

# COMMUTER RAIL

System Planning



## System Review Team (SRT) Meeting



October 8, 2009

# Agenda

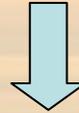
- ◀ **Overview of input from previous meeting**
- ◀ **Review of modeling results to date**
- ◀ **Approach to next round of modeling**
- ◀ **Approach to other considerations**
- ◀ **Other topics/discussion**
- ◀ **Adjourn**

# Input from the SRT on September 22

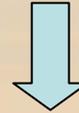
- ⟨ Evaluate ridership if some roadway improvements are not built
- ⟨ Evaluate size of catchment area around stations
- ⟨ Consider consolidation of some stations to improve travel time
- ⟨ Consider competition from other transit routes
- ⟨ Assess special events ridership
- ⟨ Potential ridership and growth impacts beyond the 2030 model horizon

# Overview of Ridership Forecasting Process

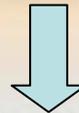
**Preliminary Model Runs –  
Maximum Service Tests**



**Base Model Runs –  
System Study Base and Interlined Scenarios**



**Sensitivity Test Model Runs**



**Systems Analysis and Corridor Prioritization**



# Base Model Runs

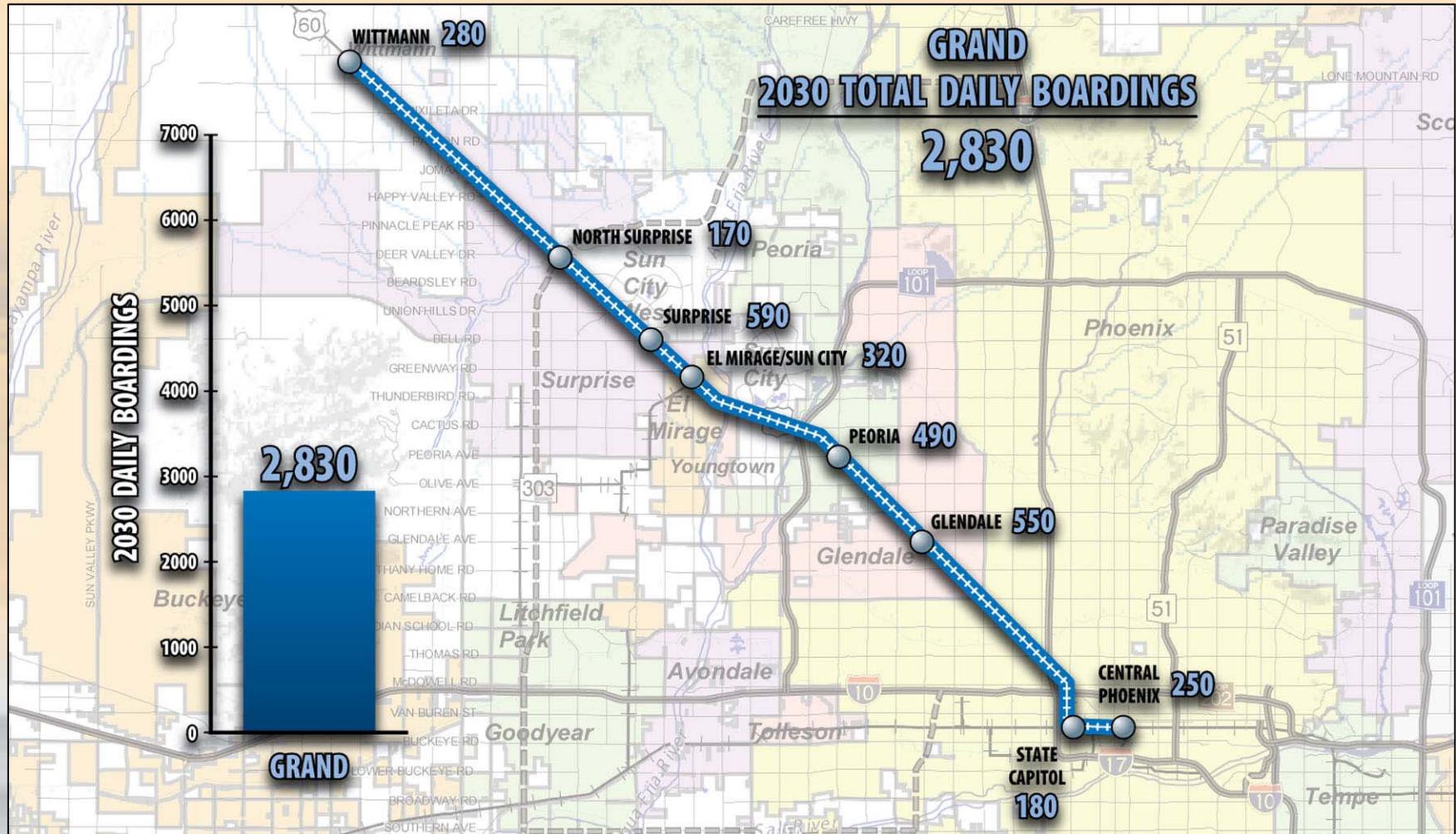
## 1–Corridor Alternatives

- Grand: Wittmann to Central Phoenix
- Yuma: Buckeye to Central Phoenix
- SE: Downtown Queen Creek to Central Phoenix
- Tempe: W Chandler to Central Phoenix
- Chandler: Sun Lakes to Central Phoenix

