



AIM NORMAN

AREA & INFRASTRUCTURE MASTER PLAN

2025 COMPREHENSIVE TRANSPORTATION
MASTER PLAN UPDATE

CITY COUNCIL PRESENTATION

FEBRUARY 25, 2025

TRANSPORTATION SUB-COMMITTEE

- Jim Adair - Chairman
- Chuck Thompson
- Trey Bates
- Adam Ross
- Kathleen Smith
- Olivia Dailey
- Chris Nanny
- Hal Cantwell
- BJ Hawkins
- Lance Lamkin

CITY STAFF

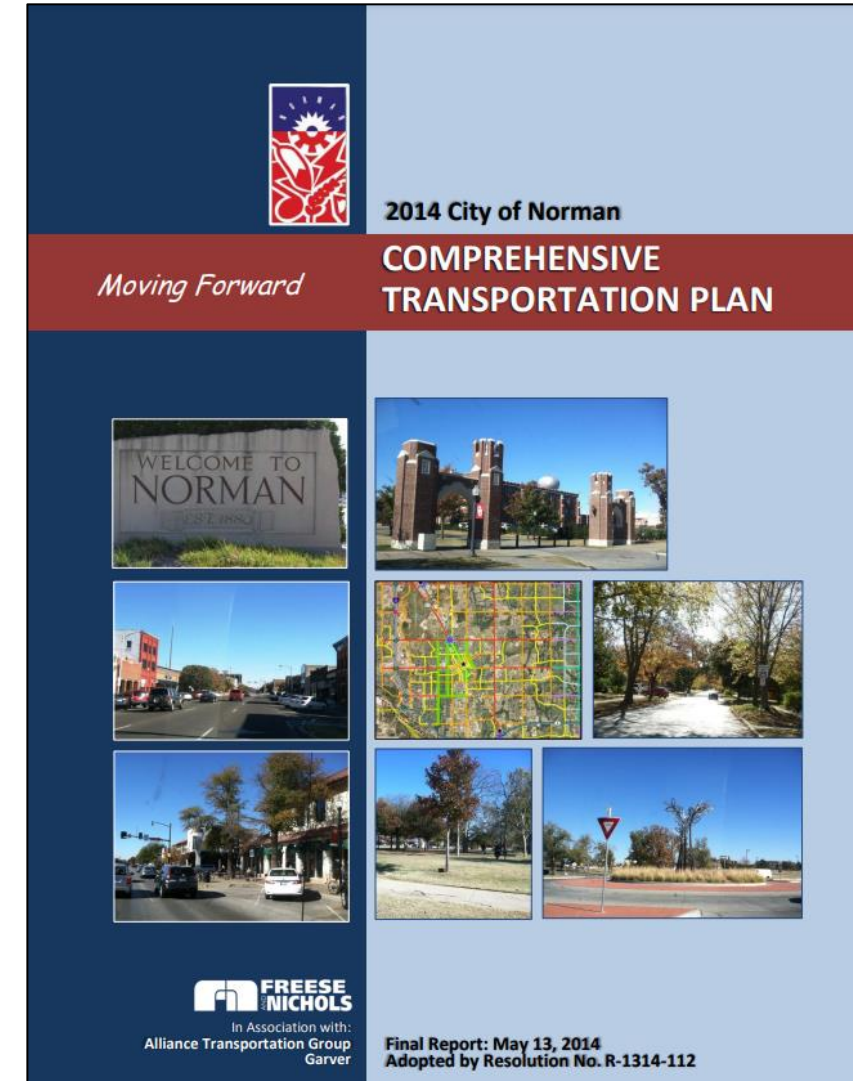
- Scott Sturtz, Public Works Director
- David Riesland, City Transportation Engineer
- Awet Frezgi, Traffic Engineer
- Tim Miles, City Engineer
- Joe Hill, Streets Superintendent
- Brandon Brooks, CIP Engineer

2025 NORMAN COMPREHENSIVE TRANSPORTATION PLAN UPDATE



Guiding Principles

- 1) Special Place to Live
Designed around people and places in mind
- 2) Mobility
Create a multi-modal system for all users
- 3) Maintain and Improve Existing Infrastructure
Prioritize maintenance of existing infra.
- 4) Fiscal Stewardship
Optimize City funding and leverage federal money
- 5) Enhance Economic Vitality
Transportation investments to support economy



RELATION TO OTHER AIM NORMAN PLANS



PLAN INTEGRATION:

All AIM Norman Plans with the CTP



HOW ALL AIM NORMAN PLANS INTEGRATE WITH THE CTP

All policy recommendations in the AIM Norman Comprehensive Plan apply to the Comprehensive Transportation Plan.



WATER MASTER PLAN

- **Service Capacity.** Water service and capacity are key drivers in land use density which plays a critical role in transportation needs.
- **Infrastructure Corridors.** Transportation and utility corridors can be shared for mutual improvements such as water lines, roadways, and trails.
- **Efficient Expenditures.** Coordinated planning and implementation of infrastructure can lead to reduced cost and expenditures that come from taxpayers.



WASTEWATER MASTER PLAN

- **Service Capacity.** Wastewater service and capacity are key drivers in land use density which plays a critical role in transportation needs.
- **Infrastructure Corridors.** Transportation and utility corridors can be shared for mutual improvements such as wastewater lines, roadways, and trails.
- **Efficient Expenditures.** Coordinated planning and implementation of infrastructure can lead to reduced cost and expenditures that come from taxpayers.



HOUSING MASTER PLAN

- **Road Capacities.** The size, types, and capacity of new roads influence appropriate locations for different densities of housing or mixed residential uses.
- **Mobility Connections.** New connections open possibilities to direct new and infill housing development.
- **Transit and Active Transportation.** Future transit locations and bicycle and pedestrian route improvements offer better locations for households needing to be close to these services.



STORMWATER MASTER PLAN

- **Drainage Improvement.** Effective drainage systems are crucial to transportation infrastructure as they prevent water accumulation on roads, reducing the risk of flooding and ensuring safe travel for Norman residents.
- **Greenway Corridors.** Active transportation corridors along creeks and rivers offer essential access points for drainage maintenance, ensuring the effective management of water flow and the preservation of natural waterways.
- **Reducing Environmental Impacts.** As Norman further implements Low Impact Development (LID) standards, these technologies can be incorporated into transportation design to promote enhanced water quality and environmental resilience.



PARKS, RECREATION, AND OPEN SPACES MASTER PLAN

- **Destinations.** Parks are a key destination for bike and pedestrian users. Ensuring active transportation infrastructure connects to existing and future parks is key.
- **Context Sensitivity.** Active transportation infrastructure in parks should enhance and relate to designed and desired uses of parks.
- **Greenway Corridors.** Greenway corridors can function as high quality linear parks that play a critical role in The City's overall parks system.

DESIGN TEAM'S SCOPE OF WORK



NORMAN TODAY

Roadways

- Data Review
- Street Network Review

Bridges

- Bridge Inventory Review

Traffic

- Existing Traffic Data
- Previous Study Review
- Safety Review

Active

Transportation

- Active Trans. Inventory
- ADA Review

Parking and Transit

- Existing Study Review

Aviation

- Master Plan Review

PLAN UPDATES

Roadways

- Future Roadway Needs
- Policy Recommendations

Bridges

- Narrative Update

Traffic

- Traffic Projections
- Operational Analysis
- Safety Countermeasures

Active

Transportation

- Active Trans. Routes
- Active Trans. Projects

Parking and Transit

- Parking and Transit Recommendations

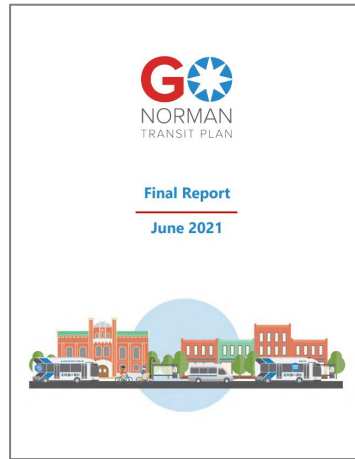
Aviation

- Policy Recommendations

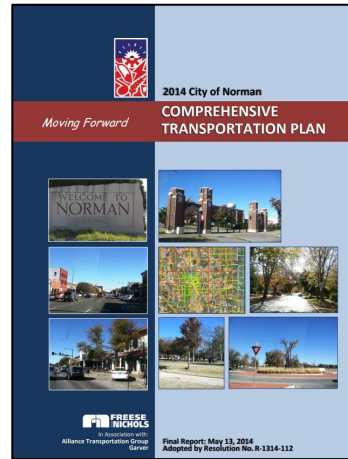
EXISTING PLAN REVIEW



- \$10B from 2015-2045
- Stronger focus on Active Trans.
- SH-9, 12th E., 36th W., 48th W., 48th E.. Porter
- Franklin Route, SH-9 Side Path, Robinson Streetscape



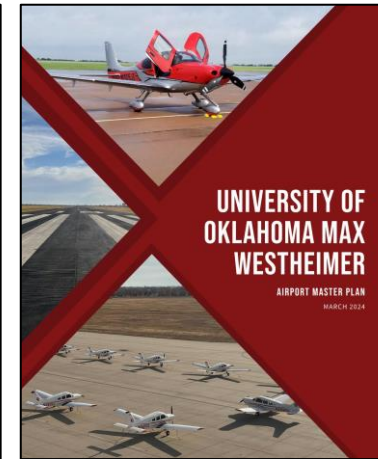
- Update bus routes
- Establish Downtown Transit Center
- Expand Service+ Upgrade Fleet
- Operate Fare Free
- Promote Supportive Land Use



