AGENDA

Welcome and Introductions – Dan Lamers

Mobility 2045 Update Overview – Brendon Wheeler

MPO Environmental Coordination Background – Tim O’Leary

Preliminary Environmental Screening Results – Kate Zielke

Resiliency – Jeff Neal

Environmental Programs – Staff
WELCOME AND INTRODUCTIONS
WELCOME AND INTRODUCTIONS

• NCTCOG
• Resource and Regulatory Agencies
• Local Governments
MOBILITY 2045 UPDATE OVERVIEW
WHAT IS THE METROPOLITAN TRANSPORTATION PLAN?

- Represents a Blueprint for the Region’s Multimodal Transportation System
- Covers at Least a 20-Year Timeframe
- Responds to Goals
- Identifies Policies, Programs, and Projects for Continued Development
- Guides the Expenditure of Federal and State Funds
MOBILITY PLAN VISION

To improve the region’s mobility today and tomorrow by embracing technology and innovation.
Four goal themes

Nine goals

MOBILITY PLAN GOALS

Mobility
- Improve Transportation Options
- Support Travel Efficiency Strategies
- Ensure Community Access to System and Process

Quality of Life
- Enhance Environment and Lifestyles
- Encourage Sustainable Development

System Sustainability
- Ensure Adequate Maintenance, Safety, and Reliability
- Pursue Long Term, Sustainable Financial Resources

Implementation
- Provide Timely Planning and Implementation
- Develop Cost Effective Projects and Programs
MOBILITY 2045: FOCUS ON CONNECTIONS

- Emerging Technologies
- Non-Motorized Connections
- Regional Passenger Rail
- Toll Managed Lane System
- High-Speed Rail
- Freight
# ABOUT MOBILITY 2045

**RTC Adoption**
- June 2018

**Air Quality Conformity**
- November 21, 2018

**Air Quality Conformity Expires**
- (4 Years)

- November 21, 2022

**RTC Adoption**
- June 2022

**Air Quality Conformity Determination**
- November 2022 or sooner
MAJOR PLAN UPDATE EMPHASIS

- Updated travel and demographic data
- Updated financial forecast
- Project, Program, and Policy refinements
- Updated performance-based planning framework
- Updated Policy Bundle
MOBILITY PLAN SCHEDULE

2020
Q2
Q3
Q4

2021
Q1
Q2
Q3
Q4
Jan
Feb
Mar
April
May

2022
June
July
Aug
Sept
Oct
Nov

Agency and Public Coordination
Plan Development

Draft Recommendations for Review
Official Comment Period
STTC Action
RTC Action
Air Quality Conformity

Notes:
- Public meetings held during highlighted months.
- Regional Transportation Council action on Mobility 2045 Update scheduled for June 9, 2022.
MPO ENVIRONMENTAL COORDINATION BACKGROUND
Goals identified by federal transportation bills

• “Protect and enhance the environment, promote energy conservation, improve the quality of life...”

• “Improve the resiliency and reliability of the transportation system and reduce or mitigate stormwater impacts of surface transportation.”
• Consult with state and local agencies for land use management, natural resources, environmental protection, conservation, and historic preservation.

• Discuss types of potential mitigation activities and locations, including those that have the greatest potential to restore and maintain environmental functions affected by the plan.

• Compare plan to state conservation plans or maps and inventories of natural or historic resources.
TRANSPORTATION PLANNING STUDIES

Preliminary identification of environmental impacts and environmental mitigation

Feasibility study in the Denton Greenbelt
ENVIRONMENTAL PROGRAMS
ENVIRONMENTAL PROGRAMS

Equity and Environmental Justice
Planning in the Denton Greenbelt
Section 214 – Water Resource Development Act
Collin County Outer Loop

Environmental Stewardship Program
Permittee Responsible Mitigation Database
Economic & Environmental Benefits of Stewardship Tool
Air Quality Initiatives
PRELIMINARY ENVIRONMENTAL SCREENING RESULTS
PURPOSE OF NATURAL ENVIRONMENT SCREENING

"NatScreen"

