

MAG Commuter Rail Strategic Plan

Planners Stakeholder Group
October 16, 2007





Background

- Eight studies since 1980
- 2003 MAG High Capacity Transit Plan identified commuter rail as a long-term transportation option for metro Phoenix
- No capital funds in the 20-Year Regional Transportation Plan



Rail Technologies

- **Light Rail**
 - Houston Metro

- **Heavy Rail**
 - San Francisco BART

- **Commuter Rail**
 - Trinity Railway Express (Dallas)





Rail Characteristics

Feature	Light	Heavy	Commuter
Trip Type	Dense Urban	Dense Urban	Suburban to Urban
Average Trip Length	4.5 miles	5 miles	20 miles
Peak Headways	5-10 minutes	2-10 minutes	10-60 minutes
Station Distance	.25 to 1 mile	.25 to 2 miles	2 to 10 miles
Max. Pass. Per Hour	5,000 to 10,000	12,000 to 30,000	4,000 to 10,000
Max. Speed	50-70 mph	40-80 mph	79-90 mph



Commuter Rail Vehicles

Conventional Locomotive



New Mexico Rail Runner

Seattle Sounder



Diesel Multiple Unit (DMU)

Colorado Rail Car



Ottawa O-Train





Today

- Much more interest in commuter rail than four years ago
 - Traffic congestion
 - Fuel prices
 - **Growth**



Growth Assumptions

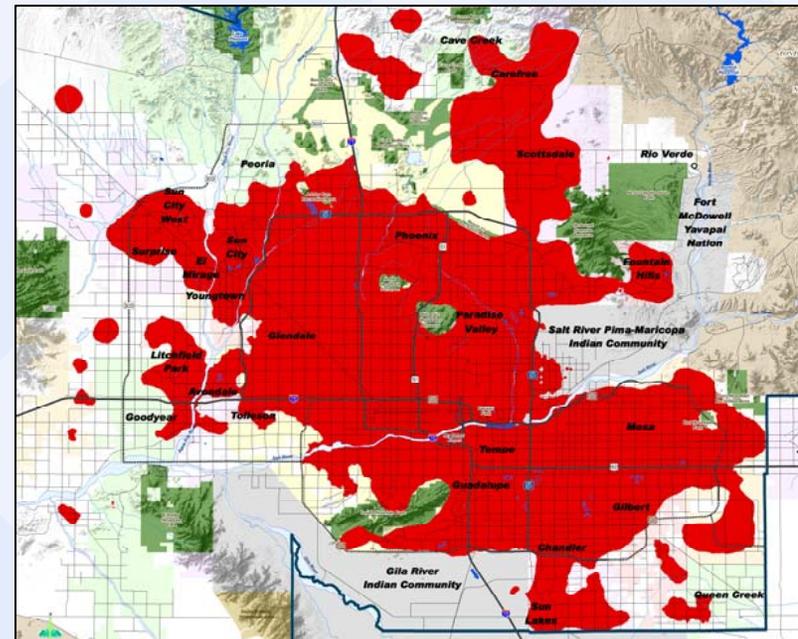
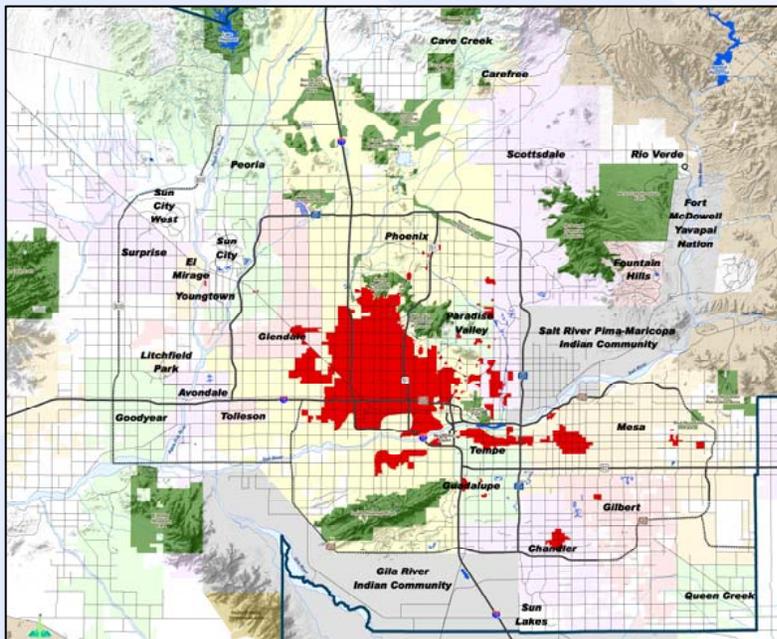
- **More growth projected today than five years ago**
 - Hassayampa Valley, Pinal County
 - Size of urban area is increasing rapidly
- **Long distance trips are more appropriate for commuter rail**
 - Average light rail trip – 5 miles
 - Average commuter rail trip – 20 miles