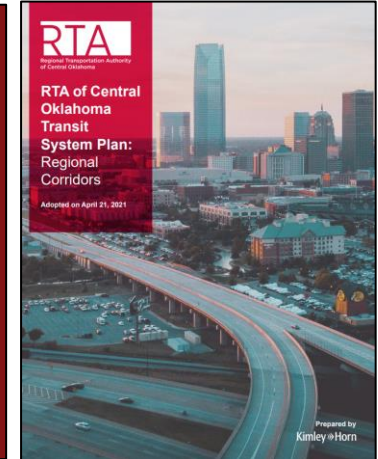
- Special Place to Live
- Mobility
- Maintain and Improve Existing Infrastructure
- Fiscal Stewardship
- Enhance Economic Vitality



- Management Structure
- Parking Fund
- Technology Investment
- Maintenance
- Better Collaboration with OU
- Customer Service



- 2024 Airport Master Plan approved by FAA



- North-South Commuter Rail
- Edmond-OKC-Norman
- Use BNSF Rail line
- Very Preliminary
- Voter question coming in the near future

NEIGHBORHOOD WORKSHOPS



TRANSPORTATION

Introduction and Key Data

INTRODUCTION

Norman's transportation system helps move residents across the city and connect to the wider region by various modes. AIM Norman recognizes the significant impact the city's transportation system has on the everyday lives of residents, businesses, and institutions. The AIM Norman Transportation Master Plan will use a data-driven approach, using the best available traffic, and safety data to help plan and prioritize future investment in an cost-effective, efficient manner.

ROAD SYSTEM

To align facilities and facility improvements with federal funding mechanisms, communities use a functional classification system to assign each street in the community. These include:

- Freeway/Interstates.** These are Oklahoma Department of Transportation (ODOT) maintained facilities meant for regional high-speed connectivity and intended to carry high traffic volumes via restricted or limited access highways.
- Principal Arterials.** These roads serve regional needs, connect important activity centers, and serve destinations to and through the community.
- Minor Arterials.** These connect with and complement the principal arterial system by linking activity centers and connecting various parts of the city together.
- Collector.** These streets connect local traffic and neighborhoods to arterials and activity centers.
- Local.** These low speed, low traffic streets serve neighborhoods and commercial areas. These streets provide the highest level of access for a variety of transportation modes.

CONGESTION & DELAYS

MOST CONGESTED SIGNALIZED CORRIDORS

- Tecumseh (36th W to Flood)
- Lindsey (Ed Noble to Jenkins)
- Main Street (36th W to Porter)

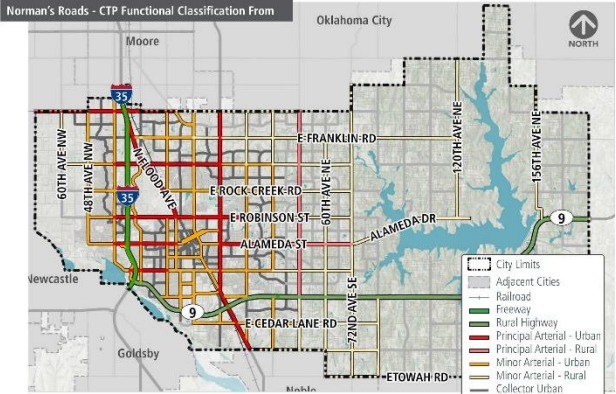
MOST CONGESTED INTERSECTIONS

- Main Street @ 24th
- Flood @ Tecumseh
- Robinson @ 24th
- 12th @ Alameda
- Lindsey @ Jenkins
- SH-9 @ 12th Ave SE
- Tecumseh @ I-35 SB Ramps
- Lindsey @ Chautauqua
- 12th @ Robinson
- Robinson @ Porter



Source: City of Norman
LEVEL OF SERVICE (LOS)
Level of Service is a classification system used to show traffic conditions for a road or intersection based on examining flow and delay.

- A – Free Flow Traffic** – Delay per vehicle at Intersection: 0-10 sec.
- B – Light/Moderate Traffic** – Delay per vehicle at Intersection: 10-20 sec.
- C – Steady Traffic** – Delay per vehicle at Intersection: 20-35 sec.
- D – Approaching Unstable Flow** – Delay per vehicle at Intersection: 35-55 sec.
- E – Traffic at Capacity** – Delay per vehicle at Intersection: 55-80 sec.
- F – Heavy Congestion** – Delay per vehicle at Intersection: More than 80 sec.



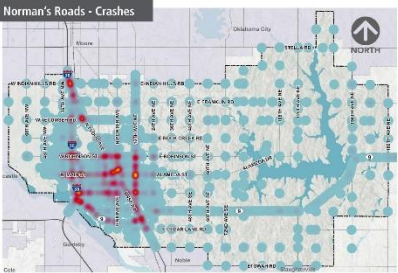
Source: City of Norman - 2014 Comprehensive Transportation Plan (CTP)

SAFETY OVERVIEW

- 2012 – 2021
- 23,766 Reported Crashes
- 79 Fatal Crashes

HOT SPOTS:

- Flood @ Tecumseh
- Main @ 24th Ave. W
- Robinson @ 24th Ave. W
- 12th Ave. E @ Alameda
- Lindsey @ 24th Ave. W
- Main @ Porter



Source: City of Norman

Note: Heat Map reflects crash locations with reported Latitude/Longitude values.



TRANSPORTATION

Your Input Matters!

We need your voice to establish **TRANSPORTATION PRIORITIES** within Norman. Your participation is critical to help identify and rank the importance of the criteria in the boxes below. The criteria listed will be used, along with additional factors, to provide a prioritization ranking for future transportation investments in the city.

HOW SHOULD FUTURE TRANSPORTATION PROJECTS BE PRIORITIZED? PLACE A DOT IN THE BOX THAT YOU FEEL SHOULD BE PRIORITIZED MORE.

SAFETY	ROAD CAPACITY
INTERSECTION IMPROVEMENTS	CONNECTIVITY
BIKE/PEDESTRIAN ACCOMMODATIONS & FACILITIES	TRANSIT

WHERE SHOULD TRANSPORTATION BE IMPROVED IN THE CITY?

PLACE A DOT ON THE MAP OR USE A STICKY NOTE TO DESCRIBE THE IMPROVEMENT.



Source: City of Norman



ACTIVE TRANSPORTATION

Your Input Matters!

INTRODUCTION

ACTIVE TRANSPORTATION

Norman currently has a limited patchwork of transportation facilities for active transportation modes such as bikes. The region's planning agency, Association of Central Oklahoma Governments (ACOG), developed the Encompass 2045 Plan which indicates planned regional transportation investments. Numerous bikeway/pedestrian projects are indicated in the plan, including a sidewalk along Highway 9 to Lake Thunderbird. Regardless, the current amount of greenways/paths, bike lanes, and protected bike facilities are likely a barrier to greater use of active transportation modes.

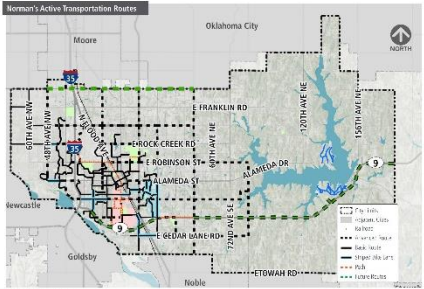
Norman has several park trails on the west side of the city and a planned regional trail leading to Lake Thunderbird State Park. Finding ways to provide on and off street bicycle and trail connections between the trails, parks, downtown, college, and other major destinations can help expand access and opportunities for outdoor activity.

