ABQ RIDE
Public Transit & Climate Change

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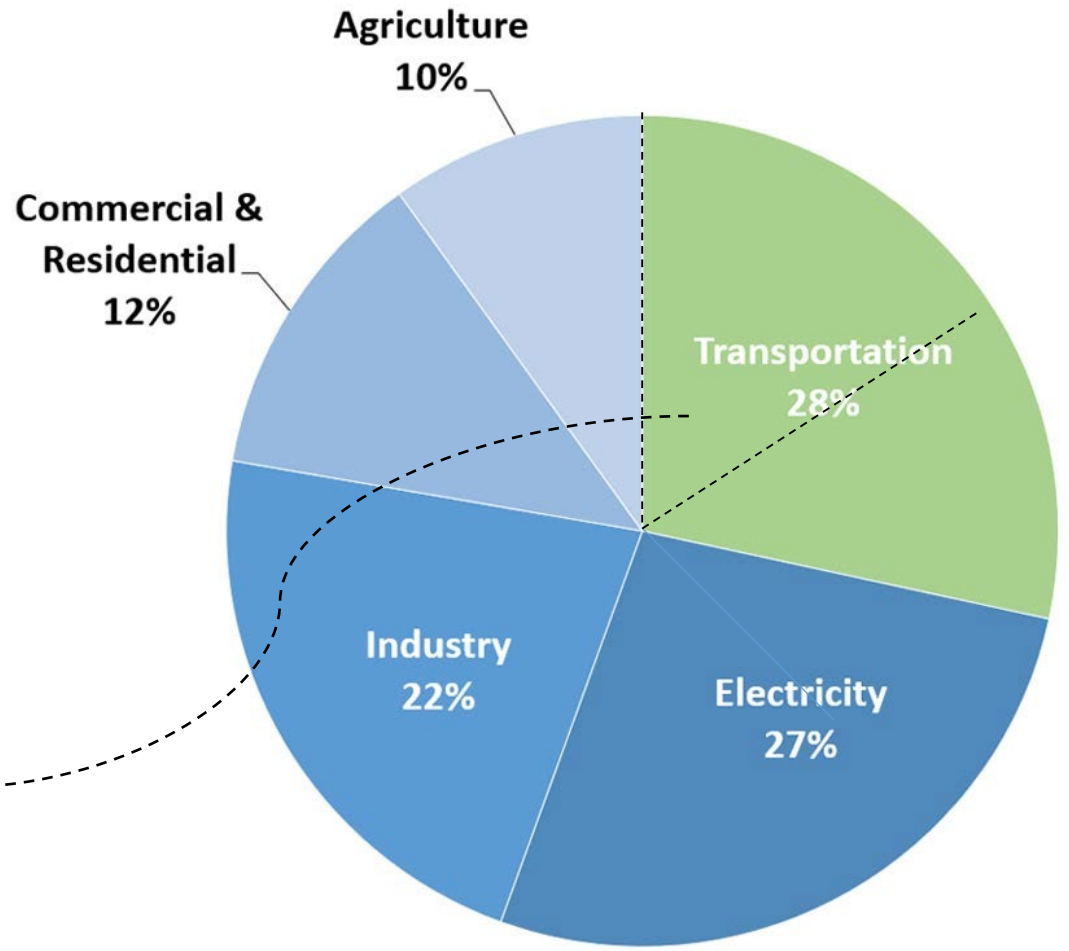
Opportunities

- Increase ridership
- Improve fuel efficiency
  - To help address the transportation component of greenhouse gas emissions…
  - *…with limited resources*

"Roughly 17 percent of U.S. greenhouse gas emissions comes from cars and light-duty trucks (including pickup trucks, SUVs, and minivans)."

Source: EPA Smart Growth & Transportation, 2017 data, https://www.epa.gov/smartgrowth/smart-growth-and-transportation