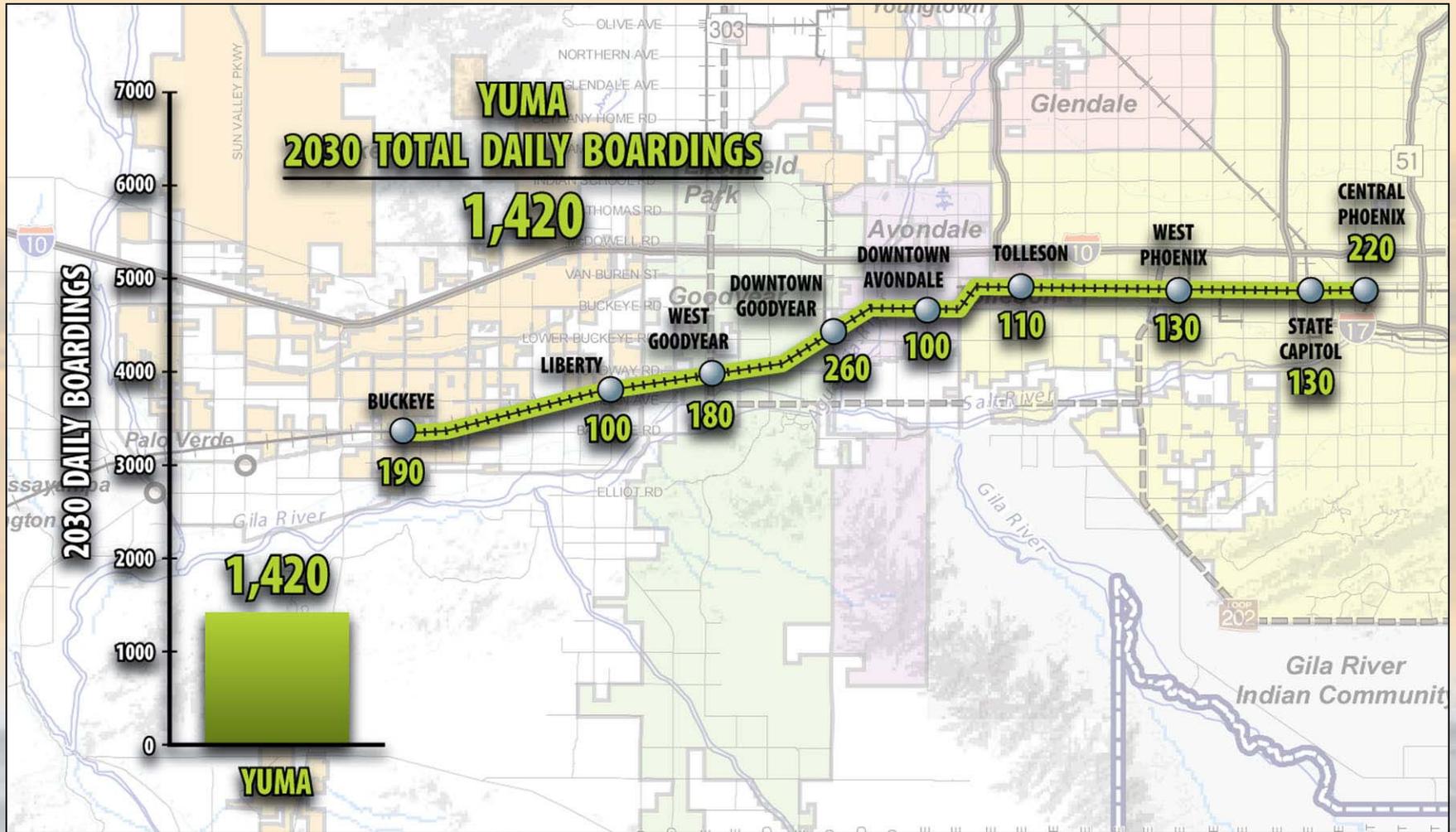
## Multi–Corridor Alternatives

- Grand – Yuma – SE
  - Grand – Yuma – SE – Chandler
  - Grand – Yuma – SE – Tempe
- ▶ Model includes 2030 RPTA/RTP improvements
  - ▶ Headways are 30 min peak/60 min off-peak
  - ▶ *\*See handout for station to station travel times*

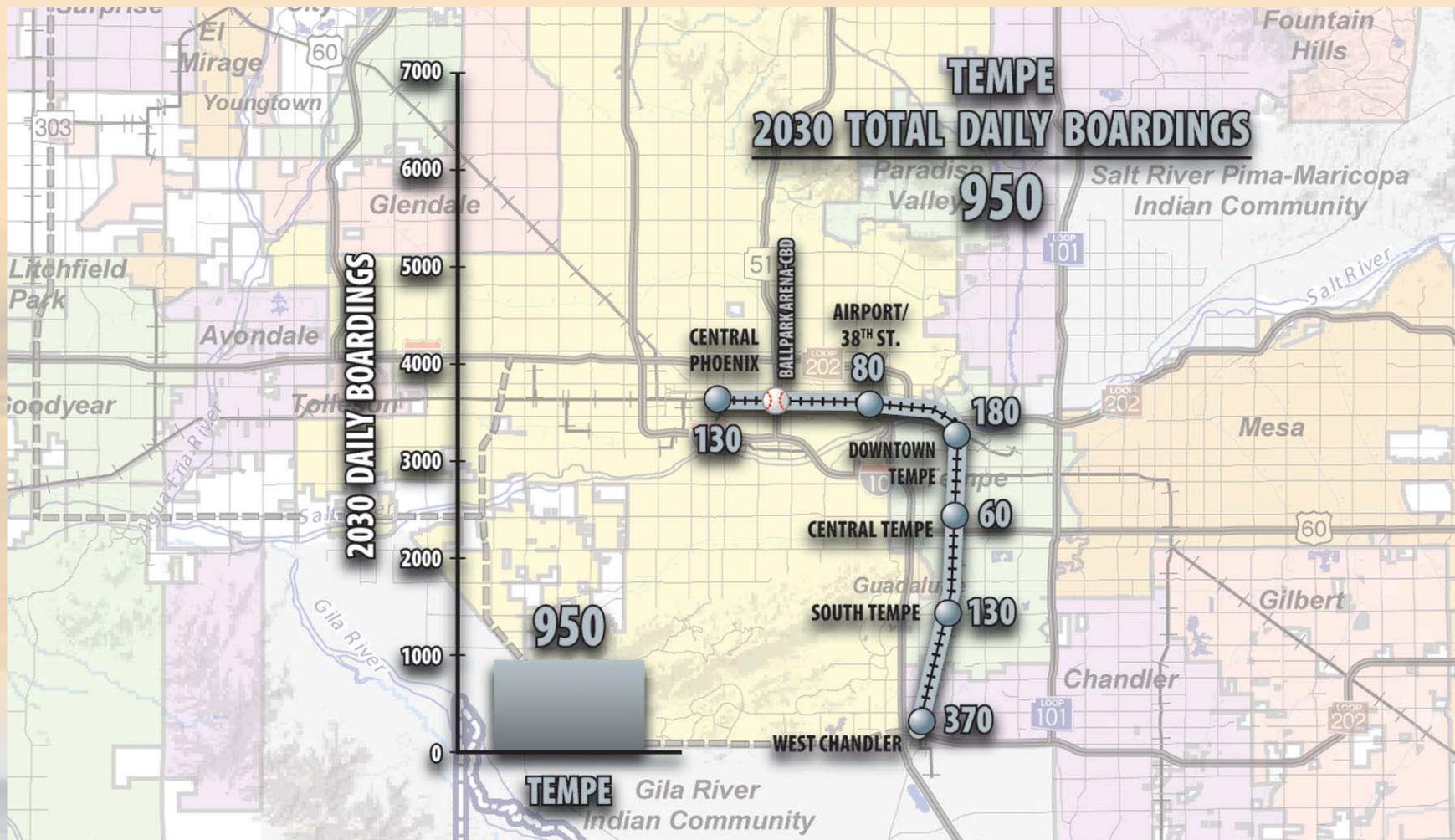
# 2030 Daily Ridership and Station Boardings GRAND



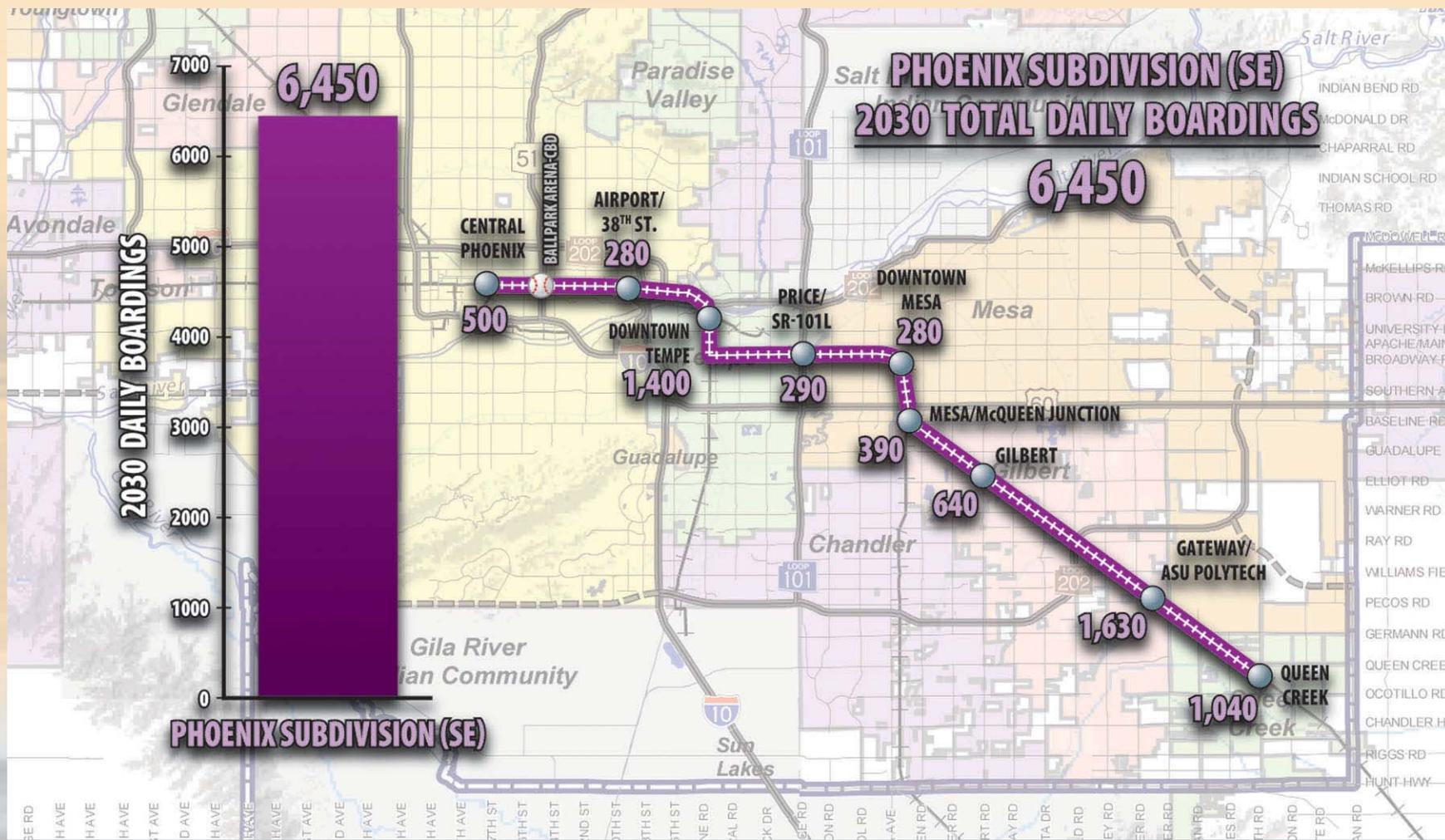
# 2030 Daily CRT Ridership and Station Boardings YUMA