YOUR INPUT MATTERS

We need your voice to establish active transportation priorities within Norman. Your participation is critical to help identify and demonstrate where you would like to see bicycle and pedestrian facilities. **PLACE A DOT ON THE MAP OR USE A STICKY NOTE TO DESCRIBE YOUR COMMENT.**

1. WHERE DO YOU OR WOULD LIKE TO RIDE OR WALK TO?

2. WHERE ARE MORE BIKE AND PEDESTRIAN FACILITIES MOST NEEDED?



Source: City of Norman



Source: City of Norman

MAX WESTHEIMER AIRPORT 2024 MASTER PLAN HIGHLIGHTS



- University of Oklahoma's 2024 Max Westheimer Airport Master Plan has been approved by the Federal Aviation Administration
- Long-Range Plan highlights
 - New Air Traffic Control Tower
 - Runway 18/36 extension
 - Runway 3/21 extension
 - Add more hangars north and south
 - Add aviation related development
 - Support "through the fence" development on the west side of the airport
 - New terminal building
- Master plan implementation total cost is \$57,662,860

KSA

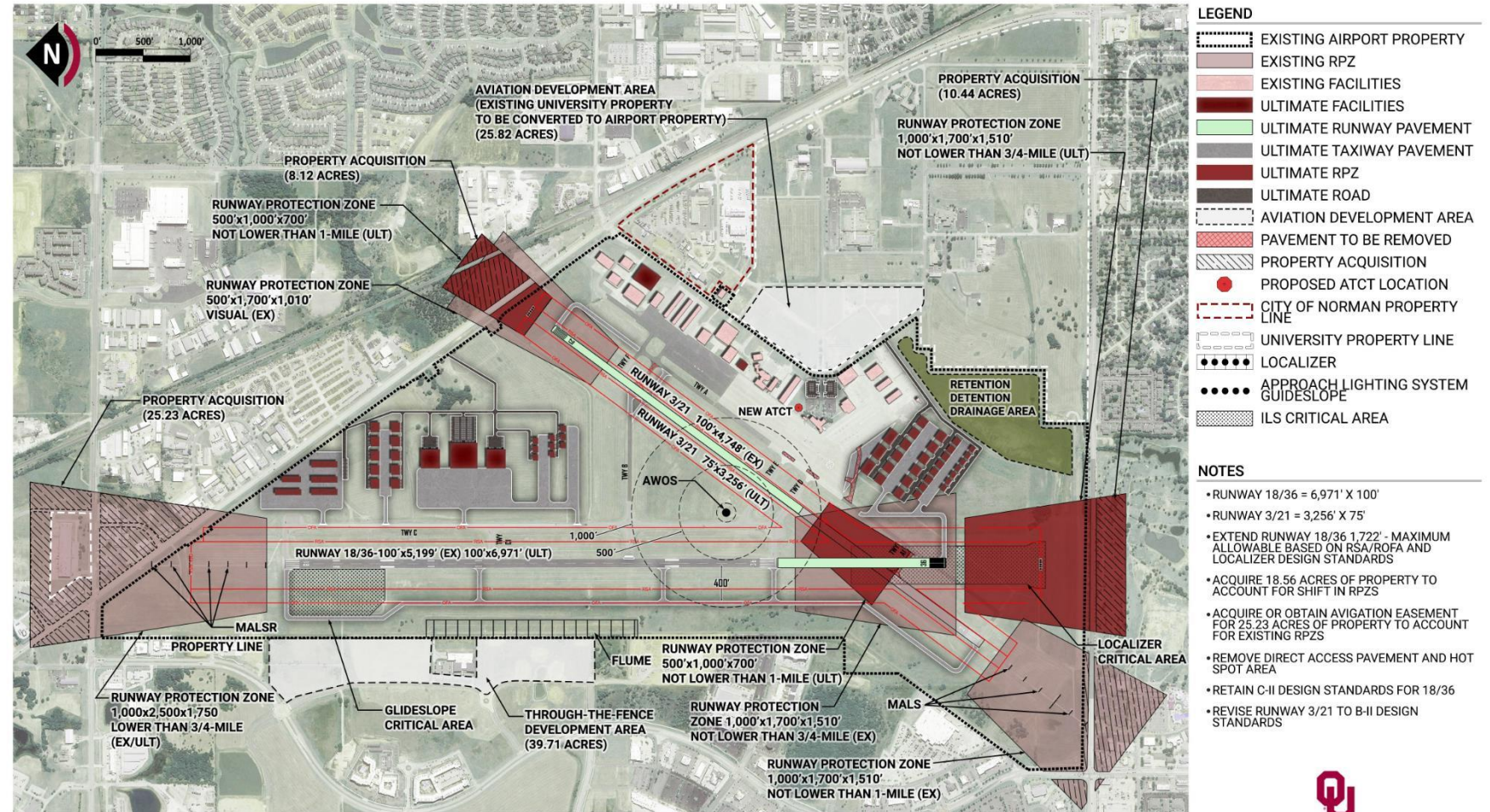
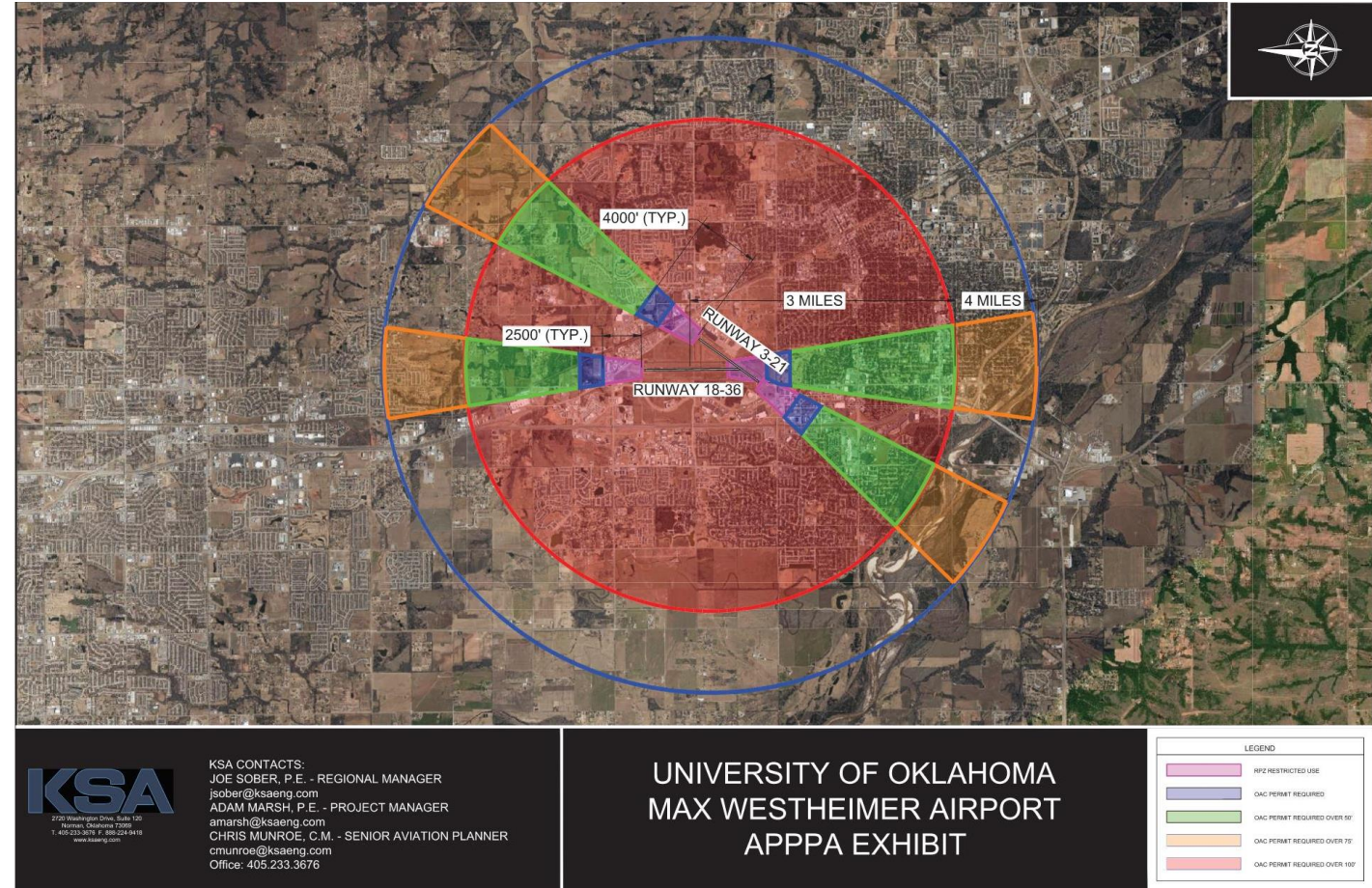


