MOBILITYPLAN 2050

Appendix C

TAC Meetings

Meeting Dates

*TAC#1 - 14Nov2023
*TAC#2 - 13Feb2024
*TAC#3 - 14May2024
*TAC#4 - 9Jul2024
*TAC#5 - 10Sept2024
*TAC#6 - 12Nov2024

Agenda

Knoxville Regional TPO
2050 MTP Update

Technical Advisory Committee (TAC)
TAC#1 Meeting

November 14, 2023 @ 9 AM to 10:30 AM (City County Building, 400 Main Street, Knoxville, TN)

Meeting Agenda

1. **Welcome / Introductions – *Why are we here?*** (TPO) – 5 min
2. **Advisory Committee – Roles & Responsibility** (Stantec) – 10 min
3. **Schedule, Data Needs** (Stantec) – 5 min
4. **Outreach Strategy** (Stantec + TPO) – 10 min
5. **Interactive Mapping Exercise** (All) – 30+ min
6. **Action Items / Next Steps** (Stantec) – 10 min

Meeting Notes:

Attendees: (24+) see sign in sheet scan.

This plan will be successful because…

- Talent and experts on this TAC; team cohesion; prior MTP update success
  - Quality public outreach and participation
  - Preparing us for the next TIP cycle
  - Retaining our unique identities
- Traffic focus, and "planning ahead" for the region
- Success of Vision Zero Action Plan process, which set priorities for High Injury Network <link>
- Knox County Growth Plan, with regional perspective for healthy growth
- TDOT leadership + FHWA 3C process: Continuing, Comprehensive, and Cooperative

Discussion through presentation slides included the following:

- **Priority Population** / Vulnerable community – 27 indicators; 4 updates to date, 2023 is most recent
  - Themes: Livability + Mobility + Opportunity + Vulnerability = Composite score
  - Report: <link>
  - Dashboard: <link> (Aubrey Weiland)
- TPO Regional Roadway Safety Action Plan (2023): <link>
  - High Injury Network (HIN) established for the region – *use these data for prioritization*
  - Predictive Analysis viewer: <link>
- Knox County Comprehensive Land Use & Transportation Plan (ongoing): https://advanceknox.org/
  - Draft plan: <link>
- **Oak Ridge National Labs:** 12K+ employees, across several sites: ORNL site / Y-12 site / K-25 site
  - K-25 site: Proposed new airport (transport radioactive isotopes)
- Rural Economic Development topics:
  - Eco-tourism / Mountain Biking / Whitewater Rafting
    - Big South Fork https://www.nps.gov/biso/index.htm
    - Great Smoky Mountains!!!
  - Local Art Community / Public Art Murals
  - Breweries
  - Innovation / Oak Ridge National Labs

- I-40/75 congestion issues – exploration of bypass options / alternatives
- Access Management and Developer Requirements
- Consideration of sidewalk requirements for developments - discussion about possible TN state laws that limit authority of counties to require. *Some* / few counties include sidewalk requirements: Knox <link>
    - Planning regulations / review & change
        - Time & effort to review UDO codes / proactive changes
        - Form-based code trends
        - TDOT + Univ of Memphis :Statewide land use model standards – *<link>*
- Affordable Housing challenge in Knox County
- eCommerce delivery patterns, and its impact on travel / congestion patterns

Chat Box items:

- TDOT Vulnerable Road Users Safety Assessment <link>
- 2021 Statewide Active Transportation Plan <link>
    - Multimodal Priority Tool 2.0
- TDOT State Bike Route Network <link>
- TDOT Choice Lanes ("tolling") – **Transportation Modernization Act 2023** <link>
- TDOT Congestion Studies – Knoxville Region: <link>
- TDOT Interstate Freight Bottleneck Analysis (2019) <link>
- TDOT Induced Demand Study (underway; 2025) <link>
- TDOT Quick Build projects for bike/ped – in process – *need link*
- USDOT Equitable Transportation Community (ETC) Explorer <link>
- UT Study of urban pedestrian crashes (2009-19) – roadway characteristics – share PDF

"PARKING LOT" of good ideas for *future* discussion(s) – *send us more links regarding…*

- "**Plan East Tennessee**" (Plan ET) report / process; no mechanism to push forward
- Induced Demand study – Memphis, TN
    - Recently initiated; anticipated by 2025 <link>
- "Traffic Signals are not the only solution" – need more alternative intersection concepts
- TDOT Quick Build projects for bike/ped – *expedited, or demonstration projects?*
- TPO: new boundary expected to be approved in Dec 2023
- Caliper – Travel Demand Model update - concurrent
    - Review of regional population forecasts including Woods & Poole and UT CBER data sources
    - Base yr 2022. Horizon years: 2030, 2040, 2050.
    - Minor update: Deadline Feb/Mar 2024

Action items:

TAC members

- Correct anything that we may have mislabeled, or described above
- Promote the Survey + Interactive map: http://knoxmobility.org/feedback
- Generate a list of 'who' else needs to be made aware of this MTP process – need your help!
- Compile & share regional photos showing all modes of travel

Stantec team

- Generate half-page flyer & sample email text to help promote website/survey
- Identify data/resource gaps, and request info
- Coordinate Community Engagement Round #1 logistics (Dec / Jan)
- Review financial trend spreadsheet
- Consider online survey for TAC members relating to project Goals and changes
- Review StreetLight data access for addressing specific questions (e.g., I-75/40 new connection)

Attachments: Attendees sign-in sheet, Presentation slides

tpo KNOXVILLE REGIONAL

Sign-in Sheet

Knoxville 2050 MTP Update

TAC #1 Meeting

November 2023

#	Name / Department	Email
1	Dallas DeArmond TPO	dallas.dearmond@knoxplanning.org
2	Michael Hogan / City of Loudon	Michael.Hogan@cityofloudon.org
3	Kathryn Baldwin / Anderson	Kbaldwin@hssc.Design
4	Tom Clabo / City of Knoxville	tclabo@knoxvilletn.gov
5	Brian Boone / City of Maryville	bboone@maryville-tn.gov
6	CHICO MESSER / BLOUNT COUNTY	CMESSER@blounttn.org
7	Darryl Smith / Farragut	dsmith@townoffarragut.org
8	Jim Snowden / Knox Co	jim.snowden@knoxcounty.org
9	Lloyd Stoltenborg / City of Maryville	LLTSTOLTENBORG@MARYVILLE-TN.GOV
10	Laura Smith / East TN Development District	lsmith@etdd.org
11	Troy Ebbert / TDOT LRP	Troy.J.Ebbert@TN.GOV
12	Matt Mezsary / TDOT LRP	matt.mezsary@tn.gov
13	Jack Qualls / LCEDA	qualls@loudoncountyedd.org
14	Mike Conger	mike.conger@knoxtpo.org
15	Craig Luebke	craig.luebke@knoxtpo.org
16	Ally Ketron	ally.ketron@knoxplanning.org
17	Cathy Olsen	Cathy.olsen@knoxcounty.org
18	Emily Jackson	americorps@knoxplanning.org
19	Doug Burton / TPO	doug.burton@knoxtpo.org
20	TERRY GILHULA / PLANNING	terry.gilhula@knoxplanning.org
21	Aubrey Weiland / Planning	aubrey.weiland@knoxplanning.org
22	William Rogers / TDOT	william.rogers@tn.gov (zoom)
23	Zachary Coleman / FHWA	zachary.coleman@dot.gov (zoom)
24	Melanie Murphy @ FHWA	melanie.murphy@dot.gov (zoom)
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(continued on back)

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Agenda

1. Welcome / Introductions
2. Advisory Committee – Roles
3. Schedule
4. Outreach Strategy
5. Interactive Mapping Exercise
6. Action Items

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Project Team

Knoxville TPO

Amy Brooks
Amy.brooks@knoxplanning.org

Mike Conger
mike.conger@knoxplanning.org

Craig Luebke
Craig.Luebke@knoxplanning.org

Doug Burton
Doug.burton@knoxplanning.org

Ally Ketron
Ally.Ketron@knoxplanning.org

TDOT

Michelle Christian
Michelle.A.Christian@tn.gov

Troy Ebbert
Troy.J.Ebbert@Tn.Gov

Stantec

Mike Rutkowski
mike.rutkowski@stantec.com

Timothy Tresohlavy
timothy.Tresohlavy@stantec.com

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Metropolitan Transportation Plan is…

- Federal *requirement* – FHWA
- Long-range 20+ years
- Multimodal
- Fiscally-constrained
- Representation of **YOUR** local goals / needs

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*This **plan** will be successful because…*

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Agenda

1. Welcome / Introductions
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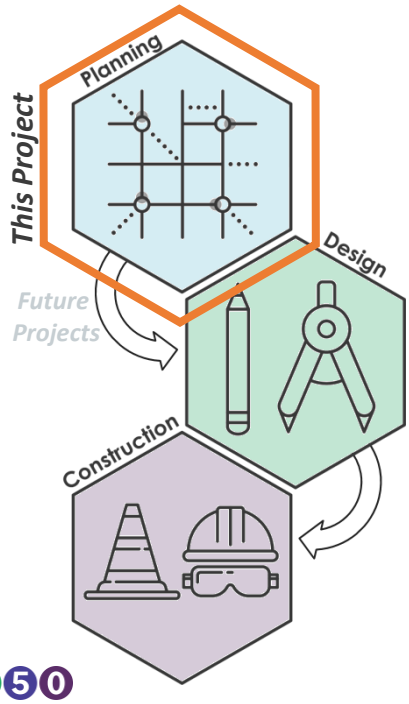
Roles

Stantec—the 'process'

- Synthesizing information
- Facilitation
- Technical assistance and best practices

Advisory Committee—the local experts

- Meeting logistics, scheduling
- Local area knowledge & community vision
- Identifying the "***who***" needs to be involved?
  - *YOU know YOU better than us!*



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General Timeline

21-month time frame
Sept 2023 – May 2025

- Digital Public Outreach
  - Project website
  - Online survey
  - Interactive map
- Existing Conditions review
  - Data assembly
  - Prior plans / documents
- Focus Group "listening sessions"

- Synthesis of regional vision/goals
- Mobility gap analysis
- Planning factors / Performance Measures
- Financial projections to 2050
- Scenario planning & project review

- Synthesis of public feedback
- Prioritization
- Draft Plan
  - Public Comment Period
- Final Plan / Adoption

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Agenda

1. Welcome / Introductions
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Outreach Strategy

What to expect…

Website + Online Survey + Interactive Map
- Digital outreach 24-hours / 7-days

Technical Advisory Committee (TAC)
- Total of eight (8) – half virtual

Community Events: two (2) rounds
- *Issues & Vision:* citizens provide direction
- *Priorities:* citizens provide feedback

Focus Groups: up to six (6), virtual "listening"
- Topics identified – need help *identifying the 'who'*

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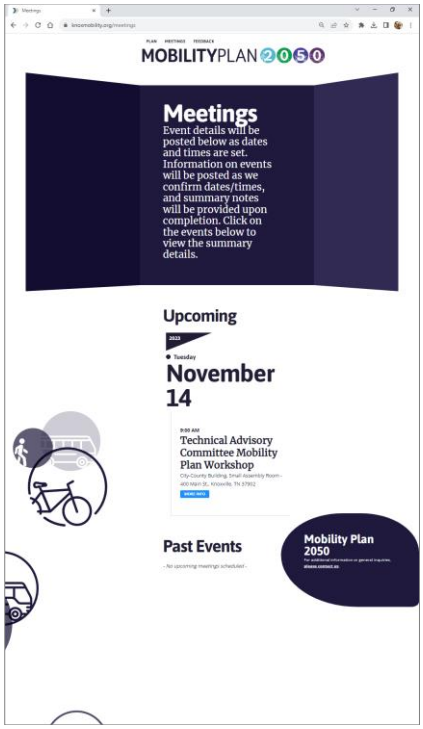
Project Website

What we need from you: https://knoxmobility.org/

- Bookmark it!
- Share it!

Our launching point for Public Outreach



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Agenda

1. Welcome / Introductions
2. Advisory Committee – Roles
3. Schedule
4. Outreach Strategy
5. Interactive Mapping Exercise – *What we (think we) know…*
6. Action Items

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Before we start Polling….

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Population Trends

Metropolitan/Micropolitan Statistical Area

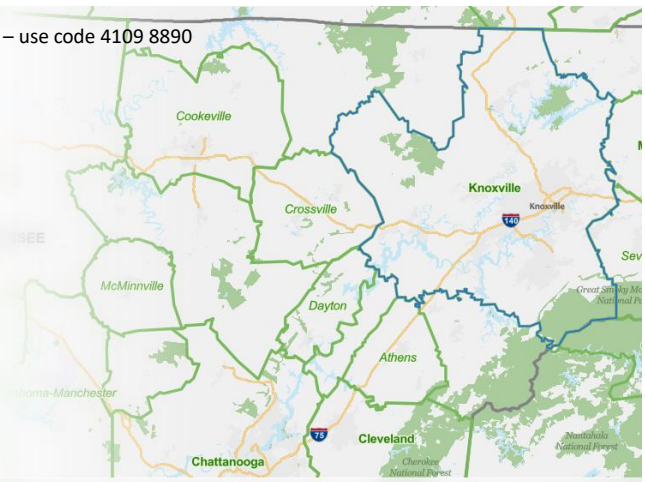
Knoxville, TN Metro Area

Knoxville, TN Metro Area is a Metropolitan/Micropolitan Statistical Area located in United States

Share Profile

Higher than State averages:

- 40 Median age (TN 39 years)
- 19% Seniors >65 years (17%)
- 15% have a disability (13%)



// United States / Knoxville, TN Metro Area

Populations and People
Total Population
879,773
P1 | 2020 Decennial Census

~2%/year
since 2010 Census

Employment
Employment Rate
58.7%
DP03 | 2022 American Community Survey 1-Year Estimates

Business and Economy
Total Employer Establishments
18,931
CB2100CBP | 2021 Economic Surveys Business Patterns

Income and Poverty
Median Household Income
$67,801
S1901 | 2022 American Community Survey 1-Year Estimates

Housing
Total Housing Units
393,836
H1 | 2020 Decennial Census

Families and Living Arrangements
Total Households
369,673
DP02 | 2022 American Community Survey 1-Year Estimates

Education
Bachelor's Degree or Higher
32.4%
S1501 | 2022 American Community Survey 1-Year Estimates

Health
Without Health Care Coverage
8.1%
S2701 | 2022 American Community Survey 1-Year Estimates

Race and Ethnicity
Hispanic or Latino (of any race)
44,667
P9 | 2020 Decennial Census

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Cultural Amenities

Music Scene (Bluegrass, Country)

University of Tennessee, Knoxville

Smoky Mountains / Recreation

Others?

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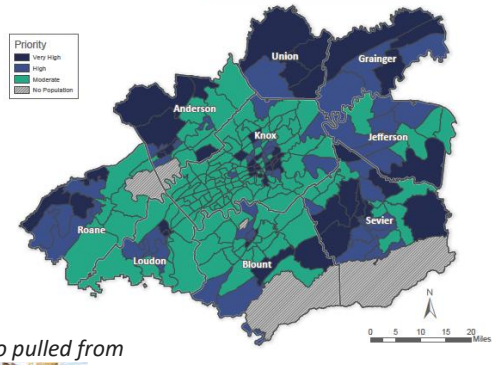
Population Trends Continued

Priority Populations: Composite Score, 2022



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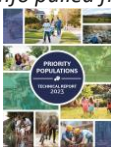

Demographics – Priority Population

All Census Tracts are at least moderate priority

Data Considerations:

- Map does not include **total population** information (downtown: small in size, higher in population)
- Not a substitute for community knowledge
  Where are the areas in need?

Where can we download these data?

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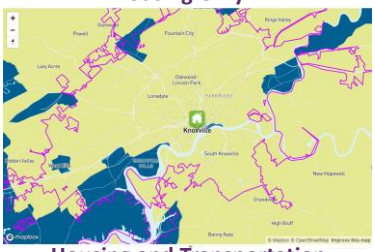
Demographics –Affordability and Housing

Housing + Transportation gives a more complete picture of "**affordability**"

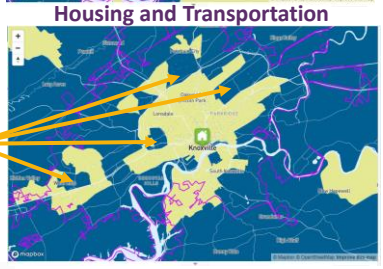
- More affordable within the city, less affordable in the suburbs…sort of
- Typical Knoxville resident spend ***nearly half*** of their income on housing + transportation

Housing Only



Cost of living:
<30% of regional income
>30% of regional income

Housing and Transportation



What factors influence these areas?

