



**METRO**



MAG Transit Committee

# Tempe South Alternatives Analysis

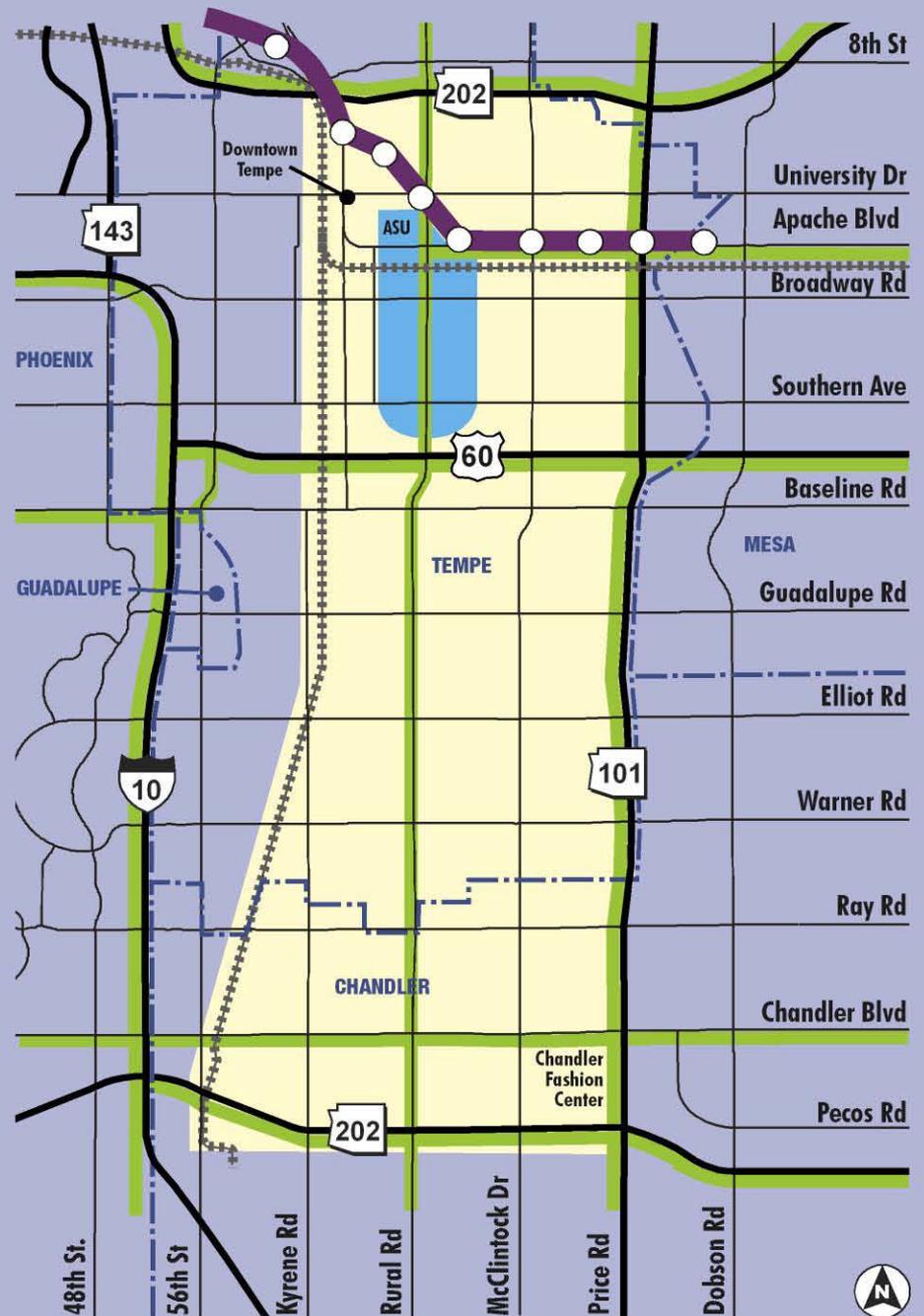
June 10, 2010





# Tempe South Study Area

LEGEND	
	Light Rail Starter Line / Station
	Study Area
	High Capacity / LRT Corridor
	Union Pacific RR
	City Boundary
	Existing and Future BRT routes