EXHIBIT 4.10 - RECOMMENDED DEVELOPMENT PLAN

AVIATION POLICY RECOMMENDATIONS



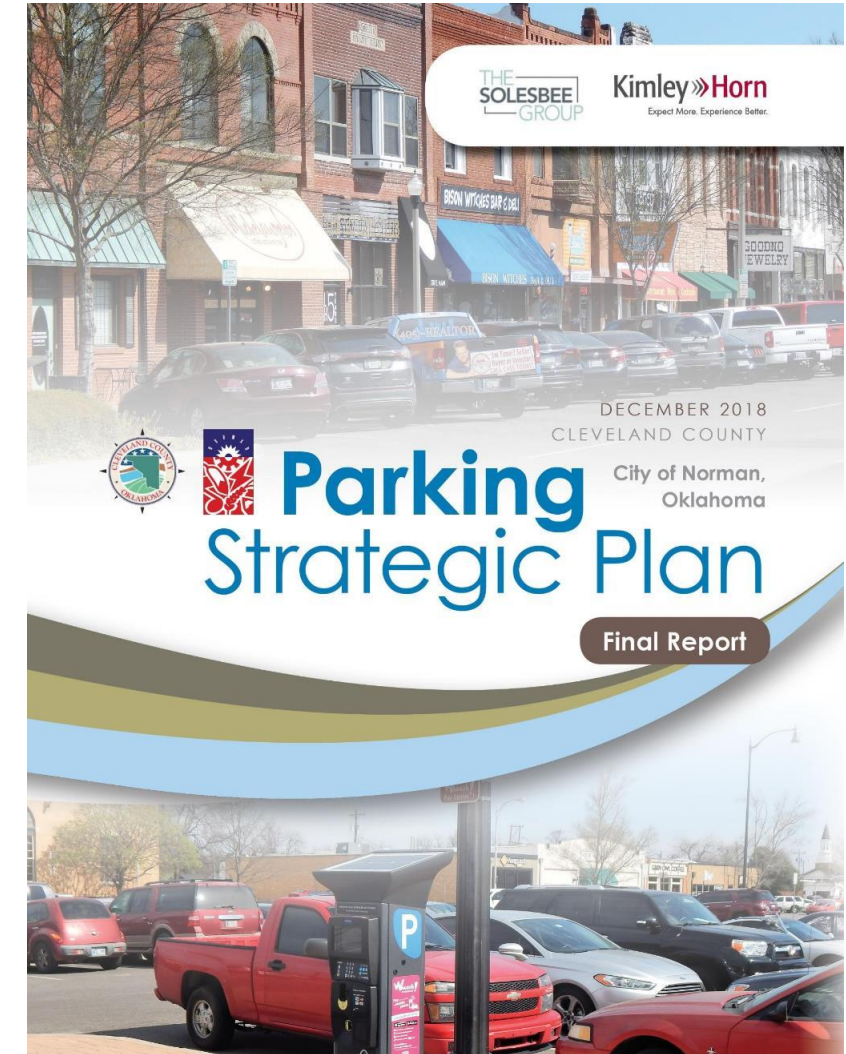
- 1 Adopt a formal height hazard zoning standard that follows the Oklahoma Aeronautics Commission (OAC) guidelines, and the Aircraft Pilot and Passenger Protection Act (APPPA) state law passed in 2011.
- 2 Control development immediately “outside the fence” that supports MWA’s Master Plan and FAA development guidelines with zoning overlays.
- 3 Provide more transit routes and active transportation improvement projects to serve the airport and adjacent properties and aviation businesses.
- 4 Continue to improve municipal owned infrastructure (water, sewer, stormwater, roadway) to support the airport’s mission and function as a general aviation airport.



PARKING PLAN UPDATE



- Development of a comprehensive strategic parking plan that addresses specific issues related to downtown Norman, Campus Corner, and the University of Oklahoma
- Coordinated effort between the City and Cleveland County to develop a parking management plan between both governmental agencies
- Create a Parking Authority between the City of Norman and Cleveland County to operate and manage parking within Norman.
 - Recommended a “hybrid model” that hires an outside program manager that reports back to the Parking Authority.
 - Program manager should have a strong customer service orientation
- Recommend new and innovative parking technologies to improve user services and conveniences
- Develop a long-range maintenance and operational plan



PARKING RECOMMENDATIONS



1

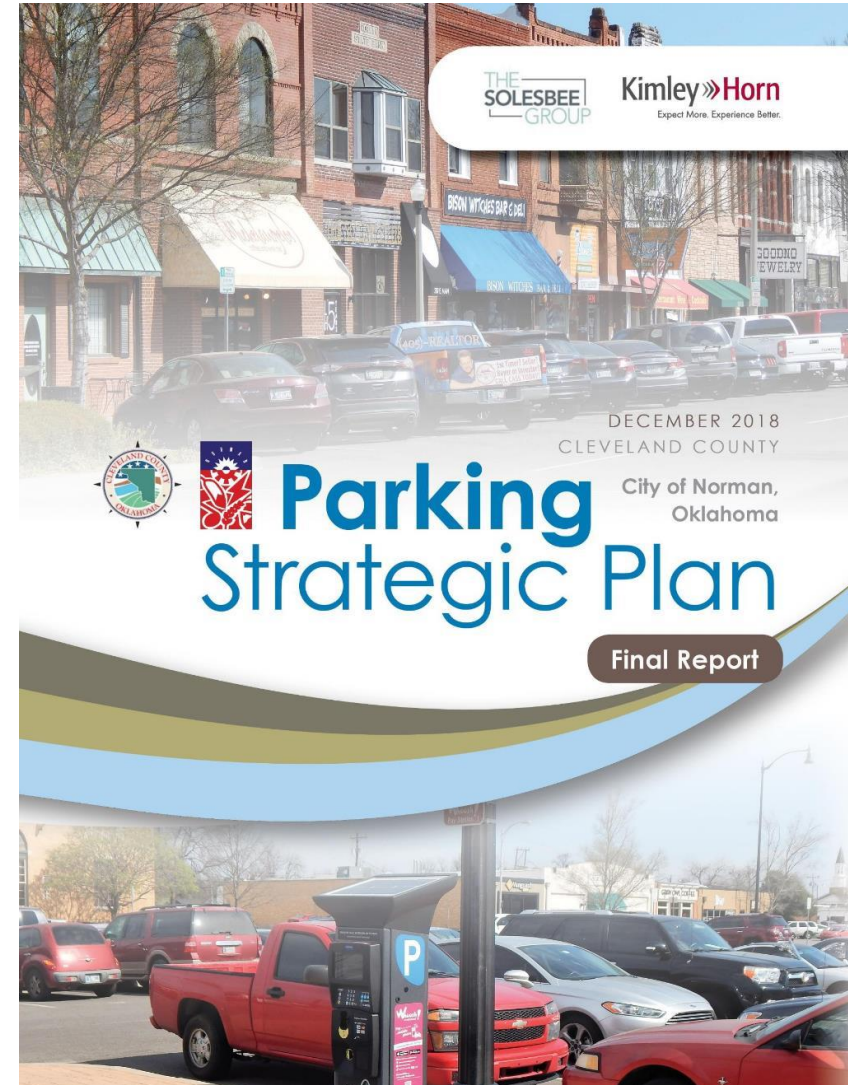
Adopt the 2018 Cleveland County/City of Norman Parking Strategic Plan as part of the AIM Norman Transportation Master Plan Update.

2

Ensure that multi-modal connectivity between the Norman Depot, the new County Parking Facility, and the Norman Transit Center is implemented.

3

Work closely with the University of Oklahoma, Cleveland County, core Norman businesses and the city planning staff to address parking requirements, enforcement and applicable revisions to zoning codes.



TRANSIT PLAN RECOMMENDATIONS



- 1 Explore adoption of a formal policy to consider transit supportive design for future roadway projects. Such consideration would be to ensure transit needs such as loading zones and enhanced stops (shelters, lighting, benches, real time data display) are evaluated along current and planned transit routes.
- 2 Consider formally including transit staff in development review processes to allow transit needs to be considered along current and planned transit routes. This can be specifically supported in areas identified within AIM Norman for transit-oriented development.
- 3 Conduct yearly review of the Annual Development Summaries produced by the City of Norman to assist in evaluation of transit needs on annual basis.
- 4 Develop public engagement tools to actively seek ongoing feedback from transit users on needs and opportunities for improvement.
- 5 Explore funding options to allow reduced stop times on heavily used routes.
- 6 In advance of implementation of the RTA commuter rail, study how the City Transit Center can be enhanced and leveraged to promote use of the commuter rail and bus transit in conjunction with the downtown RTA stop.
- 7 Consider using micro transit as an option to expand transit service to areas where density makes fixed route service unviable.
- 8 Work with regional partners to explore development of regional guidelines on transit supportive design to allow better integration of transit into roadway and active transportation infrastructure.