Data Source:
https://htaindex.cnt.org/

H+T® Affordability Index
TRUE AFFORDABILITY AND LOCATION EFFICIENCY

https://htaindex.cnt.org/map/

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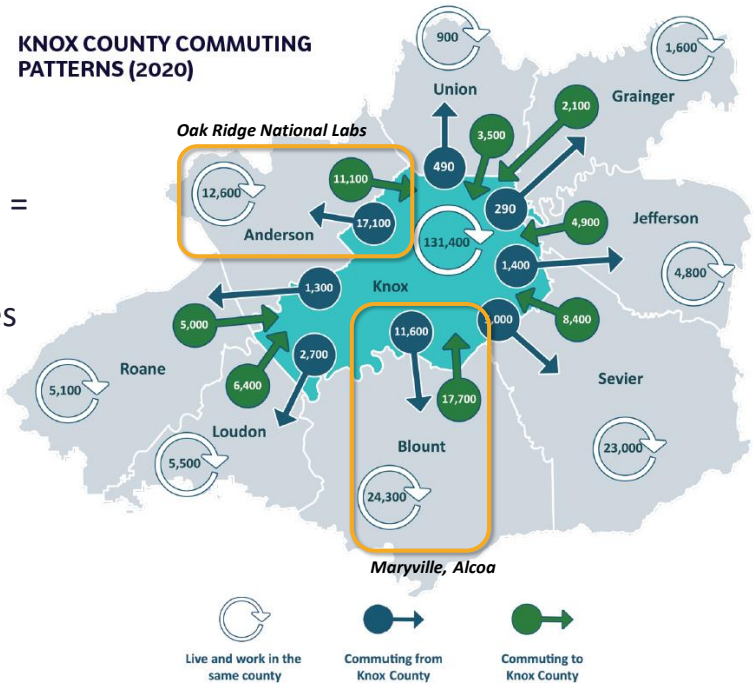
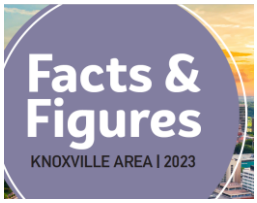
- Daytime population swell = ***workday pressures***
- Anderson, Blount counties = employment hubs





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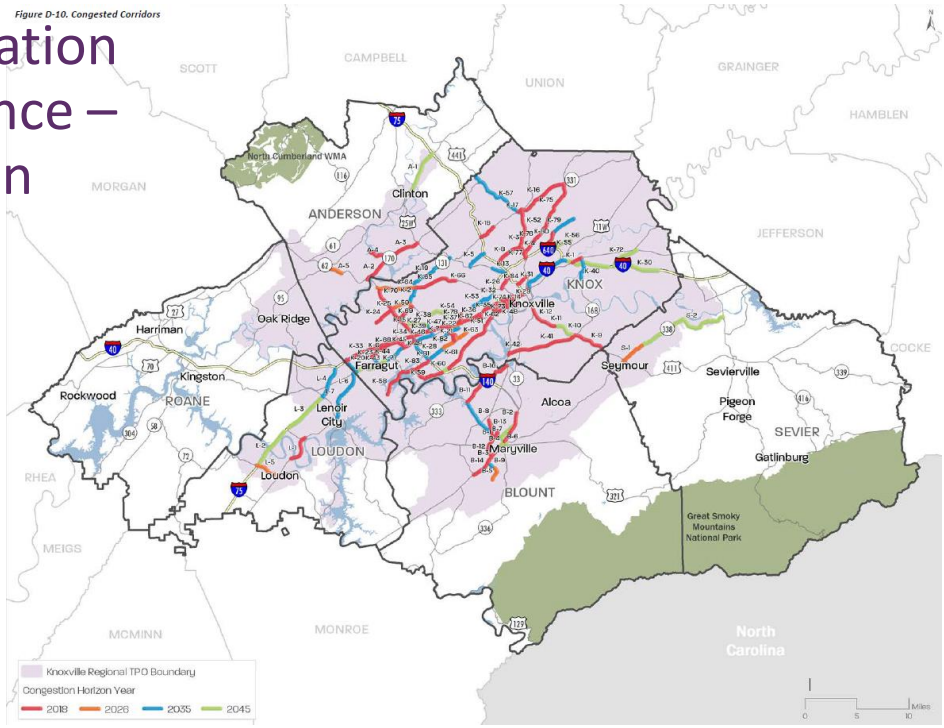
Transportation Performance – Congestion

How "bad" is bad?!

- *Many segments prioritized*
- *Knox County → outward*



CMP – Appendix D of **2045 Mobility Plan**

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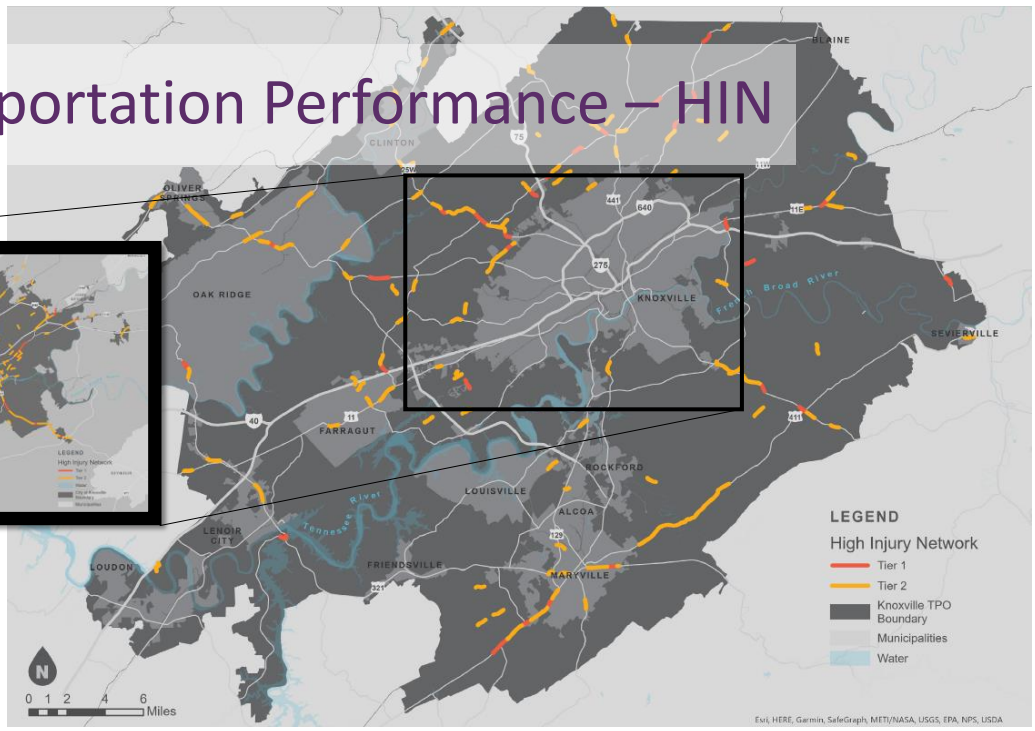
Transportation Performance – HIN



How should we 'best' use this information?

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Transportation Performance – Biking, Walking & Transit

What has changed since?

KAT Reimagined (ongoing):

kat REIMAGINED
designing better transit together
Draft Network Report
JANUARY 2023

- New planned routes?
- Other service improvements?

How are we serving our rural areas?!

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'Barometer' of 2021 conditions

42 miles of bike lanes — **City of Knoxville:** 71% of total bike lanes

920 miles of sidewalks — **Farragut** (51% of roads); **Oak Ridge** (49% of roads); **Knoxville** (36% of roads)

126 miles of greenways — **City of Knoxville:** **57**% of total greenways

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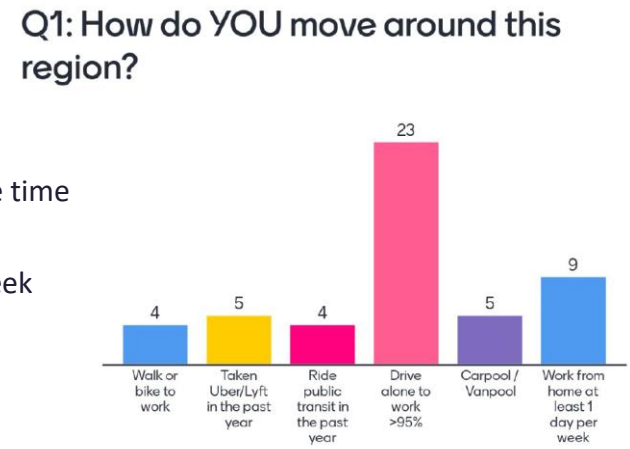
QUESTION 1: How do YOU move around this region? (check all that apply)

A. Walk or bike to work
B. Taken Uber/Lyft in the past year
C. Ridden public transit in the past year
D. Drive alone to work at least 95% of the time
E. Carpool or Vanpool
F. Work from home at least one day a week



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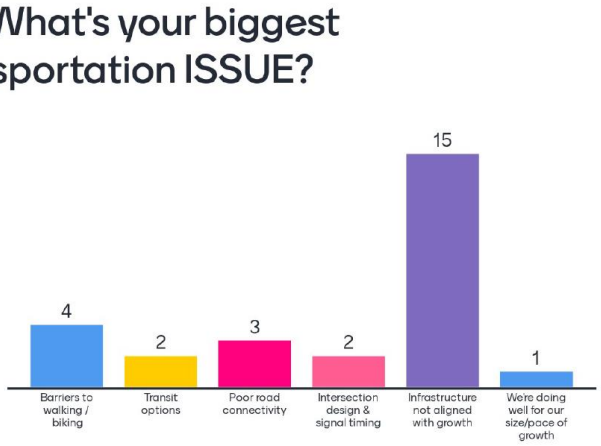
Question 2: What's your biggest transportation **ISSUE**? (choose one)

A. Barriers to walking / biking
B. Transit options
C. Poor road connectivity
D. Intersection design & signal timing
E. Infrastructure not aligned with growth
F. We 're doing well for our size/pace of growth



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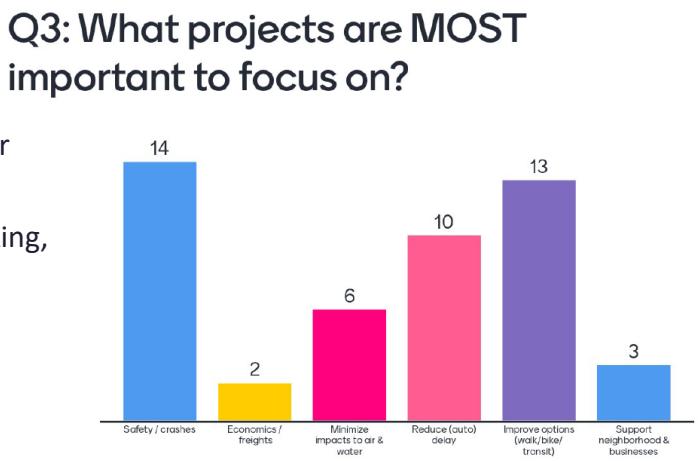
Question 3: What projects are MOST important to focus on? (choose two)

A. Safety/Crashes
B. Economics/ Freight
C. Minimize impacts to air & water
D. Reducing auto delay
E. Improving options (walking, biking, transit)
F. Supporting neighborhoods and business interests



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Trends we see

- Technology emerging
- Cultural / Lifestyle shifts
- Aging populations
- Changing economy
- Hybrid/ WFH Work Choices
- Shrinking revenues

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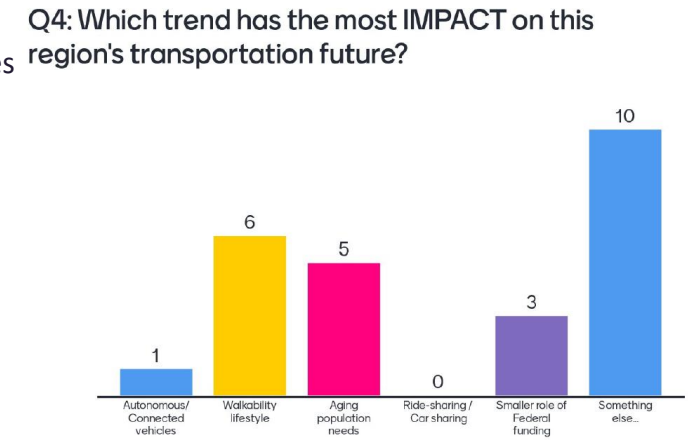
QUESTION 4: Which trend has the most **IMPACT** on this region's transportation future? (choose one)

A. Autonomous/Connected vehicles
B. Walkability lifestyle
C. Aging population needs
D. Ride-sharing / Car sharing
E. Smaller role of federal funding
F. Something else…



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Rethinking the Role of Streets

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Photo Credit:
http://charlestoninsideout.net/historic-king-street-in-1915/

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Rethinking the Role of Streets

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Photo credit:
http://coastalconservationleague.org/news/blog/errors-omission/

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Streets are Inadequate

- No sidewalks
- Too dangerous to cross on foot
- Uninviting for bus riders
- Not safe for bicyclists
- No room for people!
- Inaccessible for wheelchairs

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Every mode needs…

- Convenience
- Safety
- Comfort
- Access
- Predictability
- Affordability
- Reasonable travel time

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Safety benefits

- U.S. Pedestrian deaths are at the highest level in 41 years –
  - 7,500 struck and killed while walking on US streets

- Complete Streets reduce crashes through comprehensive safety improvements

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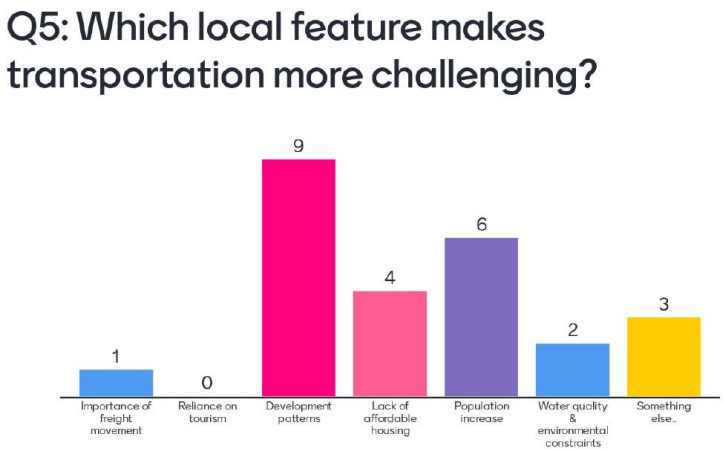
Question 5: Which local feature makes transportation more challenging? (choose one)

A. Importance of freight movement
B. Reliance on tourism
C. Development patterns
D. Lack of affordable housing (people making longer trips)
E. Population increase
F. Water & environmental constraints
G. Something else…



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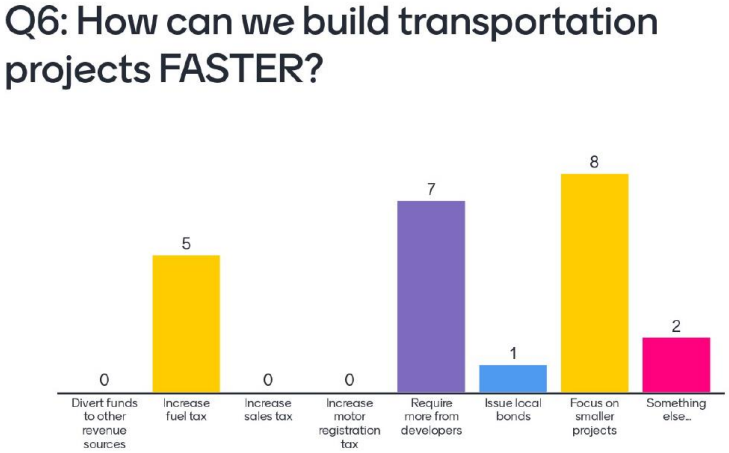
Question 6: How can we build transportation projects FASTER? (choose one)

A. Divert funds from other revenue sources
B. Increase fuel tax
C. Increase sales tax
D. Increase motor registration tax
E. Require more from developers (Impact Fees, etc.)
F. Issue local bonds
G. Focus on smaller, “bang-for-the-buck” projects
H. Something else…



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- Let's talk Goals & Performance Measures!!!

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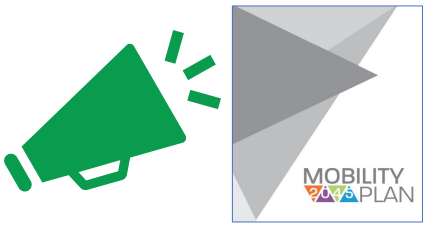
Discussion



Goals from 2045 Plan

PM2	Maintenance & Efficiency	Equitable Access	
	Mode Choice	Congestion Reduction	PM3
PM1	Safety & Security	Preservation of Places	
	Health & Environment	Economy & Freight	PM3

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Performance Measures

Table 1. Knoxville Regional TPO Goals and Performance Measures

	FAST ACT PLANNING FACTORS	REGIONAL GOALS		PERFORMANCE MEASURES
PM2	SYSTEM PRESERVATION	Maintenance and Efficiency	Preserve and maintain our existing infrastructure through repaving projects, bridge replacements, access management, sidewalk repairs, and intersection improvements	▸ Condition of regional roadways ▸ Condition of regional bridges ▸ Age of transit fleet vehicles ▸ Percent of TPO funding for maintenance projects
	ACCESSIBILITY AND MOBILITY	More Options	Improve access to services and employment with bicycle and pedestrian facilities, and transit services	▸ Percent commuters by active mode ▸ Change in mileage of sidewalks, bikeways, and greenways ▸ Jurisdiction implementation of ADA transition plan ▸ Transit ridership per year ▸ Number of households within a ¼ mile of high frequency transit service ▸ Percent of TPO funding for multimodal transportation
PM1	SAFETY SECURITY	Safety and Security	Reduce rates of crashes with serious injuries and fatalities. Reduce the region's vulnerability to incidents and threats	▸ Annual number of vehicular crashes, serious injuries, and fatalities ▸ Fatality and serious injury crash rates per 100 million VMT ▸ Annual crashes, serious injuries, and fatalities involving pedestrians and bicyclists ▸ Annual number of crashes involving commercial trucks
	ENVIRONMENT, CONSERVATION, AND LAND USE	Health and Environment	Minimize negative impacts on the environment and people's health, and increase access to active transportation/physical activity for all ages	▸ Amount of criteria pollutant emission reductions ▸ 2-year and 4-year cumulative reported emission reductions, for all projects funded by CMAQ funds ▸ VMT per capita
PM3	CONNECTIVITY	Equitable Access	Connect communities to opportunities and services throughout the region, particularly areas with high proportions of low income, senior, and minority populations	▸ Number of households in very high and high priority population areas within a ¼ mile of bicycle or pedestrian facility ▸ Number of households in very high and high priority population areas within a ¼ mile of high frequency transit service ▸ Percent of TPO funding in very high and high priority areas
	SYSTEM EFFICIENCY	Congestion Reduction	Use our system more efficiently through technology like traffic signal coordination, real time traffic info, and emergency response vehicles	▸ Interstate travel time reliability ▸ Non-interstate NHS travel time reliability ▸ Smart Trips Program VMT reduction parameters
	RESILIENCY AND RELIABILITY	Preservation of Places	Preserve natural and cultural areas and places that make our region unique (e.g. mountains, open space, farmland, viewsheds, small communities)	▸ Percent of TPO funding located in existing urban centers ▸ Percent of TPO funding located within or along existing, major transportation corridors
	ECONOMIC VITALITY TRAVEL & TOURISM	Economy and Freight	Improve intermodal connections to help move freight to and through the region. Reduce delay on major freight corridors	▸ Truck travel time reliability ▸ Average hours of delay on freight corridors ▸ Annual tonnage and value of exported freight ▸ Economic impact of tourism

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Agenda

1. Welcome / Introductions
2. Advisory Committee – Roles
3. Schedule
4. Outreach Strategy
5. Interactive Mapping Exercise
6. Action Items

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Coordination Items

Background Resources

- Previous studies / plans / reports?
- Additional data sources?
- What *don't* we know?