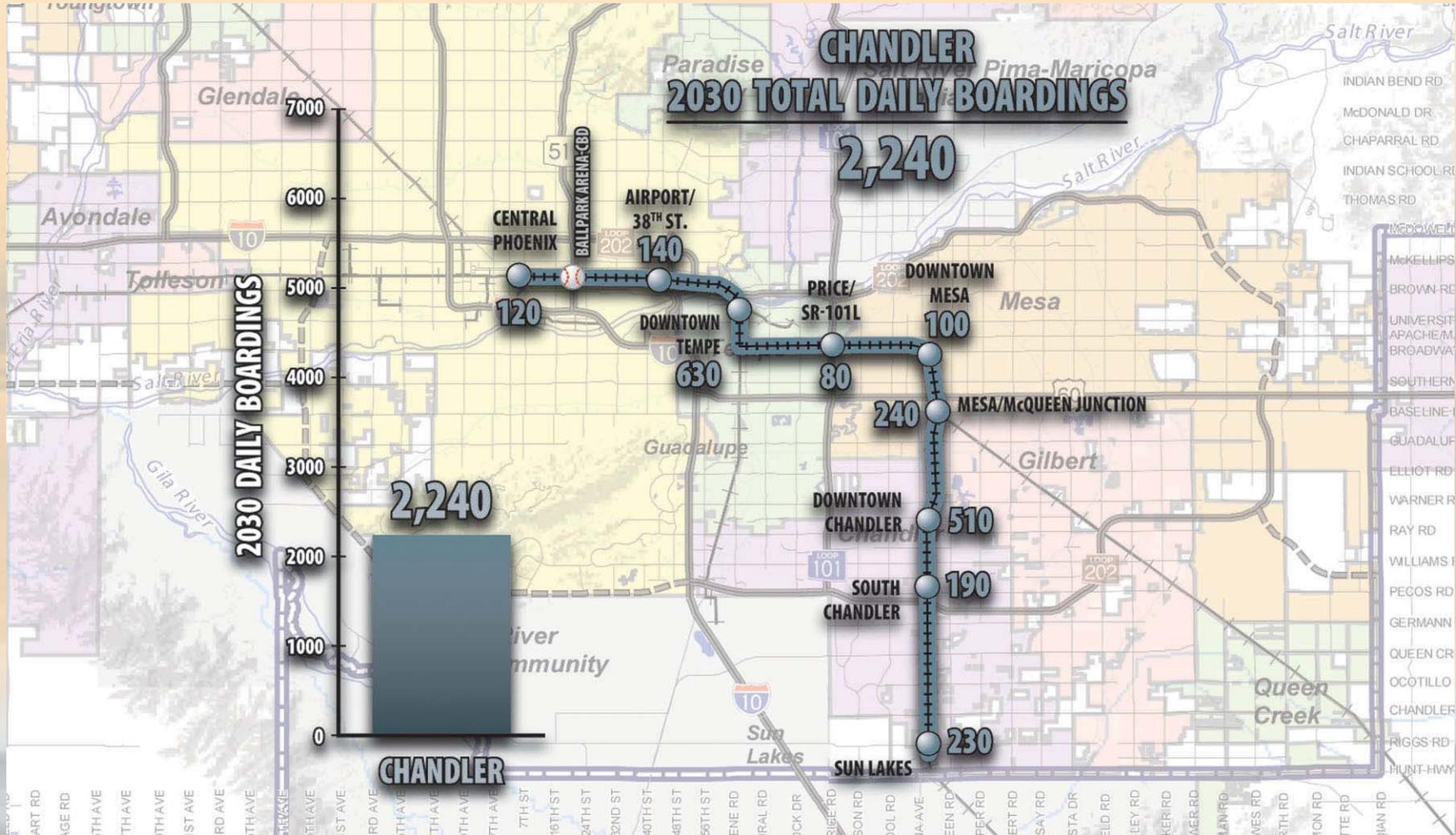
# 2030 Daily CRT Ridership and Station Boardings TEMPE



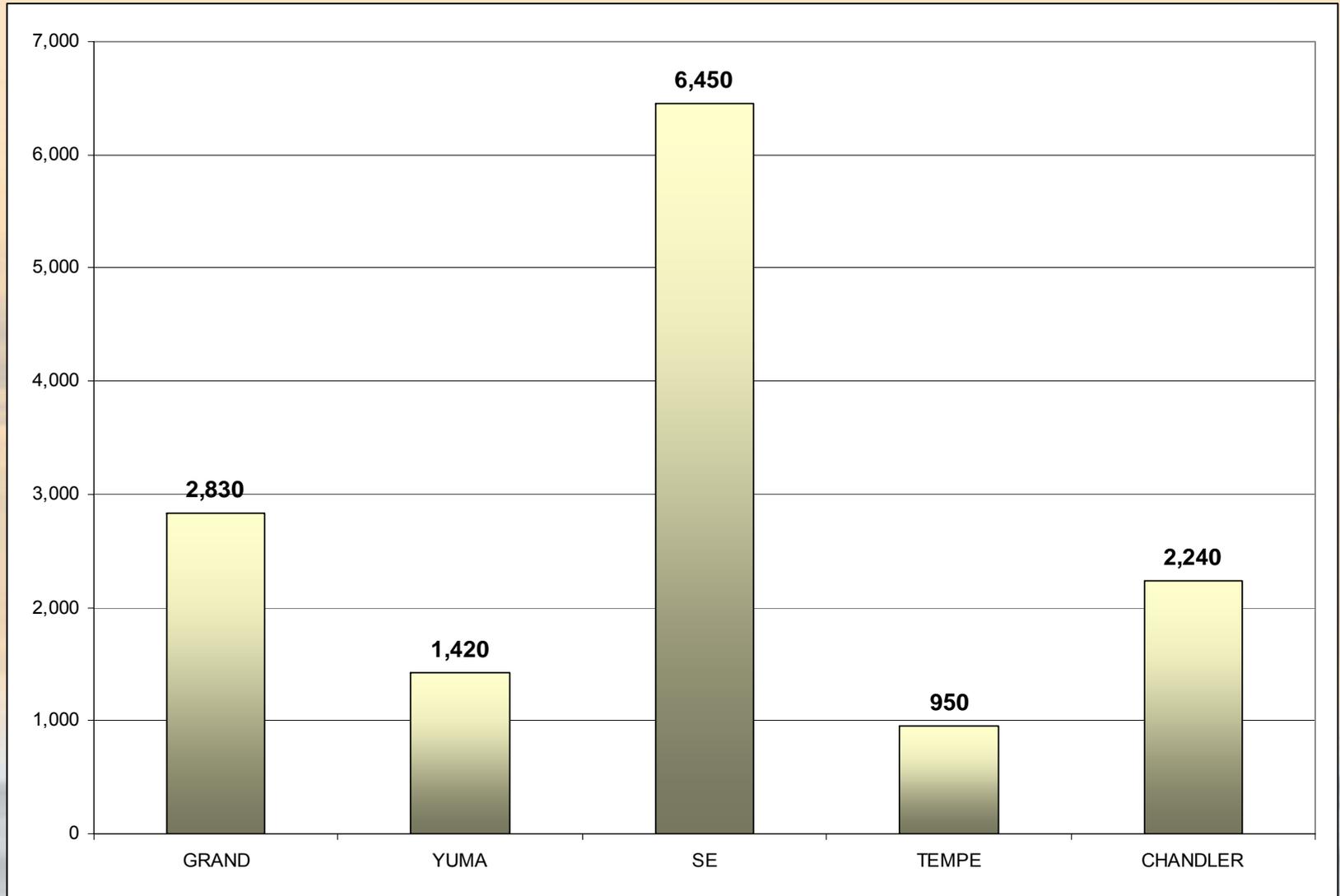
# 2030 Daily CRT Ridership and Station Boardings SOUTHEAST



