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)
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- 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
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- 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)
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- 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):
  - **Local** = numbers
  - **Rapid** = R# (Rapid routes that overlap with locals should be given the same number)
  - **Community Circulators** = CC# (Use arrows to show direction of travel)
  - **Express Bus All Day** = X# (Runs on freeways and highways anywhere in the service area)
  - **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.
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- 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)?
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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
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- 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

MOVE CENTRAL ARKANSAS

Composite Transit Index
- Very low transit demand
  - > 60 min transit service
  - 60 min transit service
  - 30 min transit service
  - 15 min transit service
  - 10 min transit service
  - 5 min transit service

Route Types
- CAT Local Routes
- CAT Limited Service Express Routes

Frequency Levels
- Every 0 to 30 Minutes
- Every 31 to 45 Minutes
- Every 46 to 60 Minutes

Legend indicates the level of transit service supported by the population and employment density in each block. Data sources: NTD/NGD; compiled national evidence, U.S. Census 2010 (population counts), LEO (2015 employment counts). U.S. Census TIGER/ torrent.