



TDOT
Department of
Transportation

BlueOval Transit Study

Project Stakeholder Meeting

presented to
Project Stakeholders

presented by
TDOT

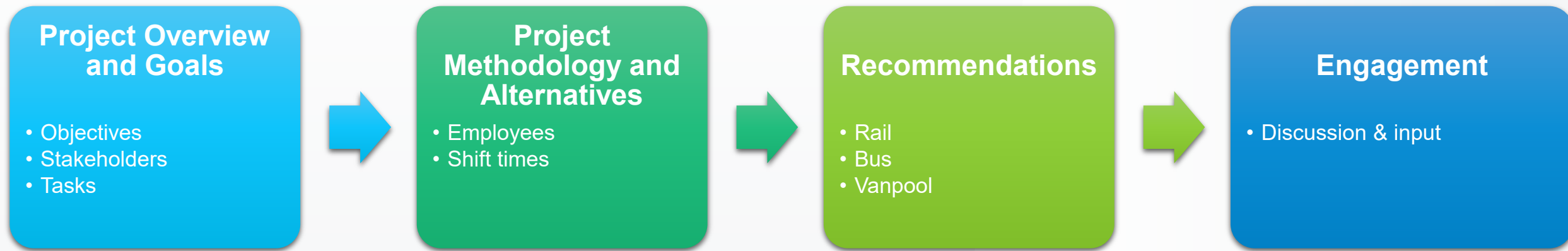
Cambridge Systematics, Inc.



April 12, 2023



Today's Meeting



Introductions & Stakeholders

Elected Officials



MPOs

- Memphis
- Jackson

RPOs

- Northwest
- West
- Southwest

Transit Providers

- Delta HRA
- NW HRA
- SW HRA
- MATA
- JTA

Economic Development

- HTL Advantage
- SW TN Development District
- Counties
- Municipalities
- TN ECD
- TMA Group

Others

Dan Pallme / Kaitlyn McClanahan

Assistant Chief of Environment & Planning Bureau / Manager
Tennessee Department of Transportation

Ermal Faulkner / Kel Kearns

Ford BlueOval

Tom Harrington

Principal
Cambridge Systematics

Sarah Windmiller

Senior Associate
Cambridge Systematics

Project Overview

BlueOval City

» Development plan (dynamic)

- 7,000+ employees
- Ford second-generation electric truck
- BlueOval SK battery plant
- Suppliers
- Tennessee College of Applied Technology (TCAT)
- 10 & 12 hour work shifts
- 2025 opening



Study Purpose

- » Feasibility of various transit options to BlueOval City
 - Engagement with local stakeholders
 - Assess current conditions
 - Define and evaluate set of alternatives
 - Develop high level costs
 - Recommendations and implementation
- » Engaging stakeholders in region

Study Goals

Connect

Provide feasible commute alternatives to driving for employees

Thrive

Support existing communities

Develop

Support local and regional economic development goals

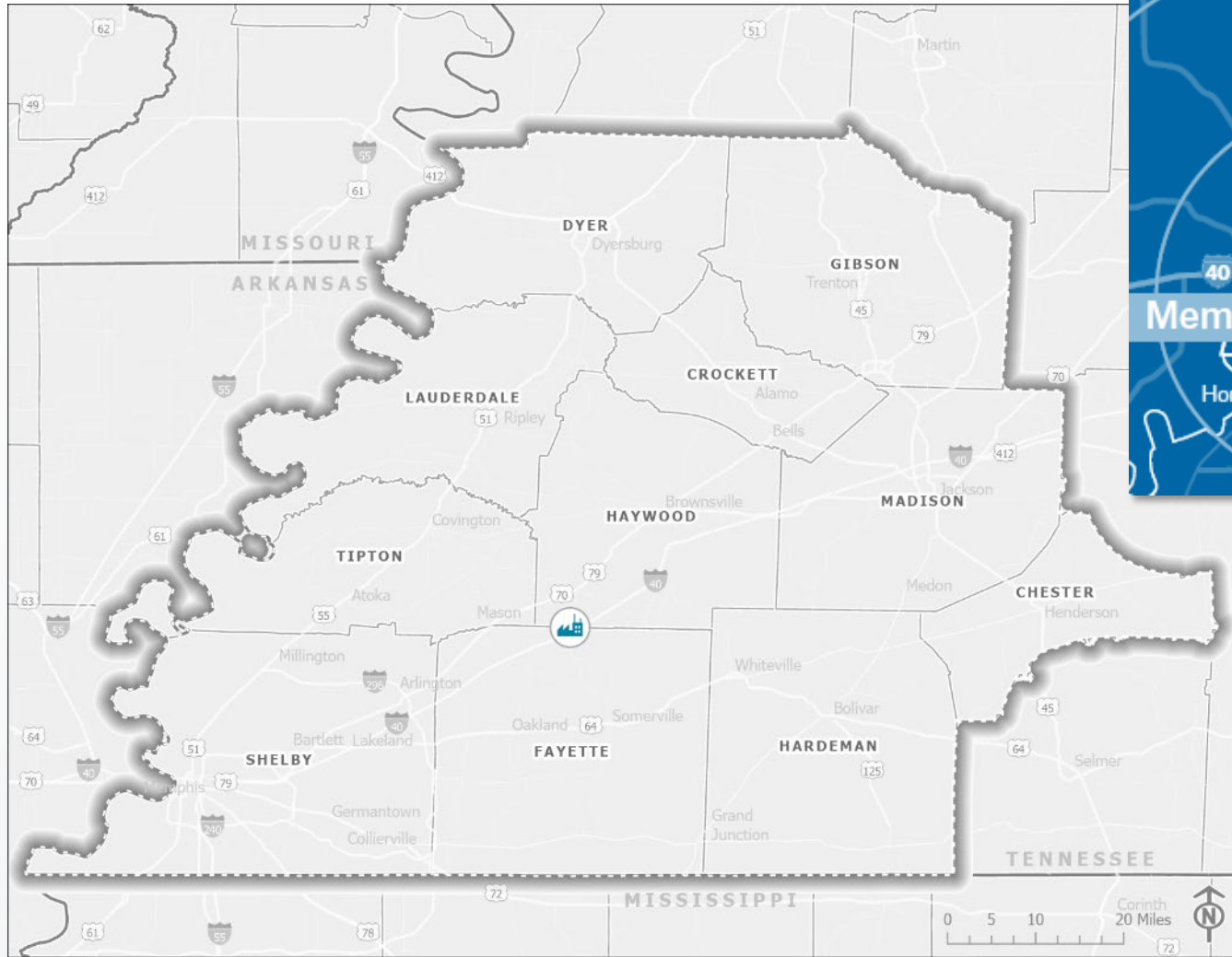
Sustain

Develop services sustainable over the long term



Evaluation Structure

Study Area



11-County Region

Haywood	Chester	Dyer
Shelby	Madison	Crockett
Fayette	Tipton	Gibson
Hardeman	Lauderdale	