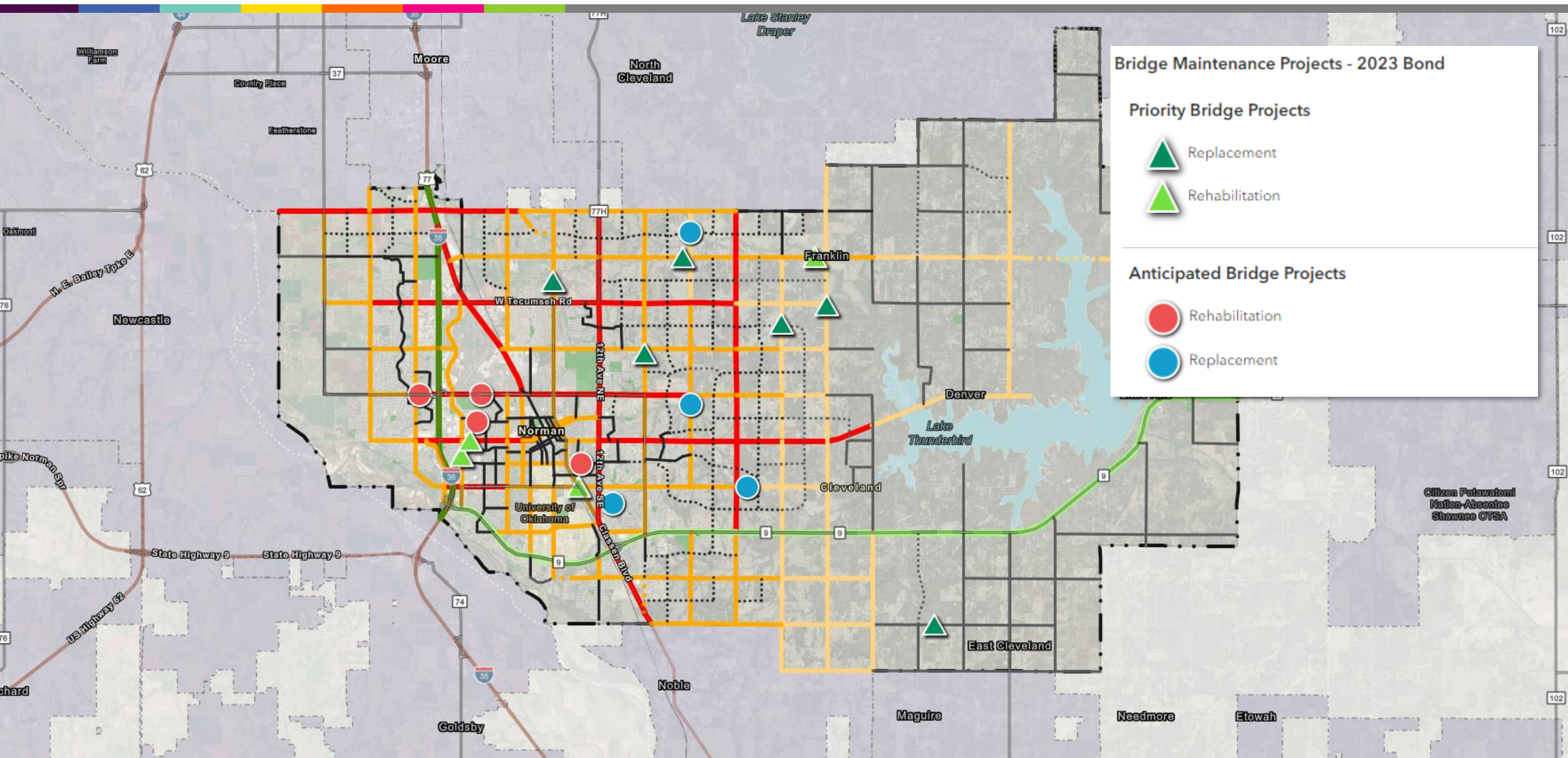


Final Report

June 2021



BRIDGE PLAN UPDATE



BRIDGE PLAN UPDATE RECOMMENDATIONS



1

Adopt the 2023 Bridge Bond Program for planned bridge improvements for the next 10-year period. Then re-assess the bridge ranking system to reflect the next series of bridges to be improved for the next 10-year period.

2

Continue routine inspections of all bridges to document structural deficiencies, functionally obsolete and damage due to flooding and/or erosion.

3

Continue to invest in capital improvement projects that combine individual bridge, roadway and stormwater priority projects into one.

4

Continue to invest in maintenance programs for all bridges and seek out funding opportunities other than City of Norman general fund line items.



TRAFFIC UPDATES



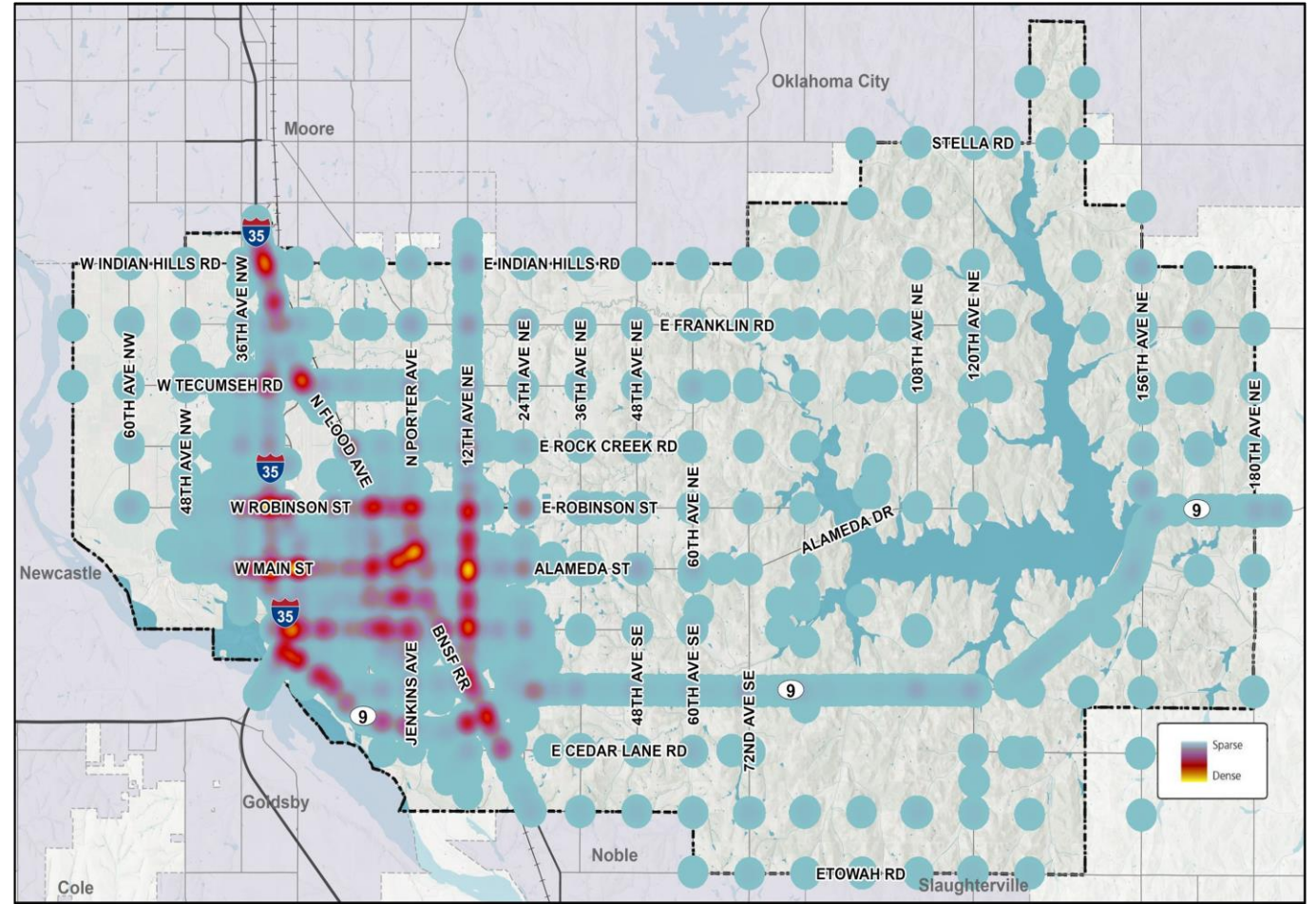
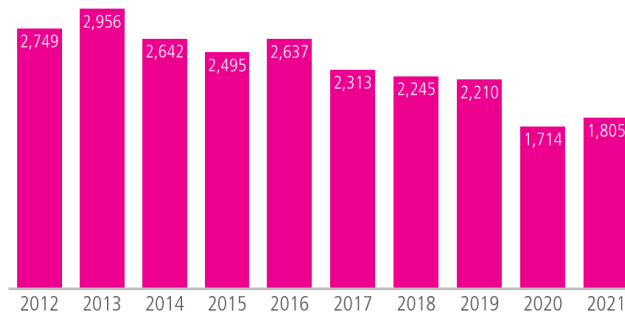
Safety Overview

- 10-year period (2012 to 2021)
- Total Crashes = 23,766
- Fatal Crashes = 79

Traffic Volumes

- Historical volumes were analyzed to understand routes within Norman that may exceed capacity

CRASHES PER YEAR



All Crashes – 2012 to 2021

TRAFFIC UPDATES



Project Recommendations – Future Studies

24th Ave W./Flood: Conduct study to provide connection from Flood Avenue to 24th Ave W to provide a bypass for UNP area.

Porter/Franklin: Conduct an intersection study to improve intersection alignment/connection.

36th Ave. E: Multi-modal capacity analysis to determine facility needs to support future development.

Citywide: Conduct a citywide study to make busy intersections more pedestrian/bicyclist friendly (e.g. raised crossings, controlled right turns, compact corners)

12th/Main/Robinson: Conduct Access Management studies.

East Norman: Consider roundabout potential in East Norman at arterial intersections.

48th Ave. E: Multi-modal capacity analysis to determine facility needs to support future development.

East Norman: Conduct Safety Assessment for East Norman.

Alameda/Crawford/Apache: Conduct an intersection study to improve intersection alignment/connection.

Various Segments: Conduct Safety Assessment for ped/bike improvements (road diets, LPIs, pedestrian refuge, transit shelters, mid-block crossings)

- Boyd Street, near OU campus
- 12th Ave. E (Alameda to Lindsey)
- Main Street (Berry to Flood)

Conduct traffic study along Webster Avenue/Asp Avenue from Acres Street to Boyd; and on University Boulevard from Daws Street to Boyd for one-way conversion.