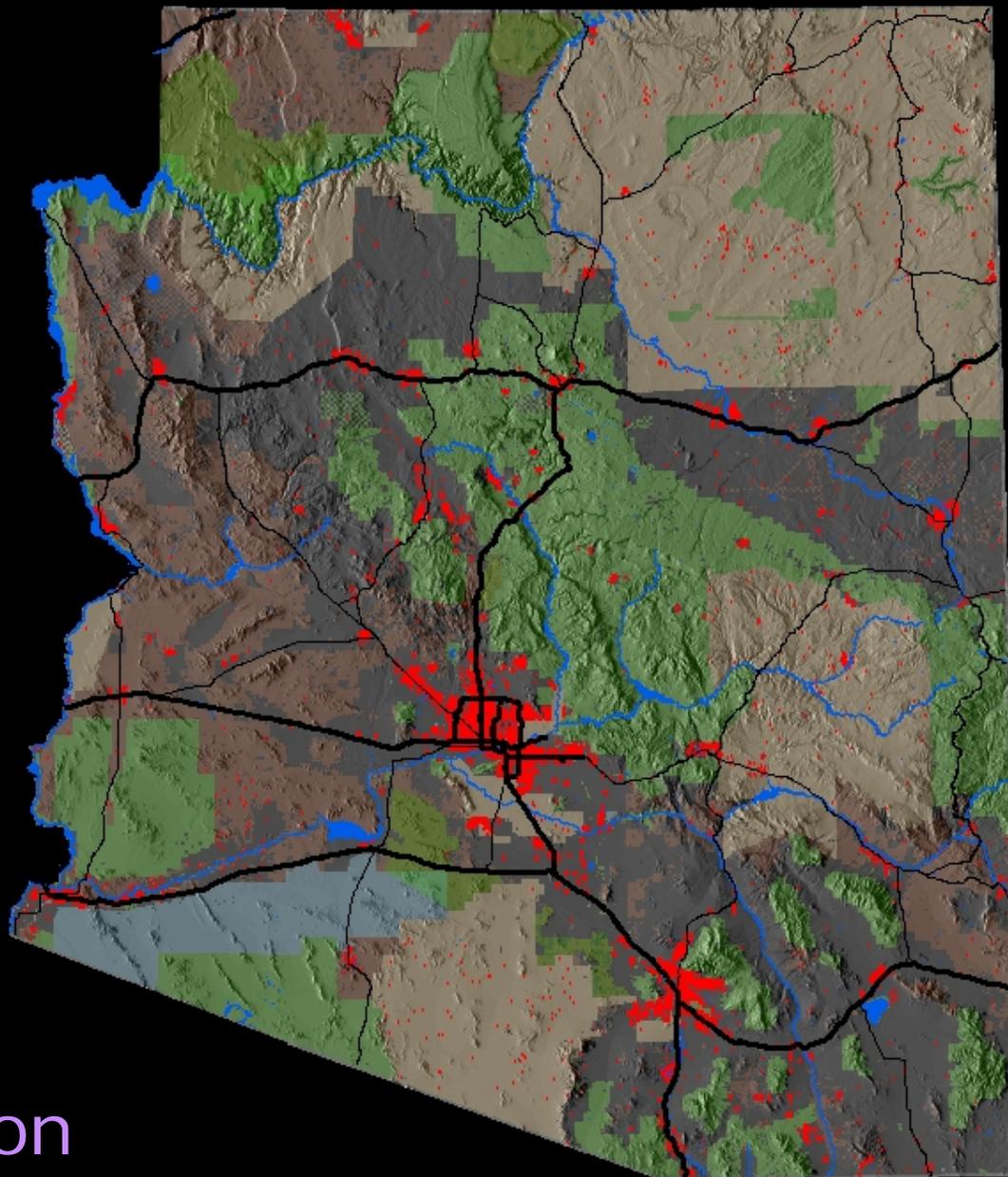
Maricopa County Population 1955 and 2000

