MOVE
CENTRAL ARKANSAS

Coordinating Committee Planning Game Workshop

September 2014
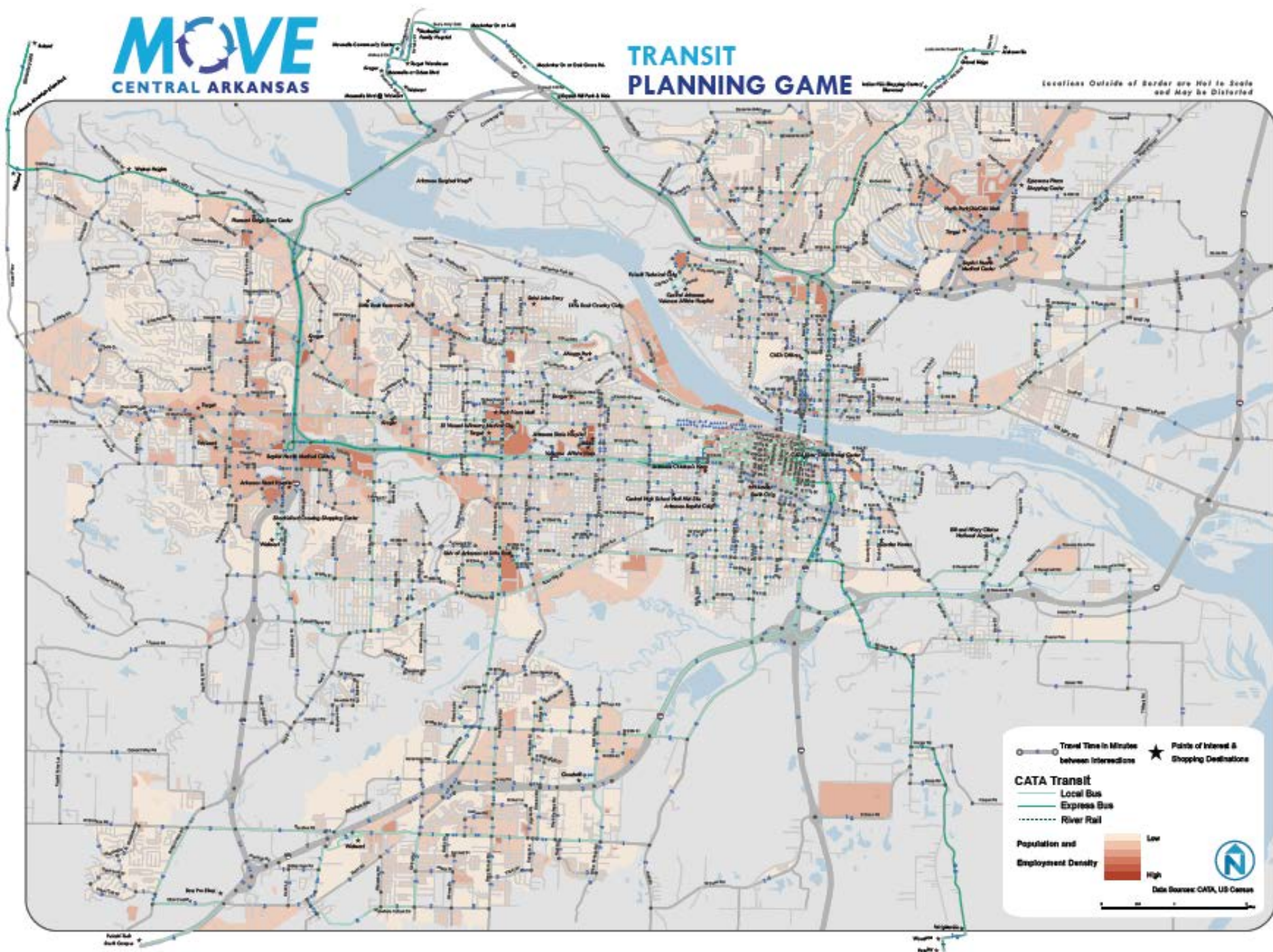
Smithville Planning Game for Central Arkansas