Initial Tasks

Initial Tasks



Prior Plans

- » TN Statewide Transportation Plan
- » Memphis and Jackson 2045 Metropolitan Plans
- » HRA Human Service Transportation Plans



Stakeholder Interviews

- » Ford
- » MPOs and RPOs
- » HRAs and transit agencies
- » Economic development
- » Local jurisdictions



Existing Conditions

- » Transportation
- » Land use and development
- » Existing travel flows

Themes from Stakeholder Interviews



For transit to be competitive

- » Reliable service
- » Attractive
- » Cost-competitive
- » Seamless information
- » Flexible
- » Sustainable



Existing competition for resources (funding, vehicles, drivers)



Many communities looking for transit solutions



Growth from urban and rural counties

- » Landscape will change over time
- » Congestion is anticipated

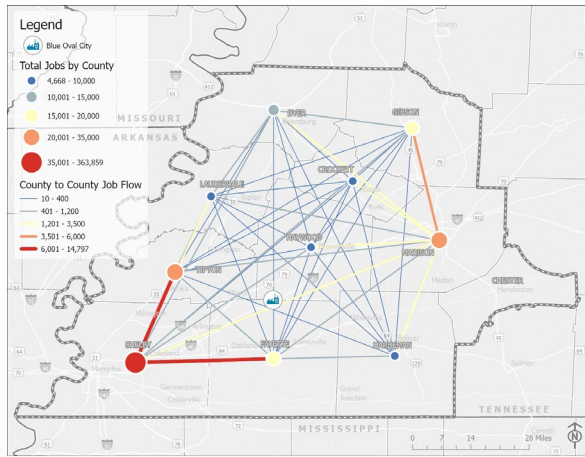


Other large employers in the region can also be served

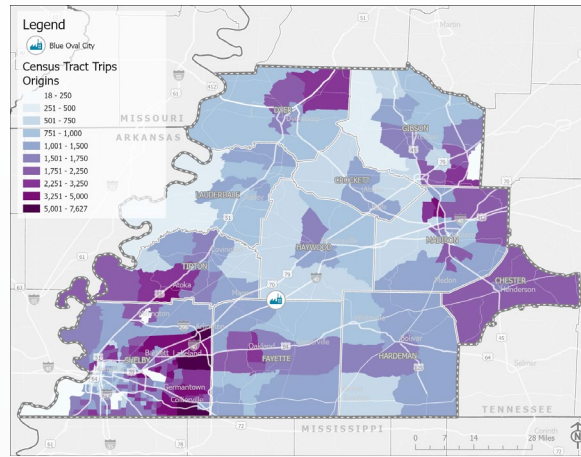


Study area includes multiple operating jurisdictions

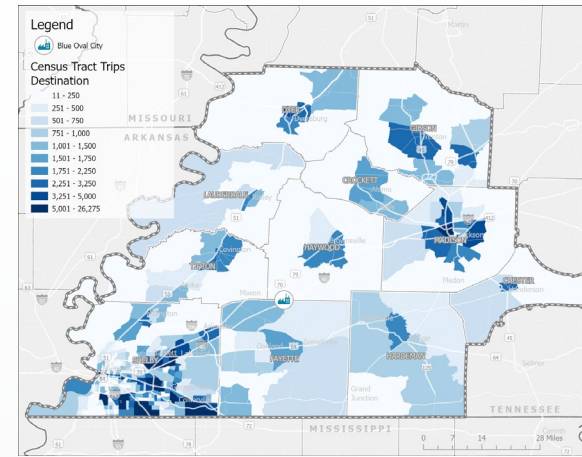
Existing Conditions



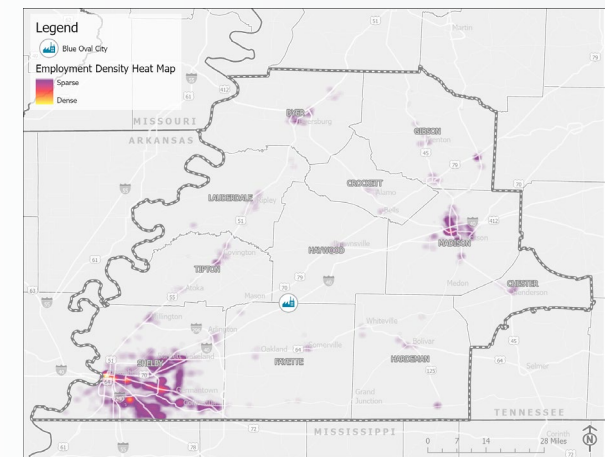
Existing work trip flows



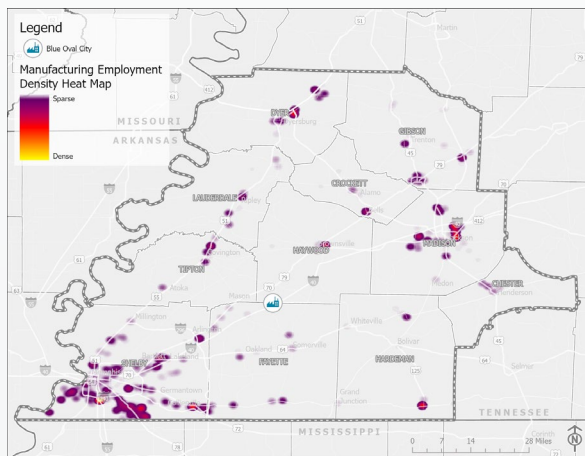
Trip origins



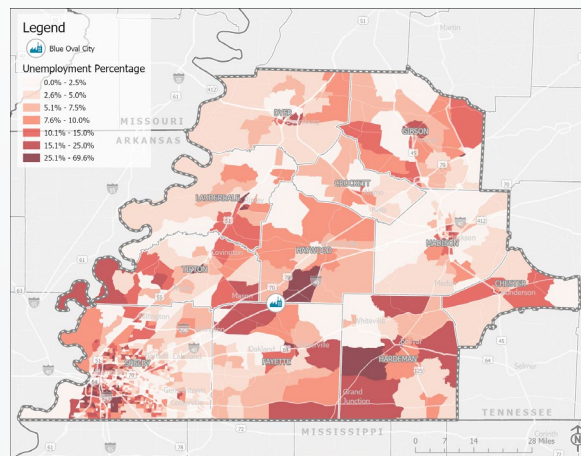
Trip destinations



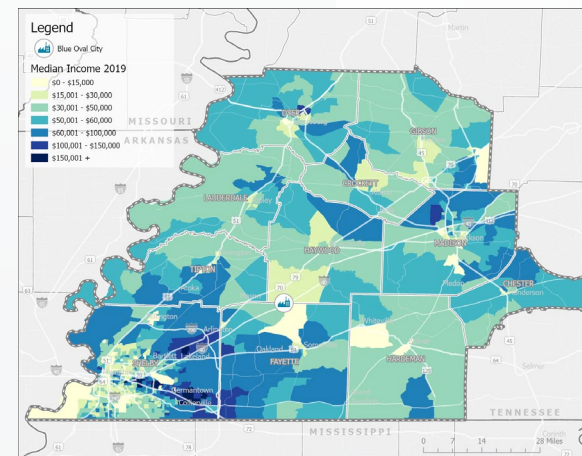
Employment density



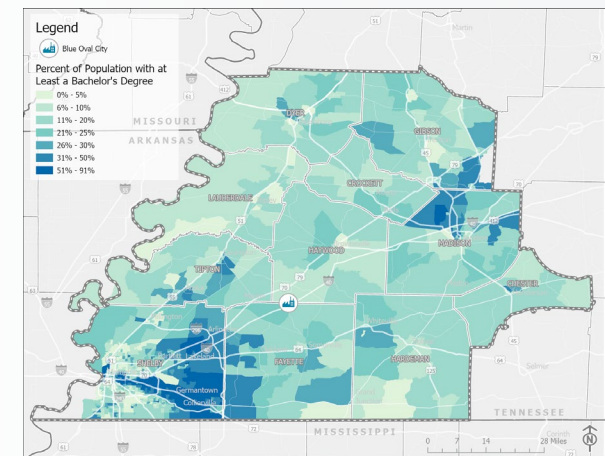