# Alternatives Analysis: Purpose

## ■ Mode

- Light Rail Transit
- Commuter Rail
- Modern Streetcar
- Bus Rapid Transit



## ■ Alignment/Route

- Rural
- McClintock
- Mill
- Kyrene
- Tempe Branch UPRR





# Tempe Actions

- April 2009 - Tempe City Council consensus to advance 2 RTP projects:
  - BRT on Rural Road
    - Includes bus/right turn lane from Baseline to University
    - Meets FTA definition of BRT for possible Small Starts funding
  - Modern Streetcar on Mill / Southern Avenue
  
- May 2010 - Tempe City Council resolution to advance both Modern Streetcar and BRT, but early focus on streetcar due to funding availability



# Travel Characteristics of Tempe Districts

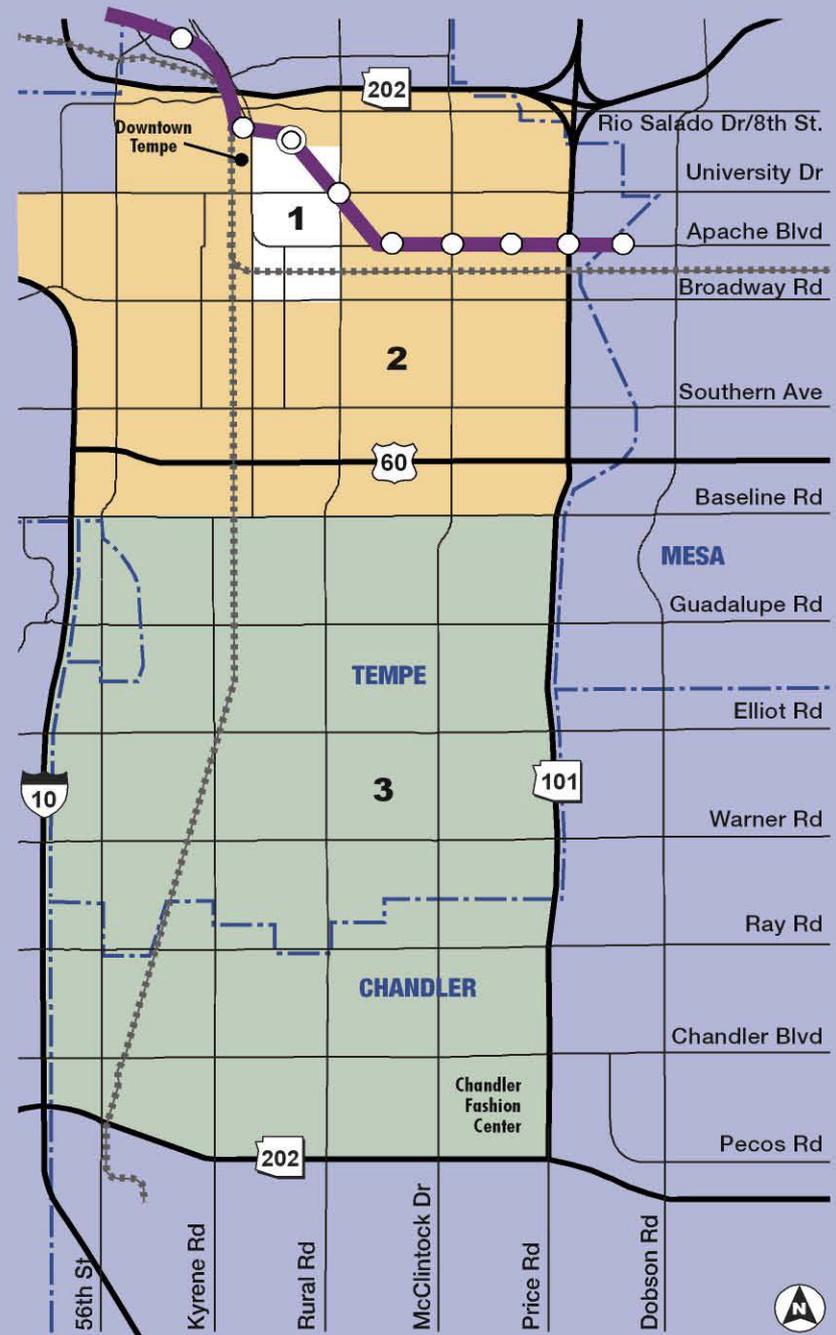
- North Tempe
  - CBD
  - Pedestrian/Transit Friendly
  - High Density Neighborhoods
  - Regional Employment Center
- ASU
  - Region-wide Special Generator
  - Unique Trip Patterns
  - Non Peak Trip Patterns
- South Tempe
  - Commute Corridor
  - Higher Income
  - Low Density Housing
  - Low Density Employment
- One solution will not fit all