- Simulated transit service planning exercise
- Your challenge: Redesign CATA service to maximize public benefit
- The process: Discuss routes as a group, draw them, check cost, and go back to drawing board as necessary
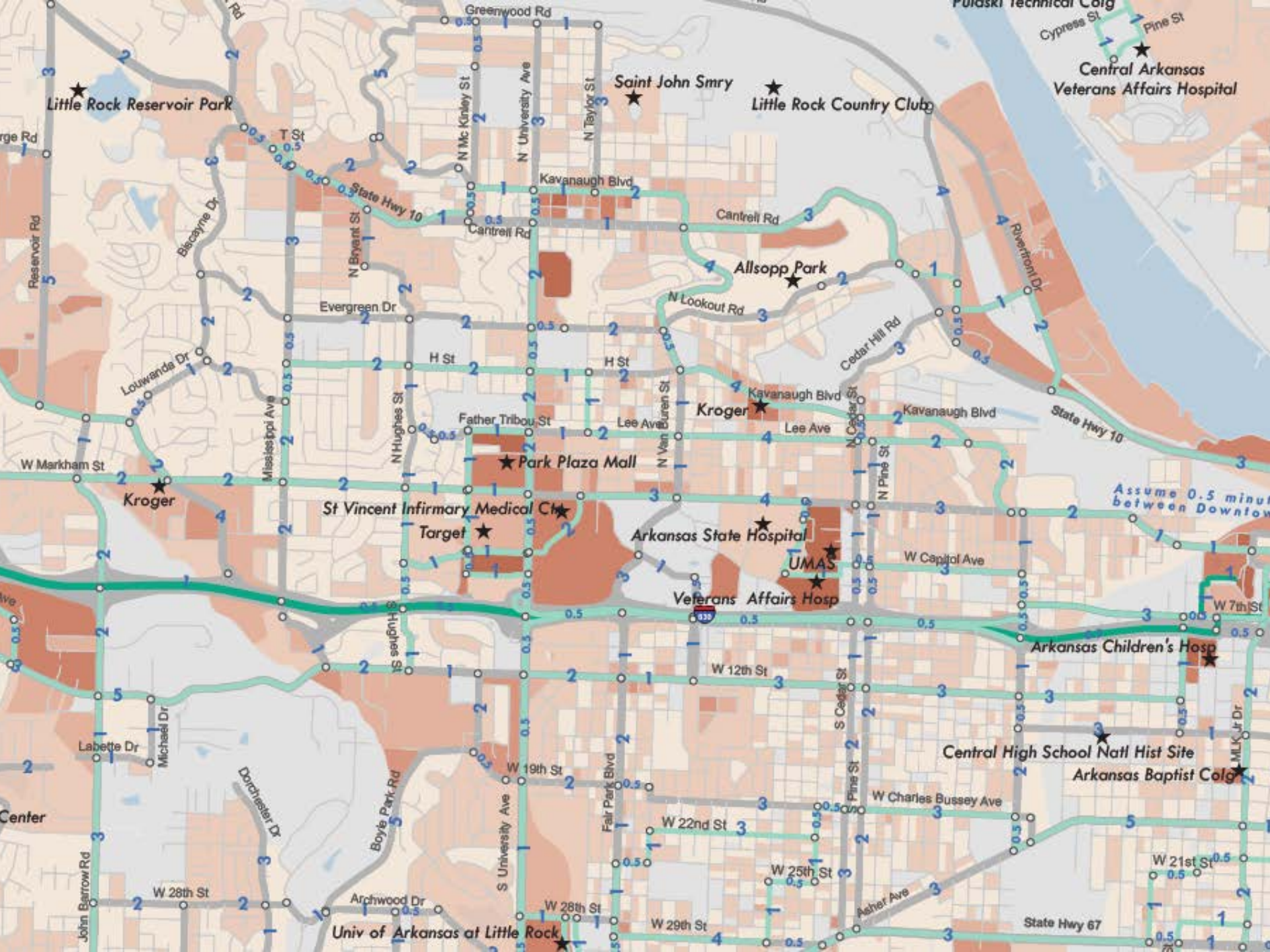- Your budget: 50 "bus-days" (one bus operating all day on a weekday)

Smithville Planning Game for Central Arkansas

- Your tools: a map, a plastic sheet, dry-erase markers, a facilitator and a recorder

- Maps show:
  - major roads (and approximate travel times between intersections, based on average speeds of 12.5 mph for streets, 30 mph for highways, and 45 mph while operating on freeways)
  - population/employment densities
  - major destinations
  - CATA facilities

MOVE
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TRANSIT
PLANNING GAME

Locations Outside of Border are Not to Scale and May be Distorted

Travel Time in Minutes between Intersections

★ **Points of Interest & Shopping Destinations**

CATA Transit
— Local Bus
— Express Bus
---- River Rail

Population and Employment Density
Low
High

Data Sources: CATA, US Census

Smithville Planning Game for Central Arkansas

- Your options: routes that are …
  - **Local**, running all day both ways
  - **Rapid**, making only limited stops (and thus going faster)
  - **Community Circulators**, looping through neighborhoods and connecting them to hubs
  - **Express Buses, providing "All Day Service"** in both directions
  - **Commuter Express**, running during rush hours only, in the peak direction
- … and that run …
  - Every 15, 30, 60 or 90 minutes (or any other frequency you choose)
  - at the same frequency all day, or more often during peak periods (or only during peak periods)

Smithville Planning Game for Central Arkansas

■ You have limited resources, and will have to make difficult decisions: Who gets service? What kind, and how much? Who gets a "one-seat ride," and who has to transfer?