Manufacturing employment



Unemployment rate



Income levels

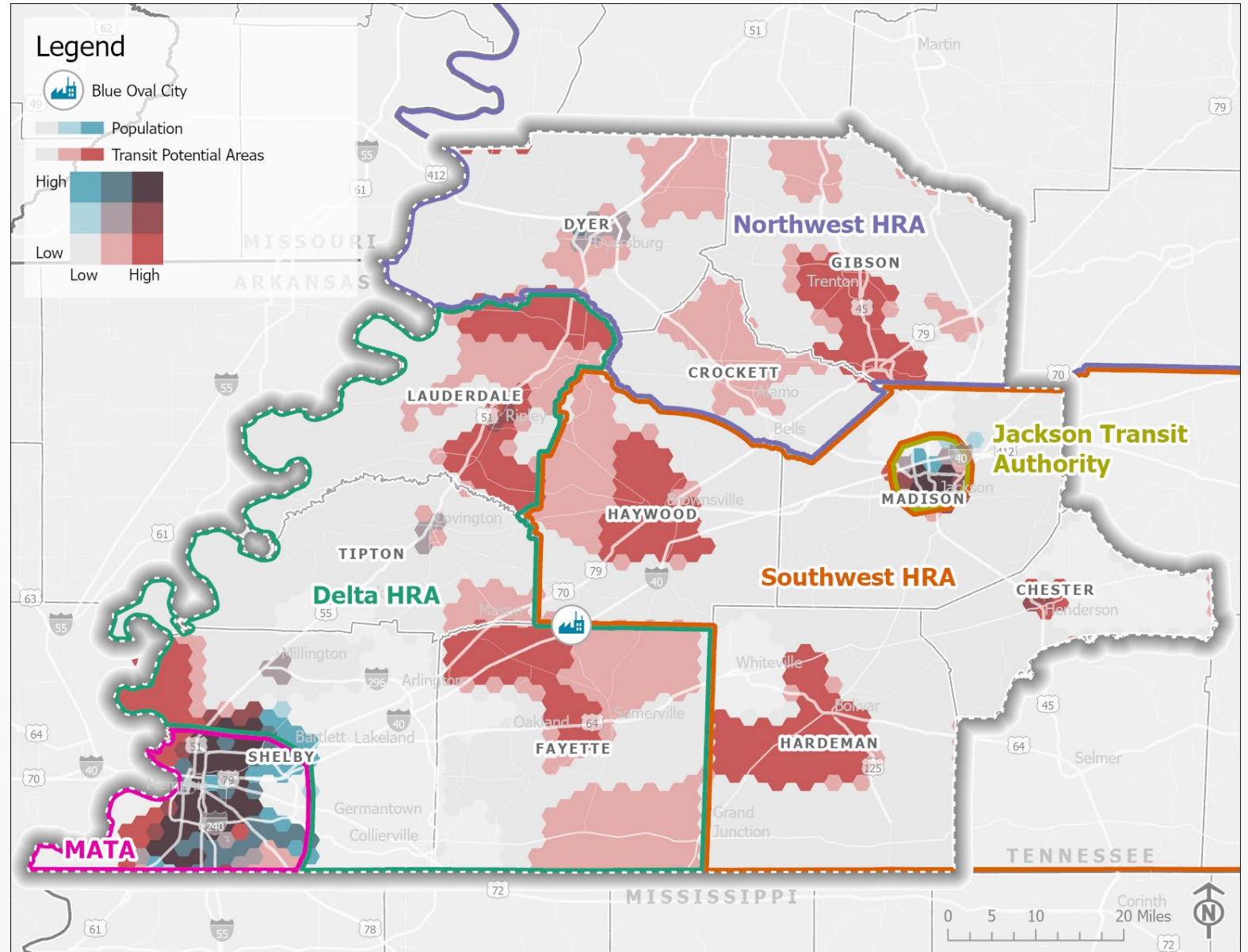


Bachelor's degree

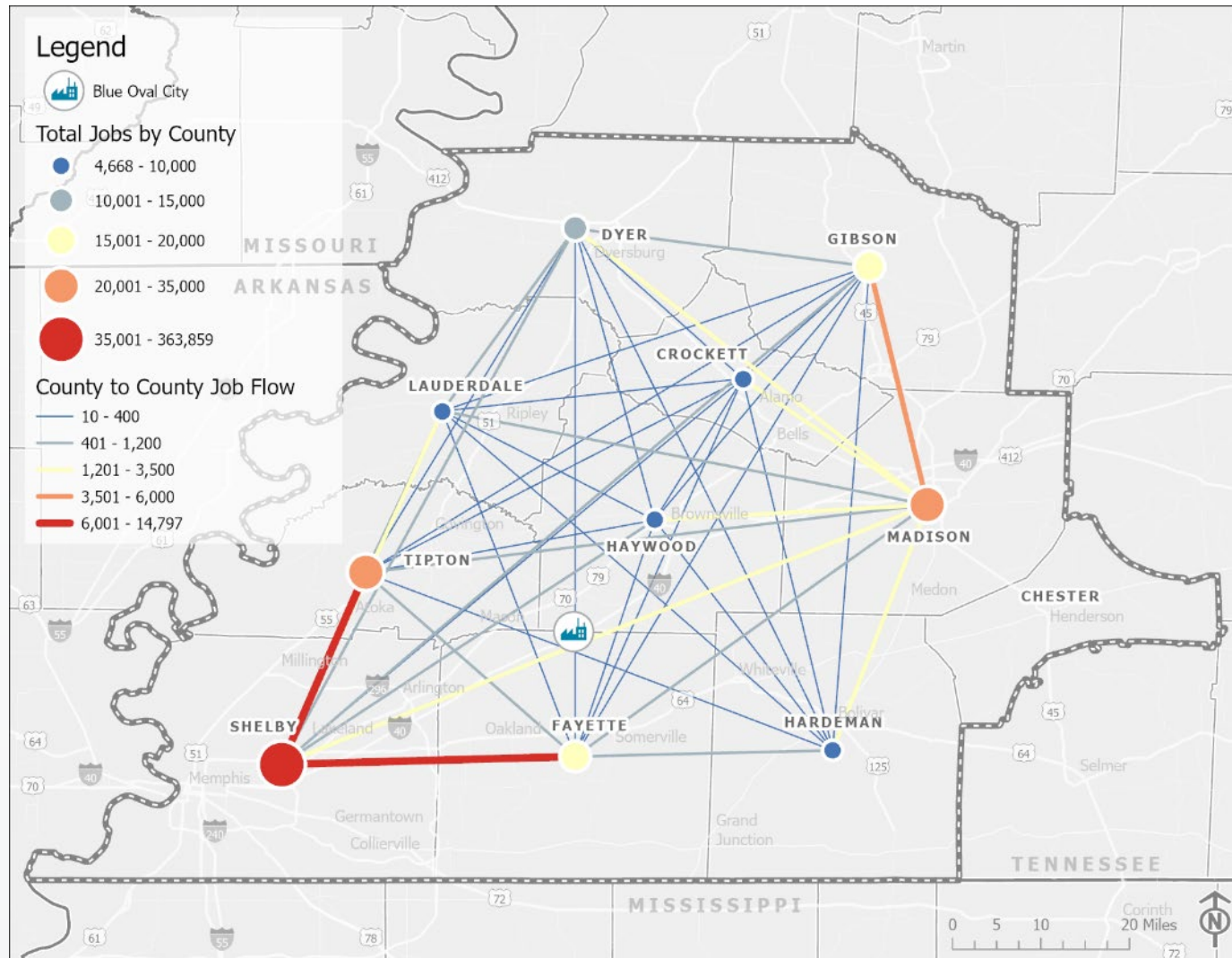
Transit Potential Areas

» 3 combined measures

- Zero vehicle households
- Households below poverty line
- Persons with disability



Existing Travel Flows



» Census LEHD data

- Home–work flows
- County basis

» As anticipated, extremely low interchanges by site

- Shelby
- Madison
- Tipton
- Gibson (+ Crockett), Fayette

Transit Alternatives

Service Objectives

- » Provide transit service for BlueOval City employees
- » Increase access to BlueOval City jobs for residents throughout region