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Action Items

We need from YOU…

- Send us more data / resources! – Fill the knowledge gap
- **PROMOTE** Project Website – survey – Interactive Map

STANTEC is working towards…

- Existing conditions / synthesis
- TAC #2 – *tbd*
- Community Event – Round #1 – Dec-Jan 2025
  - Multiple events / dates

MOBILITYPLAN 2050

Agenda

Knoxville Regional TPO
2050 MTP Update

Technical Advisory Committee (TAC)
TAC#2 Meeting

February 13, 2024 @ 9 AM (City County Building, 400 Main Street, Knoxville, TN)

Meeting Agenda

1. **Welcome / Introductions –** *Today's objectives* (TPO) – 5 min
2. **Review of Schedule, Outreach, Data Needs** (Stantec) – 5 min
3. **FHWA Requirements for MTP Update** (Stantec) – 10 min
4. **Growth Trends Discussion** (TPO) – 15+ min
5. **Goal Prioritization** (Stantec + TPO) – 20 min
6. **Funding Trends** (TPO) – 15 min
7. **Action Items / Next Steps** (Stantec) – 10 min

Meeting Notes:

Attendees: 22+ see attachment.

Review of Schedule

- Timeline: approaching the transition from phase 1 (Outreach & Data) to phase 2 (Needs Assessment).
  - Phase 1 will cover a majority of the analysis, draft recommendations, and long range planning.
- Reminder of the varying outreach strategies for different stakeholders (from general/broad, to specific)
- Outreach to date has included:
  - 3,280 recipients of our emails lists / newsletters
  - 690 survey participants: would benefit from more participants who ride transit
  - 330 points of interest added to our ArcGIS Online interactive map
  - 84 focus group participants in 5 sessions (Jan 30th – Feb 1st)
  - Three (3) Community Events for Round #1
    - Monday 2/12 @ KAT: **20+** sign in participants
    - Tuesday 2/13 virtual (lunch): **16+** attendees
    - Tuesday 2/13 @ Blount County Library: **17+** sign in participants
- Reminder of FHWA requirements for an MTP update, citing local vision & goals, and future needs
- Reminder of Stantec's role: Validate – Synthesize – Integrate, with direction from regional staff

Growth Trends – Discussion

- KRTPO staff presented population & employment projections to 2050, including a comparison of data sources (US Census, CBER, and Woods & Poole), and their data variation by county
- Population growth is a function of:
  - Natural change: births – deaths
  - Net migration: people moving into the region – people moving out of the region

Observations & Discussion included the following:

- Woods & Poole projections were higher than CBER, with the exception of Knox County (<1% difference)
- Roane County projections show a decline in population for CBER data (-2k) by 2050
- Projections for Sevier County are both lower than the 2045 estimates due, and likely influenced by current housing market constraints (scarcity of homes; majority are rental units/tourism based)
- Tennessee is experiencing a *slower* birth rate (since 2007), as with many States

- Tennessee is experiencing a *high* in-migration rate, as with many southeastern States
    - Over the past 5-years, in-migration to Tennessee has been coming from:
        - Florida, Georgia, California, North Carolina, Virginia, Texas, Illinois, New York, & Alabama
- Charts of natural change and net migration by county were presented
- Projected growth by 2050:
    - Population: +195k residents
    - Employment: +223k employees (may double-count some two-job situations)
- Regional employment growth is expected to be largest in the 'Services' industry, followed by 'Retail'

Goal Prioritization – Discussion

- TAC members were asked to complete a brief ranking survey relating to the MTP's 8 goals in December
- Results for Small/Local and Large/Regional projects were compared with respect to previous MTP
- Public Survey (interim) results were also compared

Observations & Discussion included the following:

- Small/local projects prioritized Safety, and Congestion Reduction higher than previous, though the relative weights (% of 100) varied by 2-3%
- Large/regional projects prioritized Congestion Reduction, Safety, and Freight higher than previous
    - Maintenance remained highly important, though slipped from #1 to #3 ranking (-4%)
- Public was asked to rank form 1st to 8th, so there are no weighted values
    - Public agrees with the same top 3: Congestion Reduction, Maintenance, and Safety
    - Public valued Freight much lower (similar to Small/Local projects), as anticipated
    - Public valued Health & Environment higher than Preservation or Mode Choice(s), likely influenced by proximity to the Great Smoky Mountains and its tourism influence

Funding Trends – Discussion

- Prior MTP assumptions:
    - project **revenue** growth of ~+2.2% per year
    - **inflation** cost ~~increase of ~+3.3% per year~~
        - TDOT 10-year plan assumes ~+3.8% per year (more conservative estimate)
- Much has changed since this time: Pandemic, IIJA Federal programs; TDOT 10-year 'Build with us'

Discussion through presentation slides included the following:

- Nine (9) projects for this TPO within the TDOT 10-year plan
    - ALL would be considered '*committed*' and fully funded; must be included in our first Tier/Horizon year of projects

FY2024-2026 – 3-year plan

- (2) Anderson County $250.6M
- (8) Knox County $33.3M

Traditional State & Federal Funding

- (R1-4) Knox County $523M
- (R1-3) Blount County $338.5M
- (R1-11) Knox County $70.3M – split into three sections
- (R1-2) Blount County $123.4M
- (SA-1) Knox County $32M

TMA Funding

- (R1-5) Loudon County $97.4M

General Fund Transfer (GTF)

- (GFT-06) Knox County $61.8M

Action items:

TAC members

- Correct anything that we may have mislabeled, or described above
- Continue to promote the Survey + Interactive map: http://knoxmobility.org/feedback

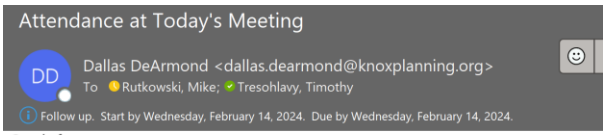
- Compile & share regional photos showing all modes of travel
- Identify and suggest community outreach opportunities in your jurisdiction – request meeting materials

Stantec team

- Facilitate and summary of feedback from Community Events – Round #1
- Summary of existing conditions/performance and synthesis of information for all modes of travel
- TAC#3 – Spring 2024 – virtual meeting

Attachments: Presentation slides

Attendees list



Good afternoon,

Below is the list of attendees at this morning's Technical Advisory Committee meeting.

Laura Smith, ETDD
Ekem Amonoo-Lartson, ETDD
James Temple, Sevier County
Patrick Berge, City of Oak Ridge
Brian Boone, City of Maryville
Darryl Smith, Town of Farragut
Tom Clabo, City of Knoxville
Troy Ebbert, TDOT
Kathryn Baldwin, Anderson County
Tanner Charles, Knoxville Area Transit
Beth Collins, Lenoir City
Karen Estes, CAC
Dakota Gentry, City of Alcoa
Michael Hogan, City of Loudon

Amy Brooks, Knoxville-Knox County Planning
Dallas DeArmond, Knoxville-Knox County Planning
Terry Gilhula, Knoxville-Knox County Planning
Aubrey Weiland, Knoxville-Knox County Planning
Doug Burton, TPO
Craig Luebke, TPO
Mike Conger, TPO
Emily Jackson, TPO

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Agenda

1. Welcome / Introductions
2. Review of Schedule, Outreach
3. FHWA Requirements
4. Growth Trends Discussion – 15-min
5. Goal Prioritization – 20-min
6. Funding Trends – 15-min
7. Action Items

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Project Team

Knoxville TPO

Amy Brooks
Amy.brooks@knoxplanning.org

Mike Conger
mike.conger@knoxplanning.org

Craig Luebke
Craig.Luebke@knoxplanning.org

Doug Burton
Doug.burton@knoxplanning.org

Ally Ketron
Ally.Ketron@knoxplanning.org

TDOT

Michelle Christian
Michelle.A.Christian@tn.gov

Troy Ebbert
Troy.J.Ebbert@Tn.Gov

Stantec

Mike Rutkowski
mike.rutkowski@stantec.com

Timothy Tresohlavy
timothy.Tresohlavy@stantec.com

Agenda

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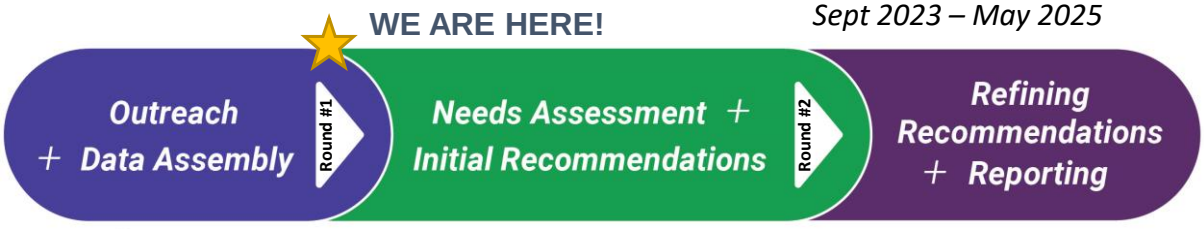
General Timeline

21-month time frame
Sept 2023 – May 2025



- ☑ Digital Public Outreach
  - Project website
  - Online survey
  - Interactive map
- ☑ Existing Conditions review
  - Data assembly
  - Prior plans / documents
- ☑ Focus Group "listening sessions"

- Synthesis of regional vision/goals
- Mobility gap analysis
- Planning factors / Performance Measures
- Financial projections to 2050
- Scenario planning & project review

- Synthesis of public feedback
- Prioritization
- Draft Plan
  - Public Comment Period
- Final Plan / Adoption

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Outreach Strategy

Varying scale & audience…

- ☑ **Website + Online Survey + Interactive Map**
  - Digital outreach 24-hours / 7-days
- **Technical Advisory Committee (TAC)**
  - Total of eight (8) – half virtual
- **Community Events:** two (2) rounds
  - ☑ *Issues & Vision:* citizens provide direction
  - *Priorities:* citizens provide feedback
- ☑ **Focus Groups:** up to six (6), virtual "listening"
  - Topics identified – need help *identifying the 'who'*

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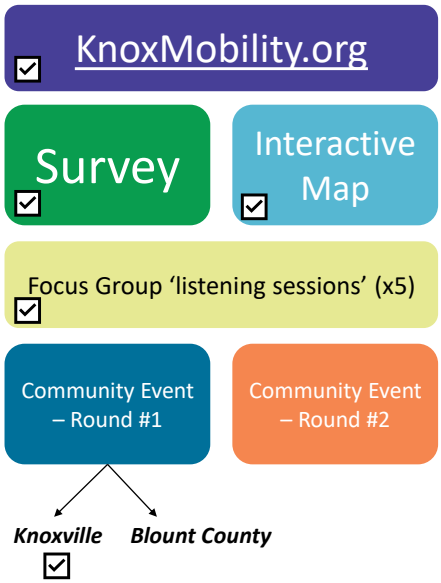
Outreach to date

- **3,280** email list / newsletter recipients
- **690+** survey participants
- **330+** point of interest added
- **84** focus group participants (5 sessions)
- Three (3) Community Events:
  - ☑ Monday evening 4-7 pm
  - Tuesday afternoon *virtual* 12-1 pm
  - Tuesday evening 4-7 pm



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Survey – Initial Takeaways

690 respondents

- Good mixture of age categories (30-40-50-60+ years old)
- 74% typical commute under 30-min – though 35% are '*unsatisfied*'
  - Half of respondents experience 'Heavy congestion' & feel the Transportation System in the region is '*Worse*' than 5 years ago
- CRITICAL transportation problems to address:
  1. Congestion (56%)
  2. Lack of sidewalks/bike lanes (22%)
  3. Lack of transit service (9%)
- Prefer funding for:
  - Small (54%); Large (32%); Maintenance (14%) projects

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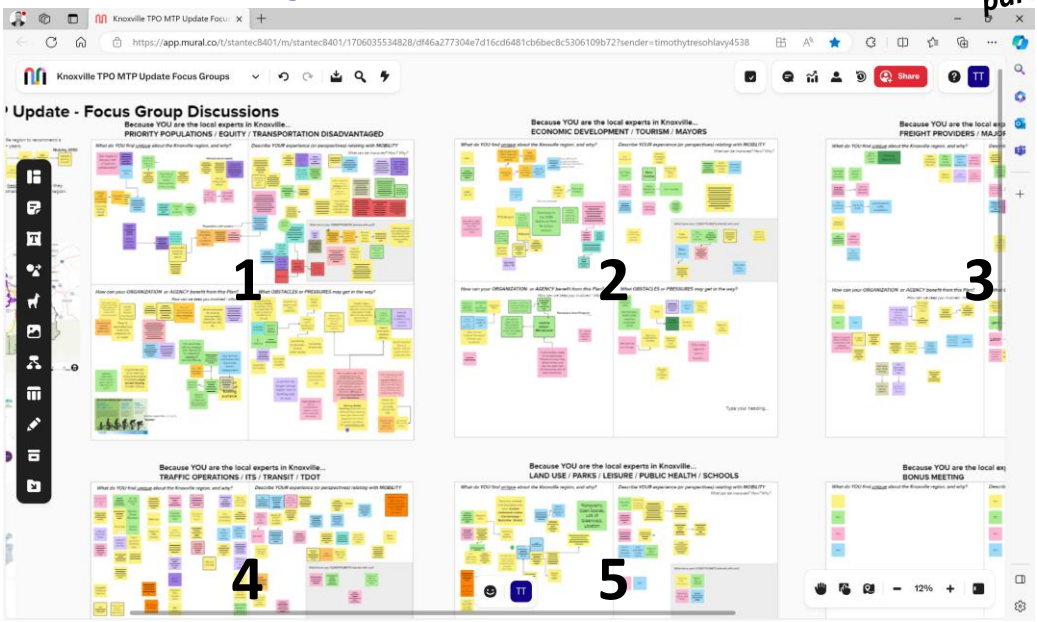
Focus Groups – Mural Board

84 participants



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FHWA Guidance

- *"… development of a transportation plan addressing **at least 20+ years** horizon, featuring both long-range and short-range strategies to develop an **integrated intermodal** transportation system that facilitates the efficient movement of **people** and **goods**."*
  - Identify congestion management strategies, meeting 23 CFR part 500
    - Demonstrate a systemic approach to address current & future transportation demand
    - Identify SOV projects that result in congestion reduction
  - Identify pedestrian walkways, and bicycle transportation facilities 23 USC 217(g)
  - Include a financial plan with historical trends and *projected* revenue sources

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Good News!

- Much of this work has been accomplished through *other* projects/plans
  - Vision Zero / Regional Safety Action Plan (2023)
  - Comprehensive Land Use and Transportation Plan (2023)
  - KAT Reimagined (2024)
- Our strategy is to:

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Agenda

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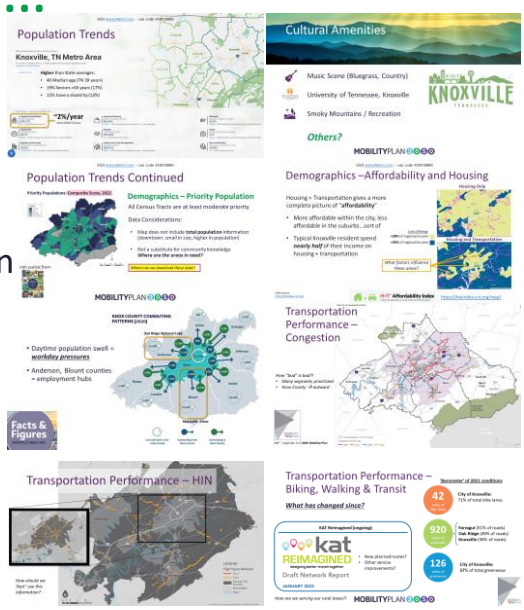
TAC#1 Mtg we discussed…

- US Census / demographics and trends
- Cultural amenities of the region
- Priority Population trends (equity)
- Housing Affordability + Transportation burden
- Commuter inflow/outflow patterns
  - Congestion Management Process
- Safety / High Injury Network
- KAT Reimagined process



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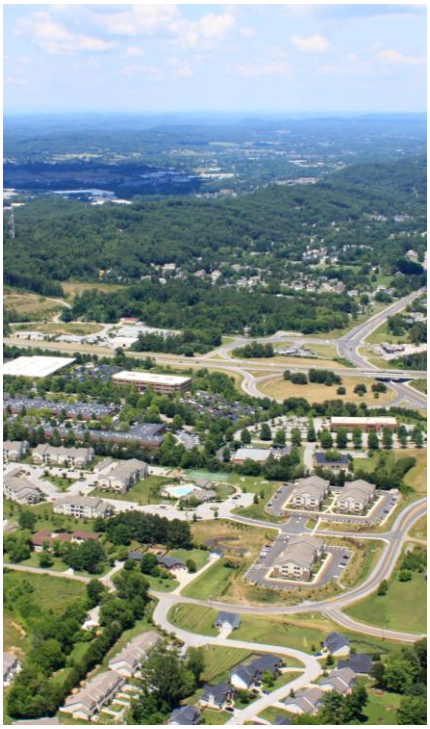
Growth Trends – Population and Employment Control Total Discussion



Purpose-

- 23 CFR 450.324 – "In updating the transportation plan, the MPO shall base the update on the latest available estimates and assumptions for population, land use, etc…"
- First step of Plan update is to develop demographic projections and obtain agreement on their acceptability for use
- Projections serve as key input to TPO Regional Travel Demand Model

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Projection Data Source Options

I. "Baseline" Previous Mobility Plan 2045 Projections
   - Used Woods & Poole Economics projections released in 2019

II. U.T. Center for Business & Economic Research (CBER) – 2022 Release
   - Semi-official source for population projections statewide

III. Woods & Poole Economics
   - Proprietary, national-level comprehensive economic and demographic projections of more than 900 variables for every county in U.S.