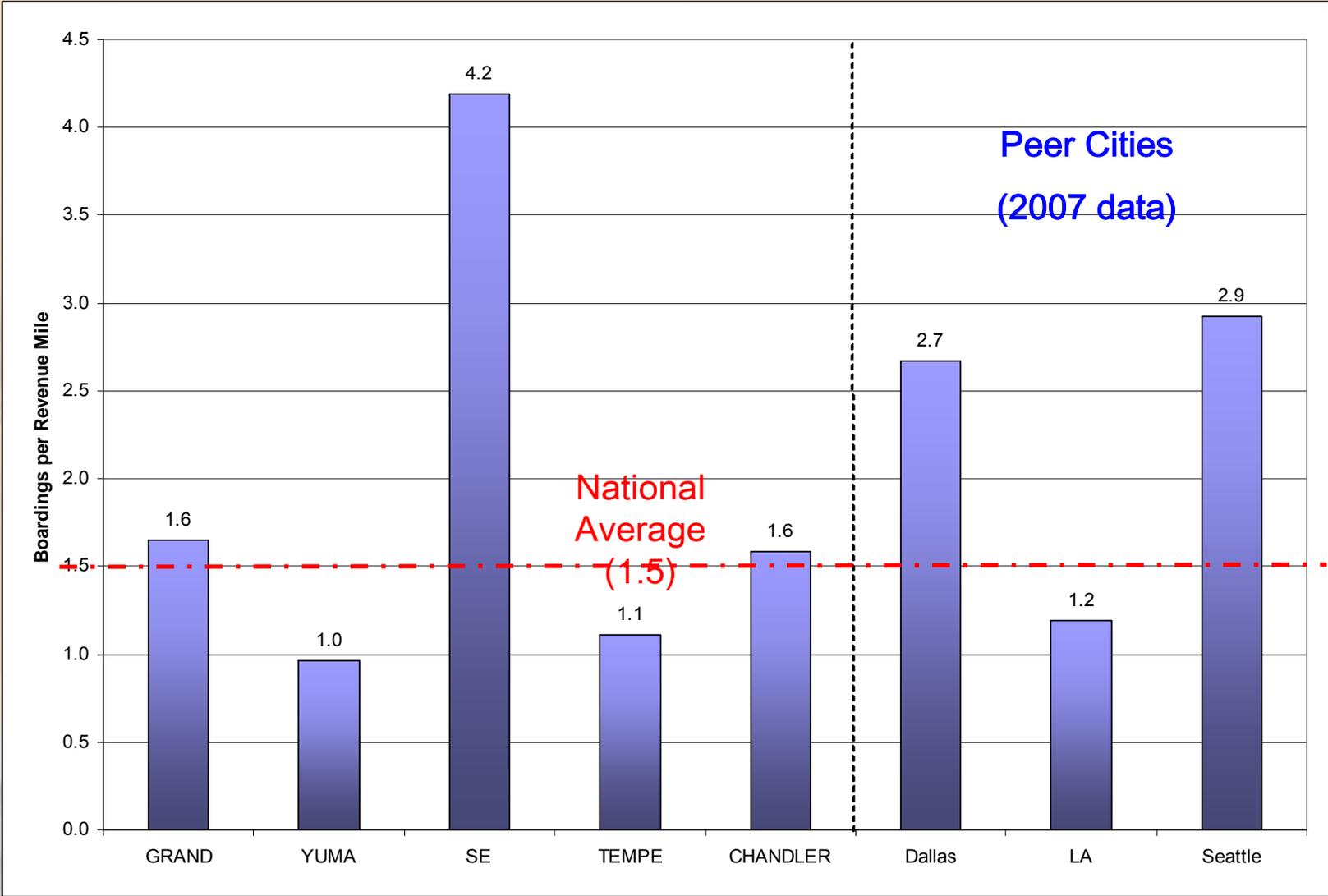
# 2030 Daily CRT Ridership and Station Boardings CHANDLER