Potential Solutions: Public Transportation Strategies



Passenger Rail



Commuter Express Bus



Transit Bus








Community Bus



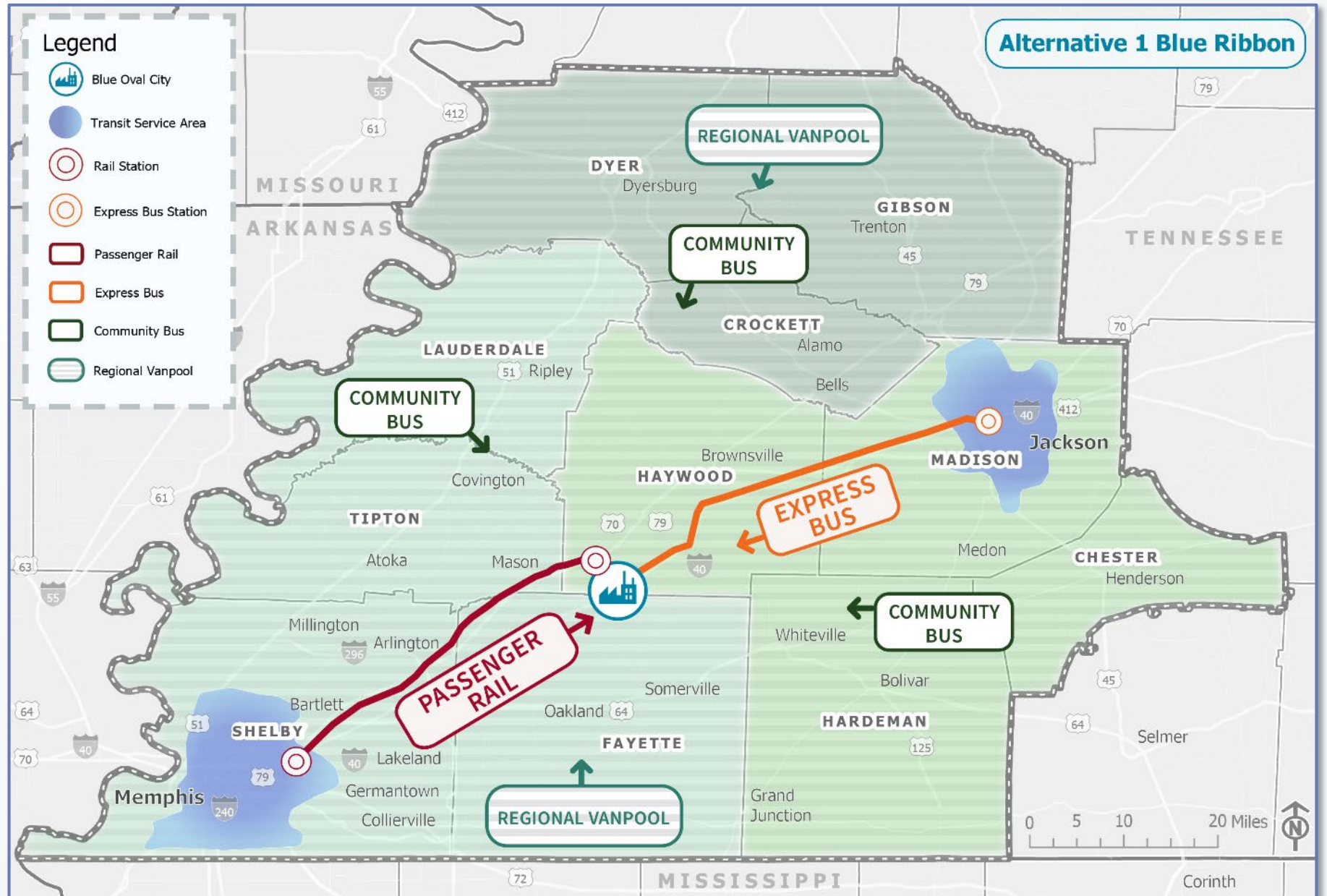
Vanpool

Potential Transit Technologies

Mode / Technology	Benefits	Drawbacks
 <p>Passenger Rail</p>	<ul style="list-style-type: none"> • Appealing to transit customers 	<ul style="list-style-type: none"> • Highest cost • Share track with freight • Low reliability
 <p>Express Bus Coach</p>	<ul style="list-style-type: none"> • Comfortable over long distances • Quick to implement • Flexible to alter routes 	<ul style="list-style-type: none"> • High-floor vehicles • New maintenance equipment
 <p>Transit Bus</p>	<ul style="list-style-type: none"> • Vehicles available and in-service • Easy low-floor access 	<ul style="list-style-type: none"> • Less comfortable and attractive ride, lower speed less quiet
 <p>Community Bus</p>	<ul style="list-style-type: none"> • Builds on existing services provided by HRAs, MATA, and JTA • Lower capital cost 	<ul style="list-style-type: none"> • Less comfortable on longer trips
 <p>Vanpool</p>	<ul style="list-style-type: none"> • Lowest cost, highest flexibility • All-electric minivans anticipated in project timeframe 	<ul style="list-style-type: none"> • Relies on employee drivers

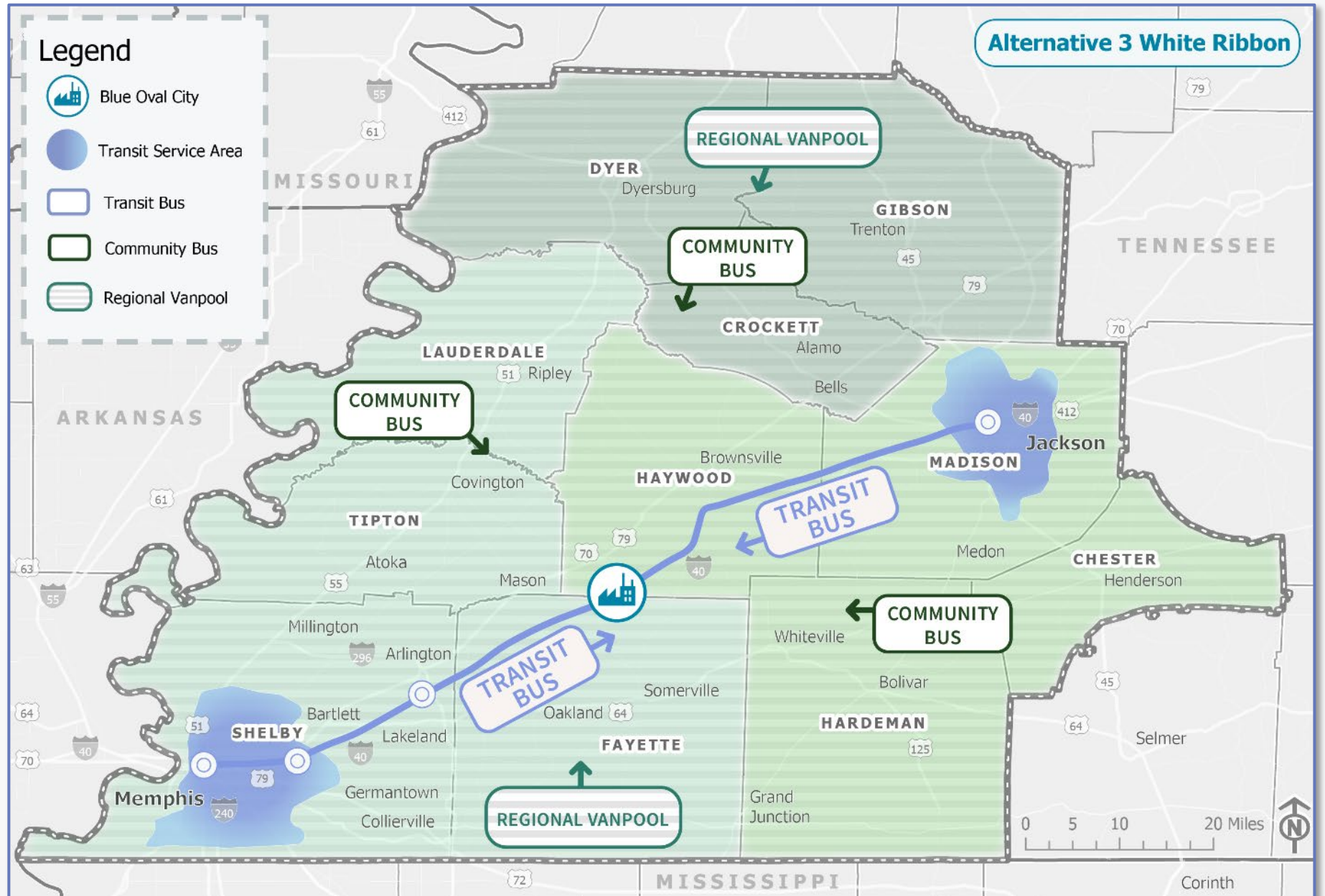
Alternative 1

- » Passenger Rail
- » Express Bus
- » Community Bus
- » Regional Vanpool



Alternative 3

- » Transit Bus
- » Community Bus
- » Regional Vanpool



Work Shifts at BlueOval City

Destination	1 st Shift	2 nd Shift	Shift Hours
Ford	6:30 am	7:30 pm	10
Suppliers	6:30 am	6:30 pm	12
SK Battery	6:30 am	6:30 pm	12
TCAT	8:00 am	3:30 pm	7.5