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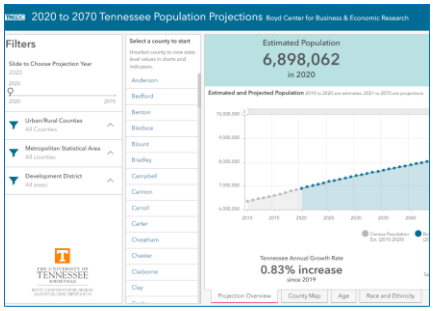
CBER 2022 Release

- Release Date: March 3, 2022
- Base Year: 2020 (Census Population Estimates Program 2020 Vintage)
- Forecast Period: 2021 – 2070
- Cohort-component methodology using Natural Change (Births – Deaths) + Net Migration estimation based on historical trends
- Demographic forecasts only (no employment forecasts)
  - Population by sex, age, and race
- Disclaimers

  "Due to concerns about immediate data imperfections in the 2020 Population Estimates…we recommend using caution when planning with these"



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Woods & Poole 2023 Release

- Base Year: 2020 (Census Population Estimates Program 2022 Vintage)
- Forecast Period: 2021 – 2060
- Population projections are tied to Employment projections
  - Population "Demand" is estimated from the economic model – if demand for labor in a region is increasing then population in-migration assumed to be positive
- Economic and demographic projections
  - Population by sex, age, and race
  - Employment and earnings by major industry
  - Retail sales by kind of business
  - Household number, size, and income

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Comparison of Population Projections for each of the 6 Counties in TPO Region

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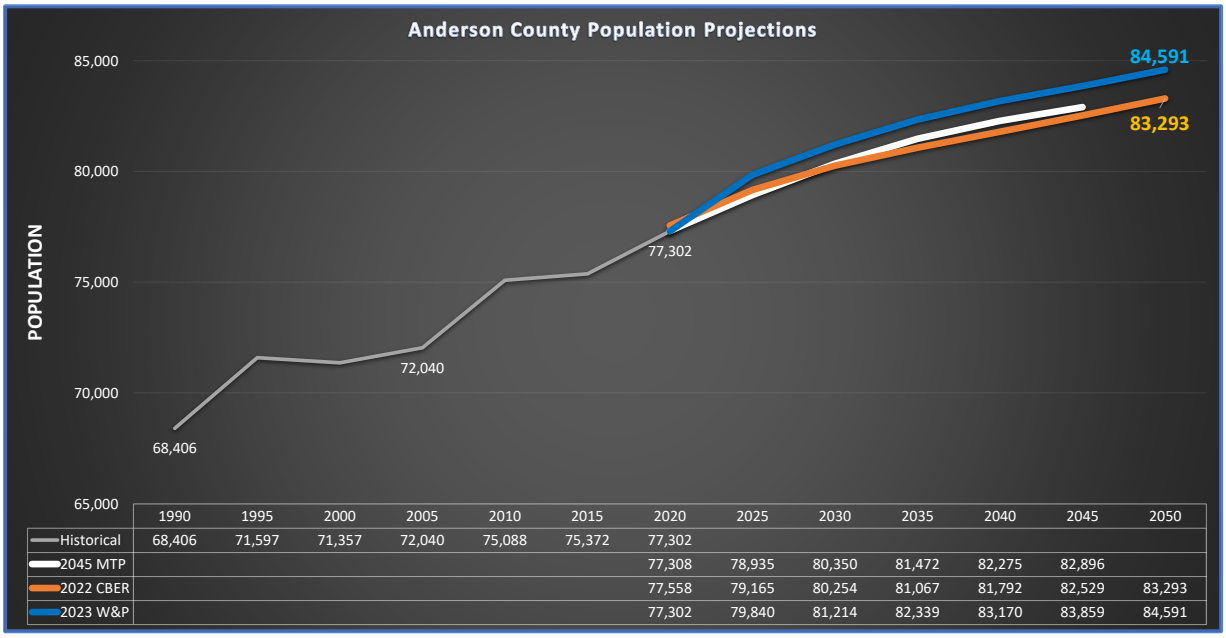

	1990	1995	2000	2005	2010	2015	2020	2025	2030	2035	2040	2045	2050
Historical	68,406	71,597	71,357	72,040	75,088	75,372	77,302						
2045 MTP							77,308	78,935	80,350	81,472	82,275	82,896	
2022 CBER							77,558	79,165	80,254	81,067	81,792	82,529	83,293
2023 W&P							77,302	79,840	81,214	82,339	83,170	83,859	84,591

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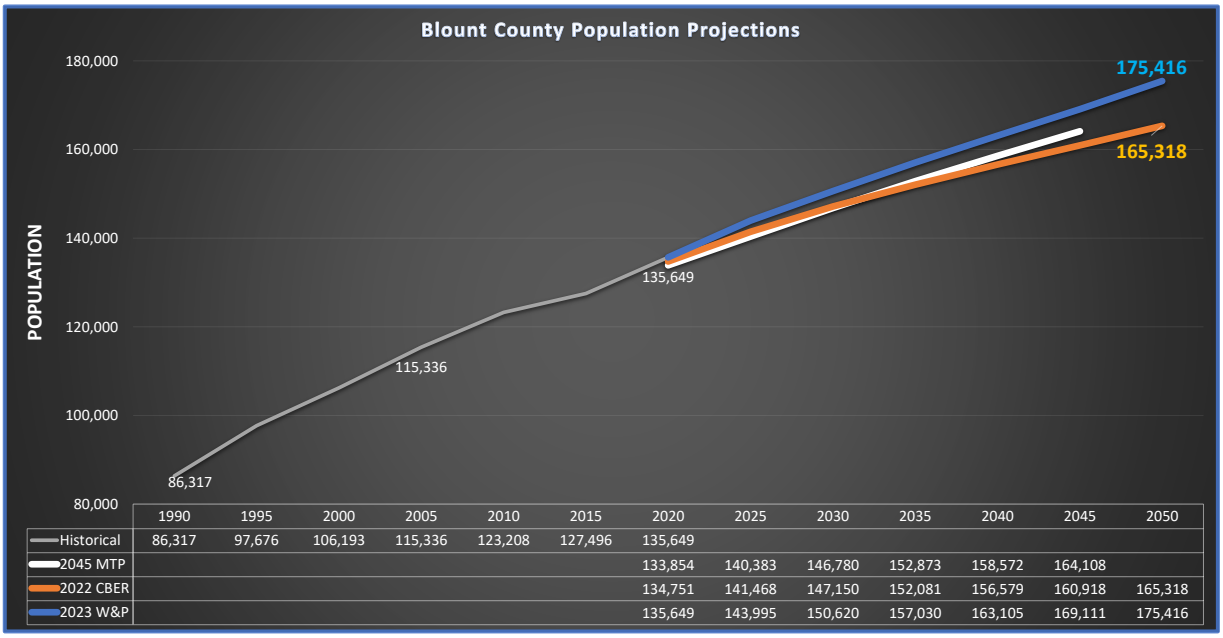

	1990	1995	2000	2005	2010	2015	2020	2025	2030	2035	2040	2045	2050
Historical	86,317	97,676	106,193	115,336	123,208	127,496	135,649						
2045 MTP							133,854	140,383	146,780	152,873	158,572	164,108	
2022 CBER							134,751	141,468	147,150	152,081	156,579	160,918	165,318
2023 W&P							135,649	143,995	150,620	157,030	163,105	169,111	175,416

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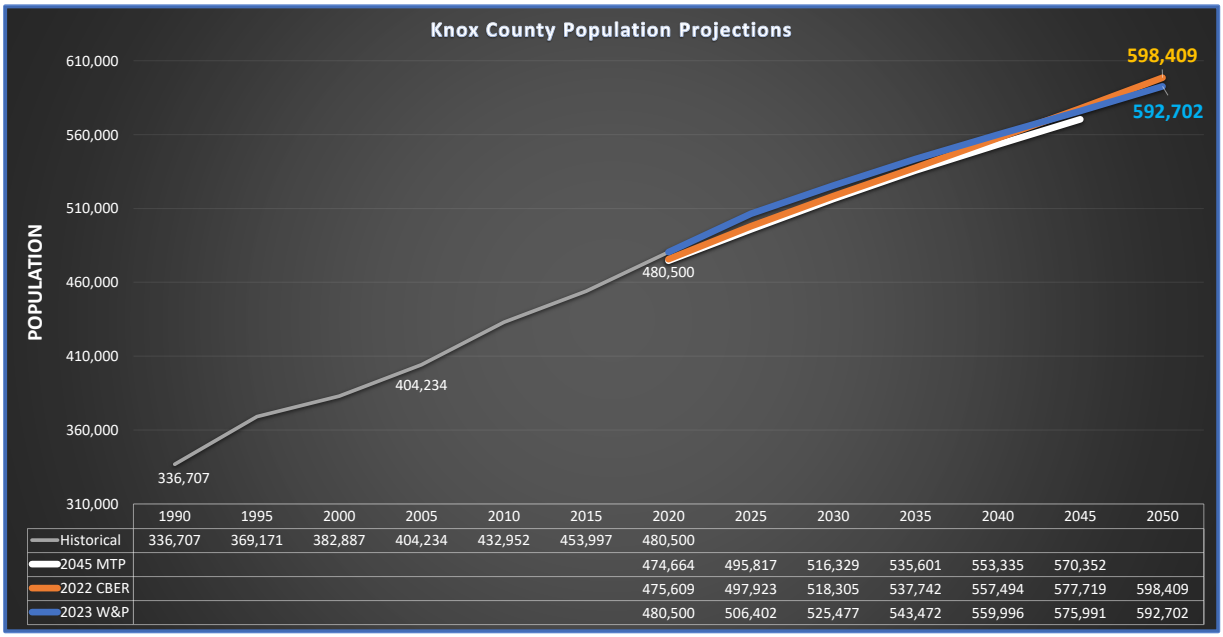

	1990	1995	2000	2005	2010	2015	2020	2025	2030	2035	2040	2045	2050
Historical	336,707	369,171	382,887	404,234	432,952	453,997	480,500						
2045 MTP							474,664	495,817	516,329	535,601	553,335	570,352	
2022 CBER							475,609	497,923	518,305	537,742	557,494	577,719	598,409
2023 W&P							480,500	506,402	525,477	543,472	559,996	575,991	592,702

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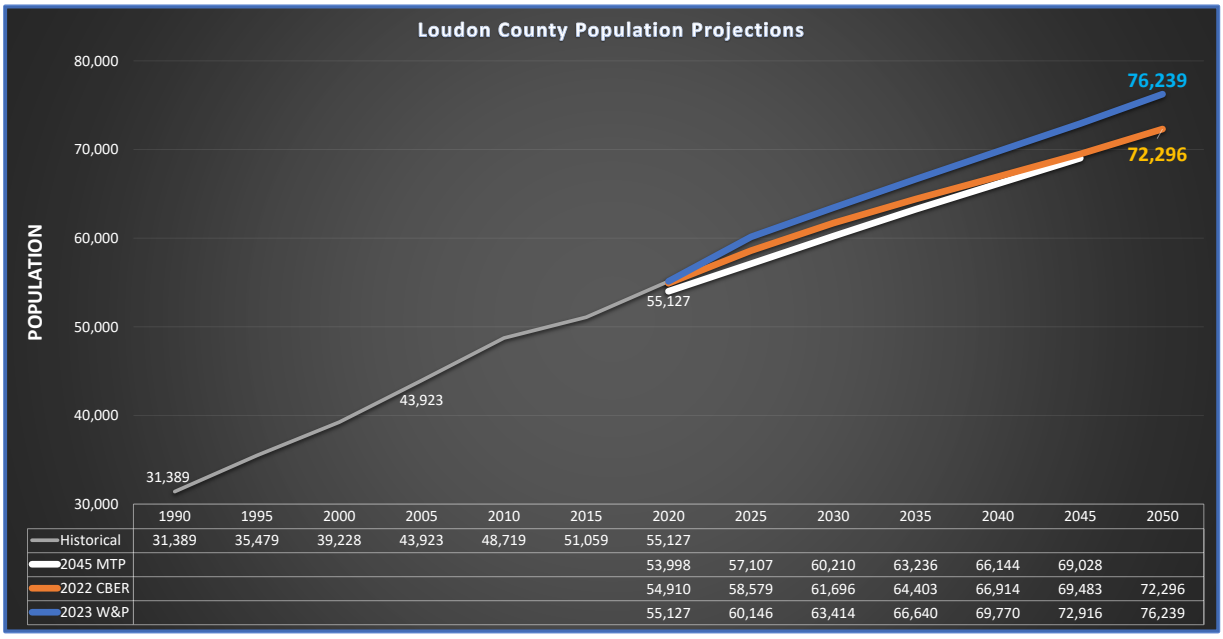

	1990	1995	2000	2005	2010	2015	2020	2025	2030	2035	2040	2045	2050
Historical	31,389	35,479	39,228	43,923	48,719	51,059	55,127						
2045 MTP							53,998	57,107	60,210	63,236	66,144	69,028	
2022 CBER							54,910	58,579	61,696	64,403	66,914	69,483	72,296
2023 W&P							55,127	60,146	63,414	66,640	69,770	72,916	76,239

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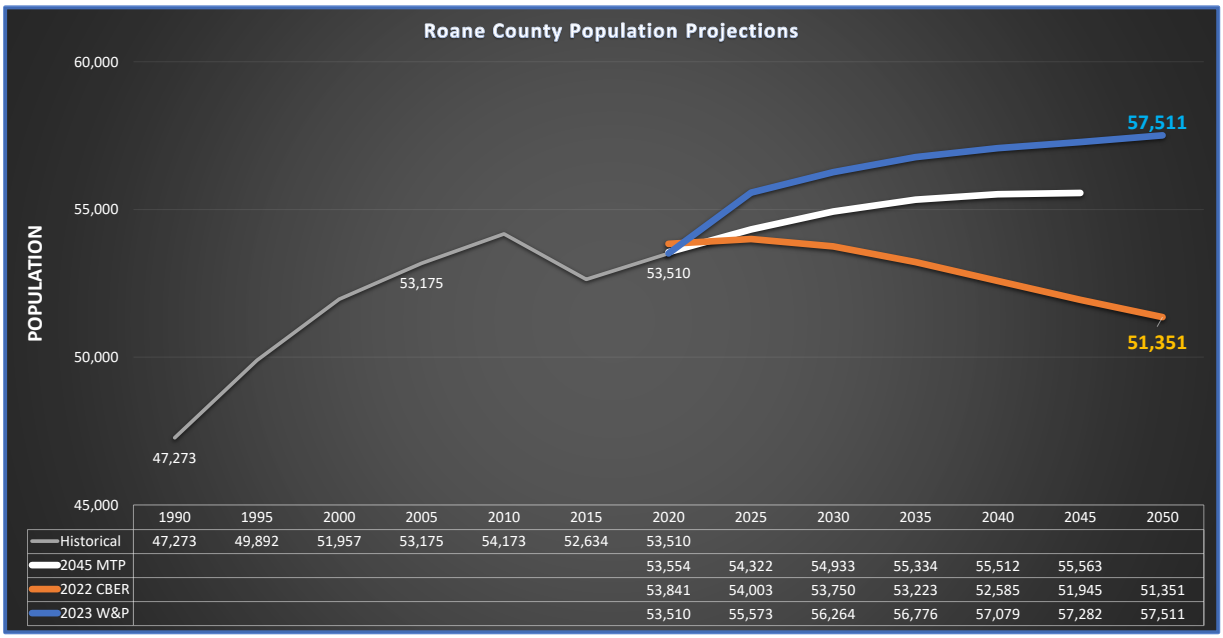

	1990	1995	2000	2005	2010	2015	2020	2025	2030	2035	2040	2045	2050
Historical	47,273	49,892	51,957	53,175	54,173	52,634	53,510						
2045 MTP							53,554	54,322	54,933	55,334	55,512	55,563	
2022 CBER							53,841	54,003	53,750	53,223	52,585	51,945	51,351
2023 W&P							53,510	55,573	56,264	56,776	57,079	57,282	57,511