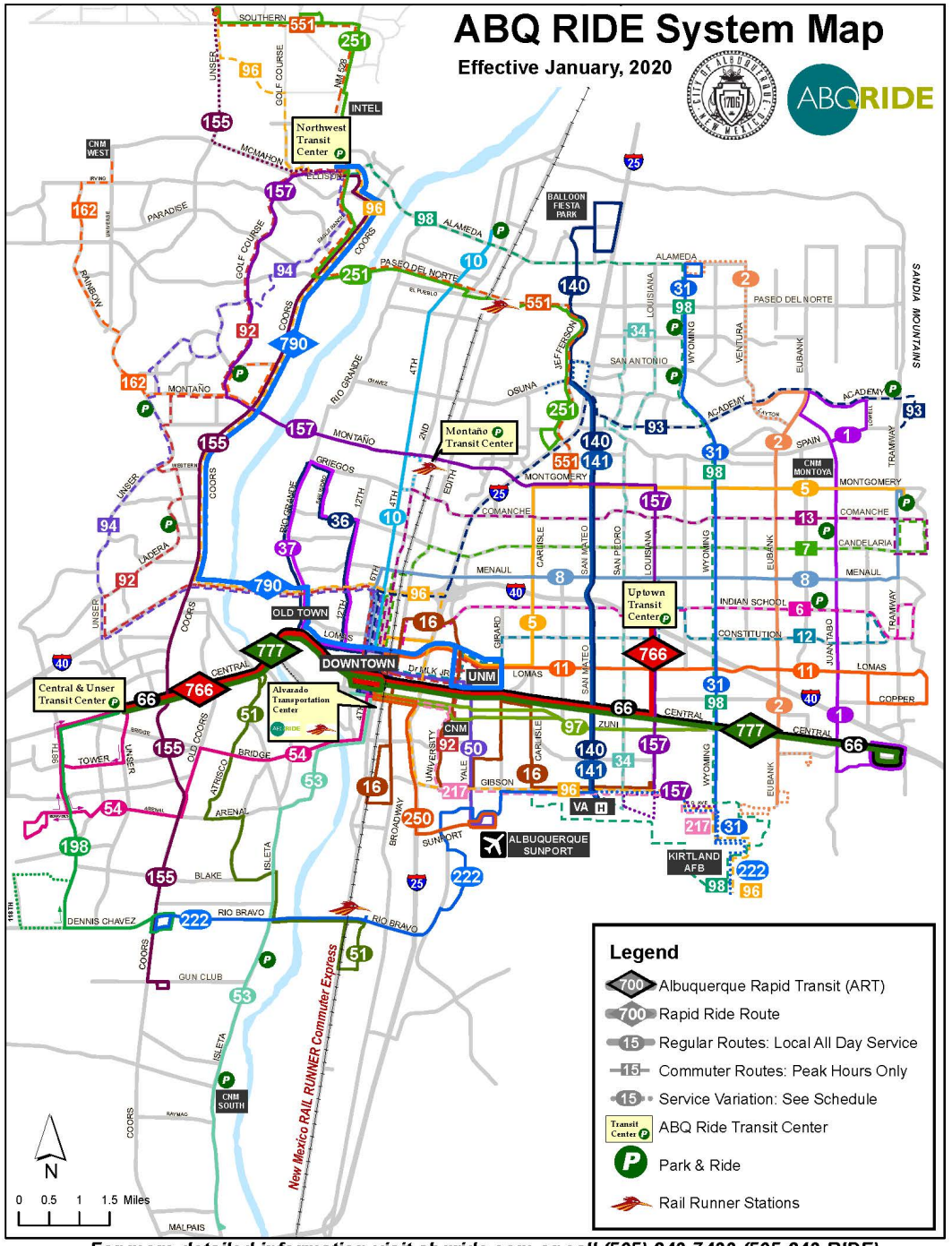
Total U.S. Greenhouse Gas Emissions by Economic Sector in 2018



U.S. Environmental Protection Agency (2020). Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2018