- 1955 Population
- 470,000

- 2000 Population
- 3,100,000

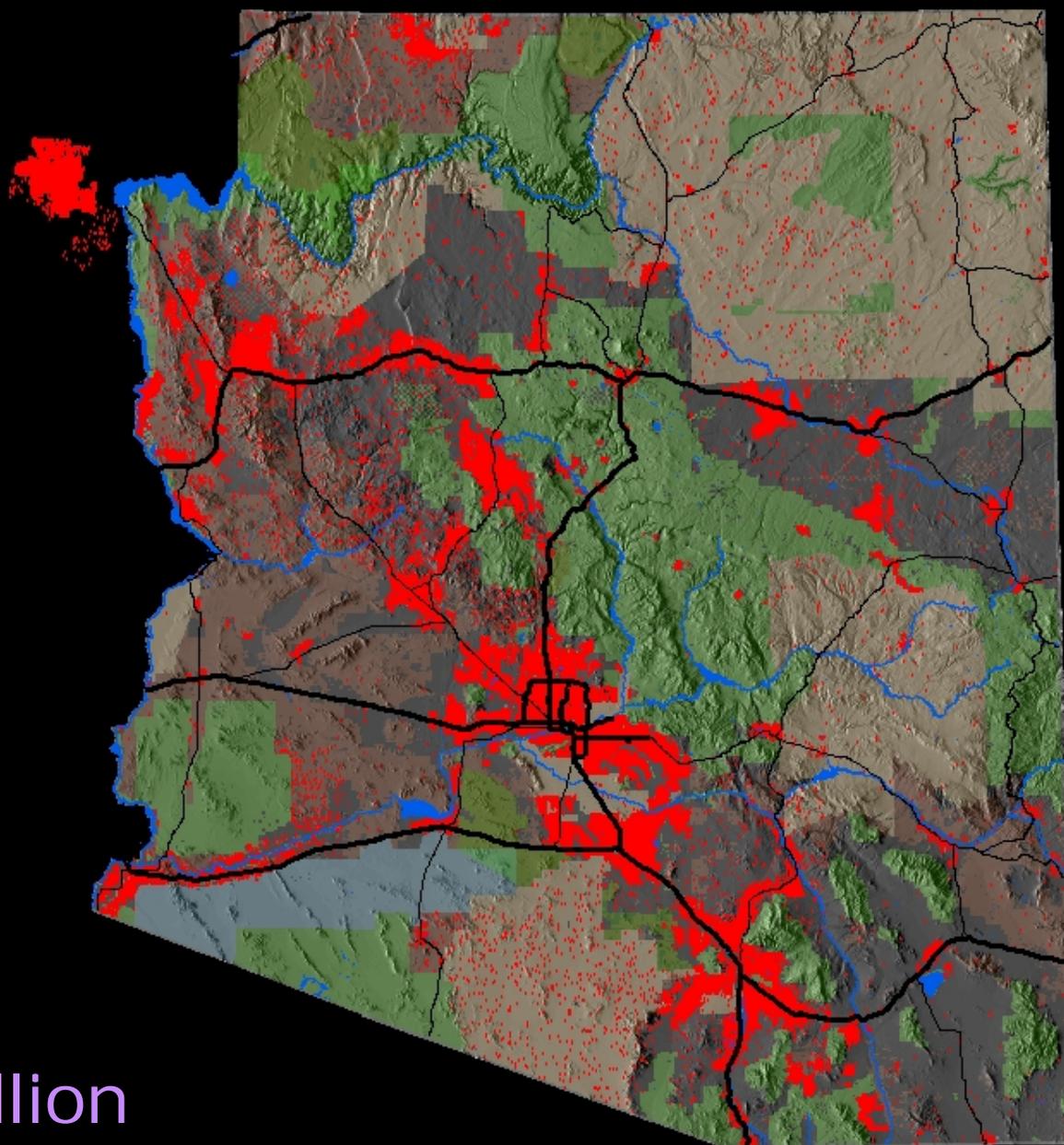


2000



5.1 million

2050



16 million

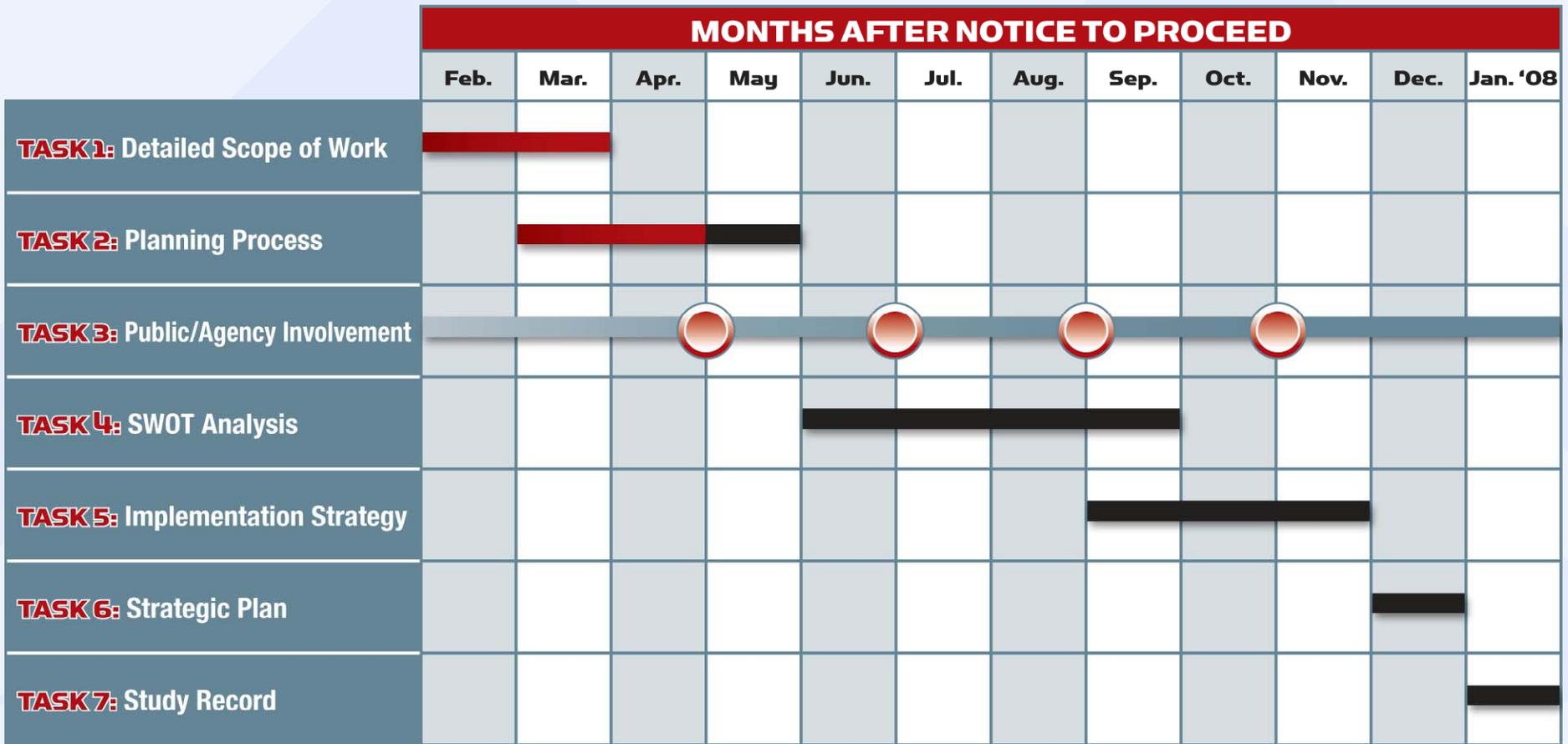