## LEGEND

- Light Rail Starter Line / Station
- ⊙ Tempe Transportation Center
- City Boundary
- ++++ Union Pacific Railroad

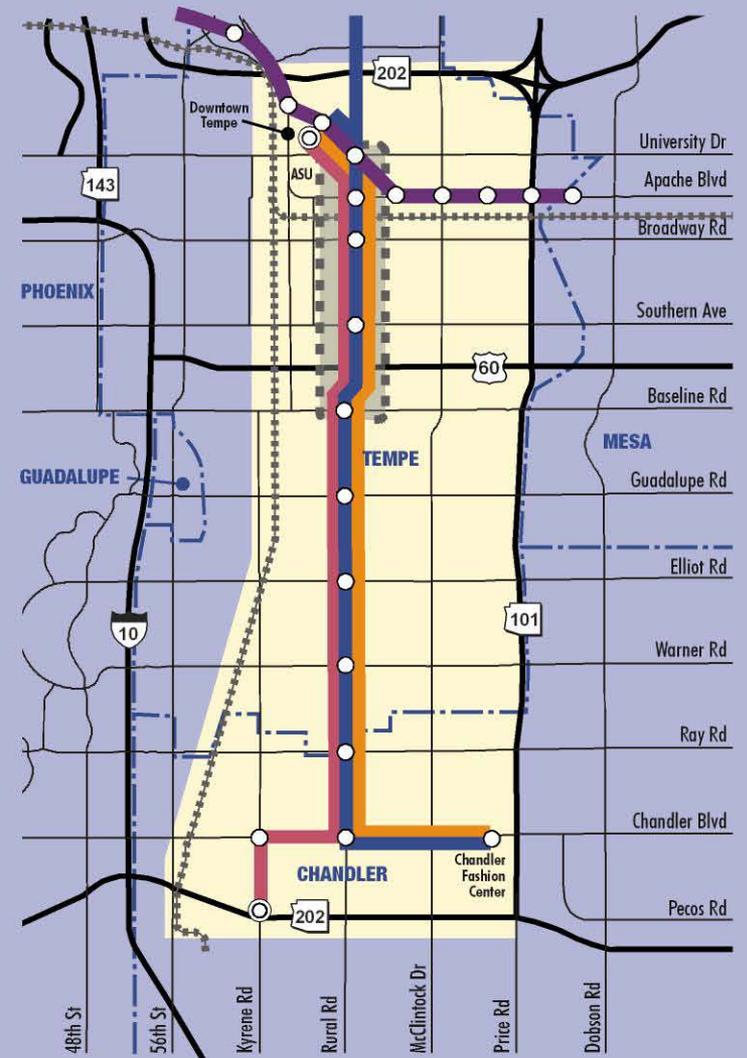
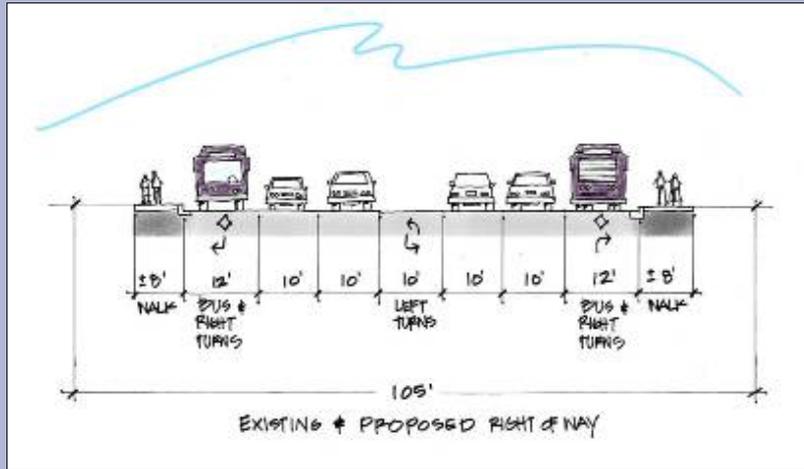
## Districts