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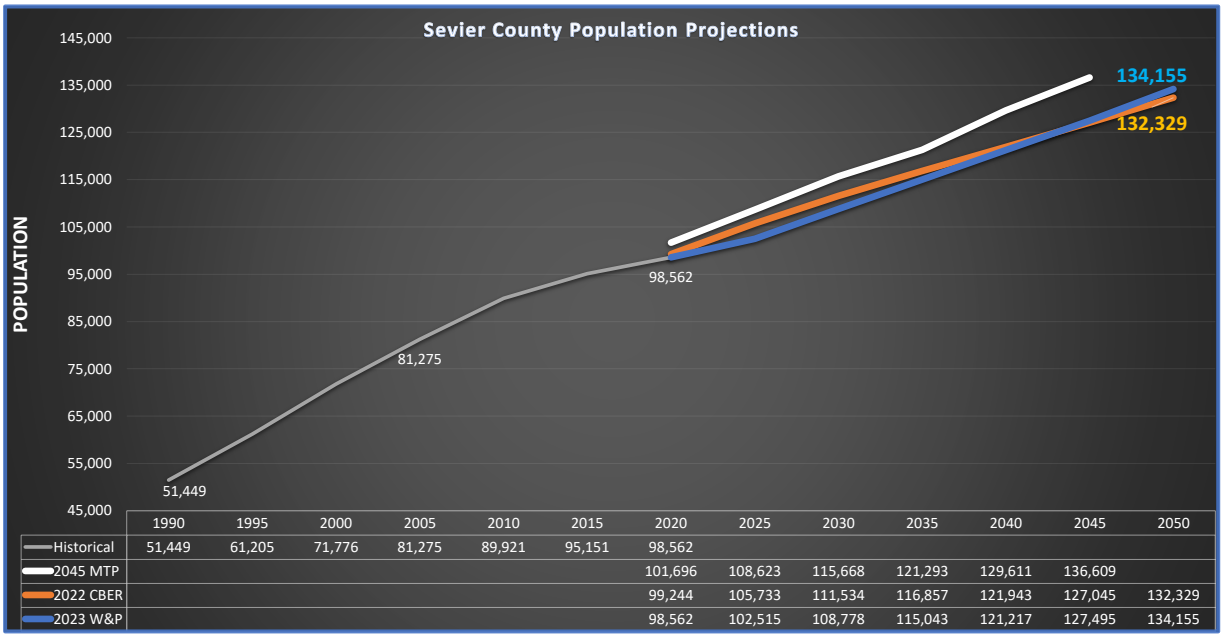

	1990	1995	2000	2005	2010	2015	2020	2025	2030	2035	2040	2045	2050
Historical	51,449	61,205	71,776	81,275	89,921	95,151	98,562						
2045 MTP							101,696	108,623	115,668	121,293	129,611	136,609	
2022 CBER							99,244	105,733	111,534	116,857	121,943	127,045	132,329
2023 W&P							98,562	102,515	108,778	115,043	121,217	127,495	134,155

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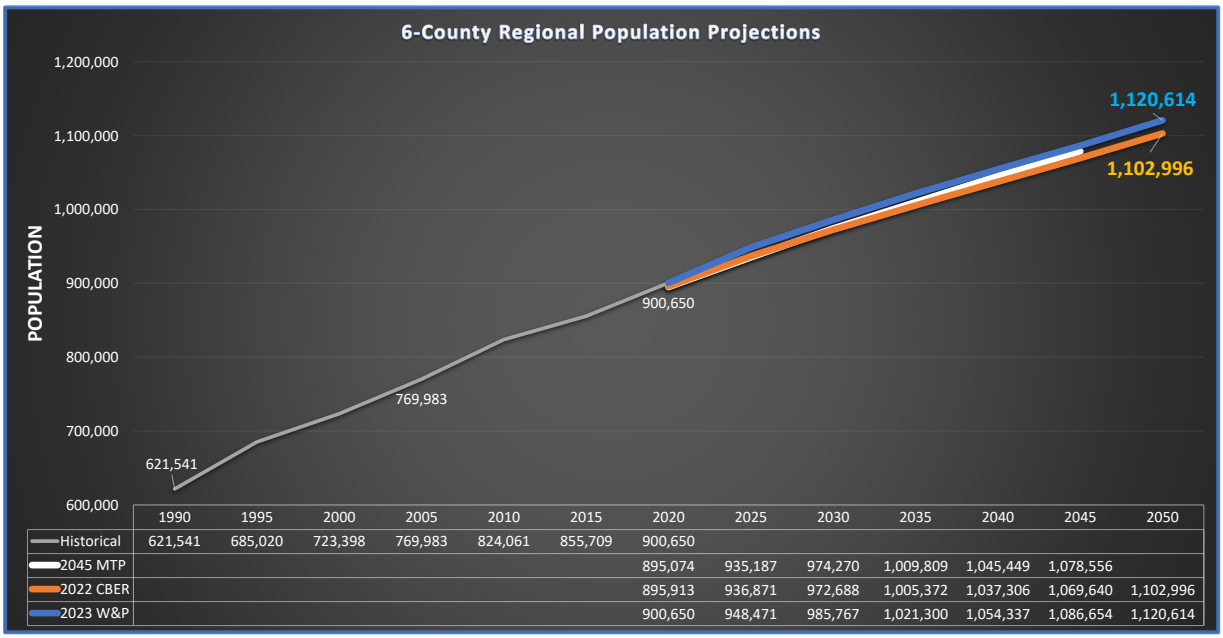

	1990	1995	2000	2005	2010	2015	2020	2025	2030	2035	2040	2045	2050
Historical	621,541	685,020	723,398	769,983	824,061	855,709	900,650						
2045 MTP							895,074	935,187	974,270	1,009,809	1,045,449	1,078,556	
2022 CBER							895,913	936,871	972,688	1,005,372	1,037,306	1,069,640	1,102,996
2023 W&P							900,650	948,471	985,767	1,021,300	1,054,337	1,086,654	1,120,614

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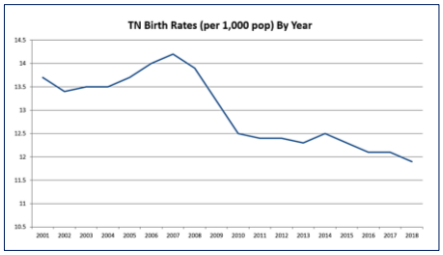
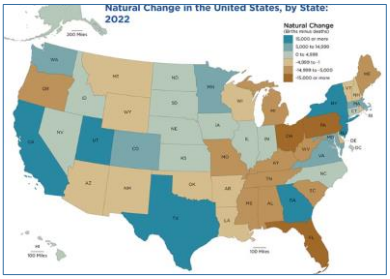
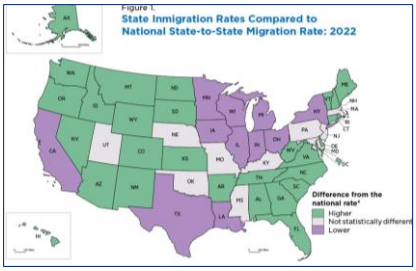
Major Trends Influencing Population Change

- During the Great Recession (2007-2009), birth rates across the nation dropped
  - For years, assumed birth rates would return to pre-recession levels but this appears to be a foundational change
- Many States including Tennessee experiencing negative Natural Change (births minus deaths) in 2020-2022 likely due to Covid
- Tennessee, including Knoxville Region, seeing much higher In-Migration than previous years

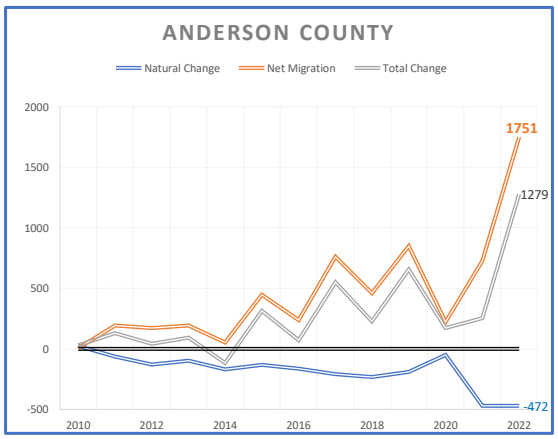


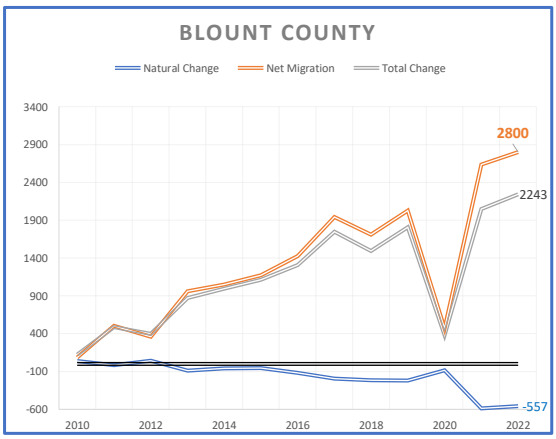




MOBILITYPLAN 2050

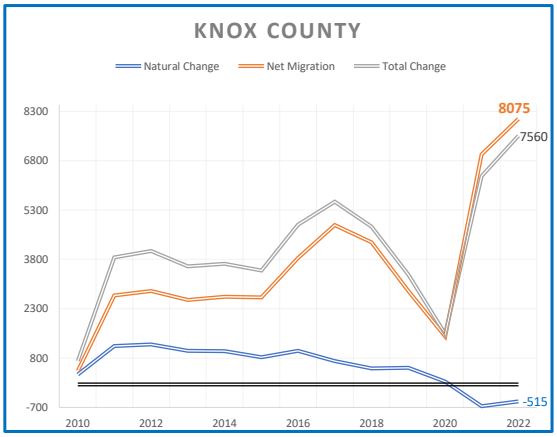
County-by-County Components of Population Change

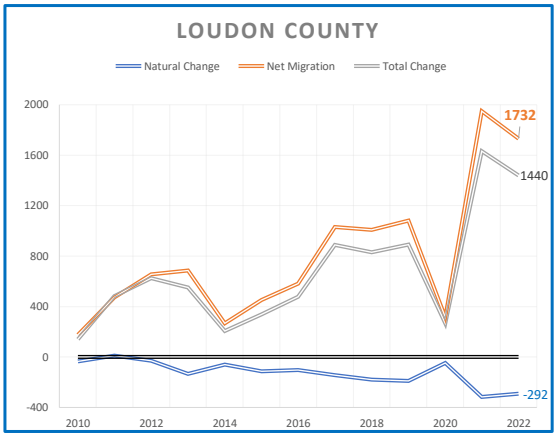




MOBILITYPLAN 2050

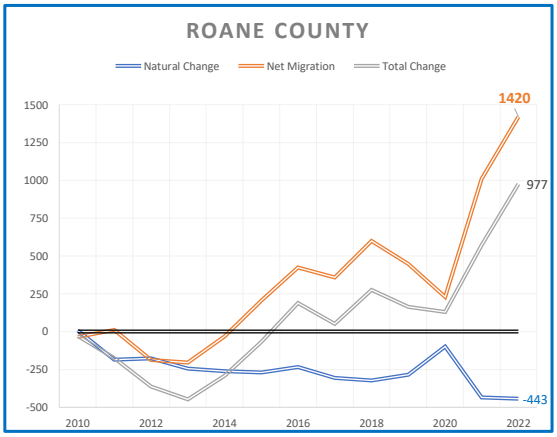
County-by-County Components of Population Change

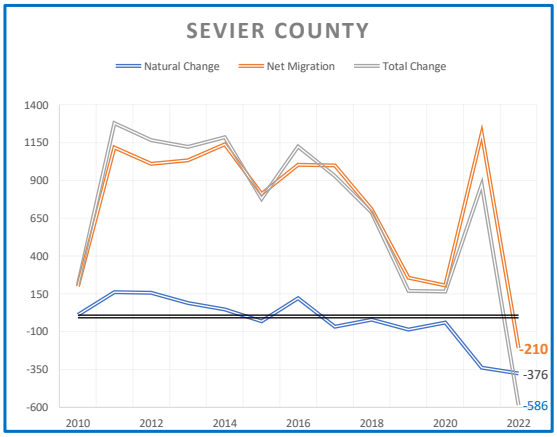




MOBILITYPLAN 2050

County-by-County Components of Population Change



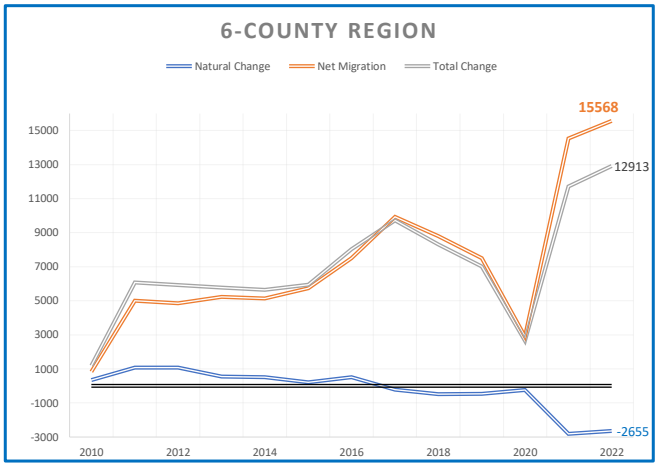


MOBILITYPLAN 2050

6-County Region – Summary and Top 10 States Contributing most to our In-Migration

1	Tennessee	28,349
2	Florida	3,756
3	Georgia	2,166
4	California	1,917
5	North Carolina	1,719
6	Virginia	1,673
7	Texas	1,653
8	Illinois	1,421
9	New York	1,082
10	Alabama	1,006

Source: Census State-to-County Migration Flows ACS 2017-2021



MOBILITYPLAN 2050

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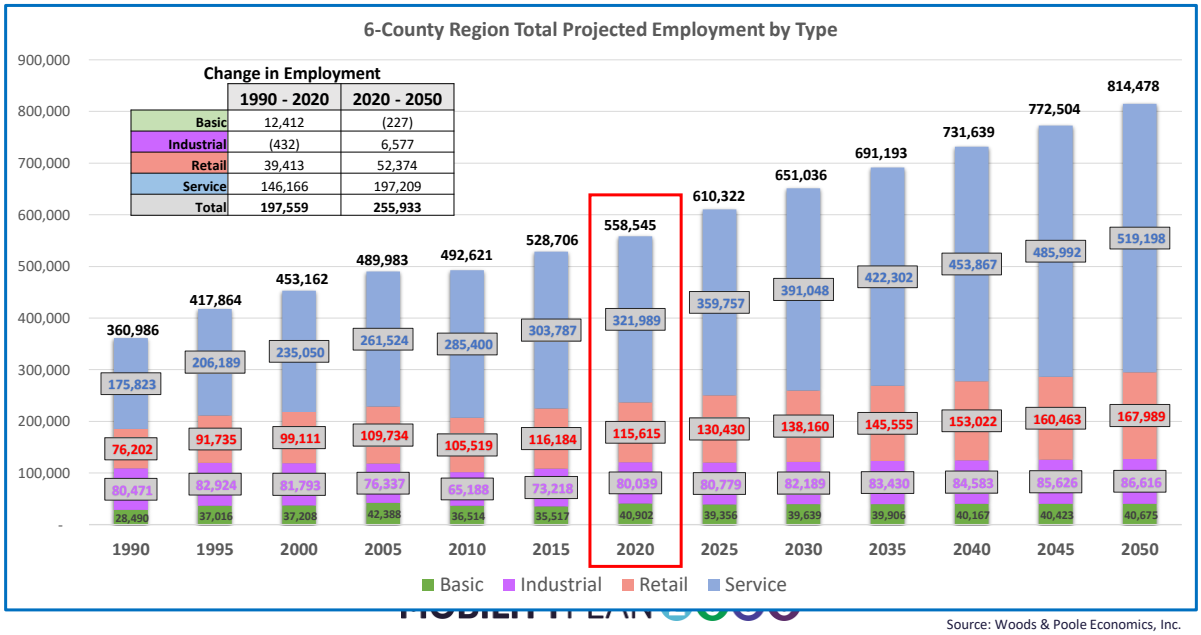
Employment Projections



Source: Woods & Poole Economics, Inc.

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Summary & Discussion

- **Latest Planning Assumptions – updating from 2018 Base Year to 2022**
- **Monitoring major population trends – short or long term?**
  - Declining birth rates
  - Increase in mortality
  - Increase in 'In-migration'
- **Data sources:**
  - CBER
  - Woods & Poole Economics, inc
- **TPO Staff Recommendation is to Use Woods & Poole, Inc. population projections for Mobility Plan 2050**
  - Most Current Available
  - Provides host of other interrelated socioeconomic variables needed for Travel Demand Model such as employment, income, and # of households

	Population	Population	
COUNTY	2022	2050	Change
Anderson	78,913	84,591	5,678
Blount	139,958	175,416	35,458
Knox	494,574	592,702	98,128
Loudon	58,181	76,239	18,058
Roane	55,082	57,511	2,429
Sevier	98,789	134,155	35,366
TOTAL	**925,497**	**1,120,614**	**195,117**

	Employment	Employment	
COUNTY	2022	2050	Change
Anderson	52,736	58,783	6,047
Blount	74,947	115,626	40,679
Knox	340,445	461,262	120,817
Loudon	25,739	34,240	8,501
Roane	26,937	31,642	4,705
Sevier	69,977	112,925	42,948
TOTAL	**590,781**	**814,478**	**223,697**

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Agenda

1. Welcome / Introductions
2. Review of Schedule, Outreach
3. FHWA Requirements
4. Growth Trends Discussion – 15-min
5. Goal Prioritization – 20-min
6. Funding Trends – 15-min
7. Action Items

MOBILITYPLAN 2050

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Prioritization

- We shared a *survey link*… here are the results

Compared with the prior plan

MOBILITYPLAN 2050

MOBILITY 2045 PLAN

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Weighted Average of 100 points

SMALL / Local

Safety & Security	21
Congestion Reduction	15
Maintenance & Efficiency	14
Health & Environment	13
Equitable Access	11
More Options (mode)	8
Preservation of Places	10
Economy & Freight	8

MOBILITYPLAN 2050

SMALL / Within Region

19	Maintenance & Efficiency
18	More Options (mode)
16	Safety & Security
13	Health & Environment
13	Equitable Access
9	Preservation of Places
8	Congestion Reduction
4	Economy & Freight

MOBILITY 2045 PLAN

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Weighted Average of 100 points

LARGE / Regional

Congestion Reduction	19
Safety & Security	17
Maintenance & Efficiency	15
Economy & Freight	14
Health & Environment	12
Equitable Access	9
Preservation of Places	8
More Options (mode)	6

MOBILITYPLAN 2050

LARGE / Community to Region

19	Maintenance & Efficiency
17	More Options (mode)
13	Safety & Security
12	Congestion Reduction
11	Preservation of Places
10	Health & Environment
9	Equitable Access
9	Economy & Freight

MOBILITY 2045 PLAN

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… and the Public (Survey) Suggested …

SMALL / Local

Safety & Security	21
Congestion Reduction	15
Maintenance & Efficiency	14
Health & Environment	13
Equitable Access	11
More Options (mode)	8
Preservation of Places	10
Economy & Freight	8

LARGE / Regional

Congestion Reduction	19
Safety & Security	17
Maintenance & Efficiency	15
Economy & Freight	14
Health & Environment	12
Equitable Access	9
Preservation of Places	8
More Options (mode)	6

1. Congestion Reduction
2. Maintenance & Efficiency
3. Safety & Security
4. Health & Environment
5. Equitable Access
6. More Options (mode)
7. Preservation of Places
8. Economy & Freight

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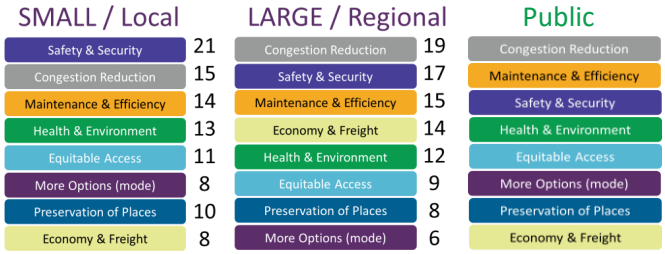
Let's Discuss…



- Are these *appropriate* priorities for 2024+?
- Are there additional perspectives needed? Whom?
- How will we ***best use*** these weights on projects?
- *Other questions?*

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Agenda

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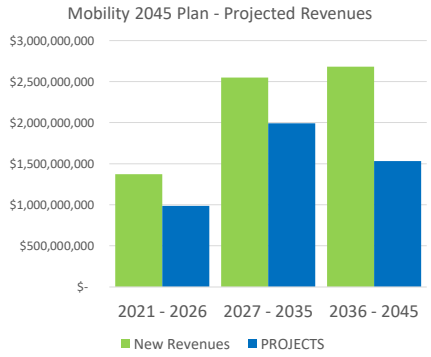
Financial Projections
(2045 Plan)

- Projections based upon historical allocations ***by program***
  - Not just dollars in / dollars out
- Assumptions:
  - Revenue growth: **~2.2% per year**
    - IIJA revenue growth avg. 1.9% annually from baseline (2% for most formula programs)
  - Cost increase: **~3.3% per year**
- Are these assumptions still appropriate?