Smithville Planning Game: Process

- Start by deciding where the route should go (alignment)
- Then select a type of route (label will go next to alignment):

(1) **Local** = numbers

R1 **Rapid** = R# (Rapid routes that overlap with locals should should be given the same number)

CC1 **Community Circulators** = CC# (Use arrows to show direction of travel)

X1 **Express Bus All Day** = X# (Runs on freeways and highways anywhere in the service area)

CX1 **Commuter Express** = CX# (Use arrows to show AM and PM directions of travel)

Smithville Planning Game: Process

- Then select a frequency (if you choose a different frequency, use the color closest to that frequency)
    - 15 minutes = red ————————
    - 30 minutes = orange ————————
    - 60 minutes = green ————————
    - 90 minutes = blue ————————
- Then select a span of service
    - solid = all-day ————————
    - dashed = peak-only – – – – – –
    - Dashed one color, solid another (parallel lines) = dashed peak frequency, solid off-peak frequency
- ... and start drawing

Smithville Planning Game: Process

■ Bus-days will be subtracted as you go.

■ Recorder enters one-way travel time of route and spreadsheet automatically calculates bus-days.

Nelson\Nygaard Smithville Planning Game
Master Calculator: Existing CAT System

Bus-Days	Starting	50
	Remaining	2.5

Travel Time	Rapid Bus	-10%
	Layover	10%

Team Members:

MOVE CENTRAL ARKANSAS
OUR STRATEGIC BLUEPRINT FOR TRANSIT

Local Bus (all-day, bidirectional)

| Route	One-Way Minutes	Round-Trip Cycle Time	Peak Frequency (enter number) 15	30	60	90	Buses Operating	Off-Peak Frequency (enter number) 15	30	60	90	Buses Operating	Bus-Days Allocated
1	30.6	67	35				2	35				2	2
2	14	31	35				1	35				1	1
3	46.5	102	35				3	35				3	3
4	26.9	59	35				2	30				2	2
5	52	114	30				4	35				4	4
6	17	37	40				1	40				1	1
7	16	35	35				1	35				1	1
8	35.4	78	40				2	40				2	2
9	26.5	58	60				1	60				1	1
10	39.6	87	30				3	30				3	3
11	17.4	38	40				1	40				1	1
12	17.8	39	40				1	40				1	1
13	26.3	58	30				2	30				2	2
14	47.5	105	35				3	35				3	3
15	33.4	73	30				3	75				1	2
16	28.3	62	30				3	30				3	3

Smithville Planning Game for Central Arkansas

- Simplified exercise (weekdays only, no space constraints at terminals, etc.)
- But – you must deal with "trade-offs." Given limited resources, do you …
  - focus on serving "transit-dependent" riders (students, seniors, the low-income), or try to attract "choice" riders who could drive ("get people out of their cars")?
  - maximize geographic coverage, or maximize ridership and cost-effectiveness by providing more frequent service on the busiest routes ("coverage vs. productivity")?
  - try to provide as many direct trips as possible, or provide fewer but more frequent routes (requiring more transfers, but reducing wait times for all trips)?

Smithville Planning Game for Central Arkansas

■ Tips:

– Start with most promising corridors/destinations

– In really busy corridors, you could provide frequent Local *and* Rapid service ("double down" on most productive routes)

– "Anchor" routes with major destinations at each end

– Faster is less expensive and less expensive is faster – direct routes can save your resources