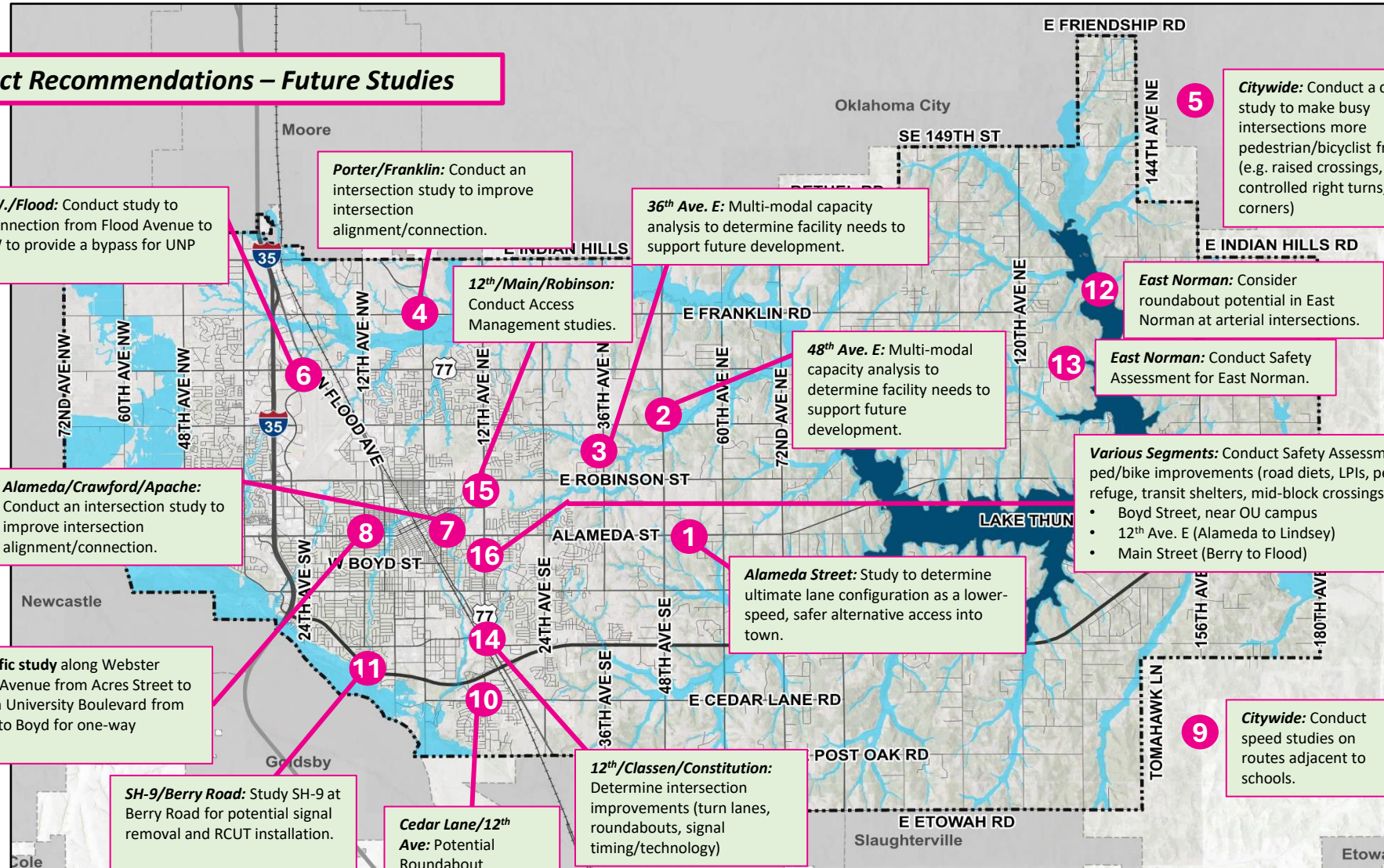
Alameda Street: Study to determine ultimate lane configuration as a lower-speed, safer alternative access into town.

SH-9/Berry Road: Study SH-9 at Berry Road for potential signal removal and RCUT installation.

Cedar Lane/12th Ave: Potential Roundabout

12th/Classen/Constitution: Determine intersection improvements (turn lanes, roundabouts, signal timing/technology)

Citywide: Conduct speed studies on routes adjacent to schools.



TRAFFIC RECOMMENDATIONS

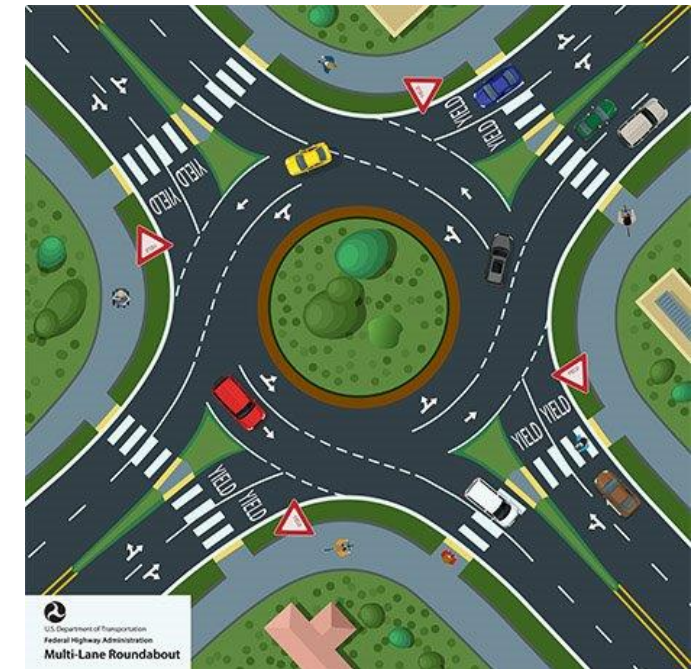


- 1 Utilize regional Safety Action Plan for safety improvements for all modes of travel.
- 2 Develop a policy to apply for Grant funding when available and applicable.
- 3 Policy for uniform signage on bike paths.
- 4 Develop a roundabout policy to identify best locations and ensure safe travel for all users.
- 5 Adopt a Safe Routes to School policy.