Preliminary screening tool

Desktop, GIS analysis of projects in Metropolitan Transportation Plan

Three dimensions of analysis:

1. Subwatersheds
2. Natural resources
3. Corridors
# NATSCREEN METHOD

<table>
<thead>
<tr>
<th>Natural Environment Screening Resource</th>
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<td>REF* Diversity</td>
<td>Environmental Protection Agency Region 6 Regional Ecosystem Assessment Protocol (REAP), including contiguous undeveloped land, Shannon Land Cover Diversity</td>
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<td>REF Rarity</td>
<td>EPA Region 6 REAP, including vegetation rarity, natural heritage rank, taxonomic richness, rare species richness</td>
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* NCTCOG’s Regional Ecosystem Framework (REF) identifies areas of relative ecological importance in the Dallas-Fort Worth region. The REF uses a watershed approach to define areas of ecological importance because ecosystems do not follow city, county, or other political boundaries.
NATSCREEN METHOD (CONTINUED)

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<td>US Fish &amp; Wildlife Service (USFWS) Information for Planning and Consultation</td>
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<td>National Land Cover Database (NLCD), USFWS National Wetlands Inventory, and TPWD Ecological Mapping Systems of Texas</td>
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<td>Wildlife Habitat</td>
<td>NLCD, TPWD Wildlife Management Areas, EPA National Ecological Framework, and USGS Protected Area Database</td>
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* Not conducted for preliminary analysis
LIMITATIONS

Different agencies may have different priorities

Measures quantity of environmental resource, not quality

Some data from EPA is up to 20 years old (Diversity, Rarity)

A preliminary screening tool to launch discussion – not a substitute for delineation or “boots on the ground”
Note: The slate of projects in the plan is not finalized. Projects presented today may be removed or modified, and new projects may be added, before the plan is adopted in June 2022. A final draft of the plan will be available for review 60 days before adoption.

• Discuss types of potential mitigation activities and locations, including those that have the greatest potential to restore and maintain environmental functions affected by the plan

• Compare plan to state conservation plans or maps and inventories of natural or historic resources

• Launch more detailed look at individual corridors
Mobility 2045 (2022 Update) Draft Roadway Project Corridors
Potential Impacts of Roadway Projects on Natural Resources, by Subwatershed
# Natural Environment Resources

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Mobility 2045 (2022 Update) Draft Roadway Project Corridors

Diversity Score

Legend
Diversity Score
- High
- Medium
- Low
Mobility 2045 (2022 Update) Draft Roadway Project Corridors

Flood Zone Score

Legend
Flood Zone Score
- Red: High
- Orange: Medium
- Gray: Low
Mobility 2045 (2022 Update) Draft Roadway Project Corridors
Impaired Water Segments Score

Legend
Impaired Water Segment Score
- High
- Medium
- Low

DRAFT

29
Mobility 2045 (2022 Update) Draft Roadway Project Corridors Rarity Score

Legend
Rarity Score
- High
- Medium
- Low
Mobility 2045 (2022 Update) Draft Roadway Project Corridors

Wetland Score

Legend
Wetland Score
- High
- Medium
- Low

DRAFT

32
Mobility 2045 (2022 Update) Draft Roadway Project Corridors

Ecologically Significant Stream Segment Score
Mobility 2045 (2022 Update) Draft Transit Project Corridors
Potential Impacts of Transit Projects on Natural Resources, by Subwatershed
Mobility 2045 (2022 Update) Draft Transit Project Corridors

Diversity Score

Legend
Diversity Score
- High
- Low
- Medium

[Map Diagram]
Mobility 2045 (2022 Update) Draft Transit Project Corridors
**Impaired Water Segments Score**

**Legend**
- **High**
- **Medium**
- **Low**
Mobility 2045 (2022 Update) Draft Transit Project Corridors
Surface Water Density Score

Legend
Surface Water Density Score
- High
- Low
- Medium
Mobility 2045 (2022 Update) Draft Transit Project Corridors

Wetland Score

Legend
Wetland Score
- High
- Low
- Medium
Mobility 2045 (2022 Update) Draft Transit Project Corridors