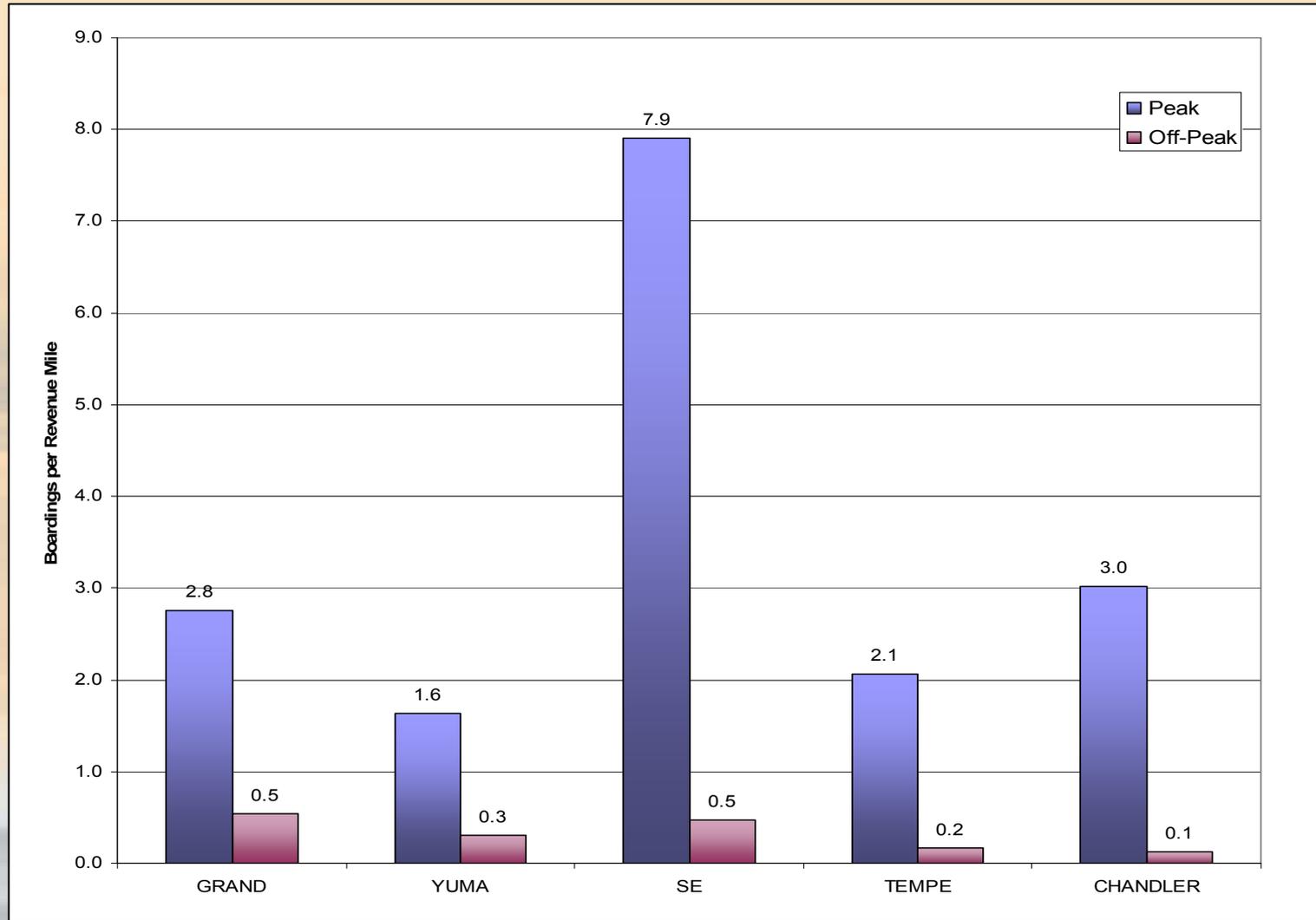
# 2030 Daily CRT Ridership



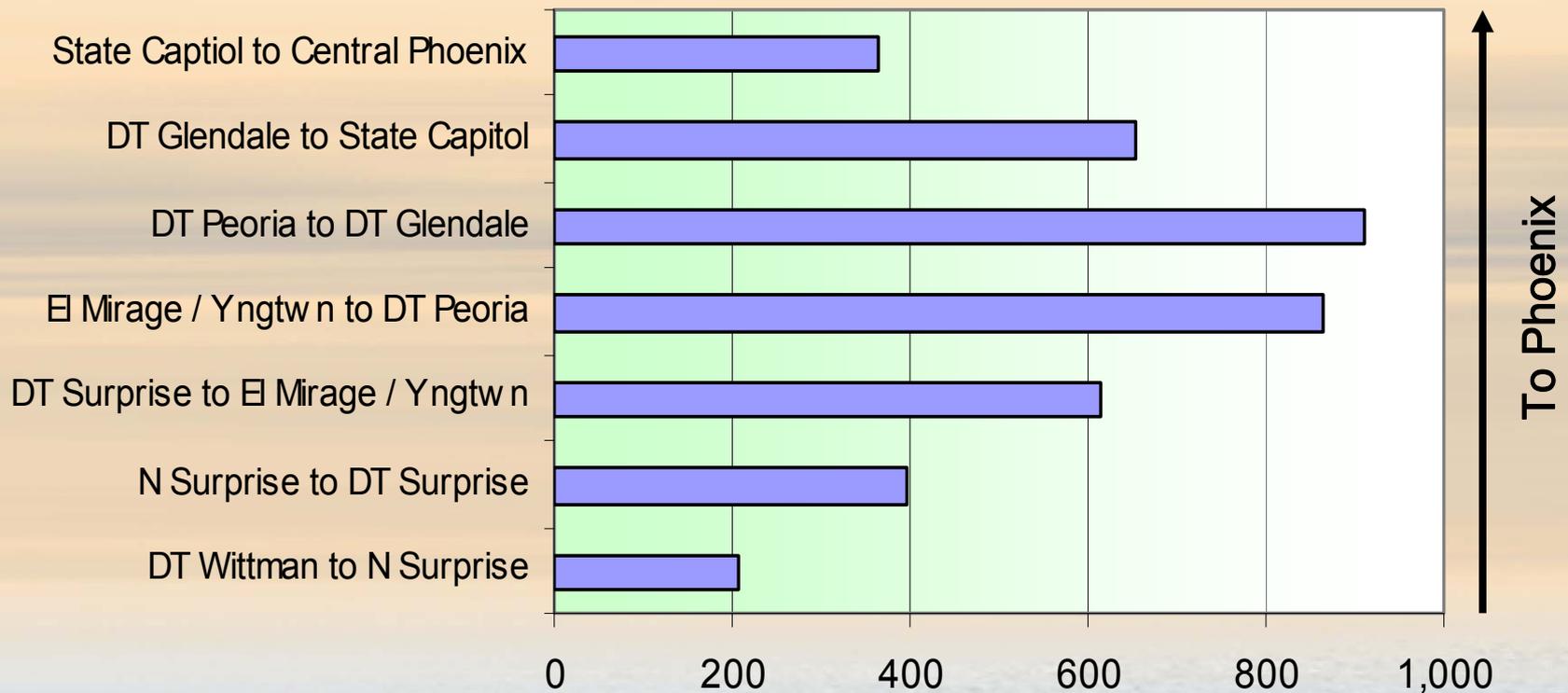
# 2030 Daily CRT Boardings per Revenue Mile



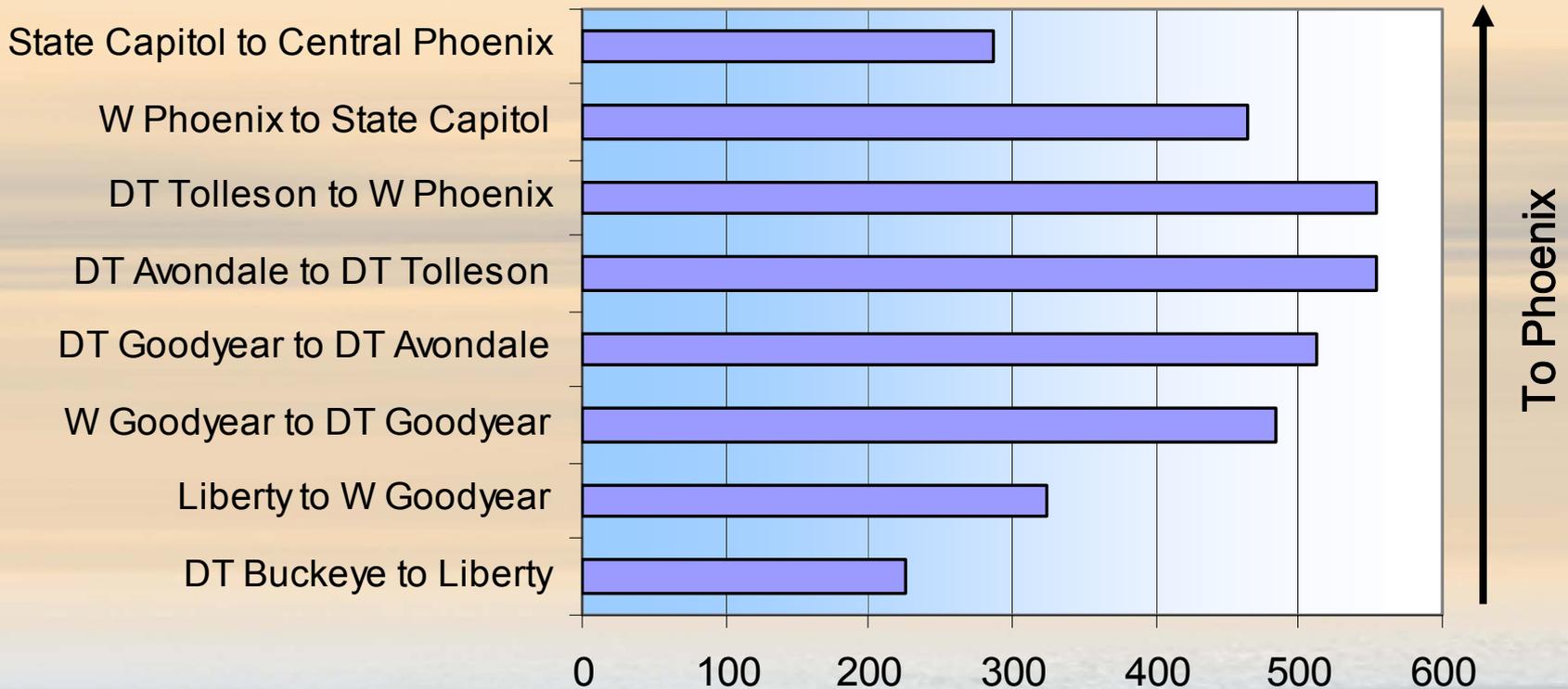
# Peak/Off-peak Boardings per Revenue Mile