Project Overview

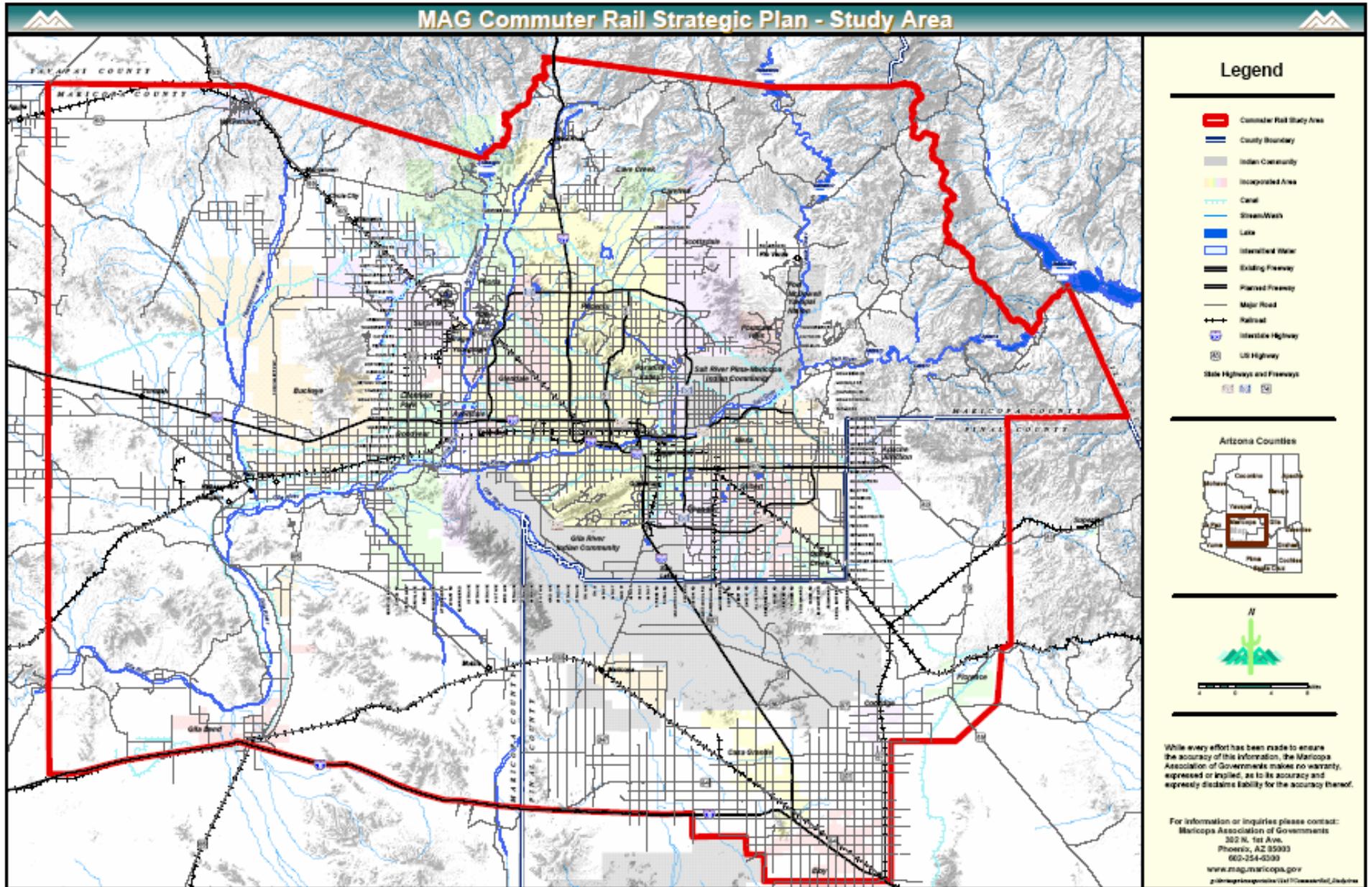
- Develop a strategy for MAG Region and Northern Pinal County to determine “how” to implement Commuter Rail
- Address physical, operational, jurisdictional and financial opportunities and constraints with stakeholders
- Provide a Strategic Plan for adoption by MAG Regional Council