- |   |             |
|---|-------------|
| 1 | ASU         |
| 2 | North Tempe |
| 3 | South Tempe |





# Rural Road BRT



LEGEND			
	Light Rail Starter Line / Station		BRT Station
	Semi-exclusive Lane		Transit Center
	Bus Route 72		Study Area
	BRT - Chandler Mall to Tempe Transportation Center		Union Pacific Railroad
	BRT - Kyrene/202 to Tempe Transportation Center		City Boundary



# Rural Road BRT Cost Estimate (2010 \$'s)

- Capital cost: \$60 - \$65 million
  - 10.5 miles
  - 11 vehicles
  - 14 stations
  - 2 park-and-rides
- Annual operations and maintenance costs: \$3.1 million
  - Tempe - \$2.1 million
  - Chandler - \$1.0 million
- 2015 Ridership:
  - Rural Road BRT - 5,200 to 5,700 / day
  - Route 72 (Rural Road) - 1,200 to 1,300 / day



# Bus Transit Life Cycle Program Update

- Public Transportation Fund (PTF) revenue shortfall (2008 vs 2010)
  - Bus - \$656 million
- Bus
  - Current regional plan delays BRT on Rural Rd. from 2015 to beyond 2026
  - Rural BRT recommended for implementation, it is currently unfunded
    - Capital and operating would be derived from PTF funding



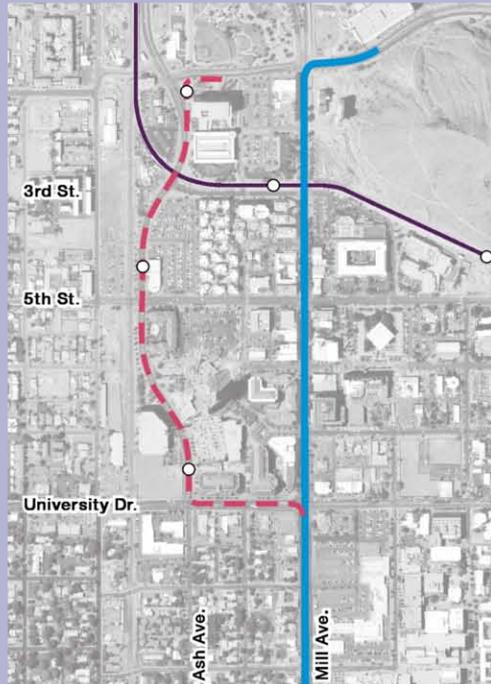
# What is Modern Streetcar?

- Fixed-guideway electric rail system
- Operates in mixed traffic
- Articulated for tight radii turns
- Smaller than light rail vehicle
- 130 passengers per vehicle (35 seated / 95 standing)
- Typically operates as a single car unit
- Simple stations
- Catalyst for economic development