Wildlife Habitat Score

Legend
Wildlife Habitat Score
- High
- Medium
- Low
PGBT EAST BRANCH

Project 5: East Branch

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Project 51: US 175

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# Project: US 380 McKinney Bypass

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Project 50: State Loop 9

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### Project: US 380 Freeway

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IH 20 (DALLAS COUNTY)

Project 7: IH 20 (Dallas County)

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Project 20: IH 35E (North)

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SH 199

Project 42: SH 199

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**Project 48: State Loop 12**

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WAXAHACHIE LINE

Project 16: Waxahachie Line

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DISCUSSION TOPICS

• Discuss types of potential mitigation activities and locations, including those that have the greatest potential to restore and maintain environmental functions affected by the plan
• Compare plan to state conservation plans or maps and inventories of natural or historic resources
• Launch more detailed look at individual corridors
RESILIENCY
WHAT DOES RESILIENCY MEAN?

“Ability to anticipate, prepare for, and adapt to changing conditions, and to withstand, respond to, and recover quickly from disruptions.”
JUSTIFICATION FOR RESILIENCY

FHWA Order 5520 – 2014:
• Identify climate change/extreme weather risks to current and planned transportation systems
• Integrate risk considerations into planning, operations, policies, and programs aimed to promote preparedness, asset management, and continued network safety and reliability

Fixing America's Surface Transportation (FAST) Act – 2015:
• Metropolitan planning process should consider resiliency needs as a planning factor, with consideration of projects/strategies to improve system resiliency/reliability as part of its scope
• MTPs should contain capital investment and other strategies to preserve transportation infrastructure, which may be done in part by reducing vulnerability to natural disasters
• Resiliency should be integrated among environmental mitigation activities with the greatest likelihood to restore, maintain, and enhance environmental functions affected by the MTP

Executive Order 13990 – 2021 (reinstates Executive Order 13653 – 2013):
• Agencies must comprehensively account for the monetized social costs and benefits associated with potential incremental changes in various greenhouse gas emissions
• Include relevant data, tools, and cost-benefit analysis (CBA) calculations supporting targeted reforms, opportunities, and removal of barriers to incentivize climate-resilient infrastructure investments
JUSTIFICATION FOR RESILIENCY (CONTINUED)

U.S. Billion-Dollar Weather / Climate Disasters – 2020

By the numbers...

- **285** U.S. billion-dollar disasters between 1980-2020
- Total cost = **$1.875 trillion**
- In 2020, **22 events** occurred (new annual record)
- State of Texas:
  - **128 billion-dollar disasters** (1st) between 1980-2020
  - Total cost = **$290 billion**
  - Nearly half (59) occurred in the past decade (last year alone – 11)

Source: NOAA National Centers for Environmental Information (NCEI), U.S. Billion-Dollar Weather and Climate Disasters (2021), [https://www.ncdc.noaa.gov/billions](https://www.ncdc.noaa.gov/billions)
JUSTIFICATION FOR RESILIENCY (CONTINUED)

- **NCTCOG supports** TxDOT statewide 2022 “Good Condition” NHS pavement and bridge targets
- Analysis of TxDOT data for NCTCOG region indicates general compatibility across all NHS roadway categories

- **NCTCOG supports** TxDOT statewide 2022 “Poor Condition” NHS pavement and bridge targets
- Collaboration to plan/program projects contributing toward accomplishment of pavement and bridge goals will also include the following actions:
  - NCTCOG/local governments to expedite improvements for NHS Off-System Arterials in “Poor Condition” (COVID-19 #00X Regional Infrastructure Program)
  - NCTCOG/TxDOT to expedite improvements for NHS Bridges in “Poor Condition” (North Texas Strategic NHS Bridge Program – INFRA)
Response from comprehensive April 2019 survey conducted among 57 nationwide MPOs:

- 44% - Identified/characterized extreme weather factors affecting regional transportation vulnerability
- 33% - Explicitly defined resiliency in terms of their specific regional characteristics
- 20% - Defined resiliency goals outlined in authorized transportation plans/programs
- 12% - Set project selection/prioritization methodologies & measured progress toward resiliency goals