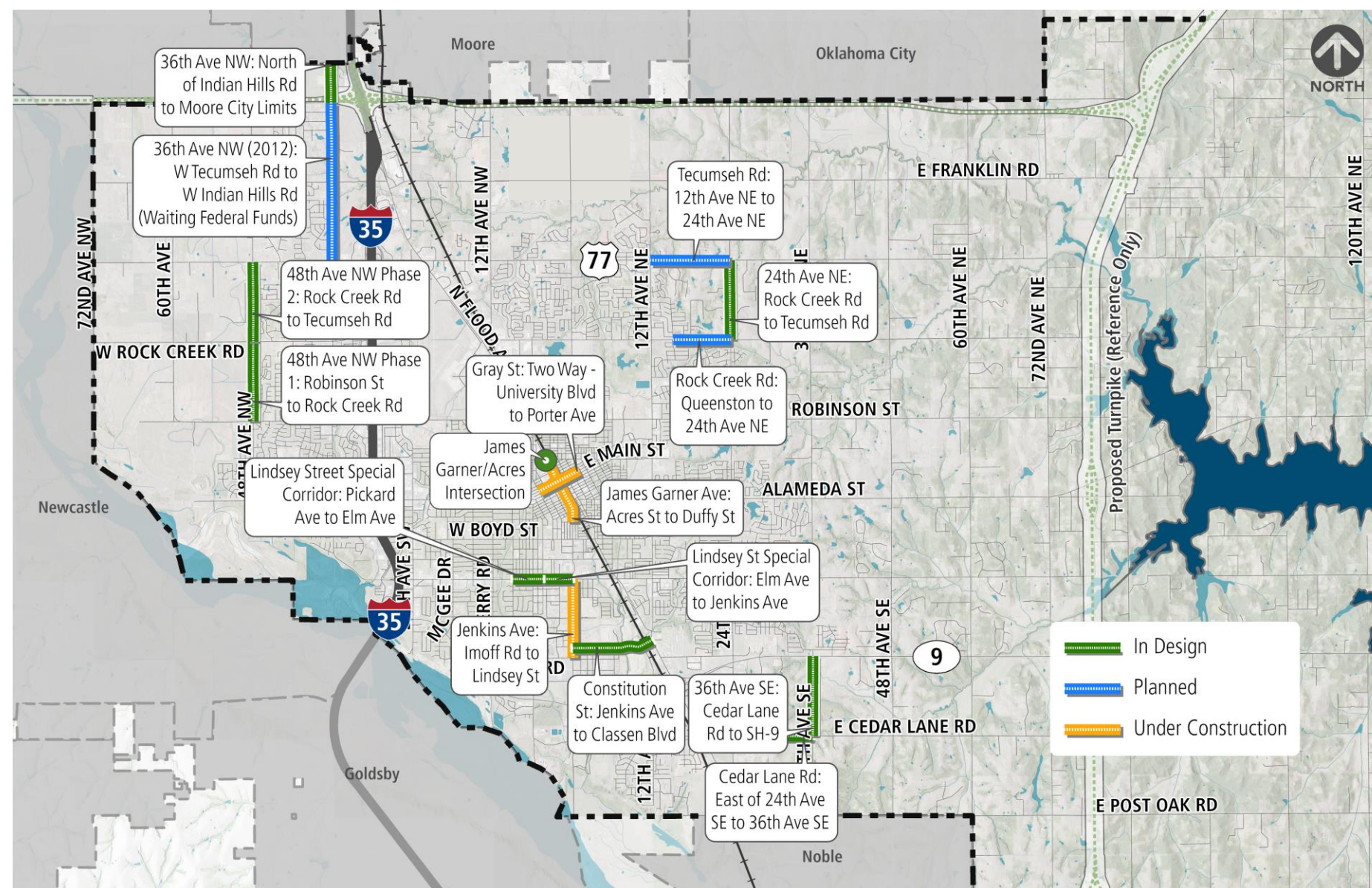
SafeRoutes



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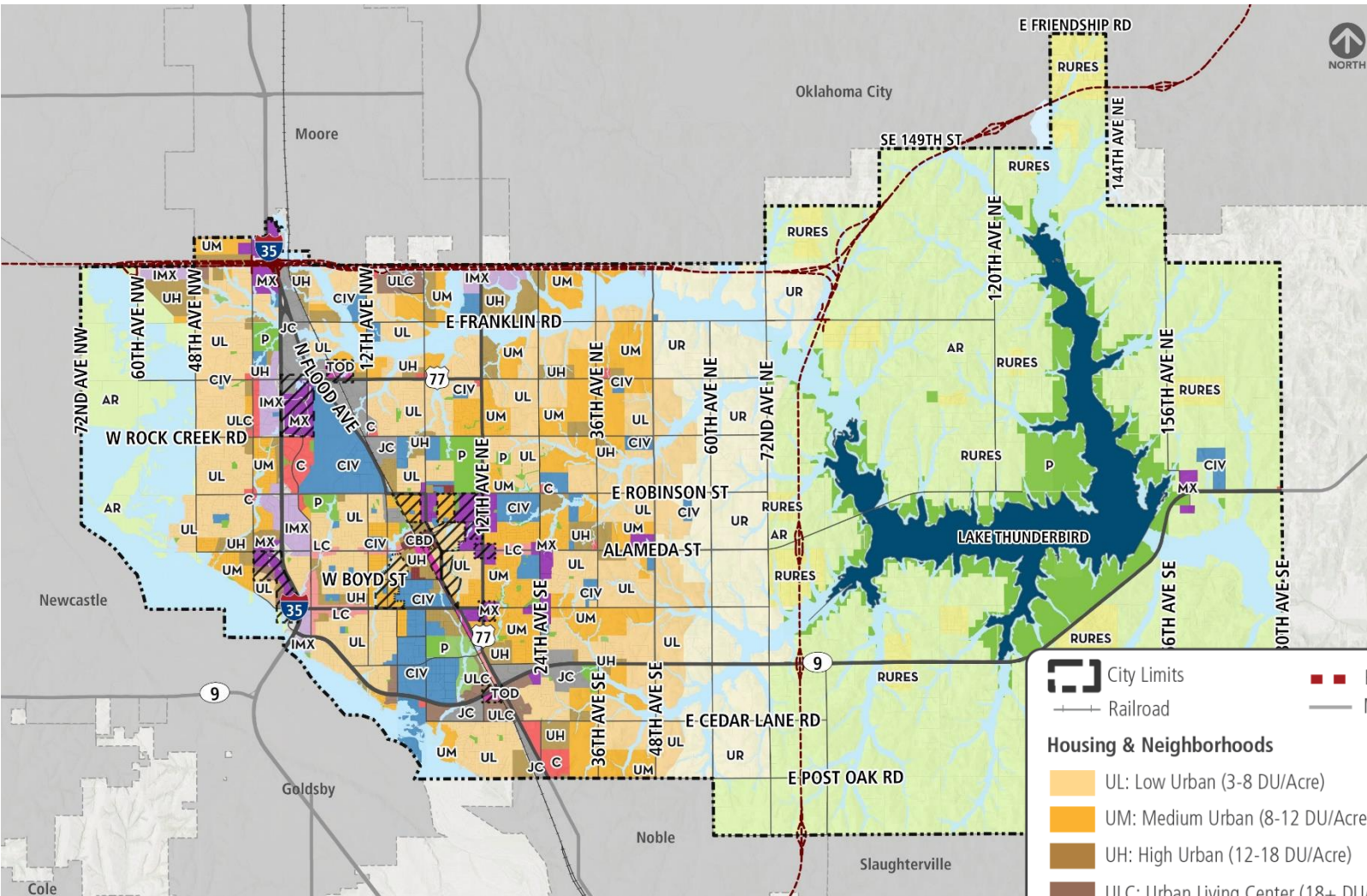
REMAINING TRANSPORTATION BOND PROJECTS



- Delays with bidding/ completion of older projects are in part because of changes in federal funding criteria
- Recent inflationary impacts on established construction budgets
- City is still fully committed to completing all projects



LAND USE PLAN



City Limits
 Railroad

Proposed Turnpike
 Major Roads

Special Study Area

Housing & Neighborhoods

- UL: Low Urban (3-8 DU/Acre)
- UM: Medium Urban (8-12 DU/Acre)
- UH: High Urban (12-18 DU/Acre)
- ULC: Urban Living Center (18+ DU/Acre)
- RR: Rural Residential (1DU/2Acre)
- AR: Ag Residential (1DU/10Acre)
- UR: Urban Reserve (1DU/30Acre)

Mixed Use & Employment Districts

- C: Commercial
- MX: Mixed Use
- IMX: Interchange Mixed Use
- JC: Job Center
- TOD: Transit Oriented Development
- CBD: Core Business Districts
- LC: Local Commercial

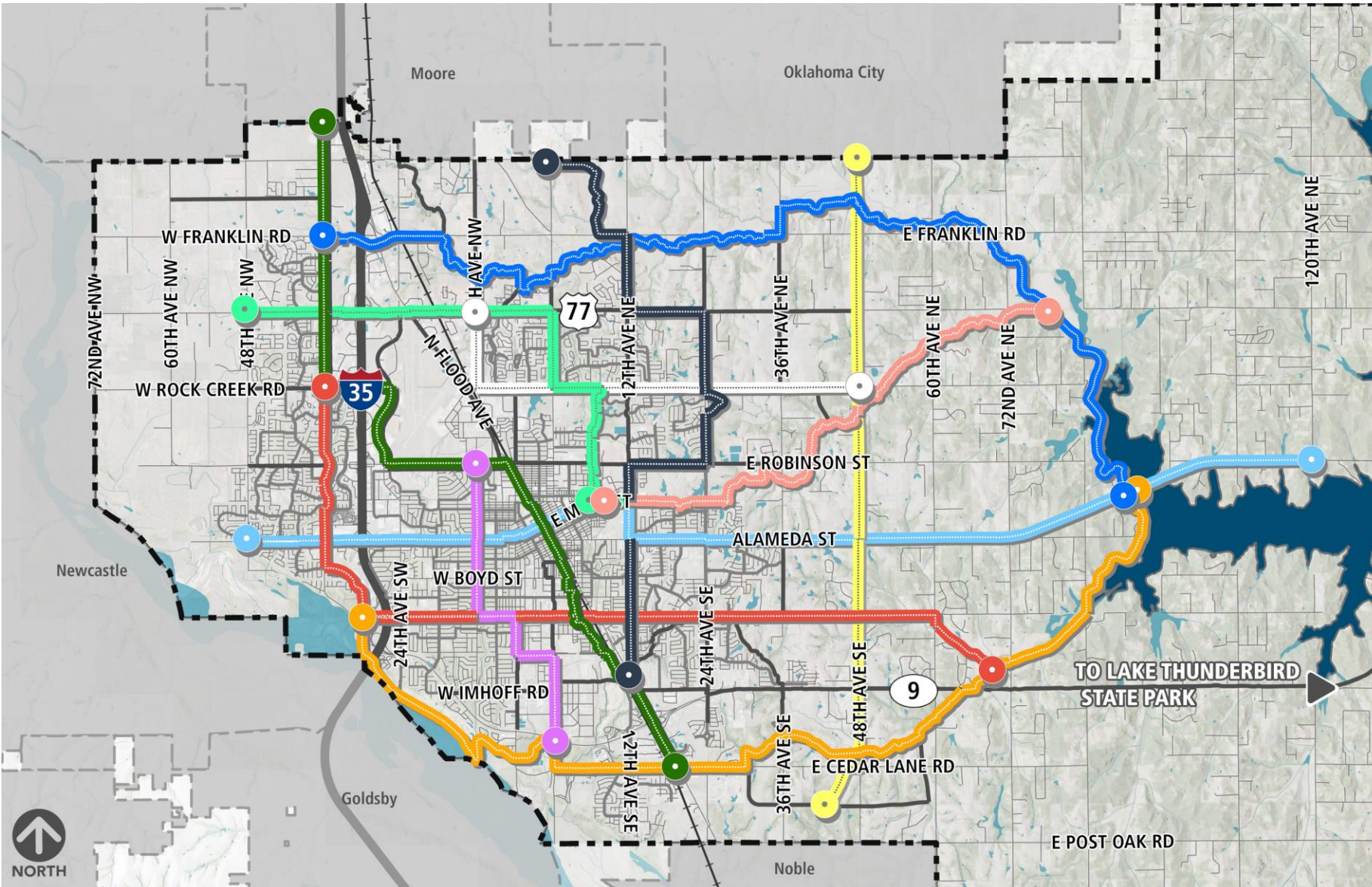
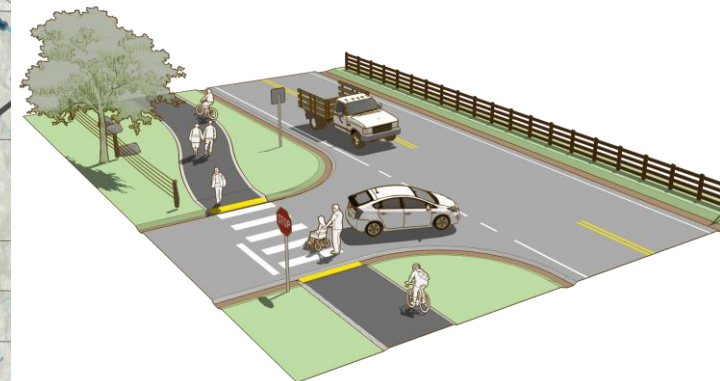
Civic, Open & Recreation Spaces