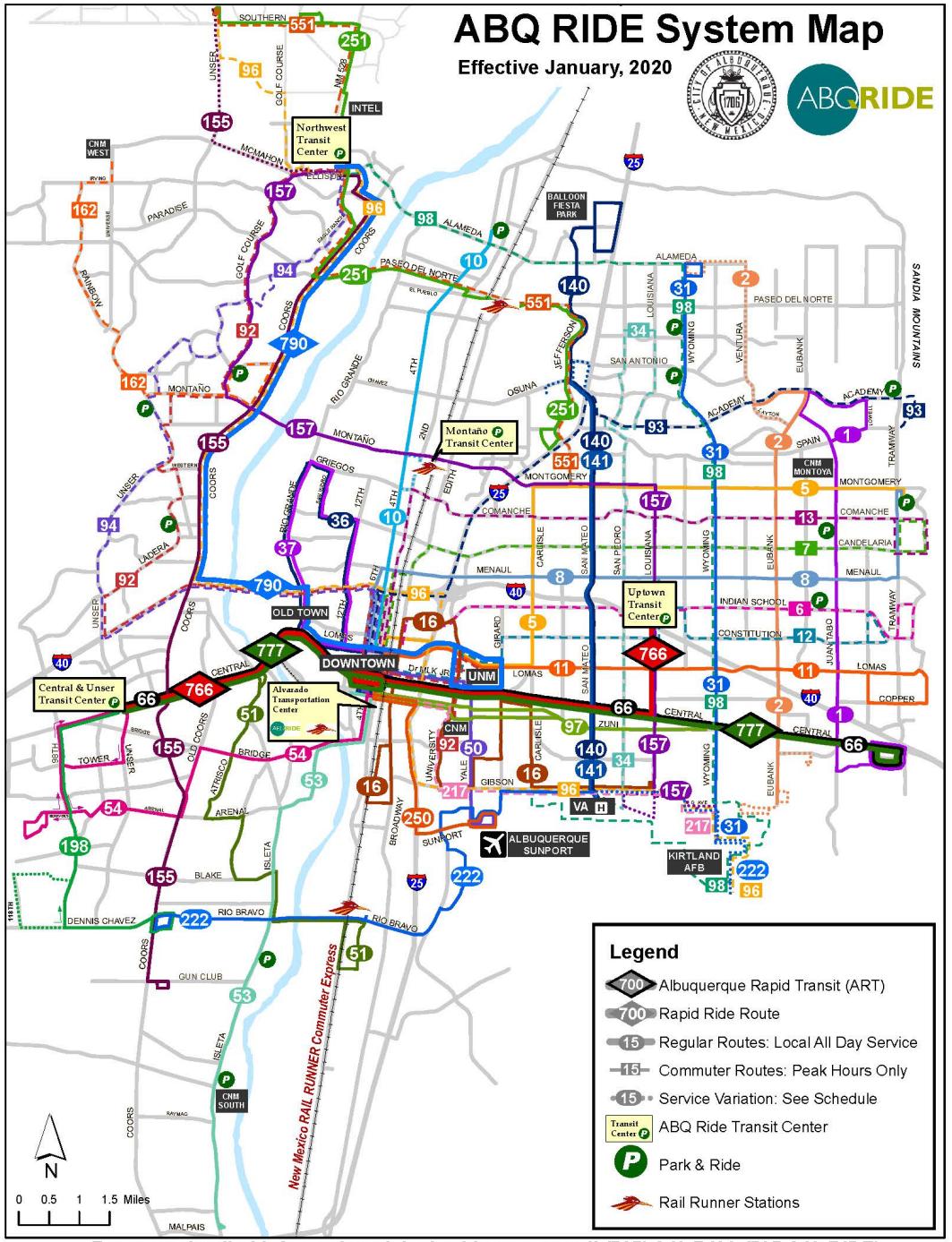
ABQ RIDE

- 40 routes
  - Weekday service:
    - 1,570 trips
    - 134 peak buses (fleet = 162)
    - 1,450 hours in service (+100 hrs. “deadhead”)
    - 19,000 miles in service (+3,500 “deadhead”)
  - Sats = ~½ weekdays
  - Suns = ~½ Saturdays
- Main types of service
  - Commuter – peaks only
  - Local – all day
  - ART & ARTx (formerly Rapid Ride) – all day
- Sun Van – door-to-door ADA service



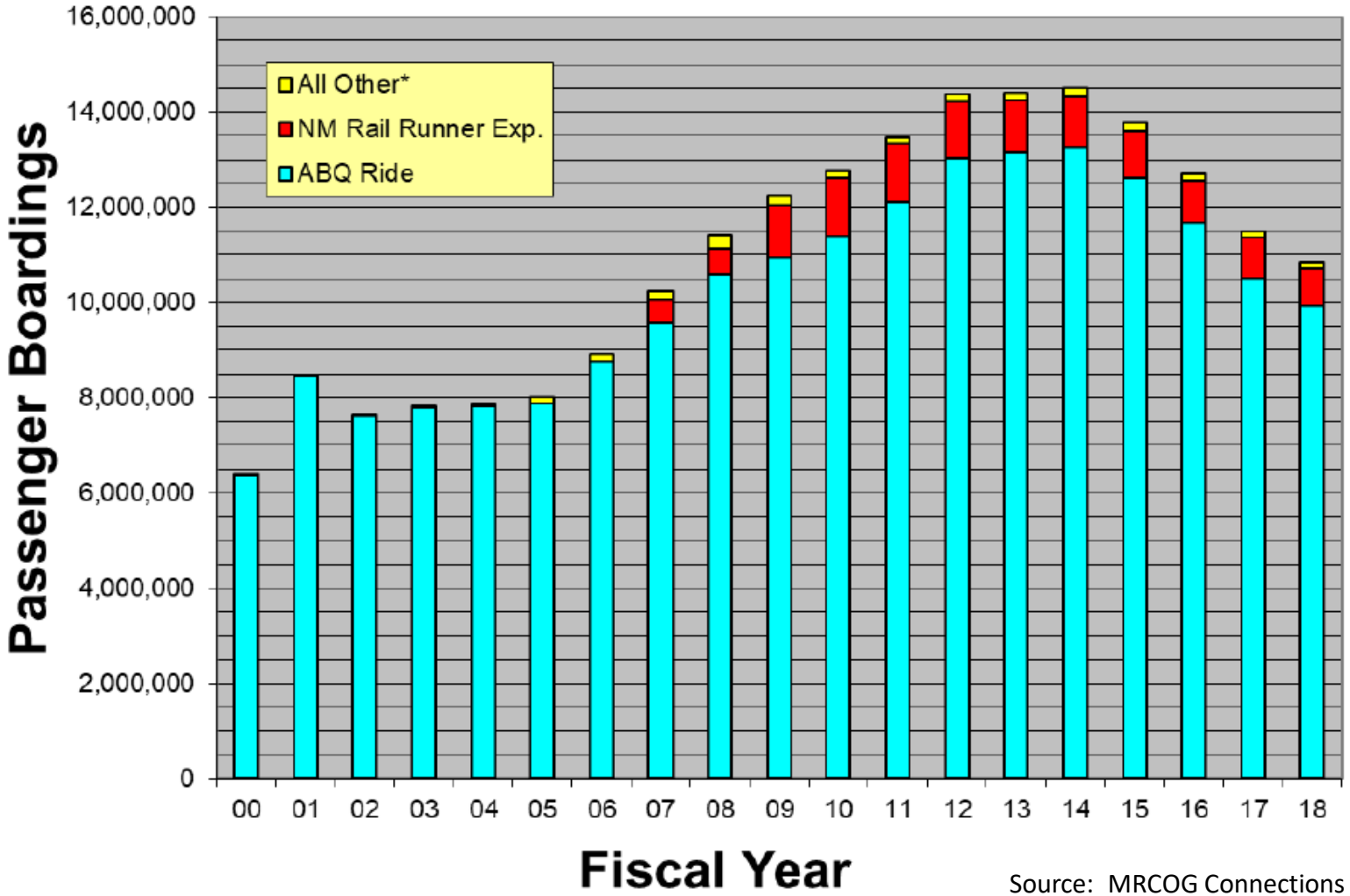
ABQ RIDE

- Funding – City taxes pay for most of service; fares pay for ~8%
- County pays for all or part of routes that go out of the City into the County
  - #10 North Fourth St.
  - #51 Atrisco
  - #53 Isleta
  - #54 Bridge-Westgate
- Rio Metro pays for all or part of routes that go into Rio Rancho or specifically connect to the Rail Runner
  - #96, 155, 222, 250, 251 & 551