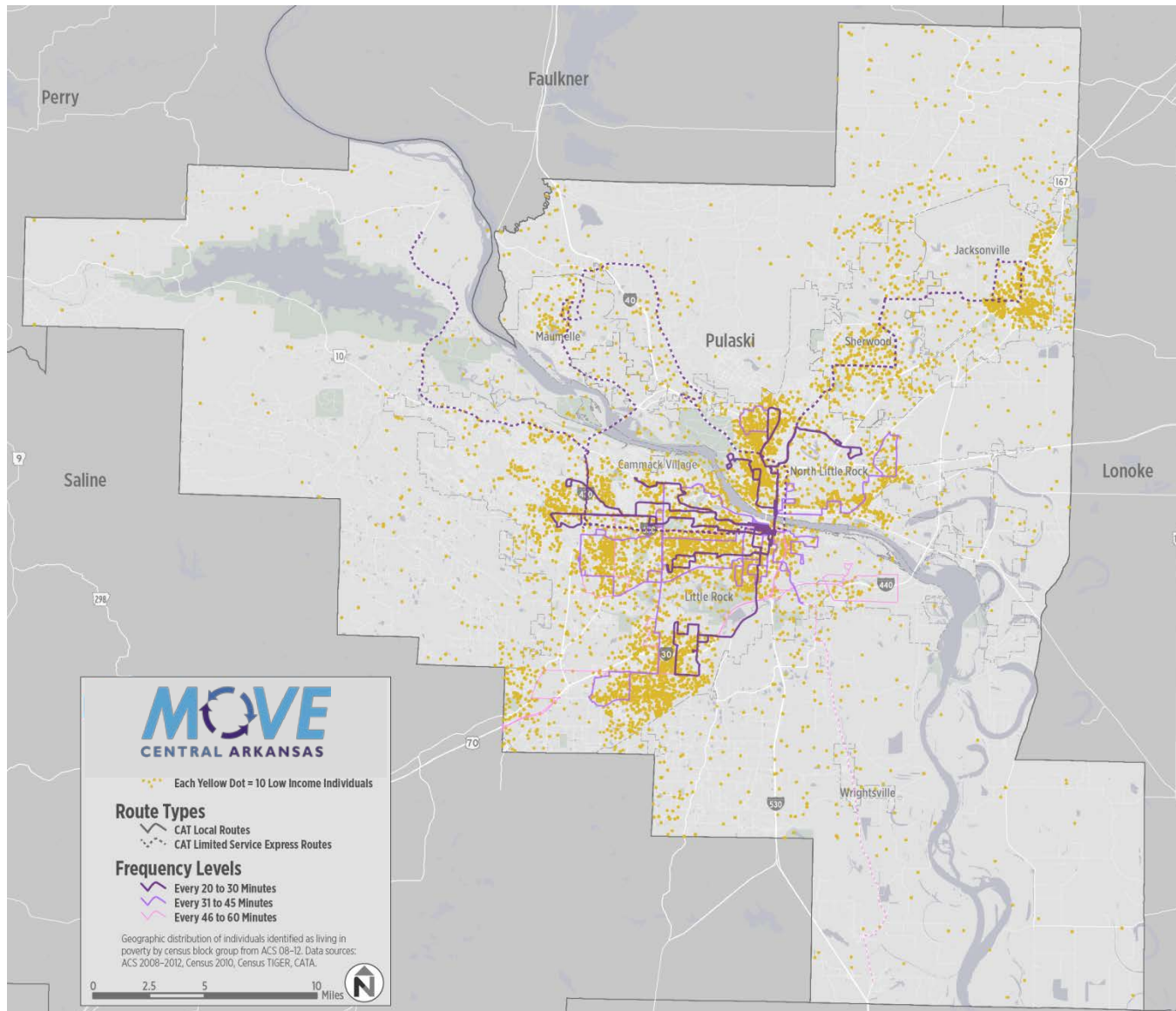– Don't be afraid of transfers – connecting every point to every other point will only dilute frequencies and increase travel times
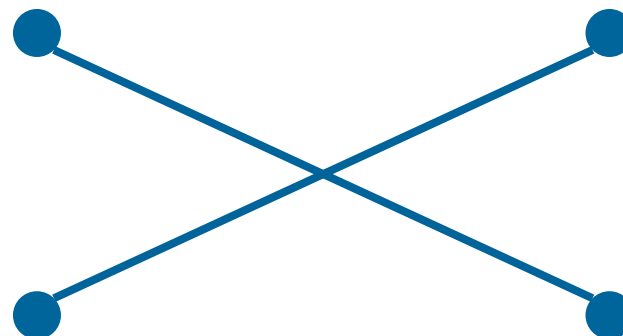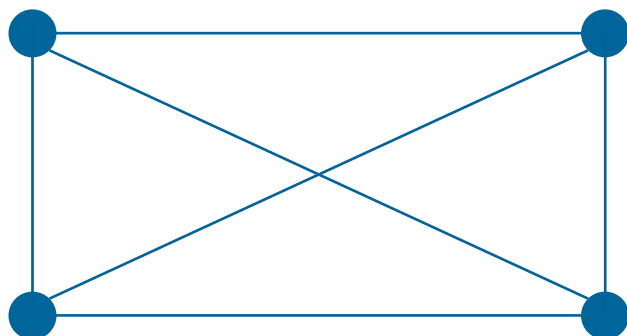
Smithville Planning Game for Central Arkansas