Schedule



○ = Community Resource Council Workshops

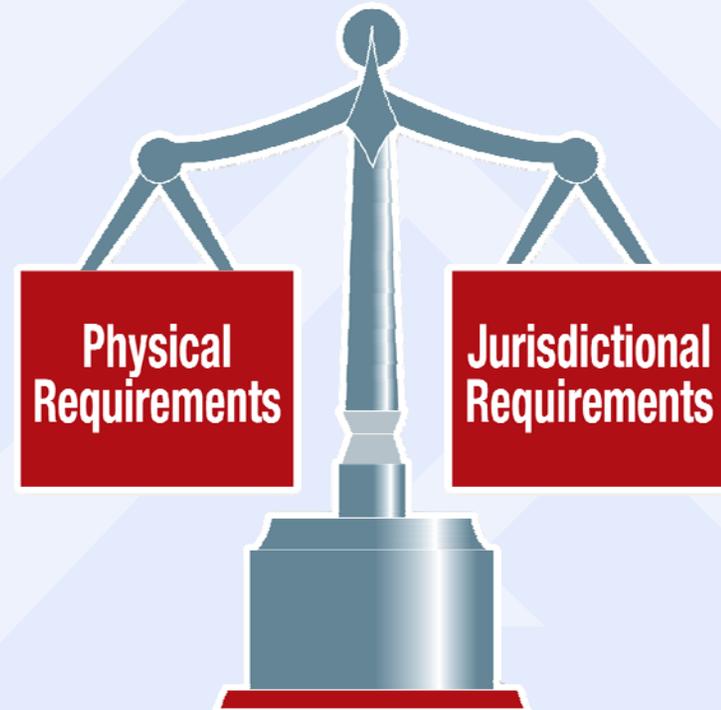




Overall Vision

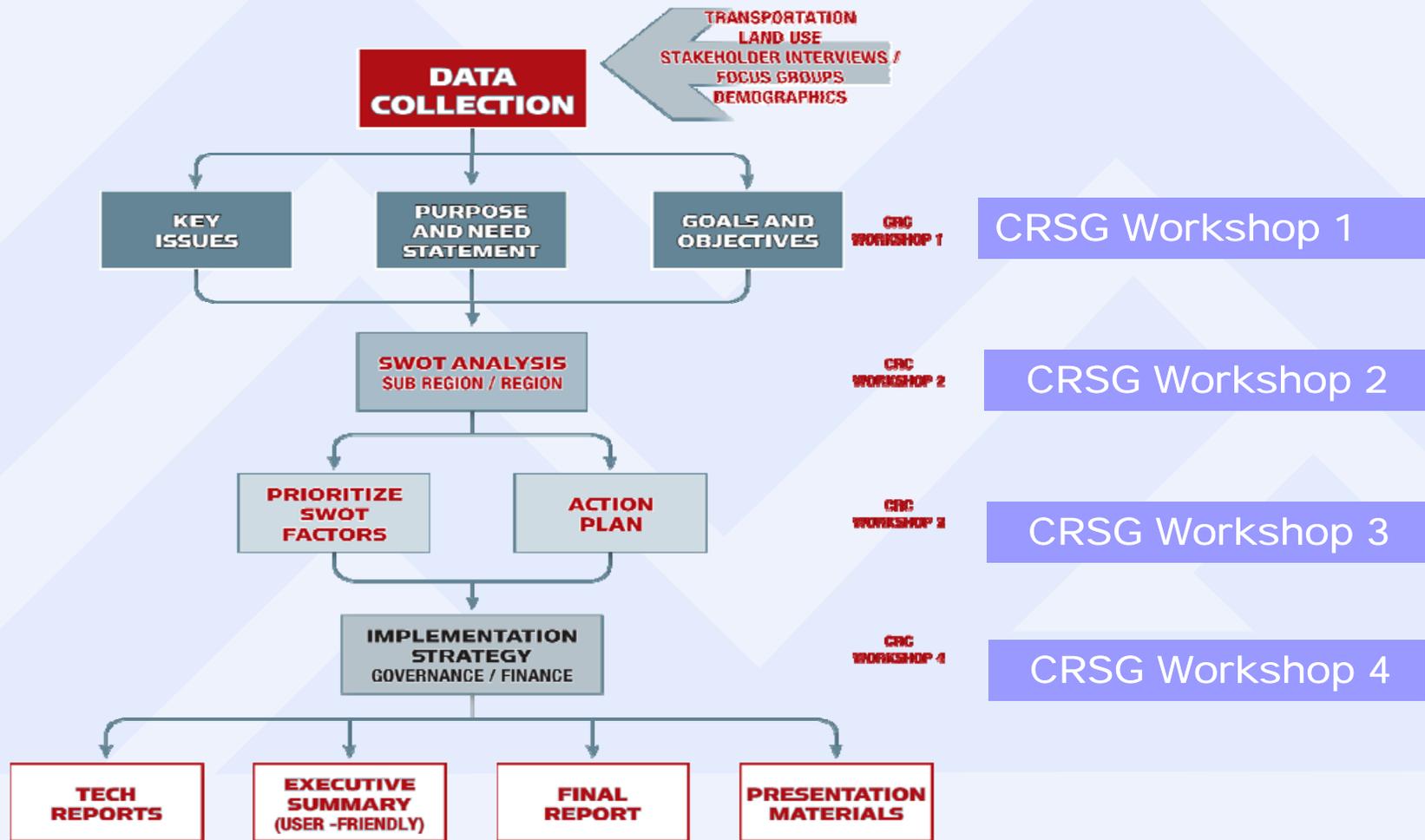
- Convene stakeholders from around the region to define requirements

- Develop consensus for Commuter Rail in Regional Transportation Plan
 - Role in region travel market
 - Define requirements for successful system implementation