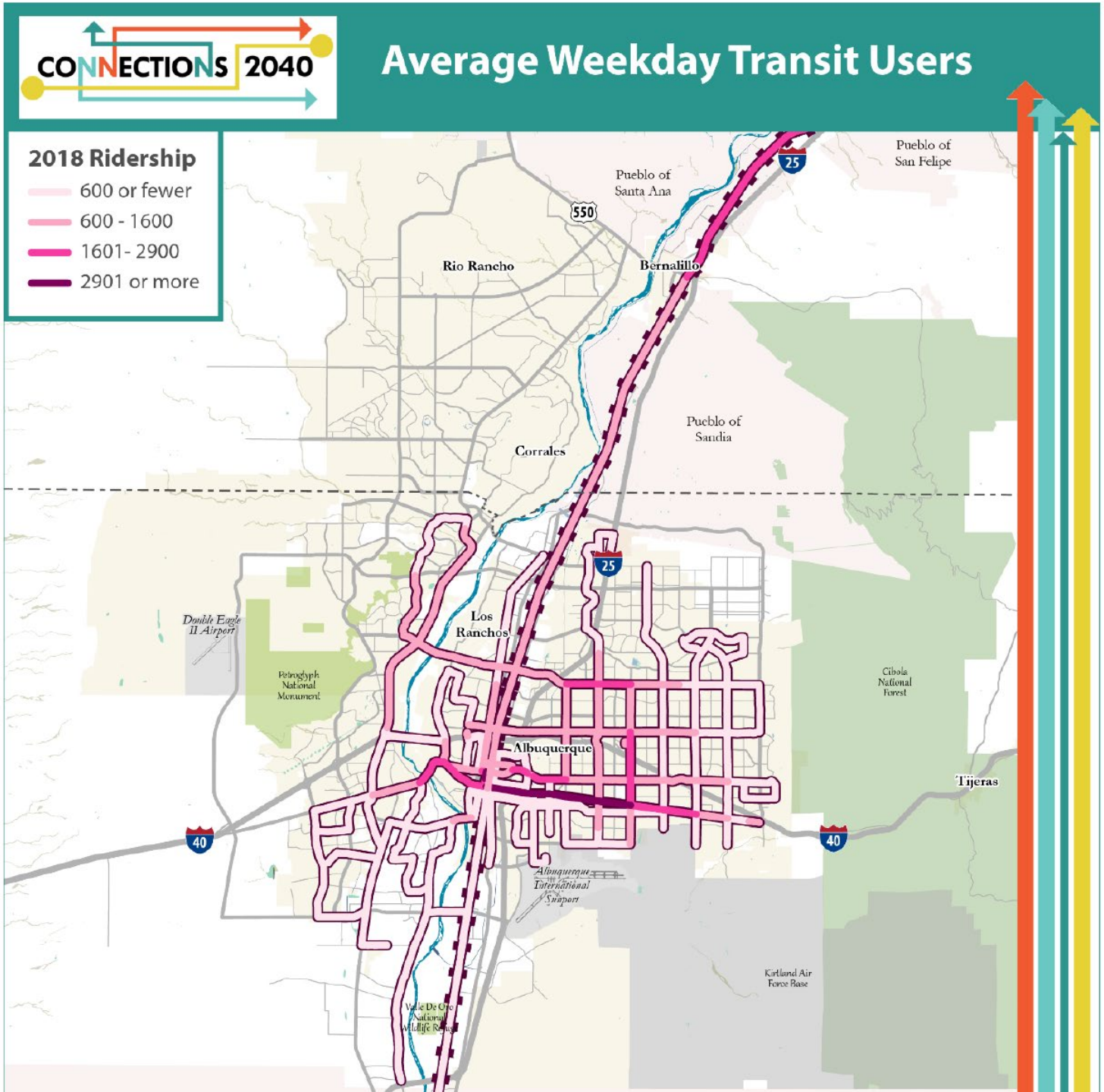
For more detailed information visit abqride.com or call (505) 243-7433 (505-243-RIDE)

Annual Ridership by Service Provider



Source: MRCOG Connections 2040 Metropolitan Transportation Plan

ONE ALBUQUERQUE transit



Source: MRCOG Connections 2040 Metropolitan Transportation Plan

ABQRIDE

Increasing Ridership

- More people in the vehicle = less emissions per person
- Bus transit is good for environmental sustainability when enough people ride it (estimate ~8-10 riders for GHG)
- Environmental sustainability isn't the only goal of transit
- Transit service needs to balance:
  - High ridership service = climate benefits and social benefits
  - "Coverage" (low ridership) service = social benefits but not climate benefits (Coverage may be geographic or temporal.)