# Modern Streetcar Options



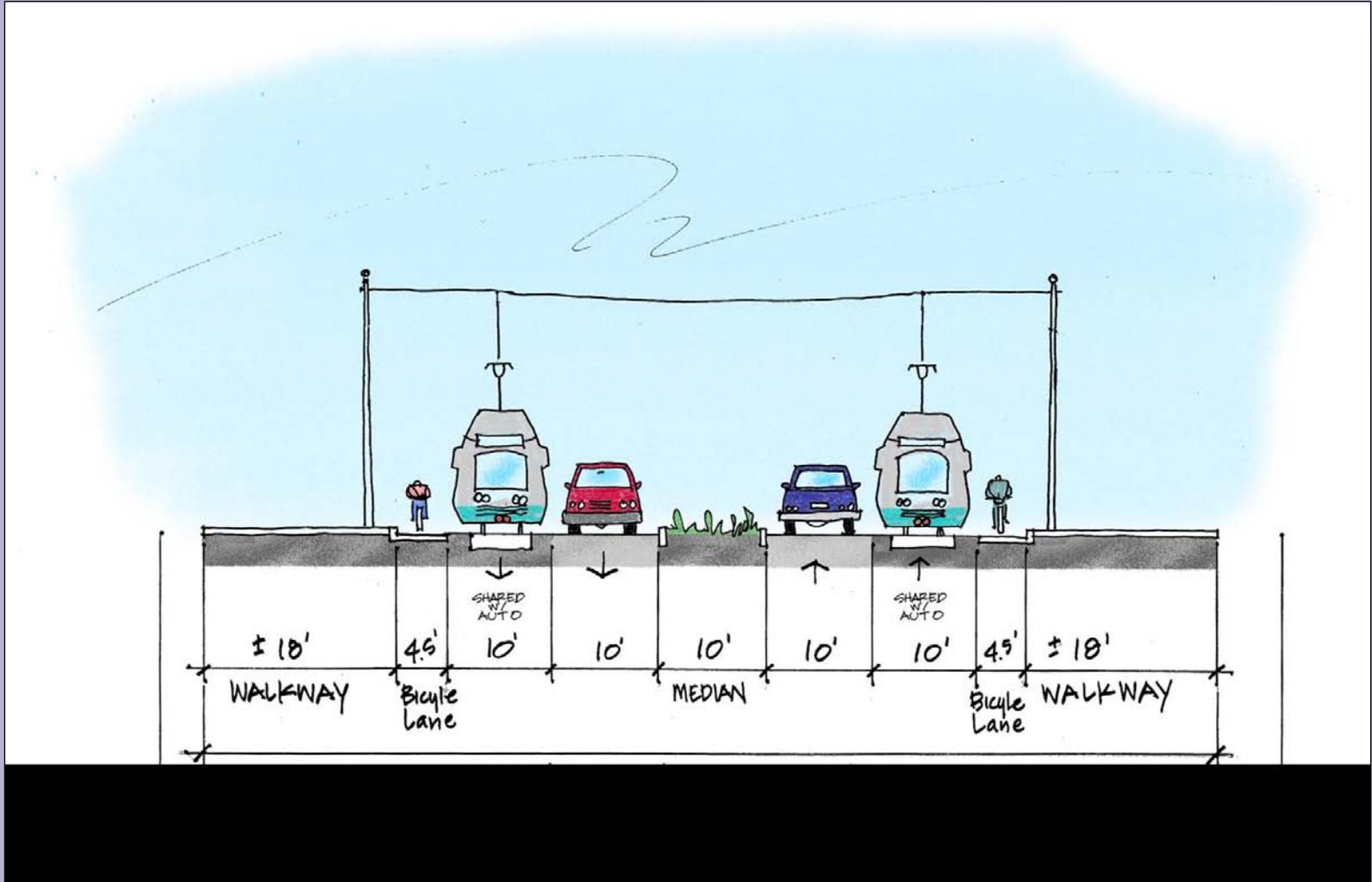
## LEGEND

- METRO Light Rail Line
- Station
- Modern Streetcar - Mill Ave
- Modern Streetcar - Ash Ave
- Modern Streetcar - Future Phase