Created as outcome from "Developing a Resilient Texas Metropolitan Transportation System", this technical liaison group between TTI, FHWA Texas Division, TxDOT, and TEMPO, was initiated in December 2020

Proposed preliminary products and objectives:

- Provide stakeholder forum to address blended resiliency & asset management needs/concerns
- Identify phased approach/framework for resilience incorporation regardless of MPO size & stressors
- Establish web portal to share resiliency data, literature, tools, best practices, & local applications
- Enhance collective efforts to identify, quantify, & prioritize adaptation, mitigation, & recovery strategies
- Prepare resiliency briefing materials & conduct training opportunities to assist with education, communication, onboarding, consensus building, & policy development
TEXAS RESILIENCY TECHNICAL WORK GROUP (CONTINUED)

Designed to address the following basic resiliency framework steps:

1. Identify regional resiliency goals & define as part of the MTP
2. Assess infrastructure vulnerability to natural/anthropogenic stressors based on risk exposure & sensitivity
3. Determine mitigation strategies to improve longevity, durability, & adaptability, as well as address facilities critical to emergency responses, essential services, & economic functionality
4. Incorporate resiliency metric(s) to inform & amend the project selection/prioritization process
5. Document resiliency measures, plans, efforts, & goal progress/attainment as part of MTP/TIP programming initiatives

Specific planned attributes:

- **Framework site map & navigation aids** including related project case studies, regulatory requirements, & tips on information to be made available & responses to frequently asked questions
- **Self-assessment tool** for MPOs & member local governments to right-size resiliency planning efforts
- **Data catalog** with sample actionable data sets & reference data refresh links readily updated based on MPO resiliency efforts across Texas & other states
- **Resource guide** to serve as a delivery mechanism for case studies, tools, lessons learned, & specific plans/programs connected or related to the data catalog
WHAT: Silo-busting, comprehensive, collaborative planning to assess vulnerabilities and improve delivery of consolidated, adaptive infrastructure before expected population growth, development distribution / intensity, and expected levels of service make addressing these issues more difficult and costly.
INTEGRATED TRANSPORTATION, DEVELOPMENT, AND STORMWATER MANAGEMENT STUDY (CONTINUED)

WHY:

- As development occurs, planning is conducted for supportive infrastructure, but not always concurrently and comprehensively (transportation, water, solid waste, etc.)

- **What about stormwater infrastructure?**
  - Minimal / spotty requirements to mitigate new impervious surfaces and resulting increases to runoff and water storage loss
  - Minimal requirements to evaluate accumulated watershed scale impacts due to increased urbanization
  - Questionable hydrological standards (e.g., “100-year flood”) due to variability, non-stationarity, and insufficient observation periods for flood flow and rainfall frequency estimates

- **What about environmental infrastructure?**
  - Negotiated impact by impact leading to inequitable outcomes and inconsistent performance
  - Piece-meal analyses leading to suboptimal uses of nature-based solutions and lack of consolidated or adaptive strategies
INTEGRATED TRANSPORTATION, DEVELOPMENT, AND STORMWATER MANAGEMENT STUDY (CONTINUED)

**WHO:**
- U.S. Army Corps of Engineers (USACE)
  - Grantor / Technical Partner
- Federal Emergency Management Agency (FEMA)
  - Grantor / Technical Partner
- U.S. Dept. of Housing and Urban Development (HUD)
  - Grantor / Technical Partner
- Tarrant Regional Water District
  - Policy / Technical Partner
- Education Institutions (UT Arlington / Texas A&M Agrilife)
  - Policy / Technical Partner
- Texas Water Development Board (TWDB)
  - Grantor / Technical Partner
- Texas Floodplain Management Association
  - Education / Communication
- Local Jurisdictions (Counties, Cities, etc.)
  - Policy / Technical Partner
- Trinity River Authority (TRA)
  - Policy / Technical Partner
- Trinity River Common Vision Committee
  - Policy / Technical Partner
- Texas Dept. of Transportation (TxDOT)
  - Policy / Technical Partner

