:944

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AMENDMENTS INVENTORY

AMENDMENTS TO THE COMPREHENSIVE PLAN

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CPA #	Type	Location/Page #	Description	Effective Date	Resolution #
41	LU	NE/c of E Queen St & N Martin Luther King Blvd	Neighborhood Center designation changed to New Neighborhood designation	Mar 2016	2716:947
43	TEXT, LU & S&G	Multiple properties East & West of the Arkansas River	Assigned Arkansas River Corridor, Parks and Open Space, Areas of Stability and Growth designations consistent with River Design Overlays	June 2016	2722:951
44	LU	W of the SW/c E 44th St S & S Harvard Ave	Existing Neighborhood designation changed to Mixed-Use Corridor designation	July 2016	2724:953
45	LU & S&G	N of the NW/c E 12th St S & S 83rd East Ave	Existing Neighborhood designation changed to Town Center; Area of Stability designation changed to Area of Growth	August 2016	2726:954
46	S&G	W of the NW/c E 49th St S & S Peoria Ave	Area of Stability designation changed to Area of Growth designation	August 2016	2726:954
47	LU & S&G	NE/c E 51st St S & S Lewis Ave	Removed designations on property located within Interstate 44 right-of-way	August 2016	2726:954
48	LU	SW/c E 96th St S & S Garnett Rd	Regional Center designation changed to New Neighborhood designation	August 2016	2726:954
49	TEXT	None	Housekeeping amendments to Land Use text	August 2016	2726:954
50	LU	NE/c E 51st St S & S 177th East Ave	New Neighborhood designation changed to Neighborhood Center	August 2016	2727:955

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