HORIZON	New Revenues	PROJECTS	% Total
2021 - 2026	$ 1,372,416,672	$ 987,093,273	*22%*
2027 - 2035	$ 2,551,033,402	$ 1,990,748,584	*44%*
2036 - 2045	$ 2,681,920,662	$ 1,530,936,820	*34%*
	$ 6,605,370,736	**$ 4,508,778,677**	

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What has changed?

- A global pandemic!
  - Change in commuting patterns!
- Inflation!
- Regional population growth!
- New Federal / State transportation funding legislation!
  - Safety focus / Safe Streets and Roads for All (SS4A)
  - TDOT 'Build with Us' 10-year plan Build With Us (tn.gov)
  - *Other(s)*

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TPO Funding Overview

- TPO call for projects and programming approach
  - One call for projects for all TPO attributed funds (L-STBG, L-STBG-TA, CRP)
  - Projects are then fit to available funding program budgets for TIP programming
  - Mobility Plan project funding source *does not determine* eventual TIP programming source
  - Cost overruns above policy thresholds approved by Tech Committee
- Benefits
  - Ease of managing (and responding to) one call for projects vs. several
  - Transparent cost overrun management
- Challenges
  - "Unified" call may be less flexible than multiple project calls
  - Fiscal constraint in an inflationary environment has not allowed for "interim" project calls
- 2050 Plan projected TPO attributed revenue: $713M (*~11%-16%*)
  - L-STBG: $574M
  - L-STBG-TA: $69M
  - CRP (carbon reduction): $69M

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Let's Discuss…

- TDOT's recent **10-Year Plan** has implications for the region:
  - Consultation necessary to inform revenue projections for TDOT attributed sources
- The **IIJA Act** was passed, and **new funding programs are available:**
  - Formula: Carbon Reduction Program (CRP)
  - Competitive Grants:
    - SS4A, Reconnecting Communities, PROTECT
- Revenue Growth
  - IIIJA - most formula programs grow 2% annually
  - *This MTP should use…(discussion)*
- Year of Expenditure (YOE) costs
  - TDOT: 3.8% from 10-year plan – '***Build with Us***'
  - *This MTP should use… (discussion)*

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Agenda

1. Welcome / Introductions
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MOBILITYPLAN 2050

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Action Items

What don't we know?...

- Any knowledge gap(s)?

Continue to **PROMOTE** project website www.KnoxMobility.org

STANTEC is working towards...

- Existing conditions / synthesis
- TAC #3 – *Spring 2024*
- Community Event – Round #1 – February 2024
  - ☑ Monday evening @ KAT Community Room – Knoxville, 4-7 pm
  - Tuesday afternoon – *virtual*
  - Tuesday evening @ Blount County Library – Maryville, 4-7 pm

MOBILITYPLAN 2050

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Agenda

1. Welcome / Review of Schedule
2. Outreach to date
3. Project Audit – 10-min
4. Interactive Mapping Demo – 20-min
5. Action Items

MOBILITYPLAN 2050

2

General Timeline

21-month time frame
Sept 2023 – May 2025

WE ARE HERE!

Fall / Winter 2023 — *Feb 2024* — Spring / Summer 2024 — *Summer / Fall 2024* — Winter / Spring 2025

- ☑ Digital Public Outreach
  - Project website
  - Online survey
  - Interactive map
- ☑ Existing Conditions review
  - Data assembly
  - Prior plans / documents
- ☑ Focus Group "listening sessions"

- ☑ Synthesis of regional vision/goals
- Mobility gap analysis
- Planning factors / Performance Measures
- ☑ Financial projections to 2050
- Project review / audit

- Synthesis of public feedback
- Prioritization
- Draft Plan
  - Public Comment Period
- Final Plan / Adoption

MOBILITYPLAN 2050

Outreach to date

- **3,280** email list / newsletter recipients
- **749** survey participants
- **430+** point of interest added
- **84** focus group participants (5 sessions)
- Three (3) Community Events: **60 sign-ins**
  - Monday evening 4-7 pm
  - Tuesday afternoon *virtual* 12-1 pm
  - Tuesday evening 4-7 pm

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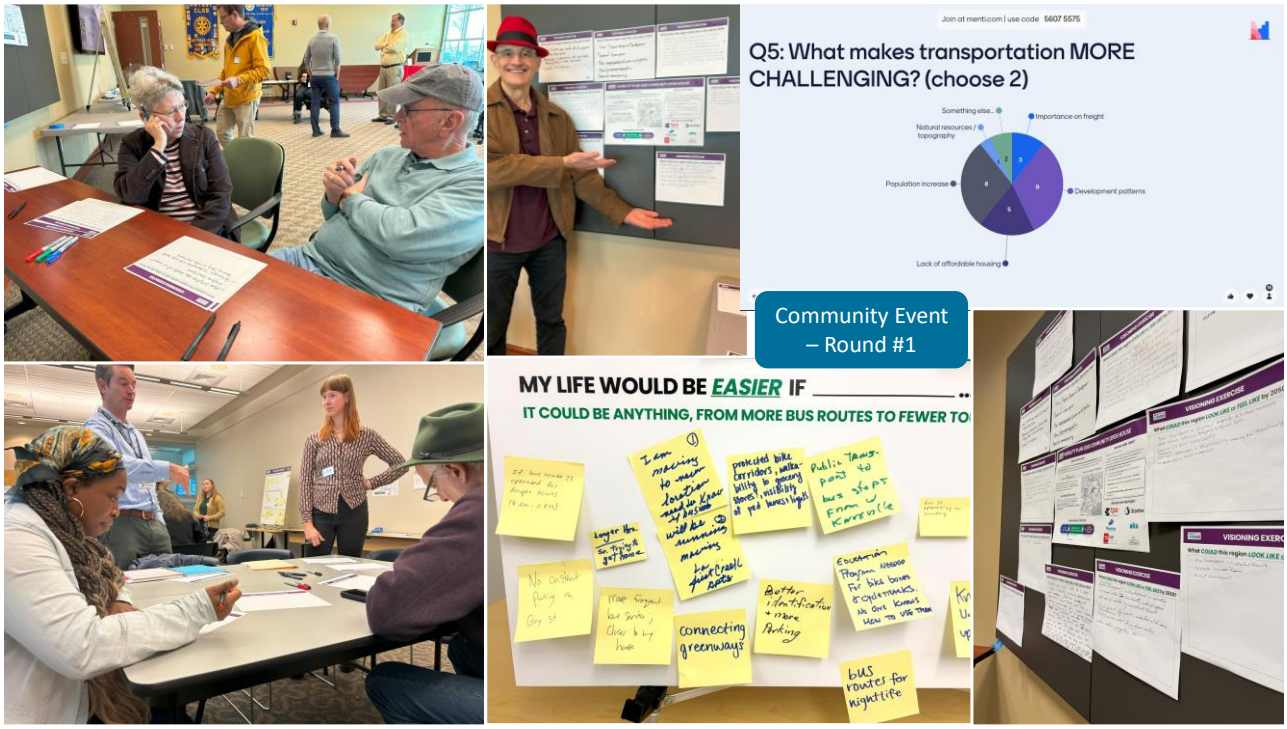

6

Community Engagement – Takeaways

Favorite things … ~175 contributions

- KAT service and free downtown trolly
- Parks and greenspaces / greenways / Mountains and rivers / Rural areas / Open land
- Farmers Market / Library / Zoo (**family destinations**)
- Farmlands / Small Town / Walkable downtown Maryville
- Perfect size city

One thing I would fix…

- Better connectivity of roadways
  - Narrow roadways in rural areas
  - "Wider is not better"
- More bus service / evening and late-night service
- Holistic mobility (**choices**) / **Safe options** for walking or biking / wider sidewalks / inconsistent sidewalks
  - Bikeway gaps / separated bikeways
  - More greenways / conserve wildlife / more trails south of Maryville
  - "Pedestrians are overlooked"
- **Preserve open spaces**, while adding density in urban areas
- Pedestrian timing of traffic signal on Magnolia (too short)
- US 129 / Alcoa Highway *bike lanes just end*
- **Fix existing roads first**

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Community Engagement – Takeaways

What *could* this Region Look Like by 2050

- Density of development (housing) to be more walkable / Transit oriented development
  - Housing choices / affordable housing
  - Mobility without the need for a car / Fewer cars / more transit
  - Better planning for density and walkability / less pavement
  - Avoid sprawl and office parks
  - Controlled population growth / Small Town feel / greenspaces
- Safety: Vision Zero goals, and reducing speeds
  - Improved visibility on our roads (lighting, and reflectivity)
- Regional transit options / more downtown circulator(s)
- Streetscapes / more trees, shade, greenspaces
  - More sidewalks
  - Balance of open spaces, housing, parks, and roadways
  - Outdoor living!
- Community belongingness, and happy citizens / slower growth rates
- Complete the highway projects
- Air quality improvements / alternative fuels / electric school buses
  - Solar panels within parking lots
  - Protect the environment
- Bikeways, especially separated from cars
  - Bike repair / maintenance stations

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Agenda

1. Welcome / Review of Schedule
2. Outreach to date
3. Project Audit – 10-min
4. Interactive Mapping Demo – 20-min
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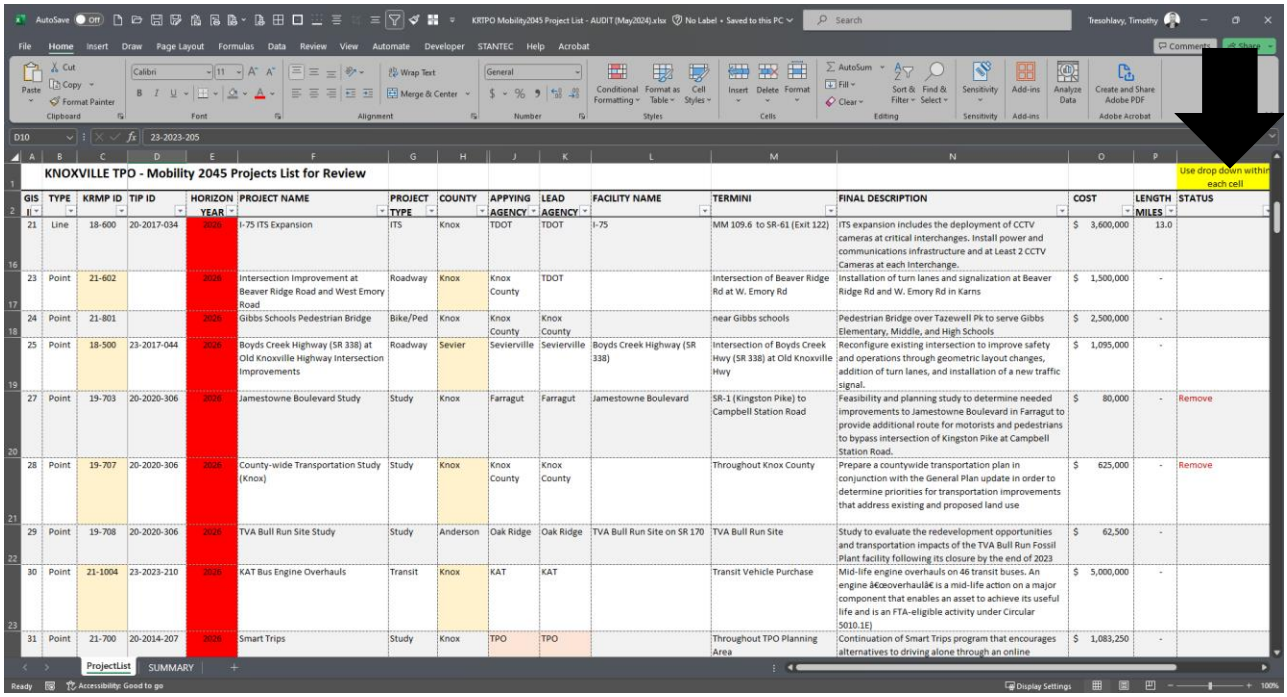

KNOXVILLE TPO - Mobility 2045 Projects List for Review

Use drop down within each cell

GIS ID	TYPE	KRMP ID	TIP ID	HORIZON YEAR	PROJECT NAME	PROJECT TYPE	COUNTY	APPYING AGENCY	LEAD AGENCY	FACILITY NAME	TERMINI	FINAL DESCRIPTION	COST	LENGTH MILES	STATUS
21	Line	18-600	20-2017-034	2026	I-75 ITS Expansion	ITS	Knox	TDOT	TDOT	I-75	MM 109.6 to SR-61 (Exit 122)	ITS expansion includes the deployment of CCTV cameras at critical interchanges. Install power and communications infrastructure and at Least 2 CCTV Cameras at each Interchange.	$ 3,600,000	13.0	
23	Point	21-602		2026	Intersection Improvement at Beaver Ridge Road and West Emory Road	Roadway	Knox	Knox County	TDOT		Intersection of Beaver Ridge Rd at W. Emory Rd	Installation of turn lanes and signalization at Beaver Ridge Rd and W. Emory Rd in Karns	$ 1,500,000	-	
24	Point	21-801		2026	Gibbs Schools Pedestrian Bridge	Bike/Ped	Knox	Knox County	Knox County		near Gibbs schools	Pedestrian Bridge over Tazewell Pk to serve Gibbs Elementary, Middle, and High Schools	$ 2,500,000	-	
25	Point	18-500	23-2017-044	2026	Boyds Creek Highway (SR 338) at Old Knoxville Highway Intersection Improvements	Roadway	Sevier	Sevierville	Sevierville	Boyds Creek Highway (SR 338)	Intersection of Boyds Creek Hwy (SR 338) at Old Knoxville Hwy	Reconfigure existing intersection to improve safety and operations through geometric layout changes, addition of turn lanes, and installation of a new traffic signal.	$ 1,095,000	-	
27	Point	19-703	20-2020-306	2026	Jamestowne Boulevard Study	Study	Knox	Farragut	Farragut	Jamestowne Boulevard	SR-1 (Kingston Pike) to Campbell Station Road	Feasibility and planning study to determine needed improvements to Jamestowne Boulevard in Farragut to provide additional route for motorists and pedestrians to bypass intersection of Kingston Pike at Campbell Station Road.	$ 80,000	-	Remove
28	Point	19-707	20-2020-306	2026	County-wide Transportation Study (Knox)	Study	Knox	Knox County	Knox County		Throughout Knox County	Prepare a countywide transportation plan in conjunction with the General Plan update in order to determine priorities for transportation improvements that address existing and proposed land use	$ 625,000	-	Remove
29	Point	19-708	20-2020-306	2026	TVA Bull Run Site Study	Study	Anderson	Oak Ridge	Oak Ridge	TVA Bull Run Site on SR 170	TVA Bull Run Site	Study to evaluate the redevelopment opportunities and transportation impacts of the TVA Bull Run Fossil Plant facility following its closure by the end of 2023	$ 62,500	-	
30	Point	21-1004	23-2023-210	2026	KAT Bus Engine Overhauls	Transit	Knox	KAT	KAT		Transit Vehicle Purchase	Mid-life engine overhauls on 46 transit buses. An engine â€œoverhaulâ€ is a mid-life action on a major component that enables an asset to achieve its useful life and is an FTA-eligible activity under Circular 5010.1E)	$ 5,000,000	-	
31	Point	21-700	20-2014-207	2026	Smart Trips	Study	Knox	TPO	TPO		Throughout TPO Planning Area	Continuation of Smart Trips program that encourages alternatives to driving alone through an online	$ 1,083,250	-	