Increasing Ridership

- Ridership recipe:
  - Land use (market/demand)
  - Transit service provided
  - Cost to potential riders (time/money)

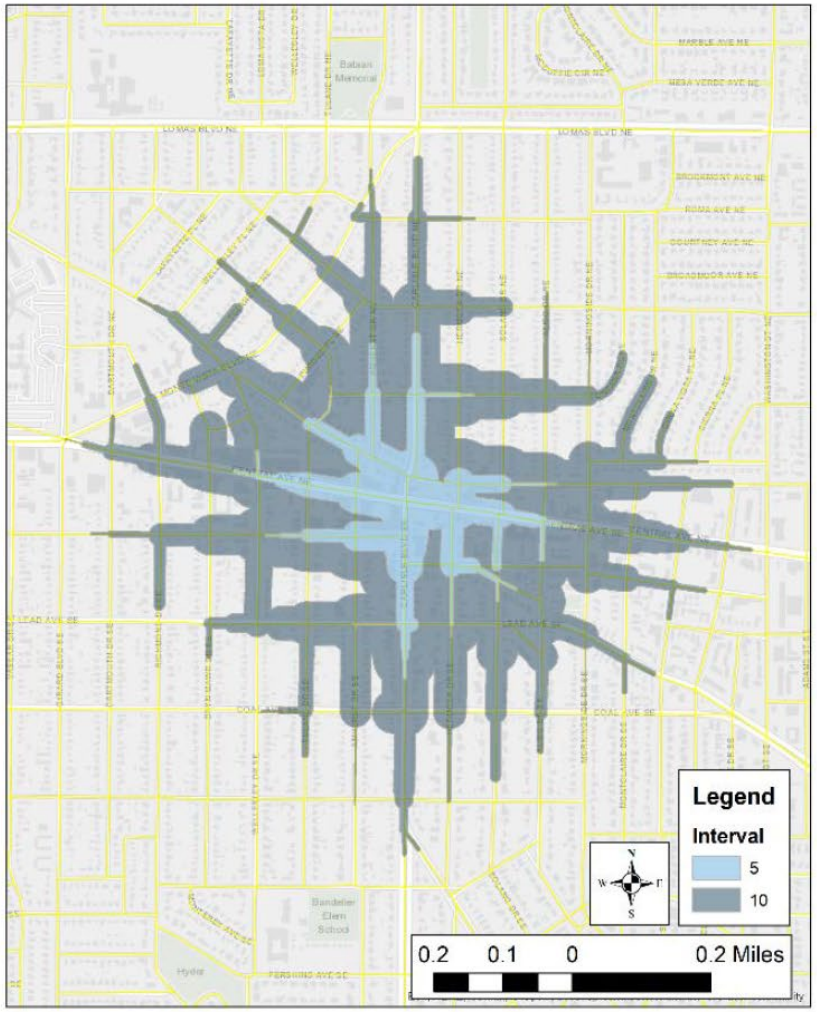
- Our service is budget-constrained, so focus on optimizing use of current resources

Land use = market

- More people who can reach bus stops *on both ends of their trips* = more riders. This relies on:
  - # people & destinations within walking distance (density & street layout)
  - Walkability: sidewalks, ease of crossing streets – safety, comfort, accessibility
  - Park & rides, bike & ride, drop-offs can mitigate low density
  - Variety of destinations – very few generate a lot of demand alone
  - Paid parking!
- **Land use good for transit is also good for other non-auto modes**

Impact of street/walking network

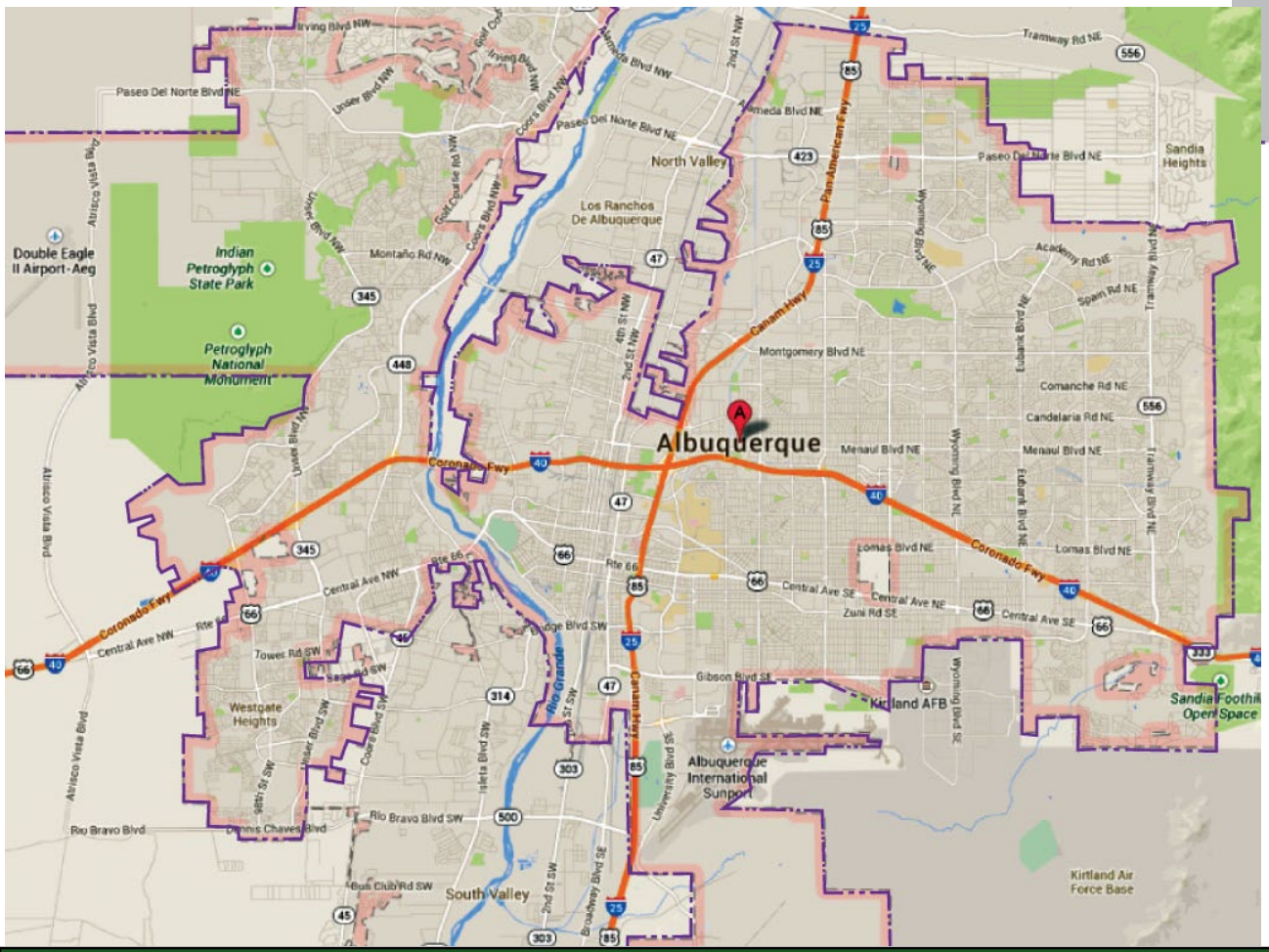
5 and 10 minute walk from Central Ave. and Carlisle Blvd.