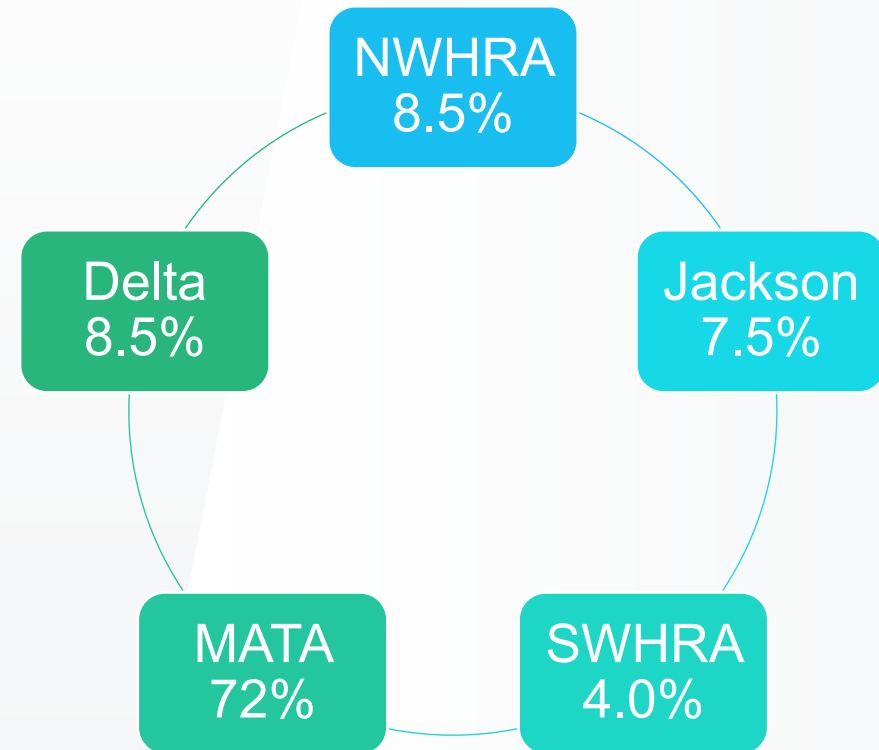
Operations Start 2025

Note: Shift times and shift hours are for planning purposes only. Actual times and hours are currently unknown

Estimating Transit Demand

- What proportion of BlueOval employees will choose transit?
- What is the geographic distribution of trip origins?
 - » 2020 and 2026 population by region

6% rural ↔ 10% urban



Evaluation, Cost, and Recommendations

Project Evaluation Measures

Goal Areas Project Objectives	Connect Provide feasible commute alternatives to driving for employees	Thrive Support existing rural and urban communities	Develop Support local and regional economic development goals	Sustain Develop services sustainable over the long term
Evaluation Measures	<ul style="list-style-type: none"> • Reliable, comfortable transit alternative to driving with competitive travel time • Cost by transit relative to driving alone • Reliable real-time transit information 	<ul style="list-style-type: none"> • Multimodal access in disadvantaged communities • Safety relative to driving alone 	<ul style="list-style-type: none"> • Transit access in rural communities • Good-paying jobs in transit 	<ul style="list-style-type: none"> • Capital Cost • Operating Cost (Annual) • Cost to user • Environmental Impact – fuel, CO2

Project Costs (full service, after ramp-up)













Alternatives	Modes	Estimated Capital Costs*	Estimated Annual O&M Costs
Alternative 1	<ul style="list-style-type: none"> • Passenger Rail • Transit Bus • Community Bus • Vanpool 	\$490 M - \$600+M	\$5.4 M – \$6.5 M
Alternative 2	<ul style="list-style-type: none"> • Coach Bus • Community Bus • Vanpool 	\$8.6 M - \$12.1 M	\$3.0 M - \$4.1 M
Alternative 3	<ul style="list-style-type: none"> • Transit Bus • Community Bus • Vanpool 	\$10.0 M - \$14.6 M	\$2.8 M - \$3.7 M

All values are in 2025 dollars.

* Track Access Fees include annual payments that last for 30 years

Note: Costs are based on assumption of only providing trips for BlueOval City employees and shifts

Project Evaluation Results

Goal Areas Project Objectives	Connect Provide feasible commute alternatives to driving for employees	Thrive Support existing rural and urban communities	Develop Support local and regional economic development goals	Sustain Develop services sustainable over the long term
Alternative 1				
Alternative 2				
Alternative 3				

Economic Impact Analysis

- » Based on investments in BlueOval City transit service
- » Additional analysis using Bureau of Economic Analysis RIMS II multipliers

Goal Areas	Benefit-Cost Ratio
Alternative 1	0.28
Alternative 2	2.76
Alternative 3	2.85

Key Impact Measures

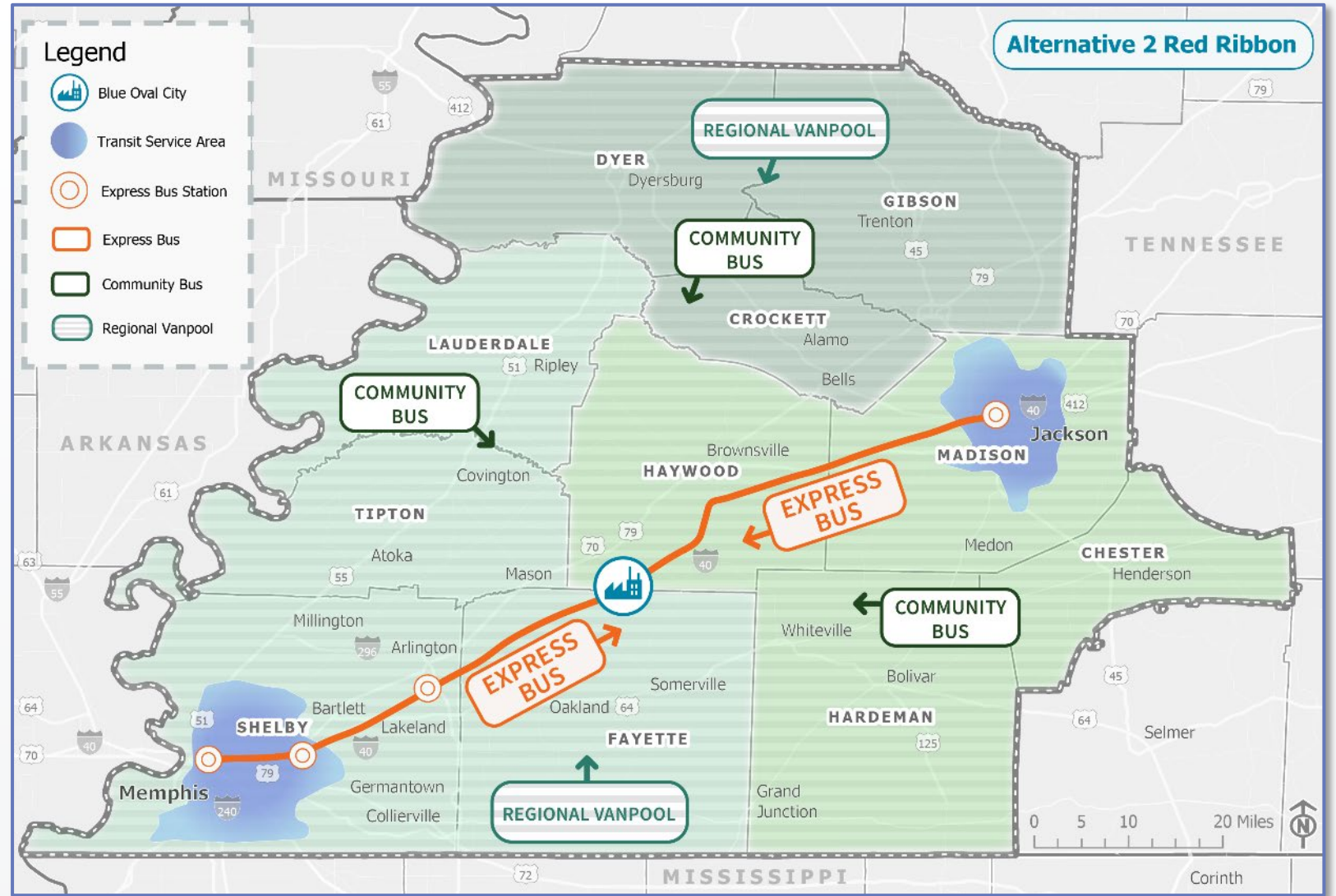
1. Direct expenditures (capital purchase, wages)
2. Travel cost savings
3. Travel time value savings
4. Crash cost savings
5. Fuel savings
6. Emissions reduction