Agenda

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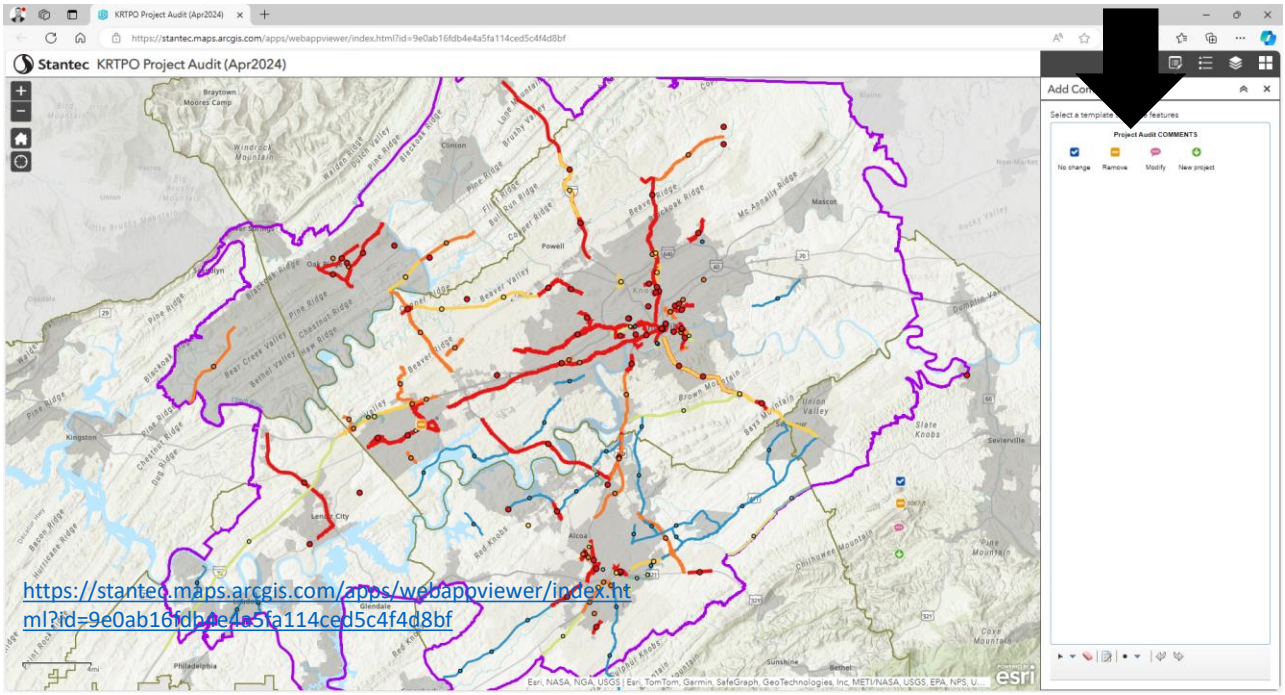

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Agenda

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MOBILITYPLAN 2050

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Action Items

***What don't we know?*...**

- Completed projects to date
- New projects needed
- Policy changes?

Continue to **PROMOTE** project website www.KnoxMobility.org

STANTEC is working towards...

- Existing conditions / synthesis
- Performance review
  - Safety (PM1)
  - Maintenance (PM2)
  - Bottlenecks / Travel Time Reliability (PM3)
  - ITS architecture
  - Sustainability & Resilience

MOBILITYPLAN 2050

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Agenda – *Brief Check in*

1. Review of Schedule
2. Current Tasks
3. Upcoming Work
4. Action Items

MOBILITYPLAN 2050

2

General Timeline

21-month time frame
Sept 2023 – May 2025

WE ARE HERE!

Outreach + Data Assembly → Round #1 → **Needs Assessment + Initial Recommendations** → Round #2 → **Refining Recommendations + Reporting**

Fall / Winter 2023	*Feb 2024*	Spring / Summer 2024	*Fall 2024*	Winter / Spring 2025
☑ Public Outreach – Round #1 • Digital and In-person events ☑ Existing Conditions assembly / review ☑ Regional vision / goals		☑ Review of Performance Measures ☑ Financial projections to 2050 ☑ Project review / audit • New project needs • Travel Demand Model deficiencies • Project Lists / Maps – all modes		• Prioritization Public Outreach – Round #2 • Draft Plan • Public Comment Period • Final Plan / Adoption

MOBILITYPLAN 2050

At May's meeting we discussed…

- Outreach to date – metrics & photos
- Takeaways from community engagement
- Review of 2045 projects
  - table format (XLSX)
  - ArcGIS Online format (link)

MOBILITYPLAN 2050

Review of 2045 Projects

- **6 jurisdictions submitted audit spreadsheet →**
- **161 projects reviewed**
  - 17 project dropped / removed (11%)
  - 5 projects completed (3%)
  - 9 projects modified (6%)
  - 4 New projects identified
    - Time to add more to this list!

31 projects (20%)

- *Alcoa*
- *Blount County*
- *Farragut*
- *Knoxville*
- *Maryville*
- *Oak Ridge*

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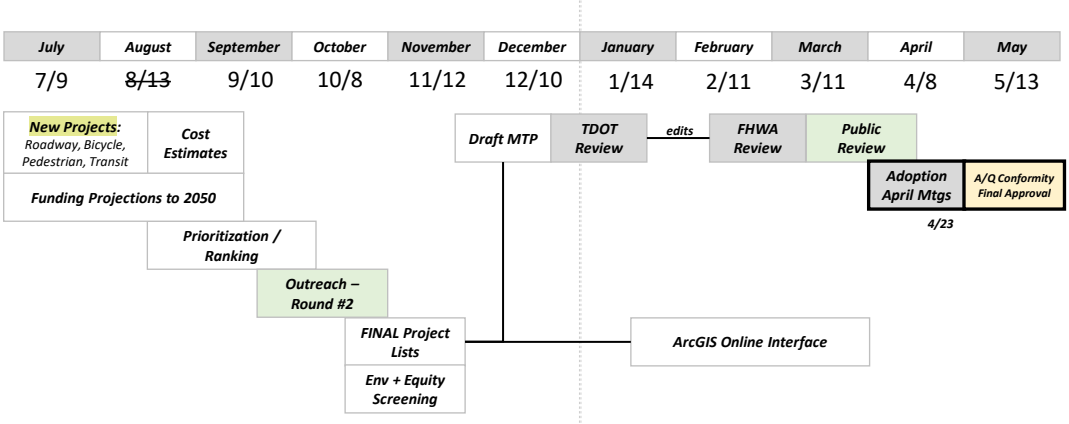
Working Backwards from Adoption



MOBILITYPLAN 2050

Agenda

1. Review of Schedule
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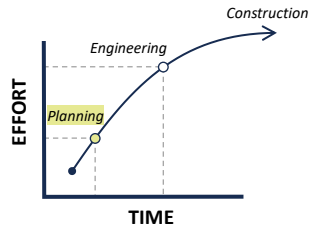
MOBILITYPLAN 2050

Current Tasks – July / August

- New projects: MTP + ***TDOT Statewide Partnership Program***
  - **Project description**: corridor, from/to, improvement type(s)
  - **Purpose**: *what is the deficiency we are solving?*
  - **Value**: *how does this align with our 8 goals?*
- Future revenue projections to 2050



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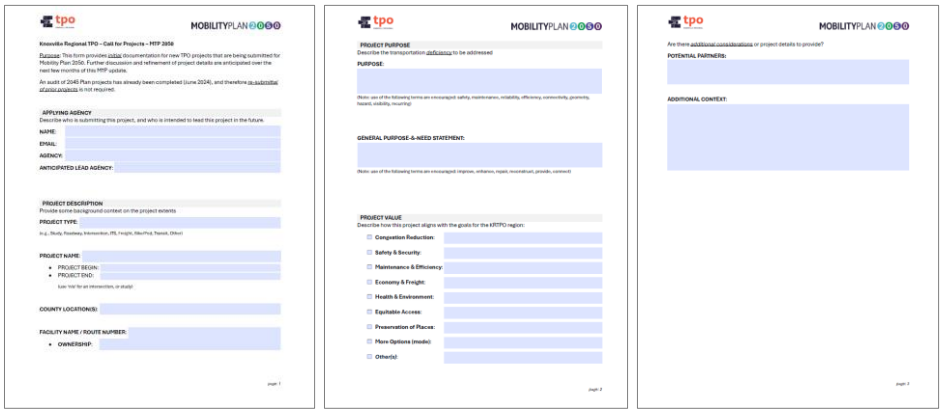
New Projects / “Call for Projects”

- Standard fillable form – *under development*
  - MS Word format
  - PDF format

Similar with TDOT SPP enrollment



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Agenda

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MOBILITYPLAN 2050

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Upcoming – Working Towards…

- Travel demand model – Future Year network, and *potential* deficiencies
- Prioritization of projects according to our (8) Goals
  - Safety, Congestion, Maintenance, Economy, Health, Equity, Preservation, Mode Choice
- Project cost estimates – planning-level unit cost assumptions
- Applying fiscal-constraints for 2030 / 2035 / 2040 / 2045 / 2050
- Screening for *potential* impact to vulnerable populations & environmental

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Agenda

1. Review of Schedule
2. Current Tasks
3. Upcoming Work
4. Action Items

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Action Items

YOU should be working towards…

- New projects needed
  - Roadway / Freight
  - Bike / Ped
  - Transit
- Policy changes?
  - Access Management
  - Complete Streets
  - Safety / Traffic Calming
- Outreach Round #2 venues

STANTEC is working towards…

- Performance review
  - Safety (PM1)
  - Maintenance (PM2)
  - Bottlenecks / Travel Time Reliability (PM3)
  - Sustainability & Resilience
- Financial projections to 2050
- Regional travel demand outputs

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General Timeline

21-month time frame
Sept 2023 – May 2025

WE ARE HERE!

Outreach + Data Assembly	Needs Assessment + Initial Recommendations	Refining Recommendations + Reporting
Fall / Winter 2023	Spring / Summer 2024	Winter / Spring 2025
	Feb 2024 (Round #1)	Fall 2024 (Round #2)
☑ Public Outreach – Round #1 • Digital and In-person events ☑ Existing Conditions assembly / review ☑ Regional vision / goals	☑ Review of Performance Measures ☑ Financial projections to 2050 ☑ Project review / audit ☑ New project needs • Travel Demand Model deficiencies • Project Lists / Maps – all modes	• Prioritization Public Outreach – Round #2 • Draft Plan • Public Comment Period • Final Plan / Adoption

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Prioritization

- What & Why?
- Goals (x8)
- Evaluation Criteria
  - Normalization
  - Weighted Score
  - Rank
- Review and Comment

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Prioritization

- What & Why?
  - Performance-based planning / 3C approach
  - Data-informed process to evaluate and assign scores
  - *Relative priority* list (near-, mid-, long-term)
    - Not an absolute ranking (1st, 2nd, 3rd)

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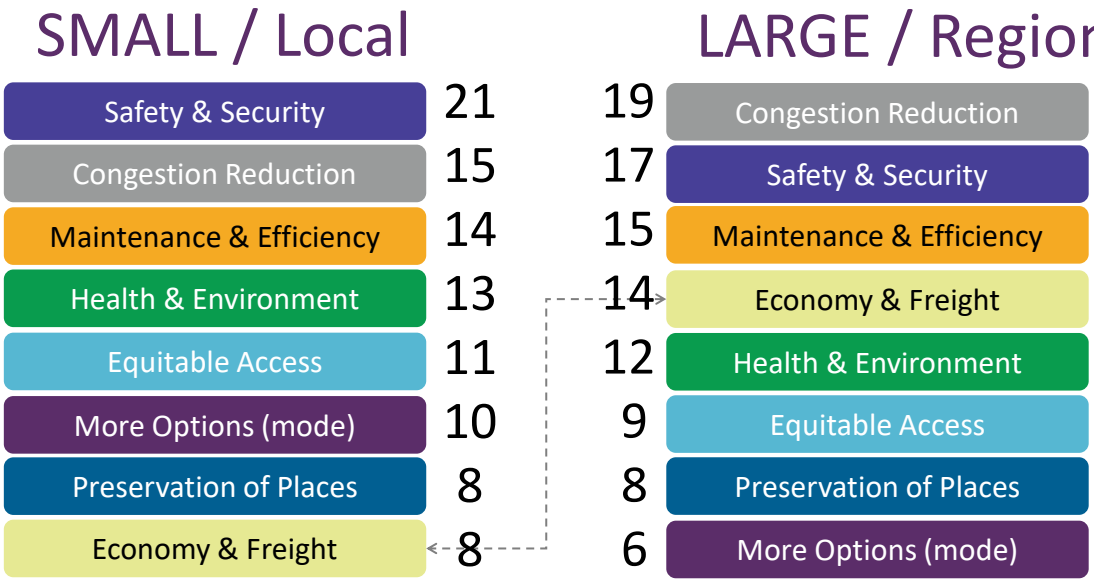
Weighted Average of 100 points



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Goals – recap

- **Safety & Security**
  - Reduce the rate of **crashes with serious injuries and fatalities**. Reduce the region's vulnerability to incidents and threats.
- **Congestion Reduction**
  - Use our system **more efficiently through technology** like traffic signal coordination, real time traffic info, and emergency response vehicles.
- **Maintenance & Efficiency**
  - Preserve & maintain our **existing infrastructure** through repaving projects, bridge replacements, access management, sidewalk repairs, and intersections.
- **Health & Environment**
  - **Minimize negative impacts** on the environment and people's health and increase access to active transportation / physical activity for all ages.
- **Equitable Access**
  - Connect communities to **opportunities & services** throughout the region, particularly areas with higher proportions of low income, senior, & minority pop.
- **More Options (mode)**
  - Improve access to services and employment with **bicycle and pedestrian facilities, and transit services**.
- **Preservation of Places**
  - Preserve **natural and cultural areas** and places that make our region unique (e.g., mountains, open space, farmland, viewsheds, small communities).
- **Economy & Freight**
  - Improve **intermodal connections** to help move freight to and through the region. Reduce delay on major freight corridors.

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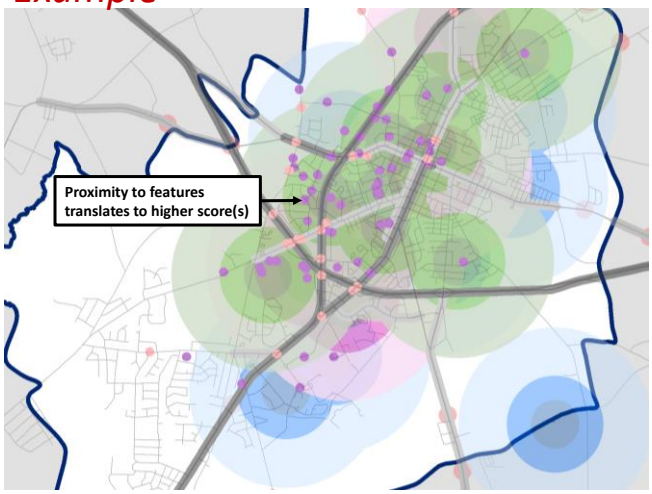
Evaluation Criteria

- Measurable geographic features that relate **8 goals** with available GIS data resources
  - Quantity, Value, Proximity, or Raster grid

Example



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DRAFT

Proposed Data Sources for Evaluation

Safety and Security
- Safety Action Plan (2023) created a predictive measure output for all TPO roads
  - % of project (length) that coincides with the high-injury network Tier 1
  - % of project (length) that coincides with the high-injury network Tier 2
- Interactive map points (100 locations) – speeding or safety issues shared by the public – converted to raster density

Congestion Reduction
- NPMRDS – RITIS output from INRIX XD (all roads)
  - Level of Travel Time Reliability (LOTTR) – value based on project segment and proximity – limited to (NHS routes)
- Expected (FY) volume over capacity (v/c) – highest value along project segment – limited to modeled roadways
- Interactive map points (136 locations) – congestion issues pointed out by the public. Scored based on frequency and proximity

Maintenance and Efficiency
- Crosses a bridge rated as 'Poor' or 'Critical' condition
- TDOT pavement condition data – limited to TDOT roadways
  - Pavement Condition Index (PCI) dataset
- Interactive map points for maintenance issues (25 locations) – scored based on frequency of comments on project corridor

Health and Environment
- Proximity to existing high-quality bikeway or pedway facilities
- Project avoids potential impact with environmental resources (e.g., floodplains, wetlands, slopes) - score based on proximity, where closer receives a *worse* score

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DRAFT

Proposed Data Sources for Evaluation

Equitable Access ▪ Priority population – scored by priority populations (block group index value) ▪ Schools, recreation opportunities, parks – scored based on proximity within 0.25 / 0.5 / 1.0 mile (or convert to raster)
More Options (mode choice) ▪ Bikeway / Pedway / Transit service / multimodal project improvement, weighted by population density area(s) ▪ Connecting with or proximate to existing Transit service area / Pedway infrastructure – scored based on proximity ▪ Interactive map points for barriers to walking / biking (132 locations) – converted to raster density
Preservation of Place ▪ Project avoids potential impact with cultural resources, like parks, historic buildings / neighborhoods or areas - scored based on proximity, where closer receives a worse score
Economy and Freight ▪ Density of freight facilities (points converted to raster density) nearby to the project or corridor ▪ Density of employment (points converted to raster density) nearby to the project or corridor
Local Priority ▪ Project is identified in other local plans – higher score if included in several plans / prior MTP ▪ Project was identified during public engagement and/or by Technical Advisory Committee members as a priority for their community

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Are there other Evaluation Criteria?