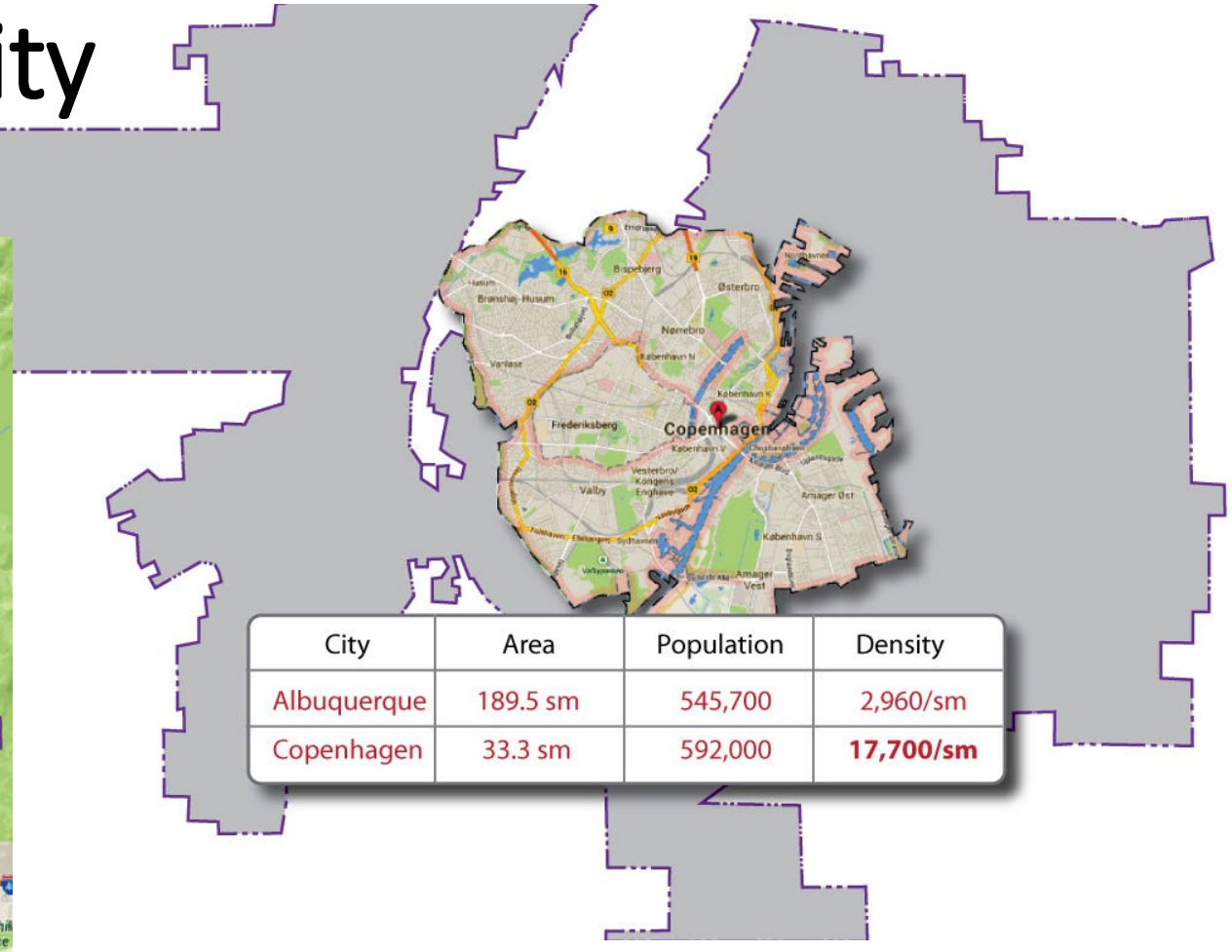


5 and 10 minute walk from N.M. 528 and High Resort Blvd.