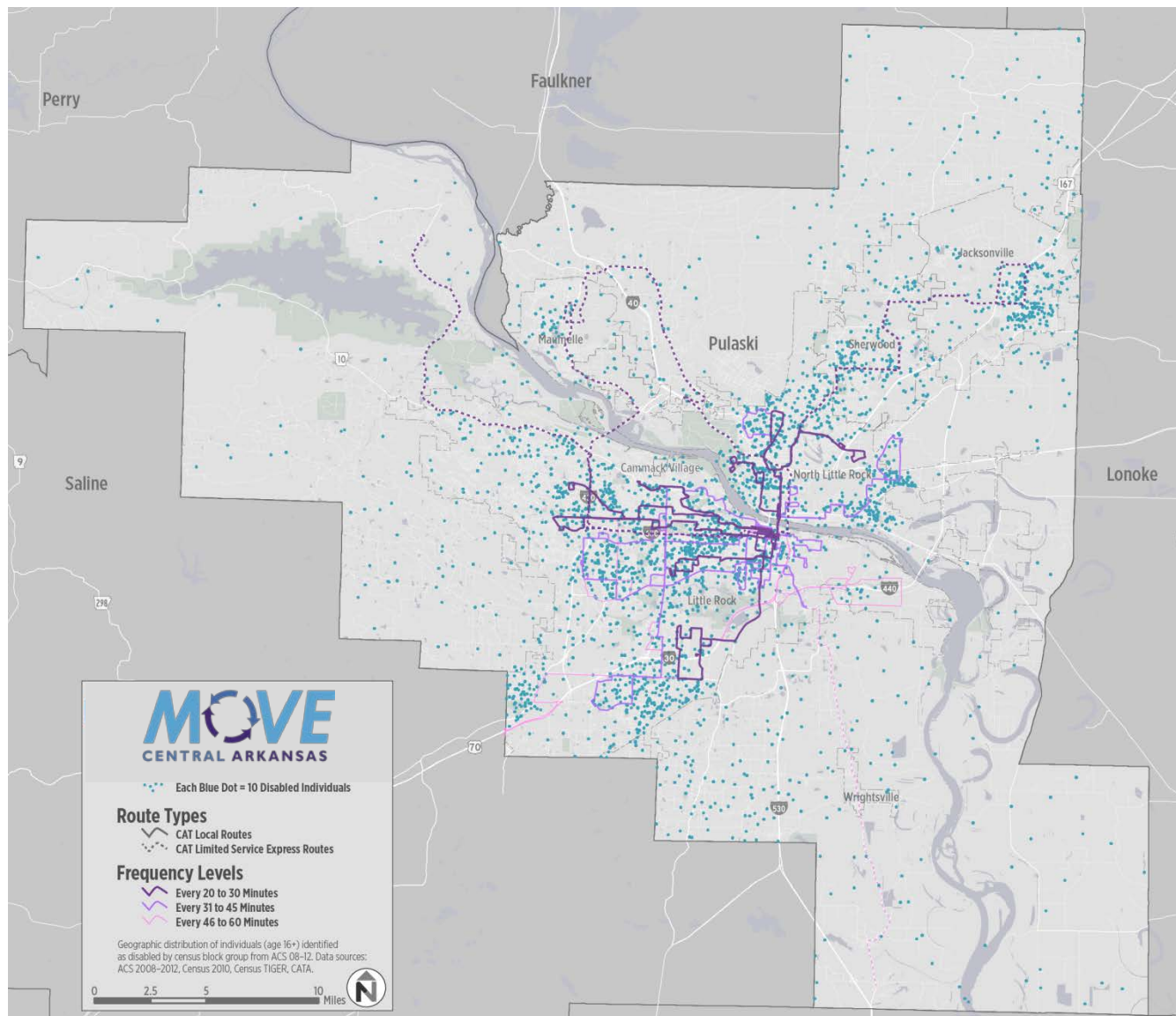- At end of game, we will compare maps – and your choices
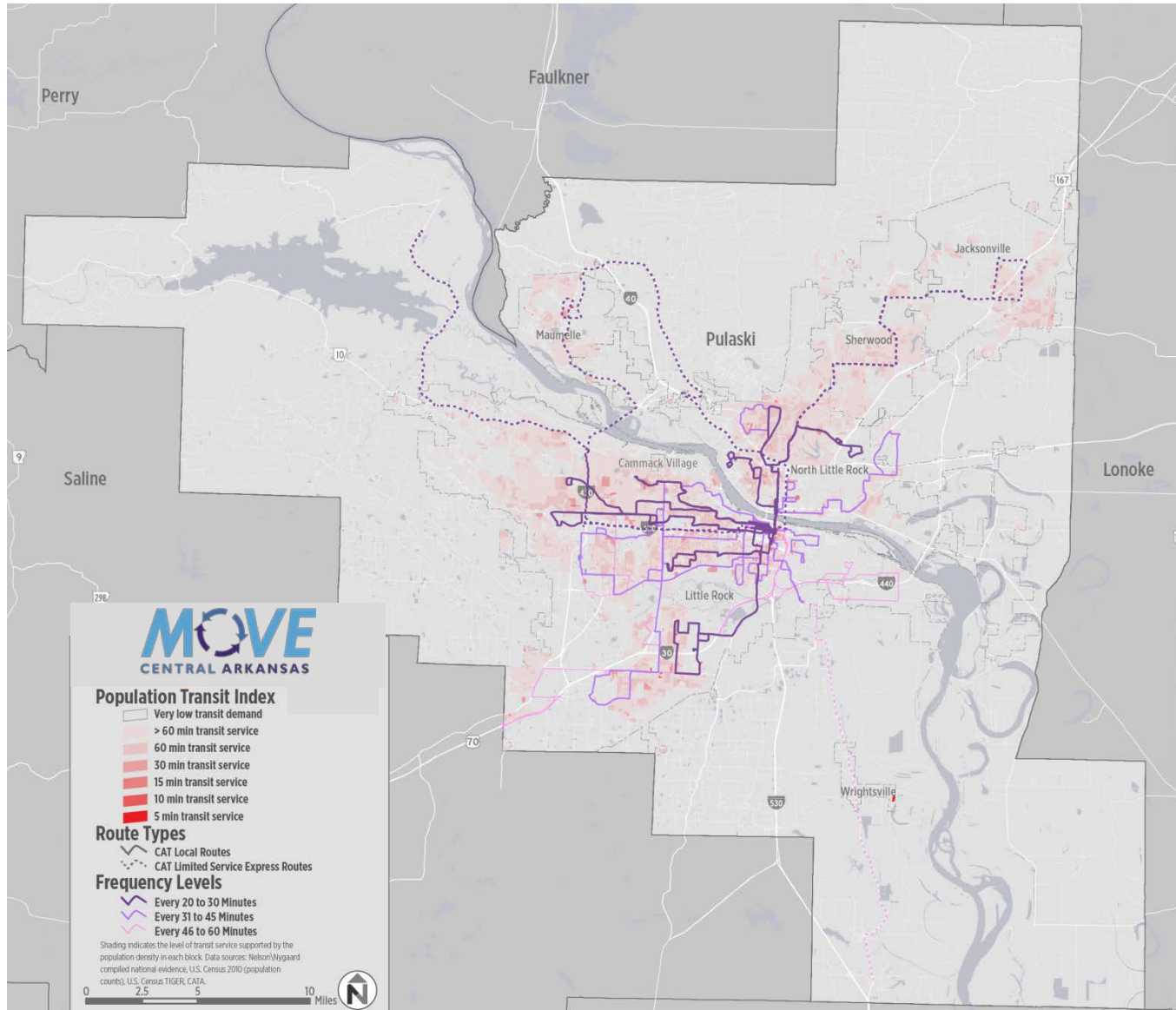