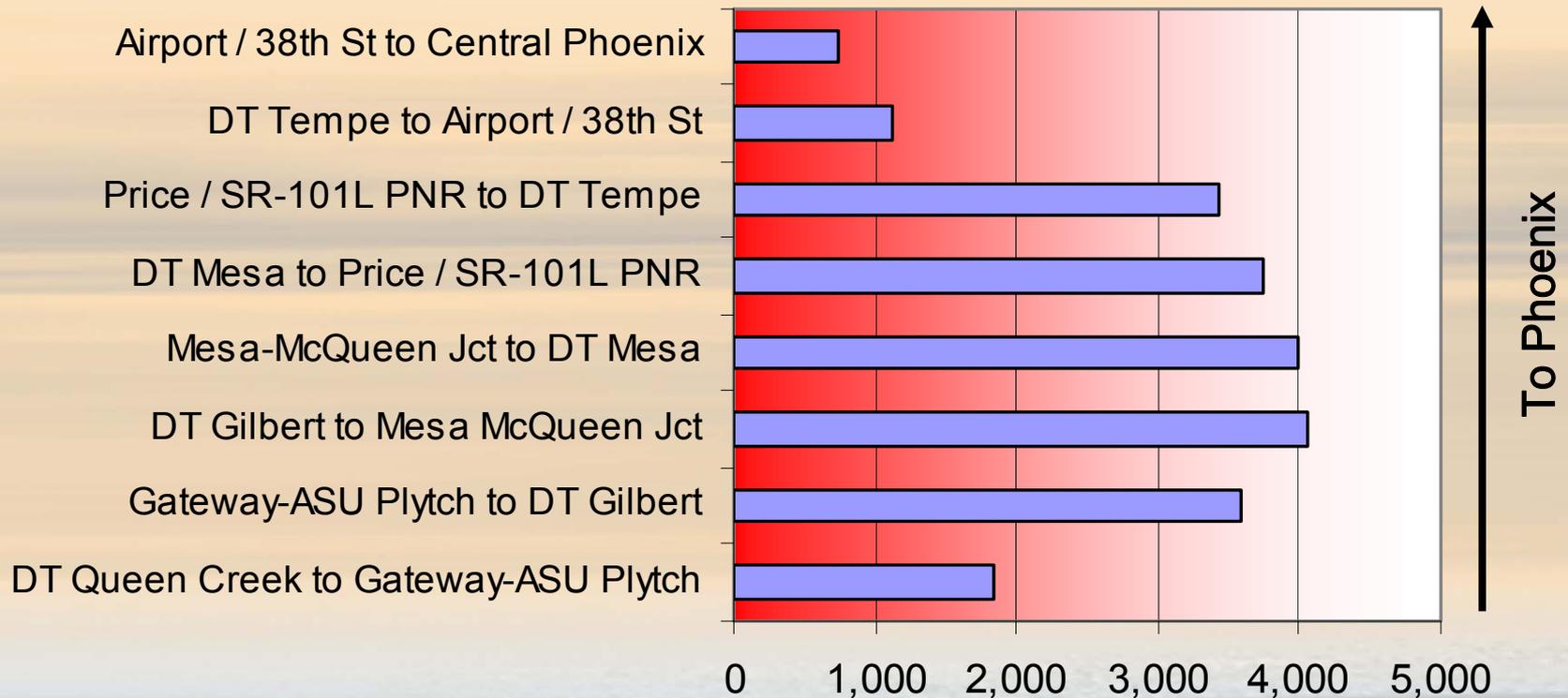
# 2030 Peak Period CRT Line Loadings (Round 2)—GRAND “To Phoenix”



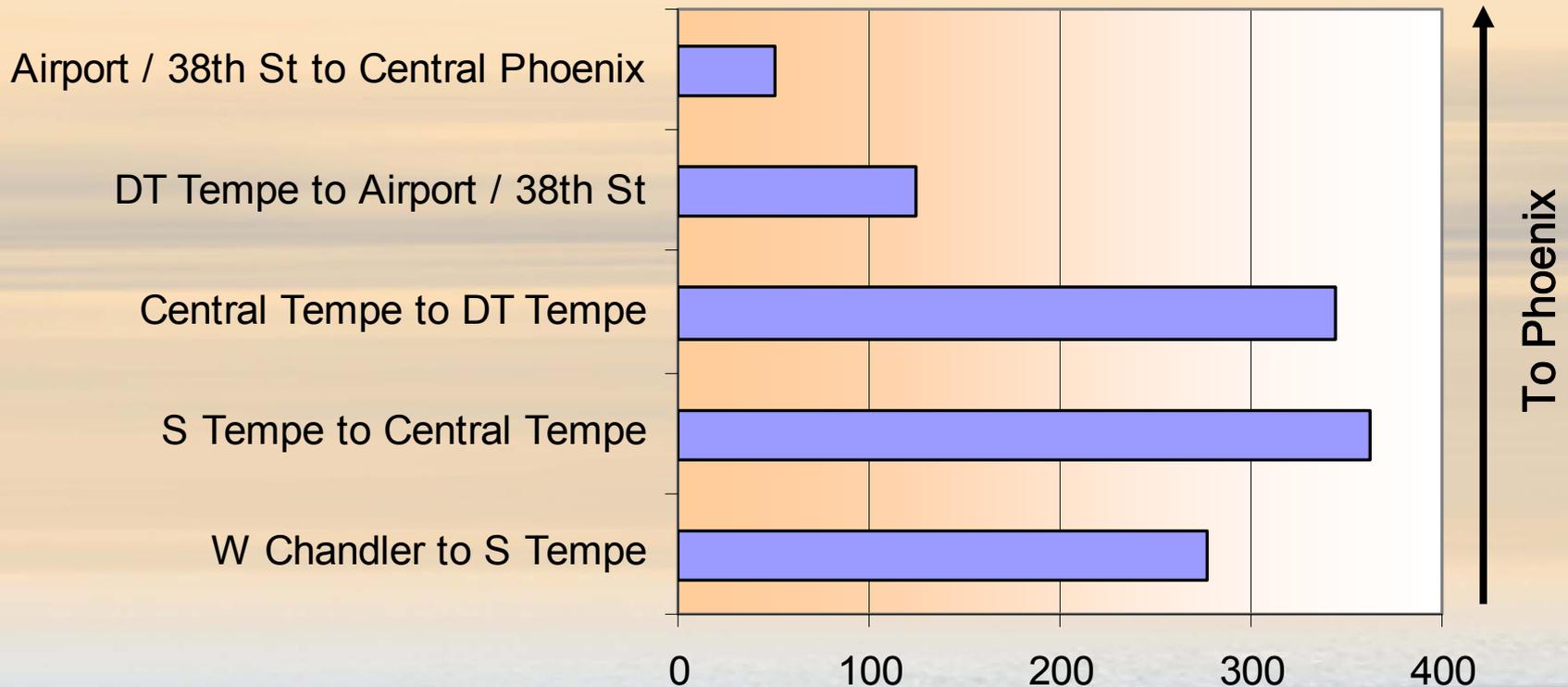
# 2030 Peak Period CRT Line Loadings (Round 2)—YUMA “To Phoenix”