Source: MRCOG Connections 2040 Metropolitan Transportation Plan

Importance of density





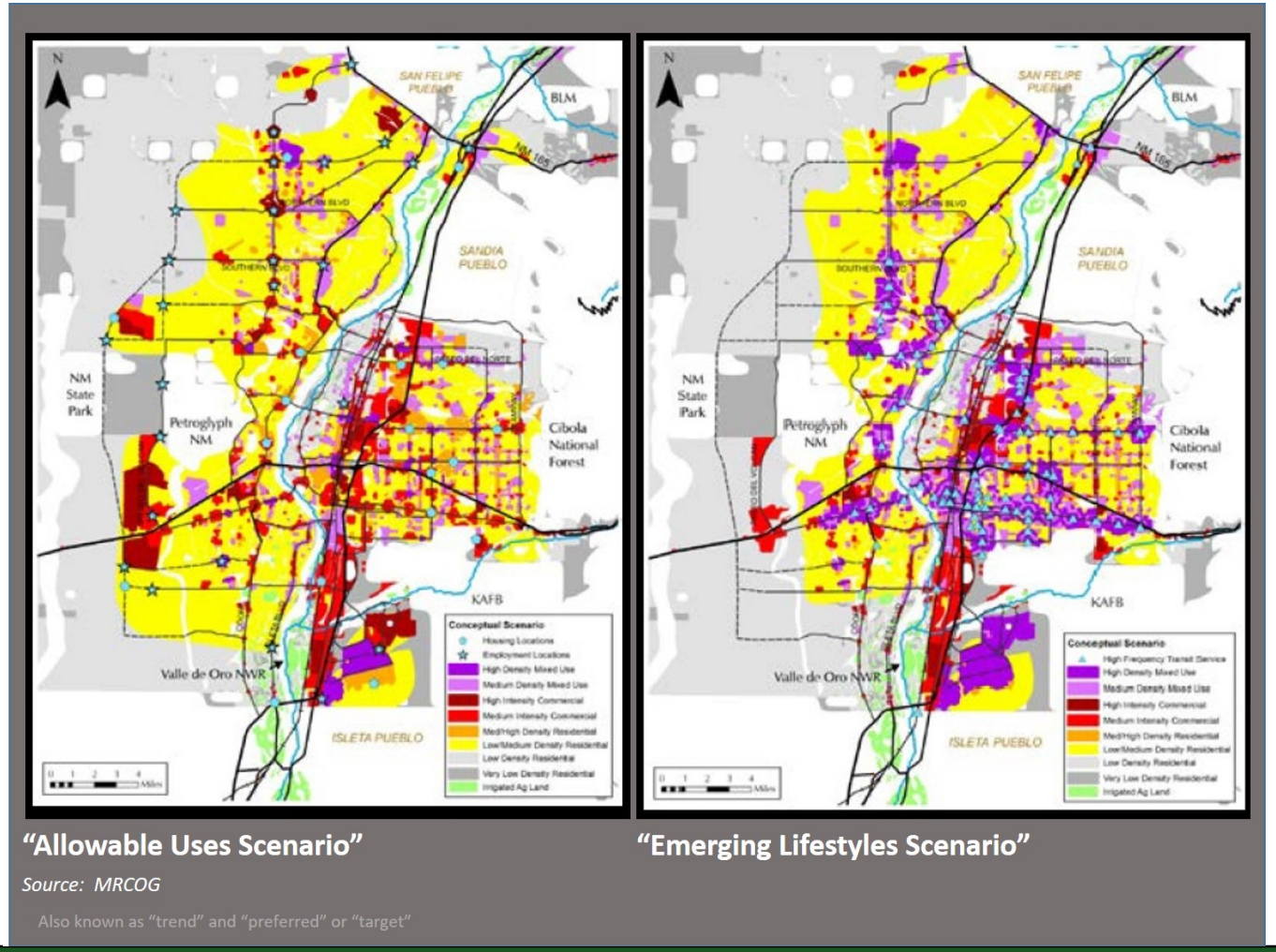
City	Area	Population	Density
Albuquerque	189.5 sm	545,700	2,960/sm
Copenhagen	33.3 sm	592,000	**17,700/sm**

Results of density

Copenhagen

Source: Inhabit.com

Regional & local efforts to encourage infill



"Allowable Uses Scenario"

"Emerging Lifestyles Scenario"

Source: MRCOG

Also known as "trend" and "preferred" or "target"

Service

- Frequency
  - Waiting is part of travel time – including waiting for connecting buses and arriving earlier than you want. High frequency reduces waiting.
  - High frequency = you can go when you want (without needing to check a bus schedule) – 15 minutes or better
  - Frequency is expensive.
- Hours of service
  - Does the bus run early enough or late enough for both going and returning to work/other purpose?
  - Does it run on weekends? Holidays?
  - Off-peak service is another form of “coverage” – likely to be low ridership.