Information to Consider – Low Income Population
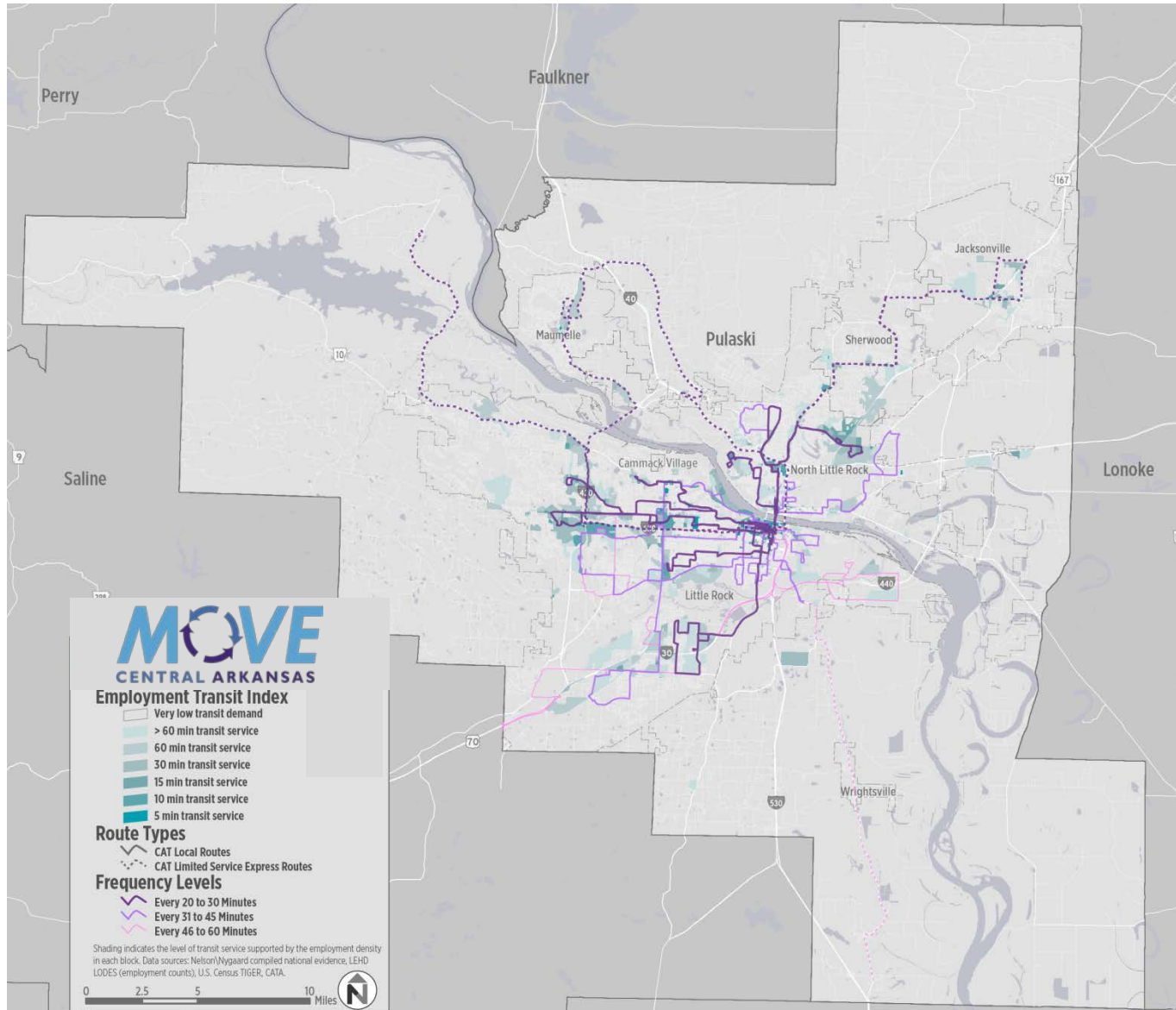
Information to Consider - Older Adults