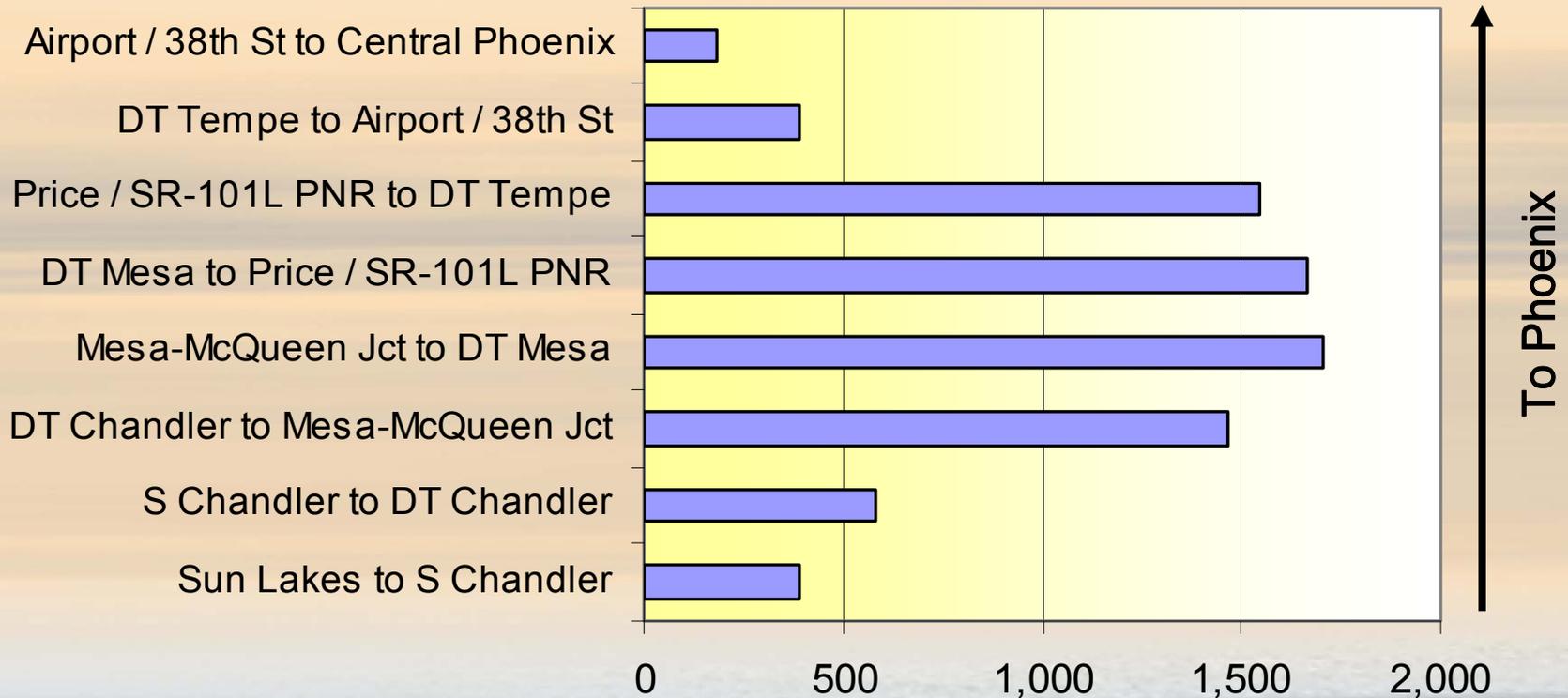
# 2030 Peak Period CRT Line Loadings (Round 2)—SE “To Phoenix”



# 2030 Peak Period CRT Line Loadings (Round 2)—TEMPE “To Phoenix”



# 2030 Peak Period CRT Line Loadings (Round 2)—CHANDLER “To Phoenix”



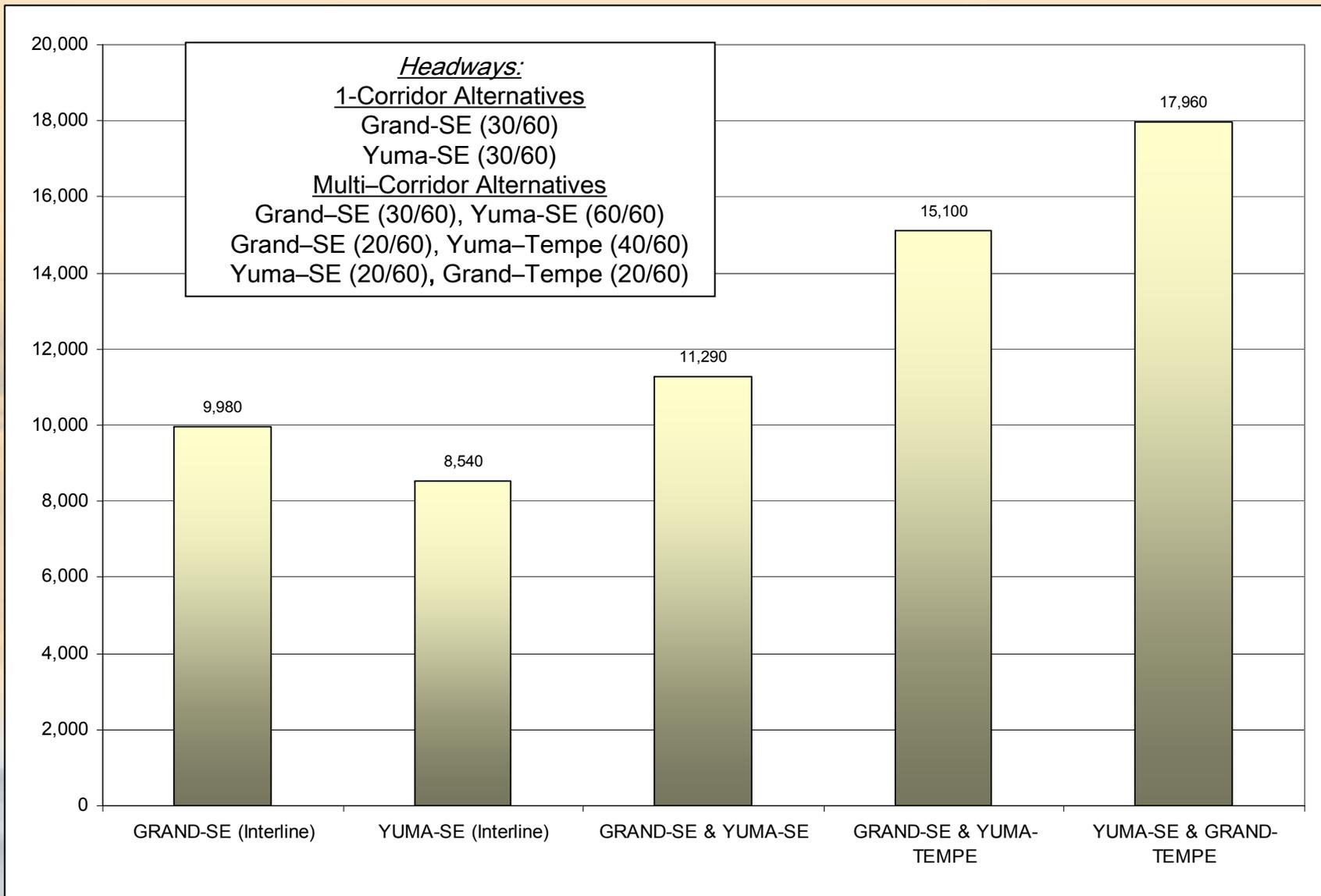
# Base Model Run Observations

- ◀ SE, Grand, and Chandler are the strongest corridors and rank well in boardings per revenue mile compared to peer cities.
- ◀ Heavy peak use; low off-peak use.
- ◀ In multi-corridor scenarios, all corridors – except Chandler – increase in ridership. SE corridor is likely drawing ridership from Chandler.
- ◀ Grand and Tempe corridors have strong bus and LRT connections.