Other service attributes

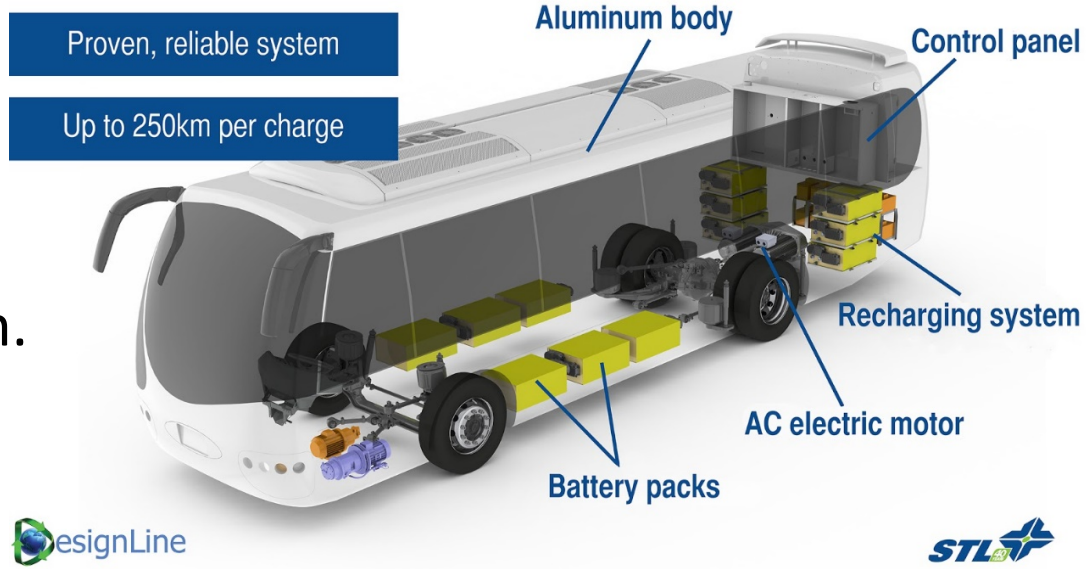
- In-vehicle travel time
  - How direct is the route? (Deviations serve one group of riders at the expense of others.)
- Does it come when it's scheduled to?
- How easy is it to figure out when/where to go to ride?
- How much does it cost, and how easy is it to pay?
- Does it feel safe, clean and comfortable (bus stops as well as vehicles)?

Fuel Efficiency

- Current fleet primarily diesel, diesel-electric hybrid, and compressed natural gas (CNG)
  - Note that buses often operate all day – up to 20 hours/300 miles
  - Not like a household car
- New, more efficient technologies - promise and problems to overcome
  - Battery-electric buses
  - Hydrogen fuel-cell buses

Fuel Efficiency

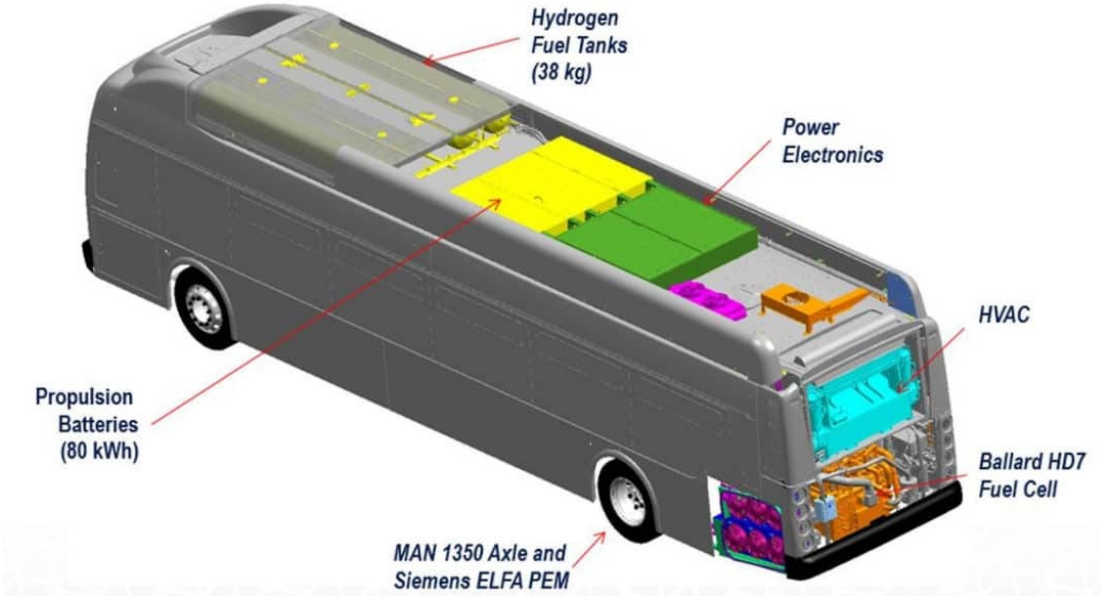
Source: Center for Transportation & the Environment



- Battery-electric buses
  - ABQ RIDE is buying 5 as a pilot program.
  - Advantages:
    - Much more energy efficient
    - No “tail-pipe” emissions & quiet
    - Require charging infrastructure – basics now installed at our Daytona facility
  - Disadvantages:
    - Cost
    - Limited range
    - Battery degradation making it worse
    - Not sufficient for ABQ RIDE all-day routes without on-route charging (expensive)
    - Weather can significantly impact range
    - “Re-fueling” time

Fuel Efficiency

- Hydrogen fuel-cell buses
  - Advantages:
    - More energy efficient
    - No “tail-pipe” emissions (except water vapor) and quiet
    - Range comparable to current buses
    - Fueling time and process similar to current vehicles
  - Disadvantages:
    - Source of hydrogen short-term
    - Hydrogen fueling infrastructure long-term
    - Cost of infrastructure, vehicles, and fuel
    - Technology less widely deployed than battery-electric buses
    - Limited vehicle availability and lack of public familiarity



Source: Center for Transportation & the Environment

What you can do

- Ride the bus and encourage others (after COVID-19)!
- Keep “tabs” on Transit by participating in TAB meetings (Transit Advisory Board) – second Thurs. every month 4 – 5:30 PM
- Online at abqride.com