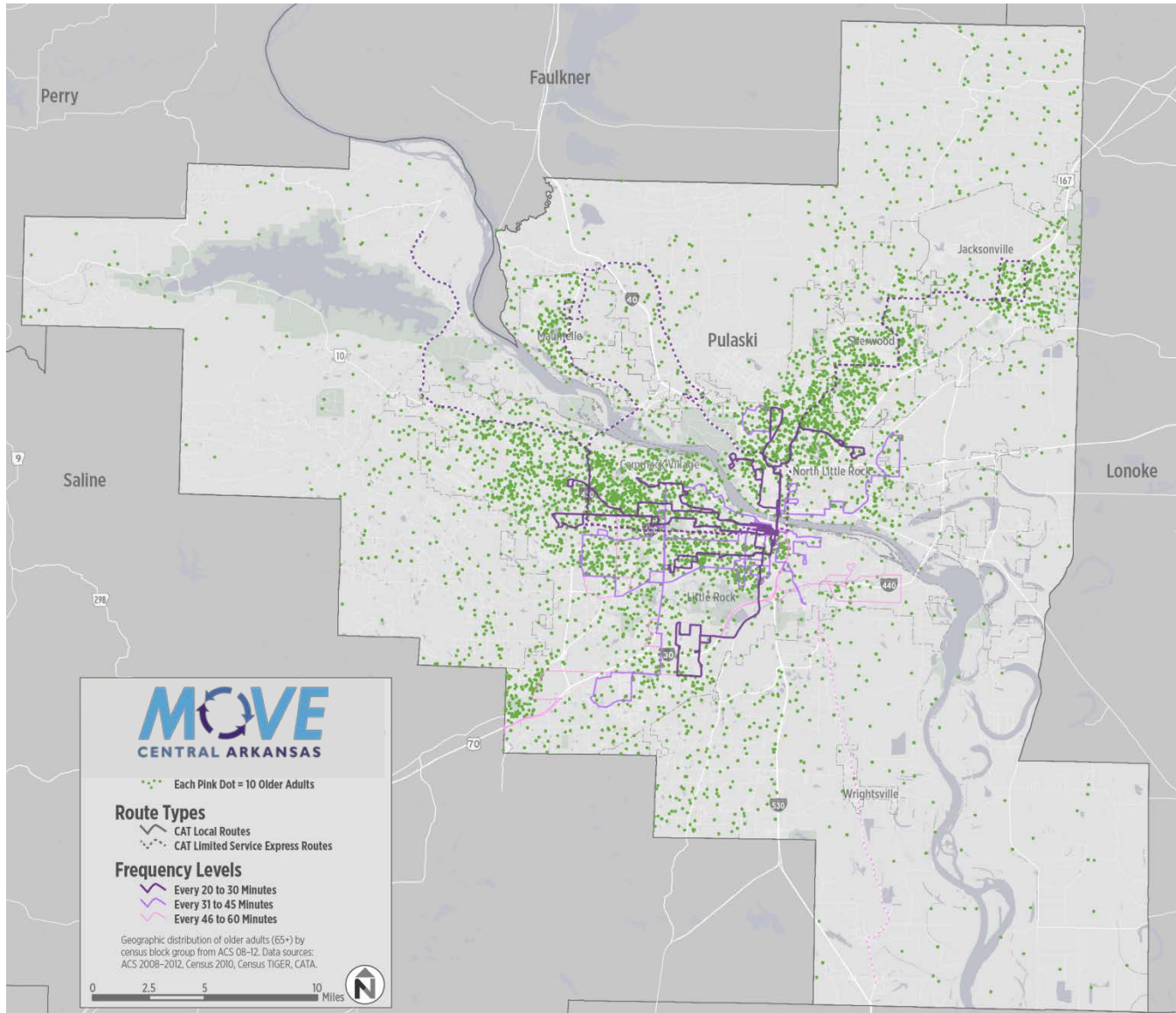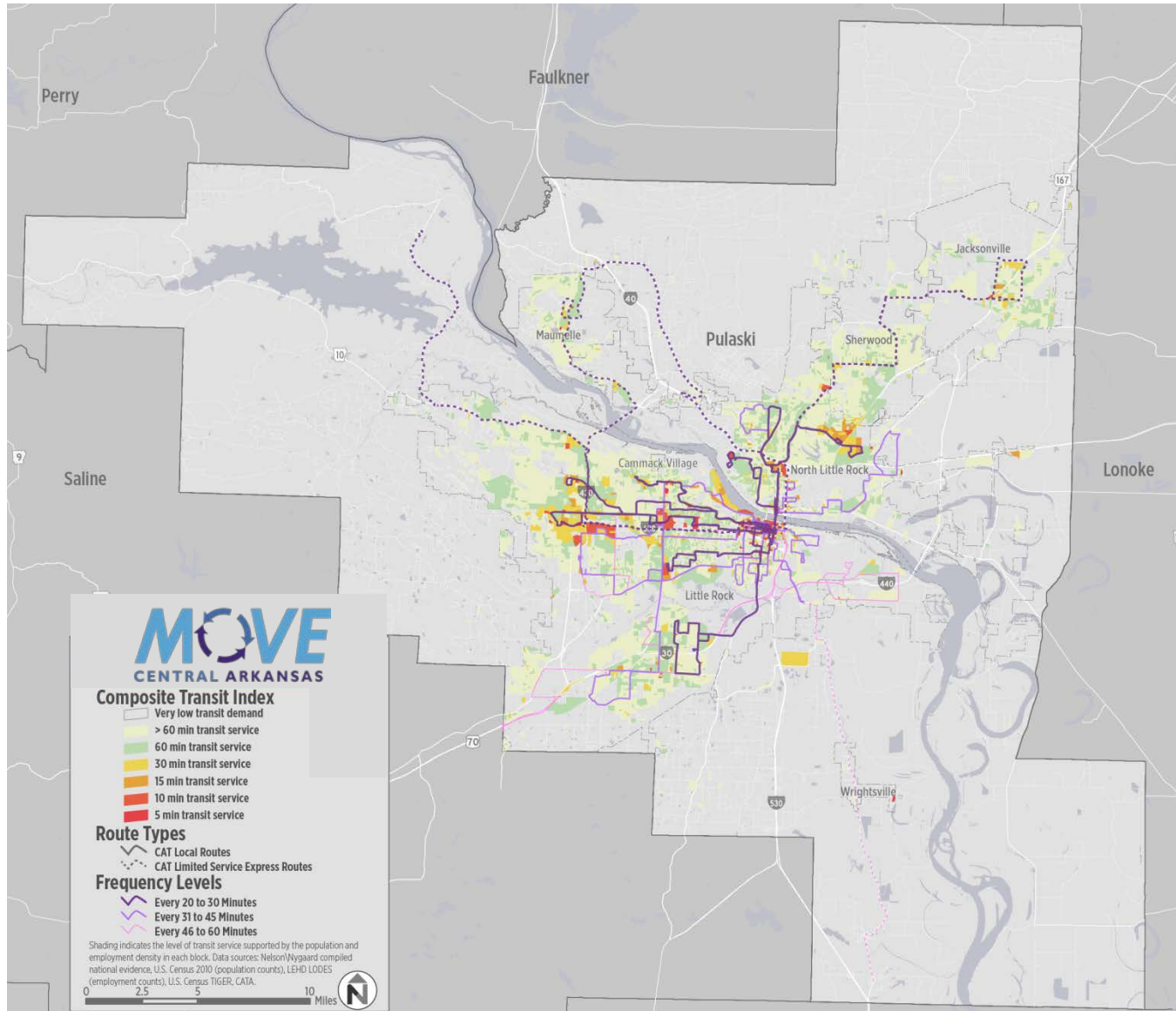
Information to Consider – People with Disabilities

Information to Consider - Population Density

Information to Consider - Employment Density

Population and Employment Density