# Modern Streetcar Mid-block - Mill Ave. Downtown





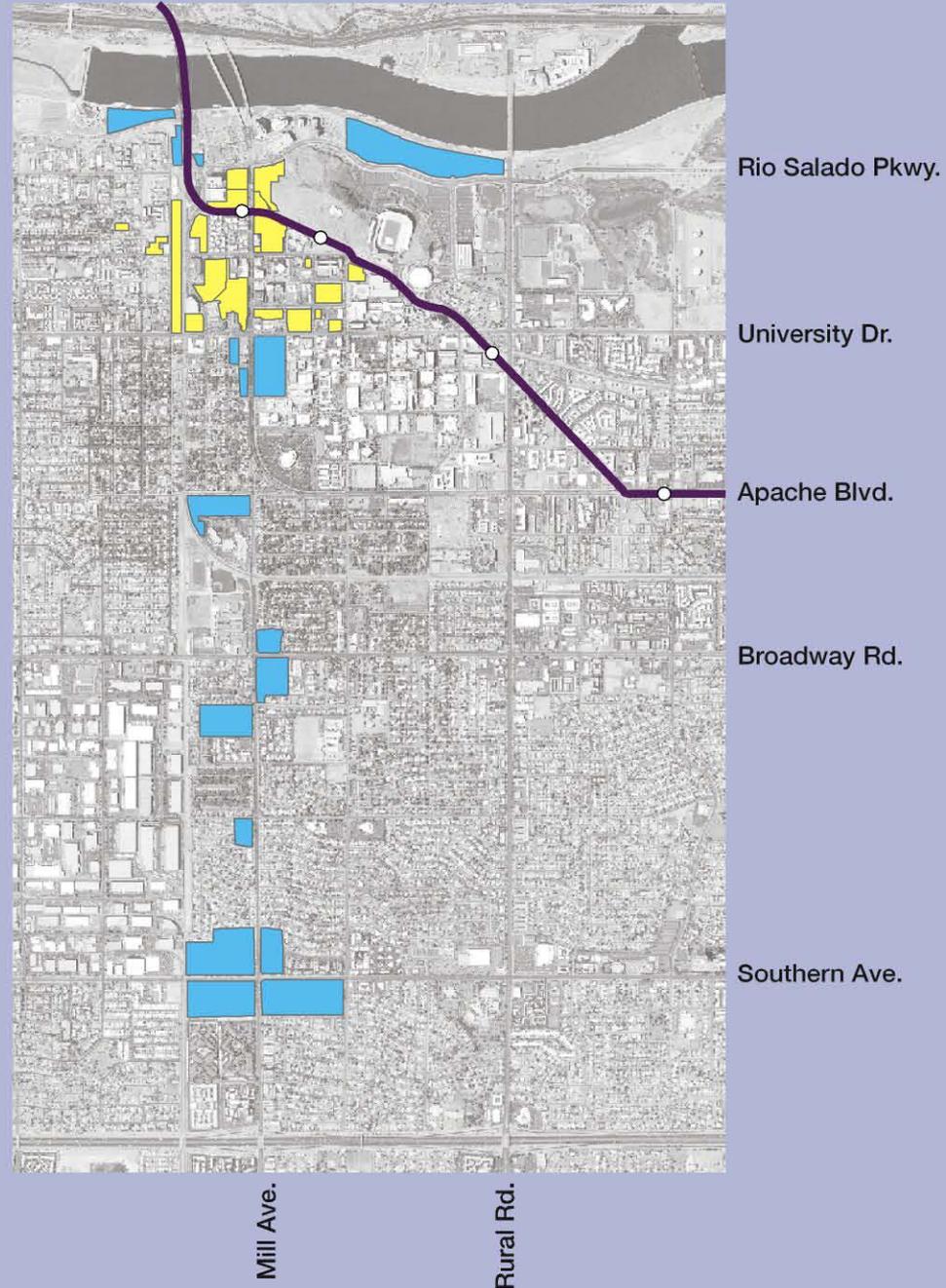
# Modern Streetcar Analysis

- 2015 Ridership: 1,100 to 1,600 / day
  - Existing ridership 800 / day
  - Excludes special events
- Land use
  - Existing and future densities and demographics
  - Development potential in corridor
  - Local policies to support livable and walkable communities
- Benefit-cost analysis
  - Isolate incremental benefit of modern streetcar
  - Fiscally appropriate for City
  - Benefit to cost ratio = 1.3
  - Will improve as ridership increases



# Redevelopment – > 125 acres of development potential

- LEGEND**
- METRO Light Rail Line / Station
  - Transit Center
  - Approved Redevelopment
  - Redevelopment Opportunity Site
  - Park-n-Ride
  - Union Pacific Railroad





# Cost Estimates & Funding

- **Capital cost = \$162M (YOE)**
  - 2.6 miles – Rio Salado/Mill to Southern /Mill
  - 5 vehicles
  - 9 stations
- **Operations and maintenance costs\* = \$3.1M**
  - \$1.3M per mile (YOE)
- **Funding**
  - Capital – Regional PTF, FTA Small Starts, CMAQ
  - Operating – City of Tempe