Project Implementation Process



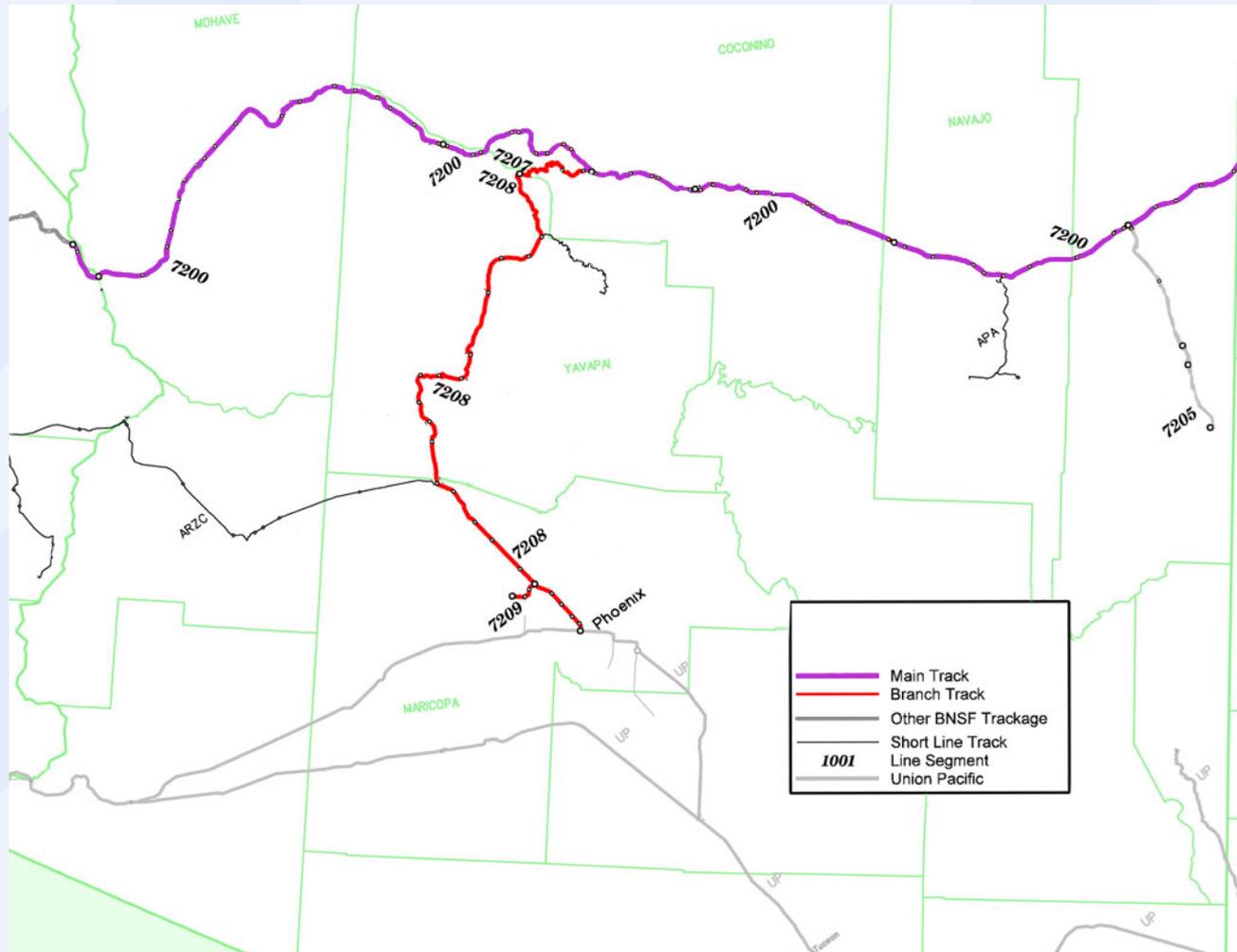


Rail Service: Union Pacific



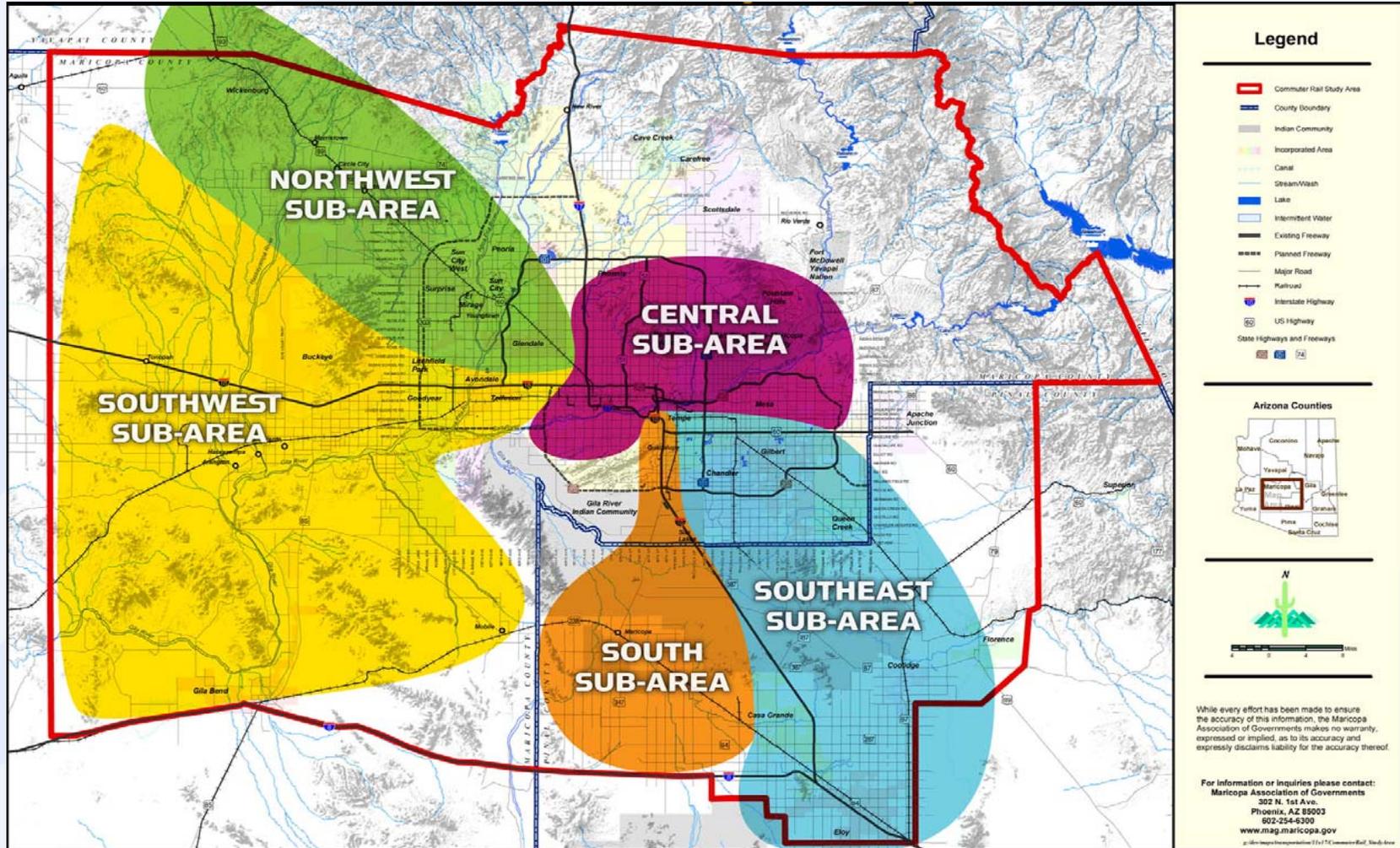


Rail Service: BNSF Railway





Sub-area Definition





Project Issues and Purpose Statement

Reasons to Consider Commuter Rail

- Growth of population and employment.
- Travel demand growth and congestion.
- Provide range of travel choices.
- Reinforce local/regional land use plans.
- Availability of existing railroad alignments.
- Increase in the cost of fuel and travel.
- Reduce air pollutants and use of resources.
- Promote economic sustainability.



Commuter Rail Market

- Service for Commuters - Regular Routine
- Home-to-Destination Trip Time Important
- Features that are important to patrons:
 - On-time Performance
 - Competitive travel time with private auto
 - Clean Equipment
 - Secure Stations/Parking Lots



What can Commuter Rail provide for the consumer?

- Carry longer trips in congested corridors
- Offer relief in peak periods to parallel highways
- Provide service to urban centers
- Link to developing outlying areas
- Offer connections to other modes





Service Area



COMMUTER RAIL



STATION SPACING: 2 TO 4 MILES SYSTEM EXTENT: 20 TO 75 MILES
MAXIMUM SPEED: 79 MPH AVERAGE SPEED (WITH STOPS): 45 MPH



INTERCITY RAIL



STATION SPACING: 20 TO 30 MILES SYSTEM EXTENT: 50 TO 300 MILES
MAXIMUM SPEED: 110 MPH AVERAGE SPEED (WITH STOPS): 55 MPH



Commuter Rail Service – Trip Purpose

- Commuters – Daily – Morning & Afternoon
- Mid-Day, Evenings, Weekends – Occasional Trips/Events
- Transfer Connections to Other Transit Services (Bus/LRT/AT)





Commuter Rail is more efficient for longer trips

To carry 300-400 passengers requires.....



10 buses = 10 operators