* Preliminary results, based on initial costs and service assumptions

Recommendations

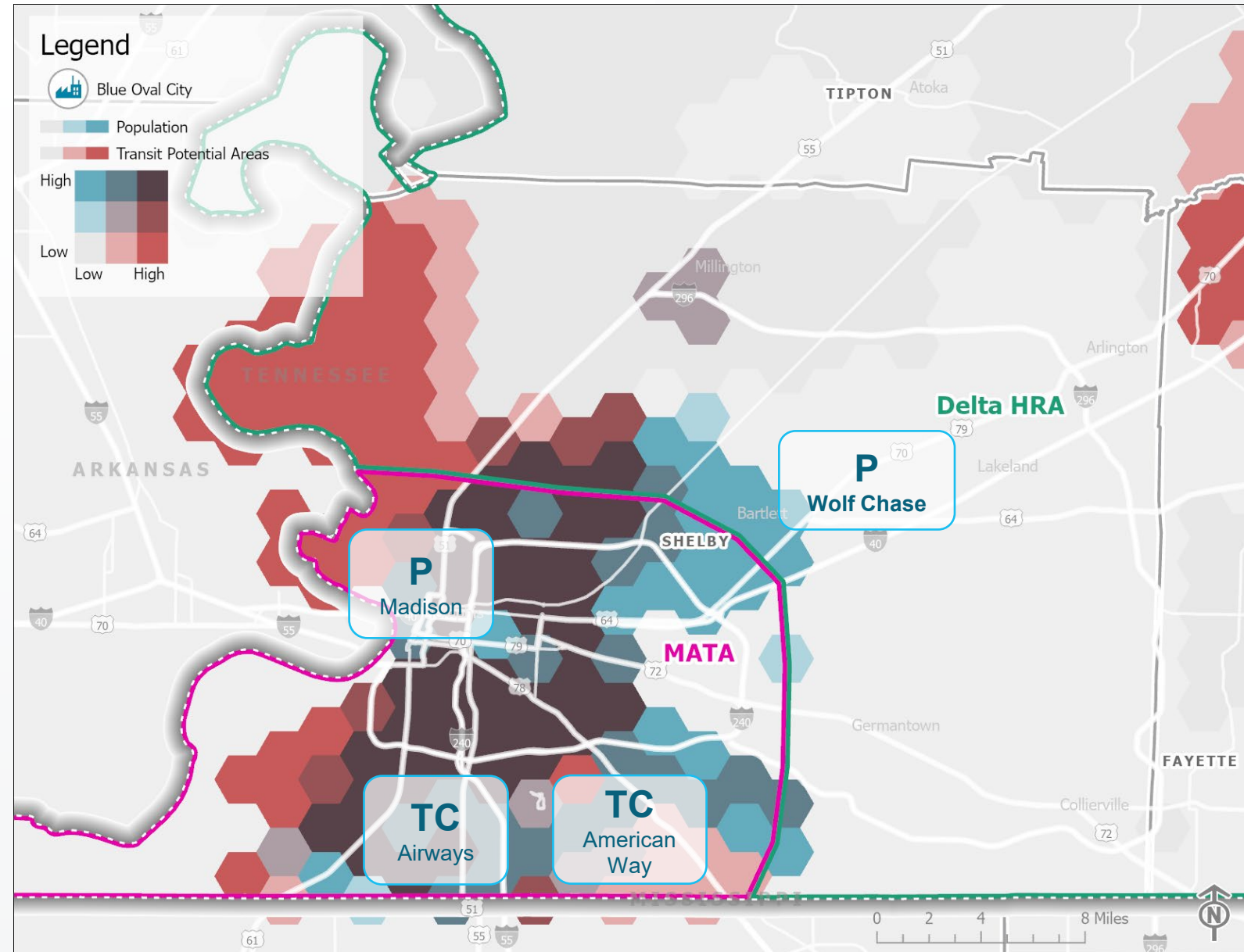
» Alternative 2

- Express Bus
- Community Bus
- Regional Vanpool



Pickup Locations *Memphis*

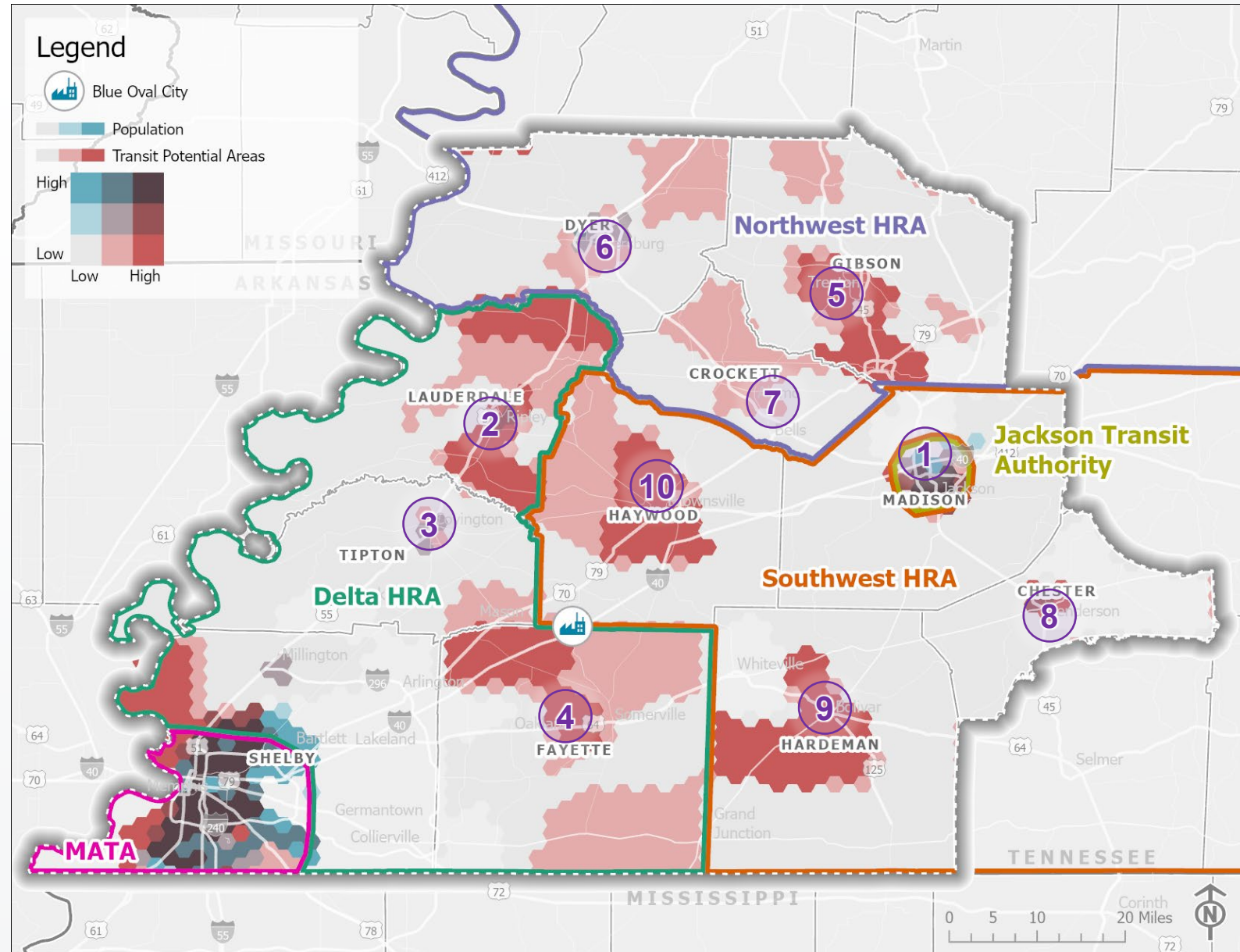
- » Utilize existing
 - Park and rides
 - Transit centers
- » Urban and suburban
- » Population density
- » Equity



Pickup Locations Rest of Region

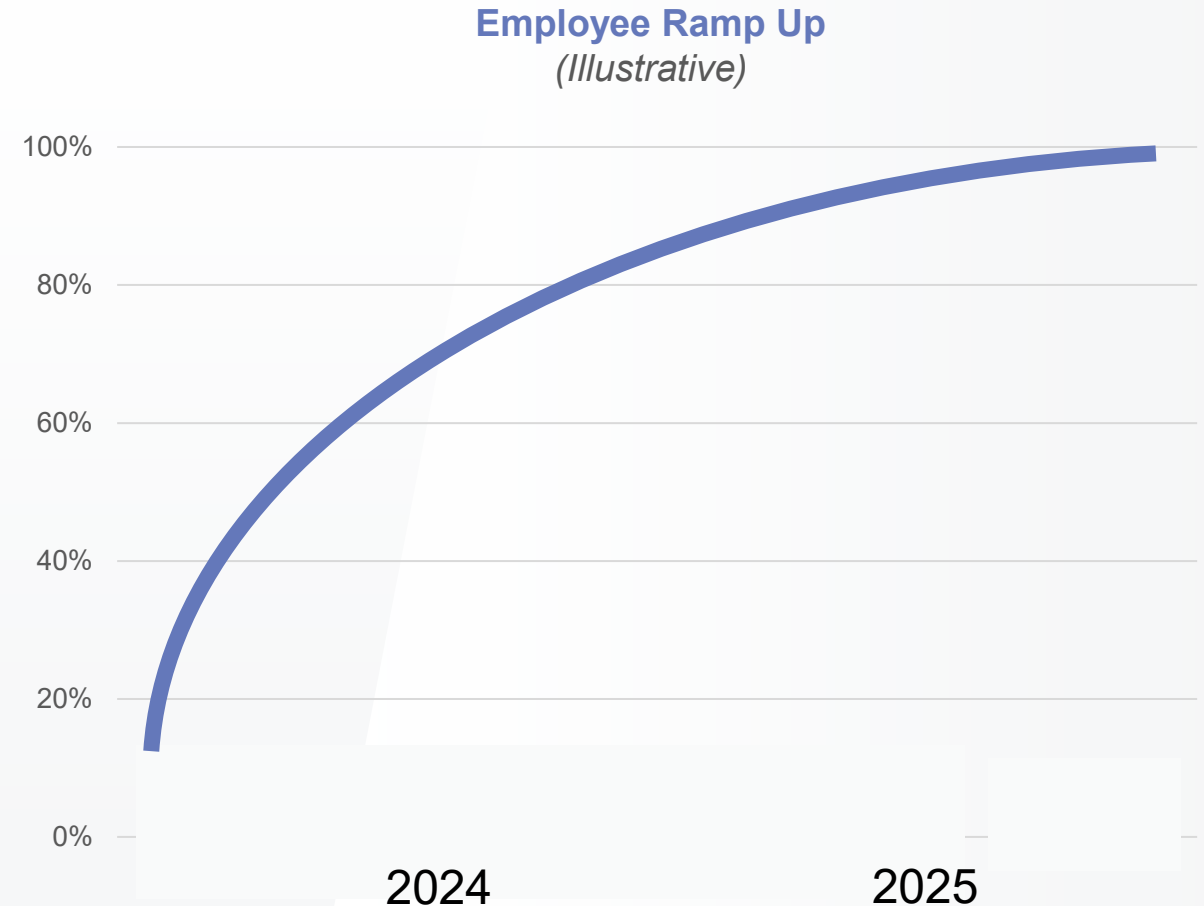
- Jackson** { ① *Old Hickory Mall*
- { ② *Ripley*
- Delta HRA** { ③ *Covington*
- { ④ *Oakland*
- { ⑤ *Trenton*
- NW HRA** { ⑥ *Dyersburg*
- { ⑦ *Alamo*
- { ⑧ *Henderson*
- SW HRA** { ⑨ *Bolivar*
- { ⑩ *Brownsville*

Engage the partners



Transit Service Implementation

- » Production starts in 2025
 - Ramp up of service
 - Ridership analysis and refinement
- » Align transit service with employee ramp up
- » Provides flexibility if more service is needed



Next Steps

Financial Plan



Final Report



Discussion