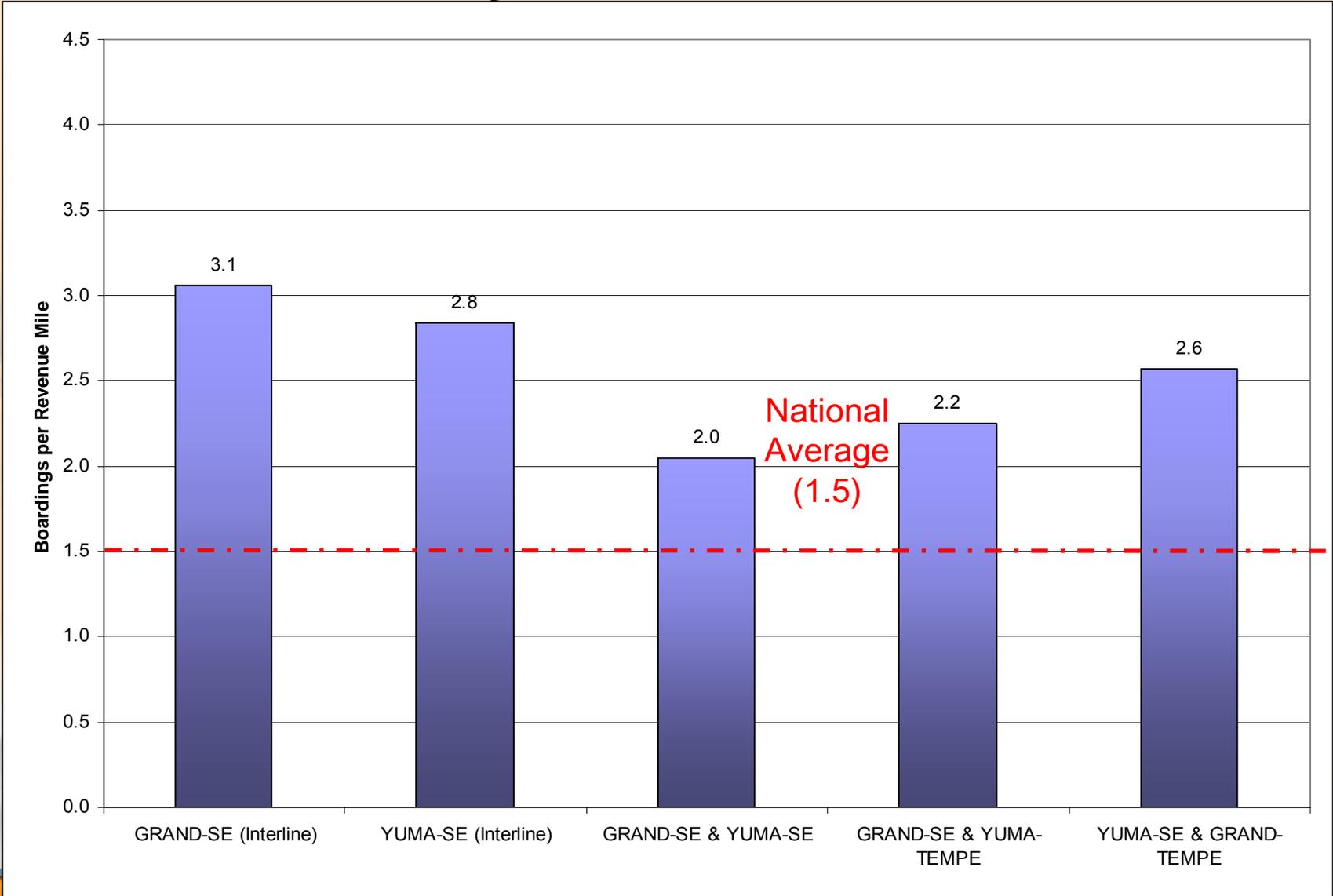
# Base Model Run Observations (cont.)

- ▶ Grand Corridor:
  - Overall good ridership
  - Strong ridership throughout the middle of the corridor (Glendale to Downtown Surprise)
  - Highest boardings at Downtown Glendale and Downtown Surprise
  
- ▶ Yuma Corridor:
  - Lower overall ridership than other corridors
  - Highest boardings at Central Phoenix and Downtown Goodyear stations
  
- ▶ East Valley Corridors:
  - SE is strongest individual corridor in the system.
  - SE: Highest boardings at Downtown Tempe and Gateway-ASU Polytech
  - Tempe: Highest boardings at Downtown Tempe and West Chandler
  - Chandler: Highest boardings at Downtown Tempe and Downtown Chandler

# 2030 Daily CRT Ridership by Model Run



# 2030 Daily CRT Boardings per Revenue Mile by Model Run

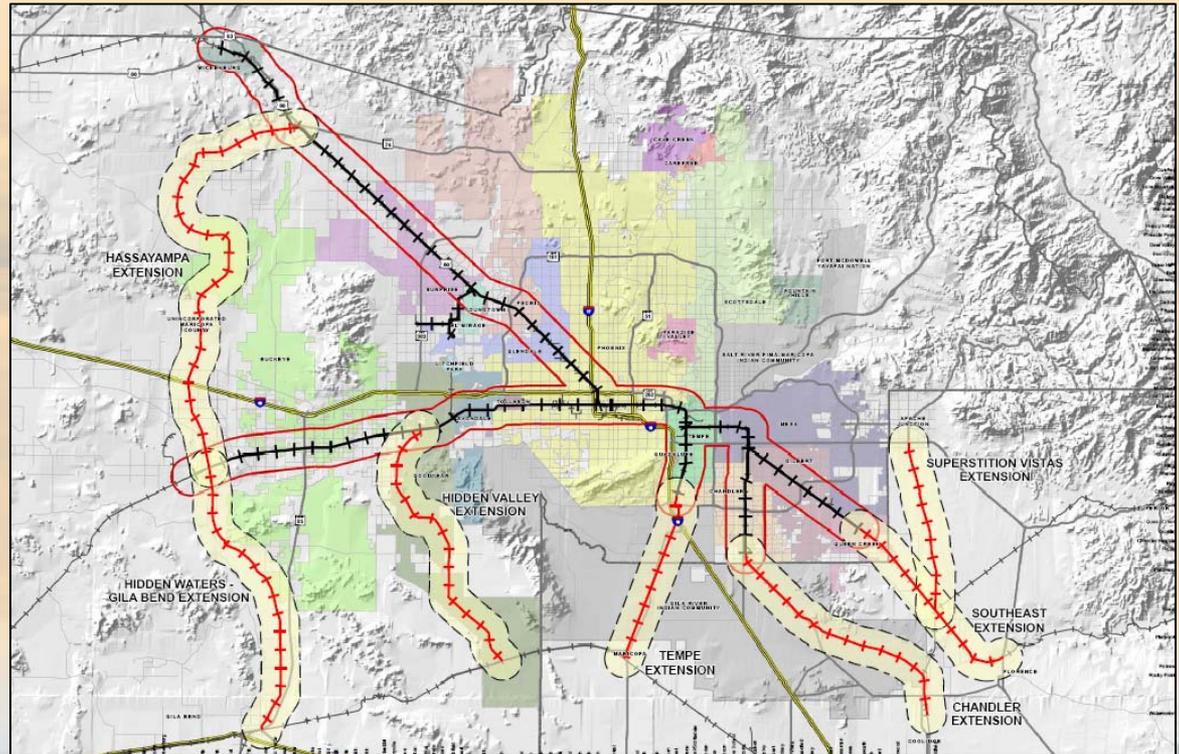


# Next Steps in Ridership Forecasting Process

## ◀ Complete next rounds of modeling

- Interlining
- Refinements to the model
- Sensitivity tests
- Potential future extensions

## ◀ Systems Analysis and Corridor Prioritization



# Completing Multiple Corridors and Interlined Corridor Runs

- ◀ Assess multiple corridor combinations with and without interlining (removes transfer penalties)
  - Grand-SE combination
  - Yuma-SE combination
  - Grand-SE (30/60) and Yuma-SE (60/60)
  - Grand-SE (20/60) and Yuma-Tempe (40/60)
  - Yuma-SE (20/60) and Grand-Tempe (20/60)
  - Grand-Yuma-Chandler (20/40)

# Proposed Final Modeling Approach

- ◀ A: Assess reduction in highway capacity improvements
- ◀ B: Model Program Refinements
  - Change end of line drive access
  - Change wait time
- ◀ C: Interline with Chandler
  - Test Grand-Chandler and Yuma-Chandler at 30/60 headways

# Proposed Final Modeling Approach

- ◀ D: Best Refinements using best interlined combination
  - Grand: Move State Capitol station to 19<sup>th</sup> Ave/Jefferson and tie in to LRT station
  - Yuma: Remove Liberty station and consolidate 2 Goodyear stations into one
  - RAPID (BRT) to feed end of Tempe corridor

# Proposed Final Modeling Approach: Extensions

- ◀ E: Use Best Refinements scenario and add extensions:
  - Hassayampa
  - Hidden Valley
  - Tempe to Maricopa
  - SE to Coolidge

# Proposed Final Modeling Approach: Extensions (cont.)

- ◀ F: Best Refinements scenario with additional extensions:
  - Hassayampa
  - Hidden Valley
  - Hidden Waters
  - SE to Coolidge
  - Superstition Vistas to Coolidge

# Proposed Approach: Sketch Planning Considerations

- ◀ Potential ridership to Palo Verde Generating Station currently using vanpools
- ◀ Special events ridership
- ◀ Potential ridership impacts of current land use proposals not reflected in the model data

# Discussion/Questions

Next SRT Meeting: November 16, 2009 at 1:30 pm