\* - Represents gross costs

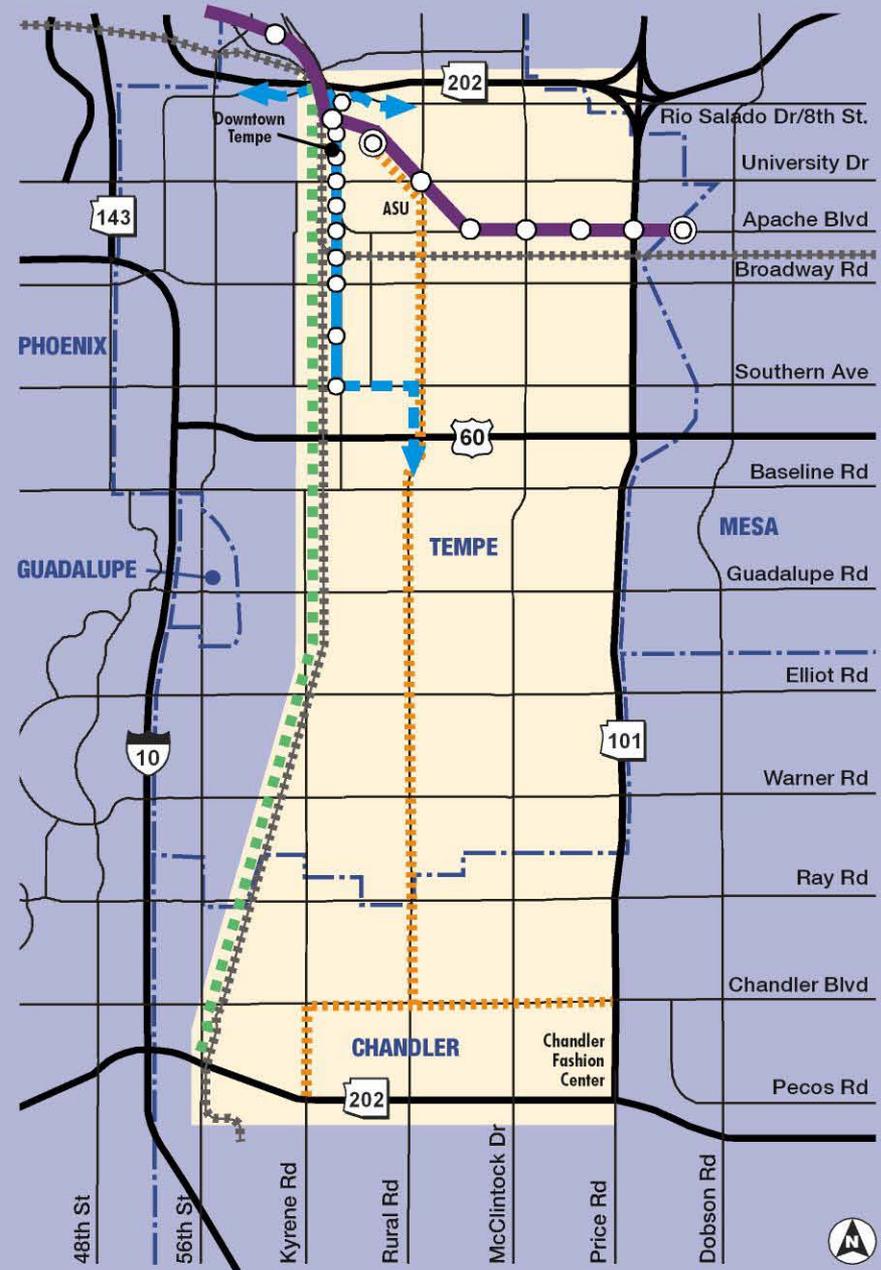


# Study Results:

- Commuter Rail
- BRT on Rural
- Modern Streetcar

## LEGEND

- |  |                                 |  |                      |
|--|---------------------------------|--|----------------------|
|  | Light Rail Starter Line/Station |  | <b>Future Phases</b> |
|  | Modern Streetcar                |  | Modern Streetcar     |
|  | Transit Center                  |  | BRT                  |
|  | Study Area                      |  | Commuter Rail        |
|  | City Boundary                   |  |                      |
|  | Union Pacific Railroad          |  |                      |





# Why Advance Streetcar?

- Streetcar will...
  - Supports affordable housing in corridor
  - Encourage redevelopment of underutilized parcels
  - Complements Tempe's diversity of people and places
  - Supports local policies that provide and encourage diverse transportation choices
  - Enhance investment in downtown neighborhoods
  - Be a component to promote a livable city and green initiatives
  - Better serve special events than non-guideway transit
  - Support ASU travel demand
  - Provide seamless connection to LRT
  - Fit FTA initiatives for sustainability and livability



# Next Steps

- Summer/Fall 2010
  - Meetings with community groups, commissions and public
- Fall / Winter 2010
  - Tempe City Council action
    - Alternatives Analysis Recommendations
    - Locally Preferred Alternative for FTA funding
  - MAG Regional Council approval
- Winter 2010 / Spring 2011
  - Prepare application to enter FTA Project Development phase
- Summer 2011 – Winter 2012
  - Begin engineering, pending FTA approval



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