4. Presentation and Discussion:
Phoenix Light Rail Implementation

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Light Rail Transit in Phoenix

Broadway Citizen’s Task Force

February 25, 2013
Valley Metro – Who Are We?

- Operate Regional Transit Services
  - Valley Metro and Phoenix are region’s primary service providers
  - Light Rail and Bus

- Project Development
  - Rail and bus corridors
  - Support facilities

Total Transit Network

- Every transit mode serves a certain purpose and market.
- Many modes working in concert create a successful transportation network.
- We have to continue to build.
  - Economic prosperity
  - Mobility choices
  - Quality of life
Valley-Wide Transit Growth – 25 years

- Population - Doubled
  - 3.8 million in 2010
- Miles of Operation - Tripled
  - 31 million annual revenue miles
- Transit Boardings - Quadrupled
  - 72 million annual passengers

Travellers have responded to the investment in transit!

1985 – Regional Sales Tax

Proposed Freeways

- 20 year tax
- Also created RPTA and minor transit funding
Light Rail Funding Sources

- Tempe Sales Tax - 1996 (Prop 400)
- Phoenix Sales Tax - 2000 (Prop 2000)
- Mesa General Fund
- Glendale Sales Tax – 2001 (Prop 402)
- Regional Sales Tax 2004 (Prop 400)
  - 20 year tax; 2/3 highways & 1/3 transit
- Federal Transit Administration
  - New Starts
  - CMAQ and STP

Phoenix Metro Area Rail Projects
Why this route?

- Corridor has highest travel demand
- High demonstrated bus ridership
- Highest employment concentrations
- Good residential base
- High student population
- Corridor contains most special event facilities
20-mile LRT Project History

- Initiated Project Planning - 1996
- Selected Preferred Alternative - May 1998
- Started Preliminary Engineering - Sept 1998
- Completed Environmental Work - Jan 2003
- Started Final Design - July 2003
- Started Construction - Oct 2003
- Full Funding Grant Agreement - Jan 2005
- Open for Operations – Dec 2008

Defining Success: LRT Ridership

- Exceeding all expectations
  - Exceeded opening year forecast by 34%
    - Forecast - 26,000/day; Actual - 35,000/day
  - Nearing 2020 ridership projection
    - Forecast - 48,000/day; Current - 44,000/day
    - All-time high = 65,773 on Dec 7, 2013

- Demographics:
  - Students
  - Workers
  - Special event-goers
Defining Success: Development

- $6.9 billion total investment
  - Planned, under construction or completed
  - Within walking distance of LRT
  - $5.4B private investment
  - $1.5B public investment

Developments: Residential

- Grigio Metro
  - Tempe
- Tapestry on Central
  - Phoenix
- Campus Suites
  - Tempe
Developments: Large Mixed Use

CityScape
Phoenix

Hayden Ferry Lakeside
Tempe

Developments: Public Investment

Phoenix Convention Center

ASU Downtown Campus

Civic Space Park
Connecting Sky Harbor Airport

- Initial connection was by bus – 1200 daily riders
- PHX Sky Train Phase I opened on April 8, 2013

LRT Characteristics

- 19 of 20 miles are in street
- 149 signalized intersections
Central Avenue – Before
6 lanes

25% of people were on buses during peak periods

Central Ave - After

Goal was to maintain previous curb line
Central Ave - After

Central Ave - After
LRT in Street Median

- Left turn access is restricted
- Traffic signals located every 1/4 mile to allow left turns and u-turns for property access

Camelback Rd – Before
5 lanes

Phoenix requested the addition of 1 EB lane
Camelback Rd - After

19th Ave – Before
5 lanes

Phoenix desired to retain all existing lanes because 19th Ave is an I-17 traffic reliever
Street capacity was no longer needed because of the I-10 freeway completion
Washington St - After

Apache Boulevard – Before
6 lanes

Tempe residents wanted traffic calming
Apache Boulevard - After

Apache Boulevard - After
Light Rail Construction Projects

Northwest LRT Extension – 19th Ave

Phoenix desired to retain all existing lanes
Northwest LRT Extension
Cross Section

Central Mesa LRT Extension - Before

West Mesa
- Retain 4 lanes

Downtown Mesa
- No property acquisition
Sycamore to Country Club

Country Club to Mesa Drive
Downtown Mesa Photo-Simulation

Gilbert Road LRT Extension

LEGEND
- Central Mesa Extension
- Light Rail Station
- Roundabout
- Gilbert Road Extension
- Park-and-Ride
Gilbert Road LRT Extension
Street Configuration Options

- Existing – Four lanes with parking
- Options Evaluated
  - Four lane option
  - Two lane option

Gilbert Road LRT Extension
Recommended Cross Section

- 2 through lanes
- Widen to 4 traffic lanes at arterial Intersections
- Retains bicycle lanes and some on-street parking
- Minimizes property acquisition
Preparing for Future Light Rail

• Right-of-way preservation
• Early utility relocations
• Land use
• Transit Oriented Development
• Pedestrian and bicycles
• ADA considerations
• Phasing from bus to rail

Right-of-Way Preservation

LRT width requirements:

• Two Track Alignment – 27’ to 34’
• At Stations (two track) – 41’ to 60’
• Left turn lanes for in-street LRT – add 10’ to 12’
• Varies according to site conditions
Early Utility Relocations

- Reasons to relocate:
  - Allows utility maintenance
  - Minimum clearance for structural loads
- Can be 15 to 20% of project cost
- Can be a significant source of project delay
- Consider relocating as part of street projects

Transit Compatible Land Use

- Steps to success:
  - General Plan Policies
  - Overlay Zoning Districts
  - Building Code Modifications
  - Station Area Planning
  - Development Community Education and Recruitment
  - Market Analysis
Transit Oriented Development (TOD)

- Create compatible land uses at stations to improve ridership
- Make access to transit stations easy and attractive for pedestrians
- Provide an environment that is human-scaled (rather than auto oriented)

Access to future light rail

- Items to include with street projects:
  - Improve sidewalks & pedestrian environment
  - Bring sidewalks and curb ramps in compliance with ADA requirements
  - Add bike lanes
- Develop bike routes/paths to access future LRT stations
Phasing From Bus to Rail

- Successful bus ridership makes the case for federal funds
- Bus operations can be a challenge during LRT construction
  - about 3 years
- Dedicated bus lanes located in future LRT space makes transition to rail difficult
  - Bus lanes close down during LRT construction

Broadway Boulevard

Considerations – Phoenix vs. Tucson
- Regional Freeways
- Regional sales tax
- Land use

Vision
- Highway oriented?
- Transit oriented?
People Lined Up to Experience LRT

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