- Certainly, but they are *more subjective* →
  - *"improves"*
  - *"includes"*
  - *"supports"*
  - *"promotes"*
  - *"addresses"*
  - *"corrects"*
  - *"reduces"*
  - *"enhances"*
  - *"contributes"*

Project Evaluation Criteria

SYSTEM PRESERVATION & ENHANCEMENT
Project improves existing route
Project improves traffic flow
Project reduces or mitigate the storm water impacts of surface transportation
Project has sustainable operations/ongoing maintenance support

QUALITY GROWTH & SUSTAINABLE DEVELOPMENT
Project improves access to encouraged/controlled growth area
Project supports infill/redevelopment
Project located near mixed-use, high density areas
Project contributes to roadway network connectivity

ECONOMIC PROSPERITY
Project located near existing jobs/high job growth areas
Project improves access to retails/activity center
Project enhances travel and tourism
Project endorsed by the Chamber of Commerce

MULTI-MODAL OPTIONS
Project is located within a planned/existing multi-modal corridor
Project reduced inter-modal conflict (e.g. traffic signals, intersection improvements)
Project includes transit accommodations (e.g. signal priority, pullouts, shelters)
Project includes pedestrian amenities
Project includes bicycle facility improvements
Project makes a connection to another modal facility

SAFETY & SECURITY
Project includes geometrical improvements for the safety of drivers, pedestrians, and cyclists.
Projects includes signage/wayfinding
Project includes appropriate traffic calming techniques
Projects address a high crash location (intersection/corridor)
Projects improves transportation system resiliency and reliability
Projects reduces the safety of drivers, pedestrians, or cyclists

FREIGHT & GOODS MOVEMENTS
Project improves route with significant existing/anticipated truck movements
Project improves access to major good/freight distribution centers
Project address existing/anticipated freight-passenger conflict

EQUITY, HEALTH & ENVIRONMENT
Project improves accessibility for low-income/minority communities
Project corrects ADA Non-compliance
Project includes transportation choices for the disable/aging population
Project promotes physical activity
Project improves access to healthy food and health facilities
Project has potential negative impact on natural or socio-cultural resources

COMMUNITY SUPPORT & CONSISTENCY
Project is considered as top local priority by public officials
Project has documented supports/needs from the community
Project has been considered in funding/grant applications
Project has been proposed in other plans/studies other than the LRTP

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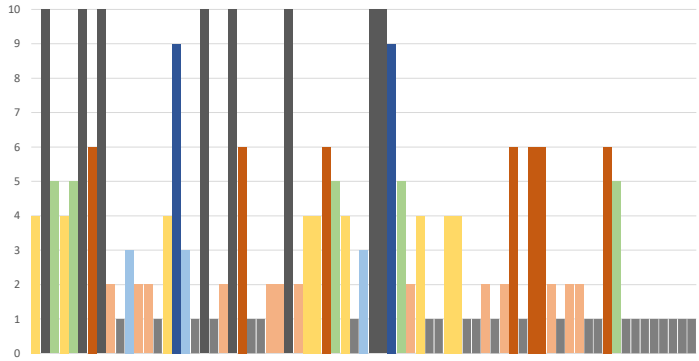
Normalization

- Converting values to a *consistent* 1-10 scale

Project	Value	Normalized
1	237.4	10
2	82.4	3
3	26.7	1
4	156.2	6
5	104.3	4
6	175.5	7
7	186.3	8
8	124.6	5
9	68.8	2
10	210.5	9



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Apply Weights / Total Score

Total Score

NORMALIZED SCORES

SAFETY			RELIABILITY			MAINTENANCE		MODE CHIOCE					LOCAL PRIORITY			EQUITY & EJ			CONSISTENCY		
S1	S2	S3	R1	R2	R3	M1	M2	MC1	MC2	MC3	MC4	MC5	L1	L2	L3	E1	E2	E3	C1	C2	C3
10	4	10	5	9	10	10	10	10	1	1	10	10	10	10	10	1	1	8	10	5	1
1	10	10	1	7	10	1	10	10	10	1	10	10	10	10	10	10	10	3	10	5	10
10	1	10	4	7	10	10	10	10	5	5	5	10	10	1	10	1	5	10	1	1	10
10	5	10	2	10	10	1	5	10	1	1	5	10	10	10	10	1	1	10	10	10	10
1	5	10	1	9	10	1	10	10	1	5	10	10	10	10	10	1	10	3	10	10	10
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1	6	10	5	10	1	10	10	1	1	1	5	10	1	10	10	1	1	5	5	10	1
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1	2	10	4	9	1	1	10	10	1	1	5	10	10	10	10	1	1	5	10	10	1
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1	3	10	1	9	10	1	10	10	1	1	5	10	10	10	10	1	1	5	10	10	1
1	2	1	1	6	10	1	10	10	1	1	5	10	10	10	10	10	1	5	10	10	1
1	1	1	5	6	1	10	10	10	1	1	5	10	10	10	10	5	5	5	1	1	10
1	2	10	1	7	1	1	10	10	1	1	5	10	10	10	10	1	1	3	10	10	1
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1	4	10	5	3	10	1	10	10	1	1	5	10	10	10	10	5	10	1	5	5	1
1	9	10	3	5	1	10	1	10	1	1	5	1	1	10	10	1	1	5	10	10	1
1	3	10	5	7	10	10	5	10	1	1	5	1	1	1	10	1	1	3	10	10	1
1	1	10	5	5	5	10	10	10	1	5	5	1	10	1	10	1	5	5	1	1	1

Normalized 1-10 scale

WEIGHTED AVERAGE BY CATEGORY

21%	16%	15%	14%	14%	10%	10%		
Safety	Reliability	Maint-enance	Mode Choice	Local Priority	Equity & EJ	Consist-ency	SCORE	RANK
16.80	12.80	15.00	8.96	14.00	3.33	5.33	76.23	1
14.70	9.60	8.25	11.48	14.00	7.67	8.33	74.03	2
14.70	11.20	15.00	9.80	9.80	5.33	4.00	69.83	3
17.50	11.73	4.50	7.56	14.00	4.00	10.00	69.29	4
11.20	10.67	8.25	10.08	14.00	4.67	10.00	68.86	5
11.20	6.93	15.00	7.56	14.00	4.67	7.00	66.36	6
8.40	9.07	8.25	8.96	11.67	4.67	7.00	58.01	7
11.90	8.53	15.00	5.04	9.80	2.33	5.33	57.94	8
8.40	12.80	15.00	6.16	5.60	2.33	7.00	57.29	9
9.10	7.47	8.25	7.56	14.00	2.33	7.00	55.71	10
14.70						7.00	55.03	11
9.80						7.00	54.29	12
2.80						7.00	54.01	13
2.10						4.00	53.50	14
9.10						7.00	53.50	15
2.10						7.00	52.86	16
10.50						3.67	52.56	17
14.00	4.80	8.25	6.16	9.80	2.33	7.00	52.34	18
9.80	11.73	11.25	5.04	5.60	1.67	7.00	52.09	19
8.40	8.00	15.00	6.16	9.80	3.67	1.00	52.03	20

Weighted scores

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Review and Comment

- TAC members review the sorted list
- **Manual adjustments** are encouraged
  - *"We plan in pencil, not pen!"*

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1

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General Timeline

21-month time frame
Sept 2023 – May 2025

WE ARE HERE!

Outreach + Data Assembly	Round #1	***Needs Assessment + Initial Recommendations***	Round #2	***Refining Recommendations + Reporting***
Fall / Winter 2023	***Feb 2024***	Spring / Summer 2024	***Oct 2024***	Winter / Spring 2025

- ☑ **Public Outreach – Round #1**
  - Digital and In-person events
- ☑ Existing Conditions assembly / review
- ☑ Regional vision / goals

- ☑ Review of Performance Measures
- ☑ Financial projections to 2050
- ☑ Project review / audit
- ☑ New project needs
- ☑ Travel Demand Model deficiencies
- ☑ Project Lists / Maps – all modes

- ☑ **Public Outreach – Round #2**
- Draft Plan
  - Public Comment Period
- Final Plan / Adoption

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Outreach to date

- **Website** updates + summary of outreach
- **772** survey participants
- **282** point of interest added
- **84** focus group participants (5 sessions)
- Two rounds of Community Events
  - Round #1 (Feb)
  - Round #2 (Oct)
    - Monday evening 4-7 pm
    - Tuesday afternoon *virtual* 12-1 pm
      - Post-L&L survey: ~194 respondents
    - Wednesday evening 4-7 pm

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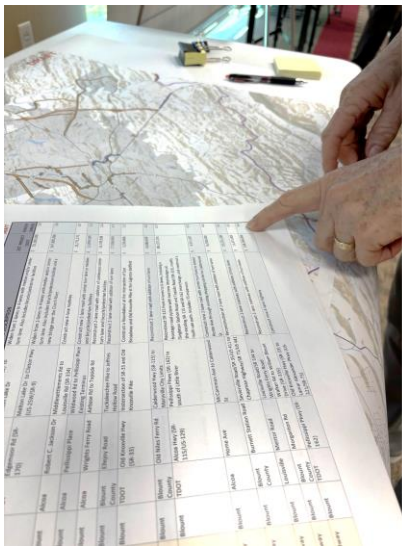
Community Event Round #2



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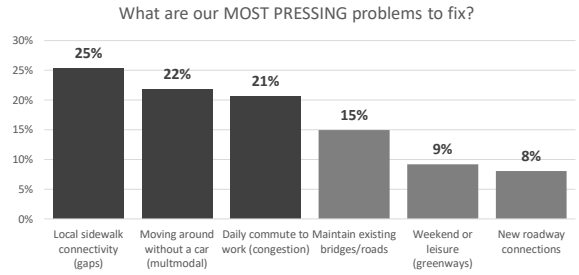
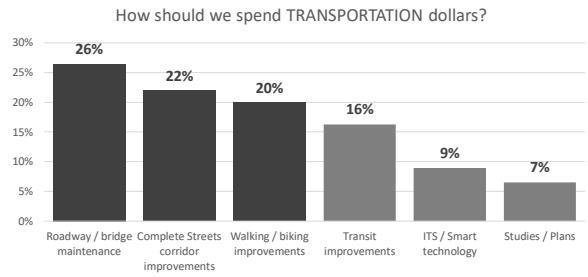
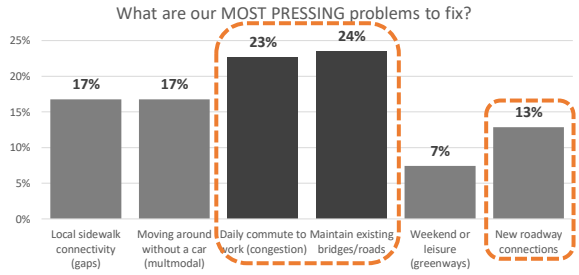
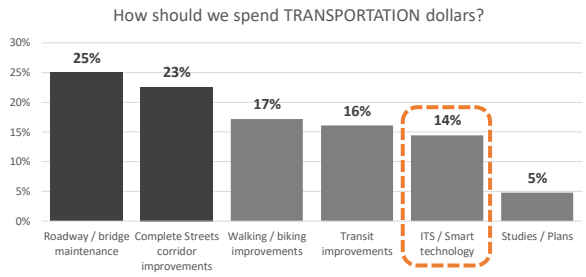
Results from Oct Events (x3)
~33 participants





Online Survey Results
~196 participants





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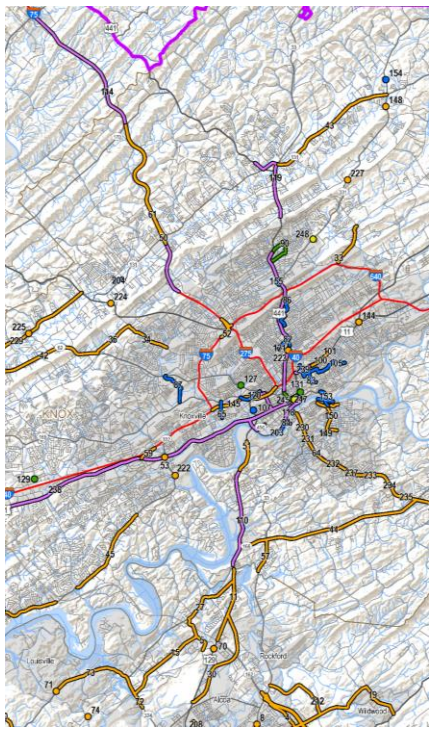
Projects – where we stand

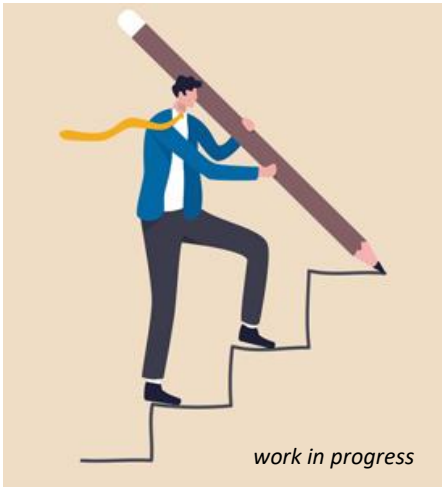
- **118** rollover projects from 2045 Mobility Plan
- **+40** new projects added
- Projects by Category
  - Roadway (*73%*) – reconstruction, widening, maintenance
  - Bike/Ped (*14%*) – greenway/trail, ped bridge, Complete Street
  - ITS / Transit (*10%*) – ATMS, signal prioritization, new buses
  - Study / Other (*3%*) – Smart Trips, safety program, study
- Constructing an ArcGIS Online map for review



6

Work In Progress

- Revenue projections to 2050
  - TDOT & FHWA agreement!
- Prioritization of projects
  - Data-informed process to evaluate and assign scores
  - *Relative priority* list
    - near-, mid-, long-term
    - Not an absolute ranking (1st, 2nd, 3rd)



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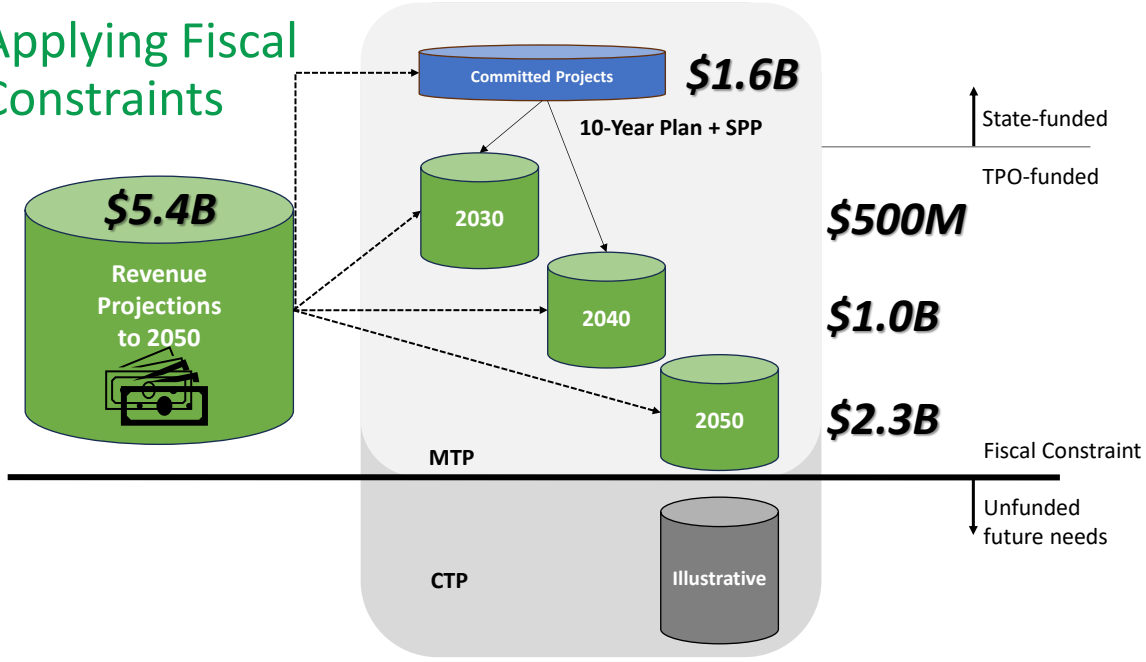
Applying Fiscal Constraints



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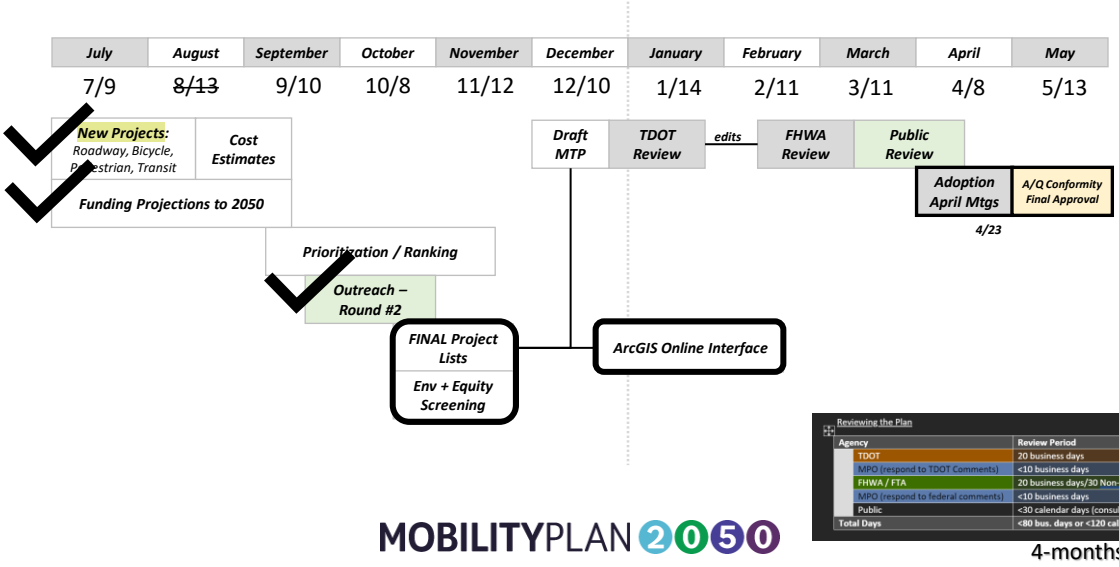
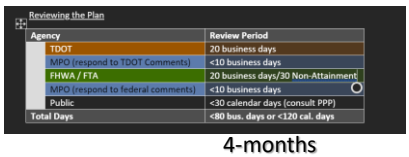
Working Backwards from Adoption





4-months

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