**Project Oversight / Leadership:**
- NCTCOG

**Financial:**
- $10 Million

**Foundational**
- Analysis
- Policies & Actions

**DECISIONS:**
- Community Activities
- 3 - 4 Years

**WHEN:**
- 3 - 4 Years

**WHY:**
- To integrate transportation, development, and stormwater management

**WHAT:**
- Transportation Infrastructure
- Flooding
- Environmental Stewardship
- Other Planning Tools
ENVIRONMENTAL PROGRAMS
SOCIAL EQUITY/ENVIRONMENTAL JUSTICE

• Long-range plan equity analysis
• Development of Equity/EJ tools
  • Environmental Justice Index (EJI)
  • Transit Accessibility Improvement Tool (TAIT)
• Needs assessment and best practices guide
  • Transportation impacts on health, safety, access, and quality of life
  • Equity planning guide for planners in our department
• ADA transition plan
• Food deserts
• Find out more: https://www.nctcog.org/ej
PLANNING IN THE DENTON GREENBELT

• Feasibility study of Denton County Outer Loop, completed 2019
• INVEST sustainability tool
• Continued coordination with TxDOT
• Planning to address sustainable roadway design and stormwater impacts of development
• Find out more: https://www.nctcog.org/trans/quality/environmental-coordination/planning-and-environmental-linkages
SECTION 214 – WATER RESOURCE DEVELOPMENT ACT

- NCTCOG funds one FTE at the USACE
- Expedites permits on regionally significant projects
- Direct coordination with project team and USACE
- Withdraws unnecessary permits and reduces permit type, time, mitigation, impacts to aquatic resources
- Provides cost savings
- Find out more: https://www.nctcog.org/trans/quality/environmental-coordination/planning-and-environmental-linkages
• Local Environmental Document written by NCTCOG staff
• Sponsored by Collin County Toll Road Authority (CCTRA)
• No federal funds
• Written “NEPA-like”
• Phased approach starting with 2-lane, 2-way frontage roads.
• Find out more: https://www.collincountytx.gov/mobility/pages/outerloop.aspx
ENVIRONMENTAL STEWARDSHIP PROGRAM

- Fort Worth tree planting and constructed wetlands projects, TBD
- Texas Trees Foundation’s NeighborWoods and Cool Schools programs, ongoing
- Regional Ecosystem Framework Interactive Viewer updates, ongoing
- Dallas Water Gardens Feasibility Analysis, completed 2019
- Webinar identifying transportation demand for mitigation credits, 2018
- Workshop on development impacts, 2017
- Find out more: https://www.nctcog.org/trans/quality/environmental-coordination/environment
PERMITTEE RESPONSIBLE MITIGATION DATABASE

• Landowners upload details about streams, wetlands needing restoration
• Permit applicants view landowner entries and enter details about their own mitigation needs
• Database users connect to restore ecosystems and provide mitigation
• Launched
• Find out more: http://prmd.nctcog.org/
Online tool identifies:
• Environmental effects of new transportation projects
• Appropriate stewardship activities to reduce these effects
• Environmental and economic benefits of implementing stewardship activities
• Find out more: http://eebs.nctcog.org/
AIR QUALITY INITIATIVES
NORTH CENTRAL TEXAS AIR QUALITY
AIR QUALITY INITIATIVES

**Fleets** – Implement initiatives and strategies to increase the efficiency and reduce emissions and energy impacts

**Consumers** – Identify and pursue opportunities to improve efficiency, reduce emissions, and increase consumer options for the cleanest available technologies, especially zero emission vehicles

**Communities** – Influence deployment of and readiness for adoption of the lowest-emissions and efficient technologies by consumers and fleets

**Health** - Convene a Task Force of interested stakeholders to evaluate data that may indicate a need for additional air quality improvement strategies to address concerns over localized air pollution, with a focus on transportation sources

**Technical Planning and Analysis** – Conduct necessary emissions analysis and provide technical assistance in air quality planning and control strategy evaluation
CONTACTS
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