3 locomotive-hauled bi-level coaches+locomotive = 1 or 2 operators



4 single-level DMUs = 1 or 2 operators

Note: Labor cost is the largest part of daily operating costs.



Strategic Plan Development Process

- SWOT (Strengths, Weaknesses, Opportunities, Threats) Process
 - Process guided by stakeholders
 - Identification of SWOT factors
 - Development of action plans



Strategic Plan Development Process

- Results of SWOT Process:
 - Were able to organize into six “high priority” factors
 - Regional Growth
 - Multimodal Opportunities
 - Existing Land Use and ROW
 - Cost and Affordability
 - Sustainability
 - Public and Private Cooperation
 - Found few differences across sub-areas



High Priority Factor: Regional Growth

Strengths	<ul style="list-style-type: none"> ■ Relieve congestion ■ Reduce "time tax"
Weaknesses	<ul style="list-style-type: none"> ■ Polycentric employment ■ Lost options – rapid development
Opportunities	<ul style="list-style-type: none"> ■ Use to focus growth ■ Redevelop, intensify
Threats	<ul style="list-style-type: none"> ■ Development incentives from other regions and states



Potential Scenarios

- **Get Started (Minneapolis)**
 - Single corridor, low cost of entry
- **Starter System (Salt Lake City)**
 - Two or more corridors, moderate cost of entry
- **Regional System (Los Angeles)**
 - Multiple corridors, complex, highest cost of entry



Scenario Characteristics

- **Railroad Coordination**
- **Governance**
- **Administration/Legislation**
- **Operations**
- **Costs**
- **Funding**



Next Steps

- **Final stakeholders meeting on October 30**
- **Draft plan published in December**
- **Plan adoption in Jan/Feb '08**



For Additional Information

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