- P: Existing Parks
- Open Space
- CIV: Civic/Institutional
- Water

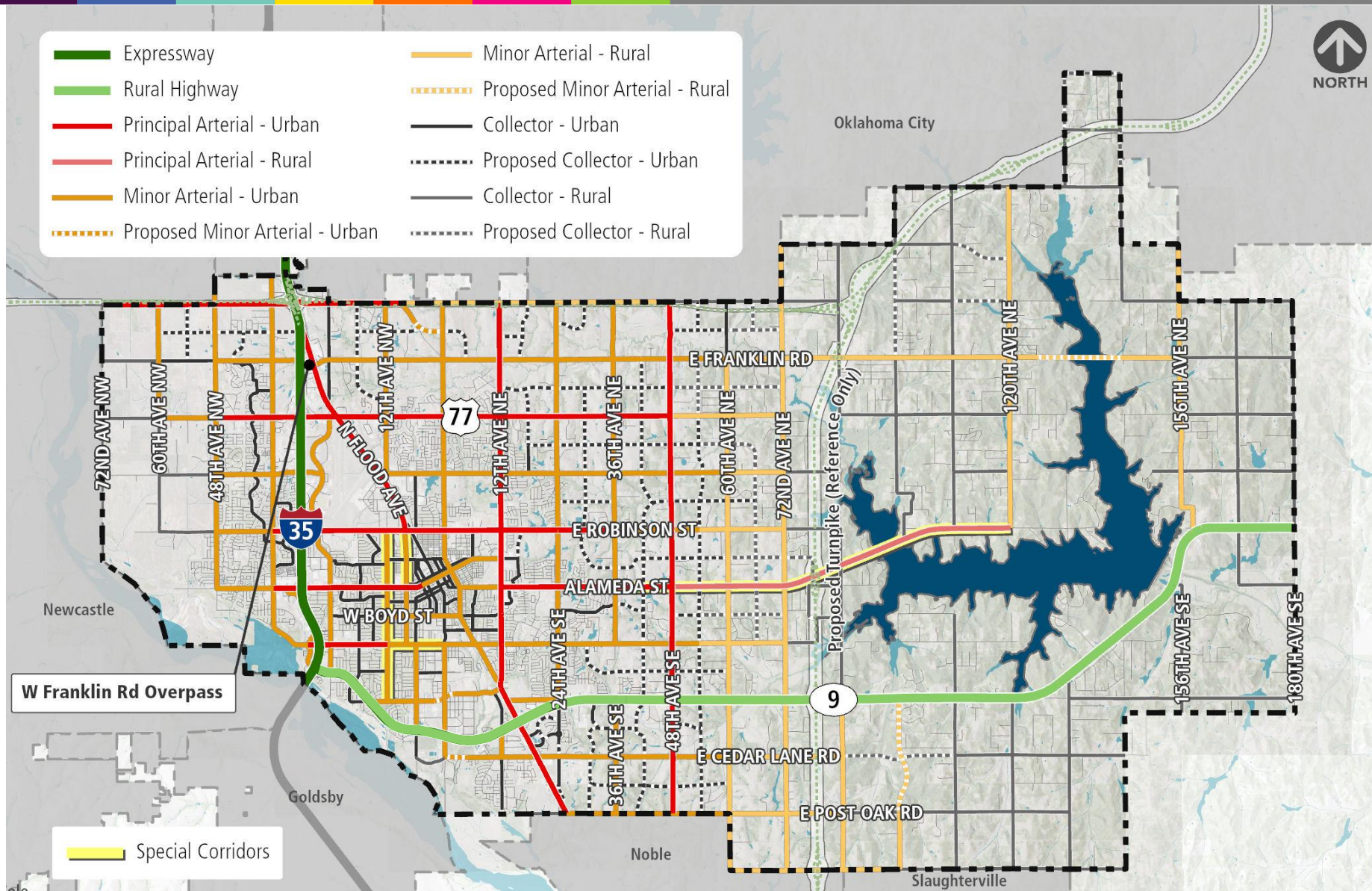
ACTIVE TRANSPORTATION UPDATES



- Major source of public interest and comments
- Plan for routes that make meaningful connections
- Backbone system of trails
- Focus on facilities that encourage more use
- Connection to surrounding communities



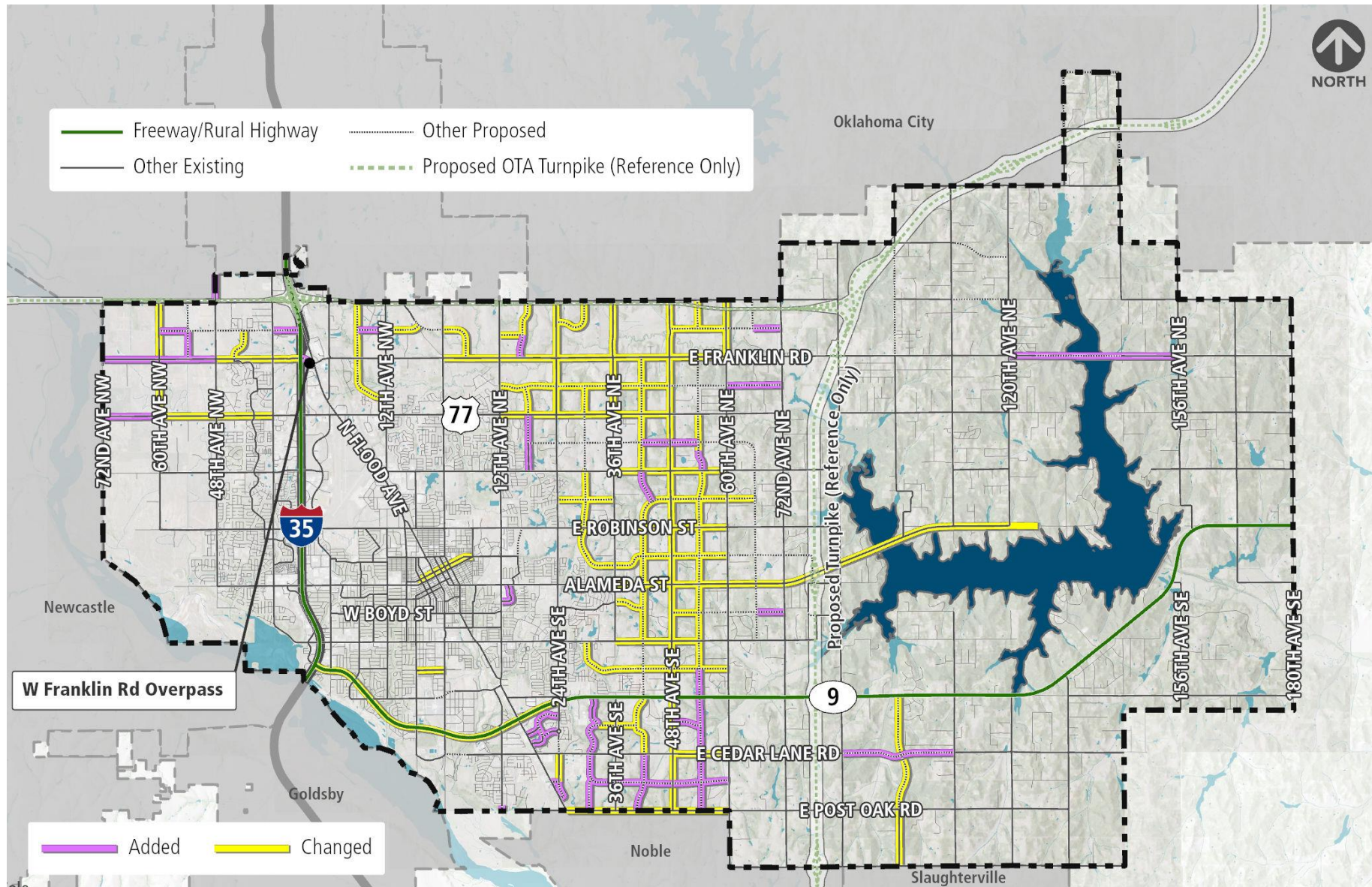
ROADWAY PLAN UPDATES



PLAN UPDATES

- Supports Land Use Plan Update
- Addresses Safety
- Consistent with ACOG Encompass 2045 Plan
- Incorporates public comments and sub-committee feedback and input

ROADWAY PLAN UPDATES



MAJOR CHANGES

- Align with Future Land Use
- Changes due to development
- Continuous Collector Network
- Review for Constructability



- Franklin Road becomes Principal Arterial (Urban) as major east-west corridor for northside
- 48th Avenue East becomes Principal Arterial (Urban) as major north-south corridor for east side
- East Alameda Street from 36th Avenue East to 120th Avenue East becomes a Special Corridor (Minor Arterial – Rural) for multi-modal upgrades and traffic safety improvements
- New roundabout at the intersection of Franklin Road and North Porter Avenue / Broadway Avenue