

# MAG YUMA WEST

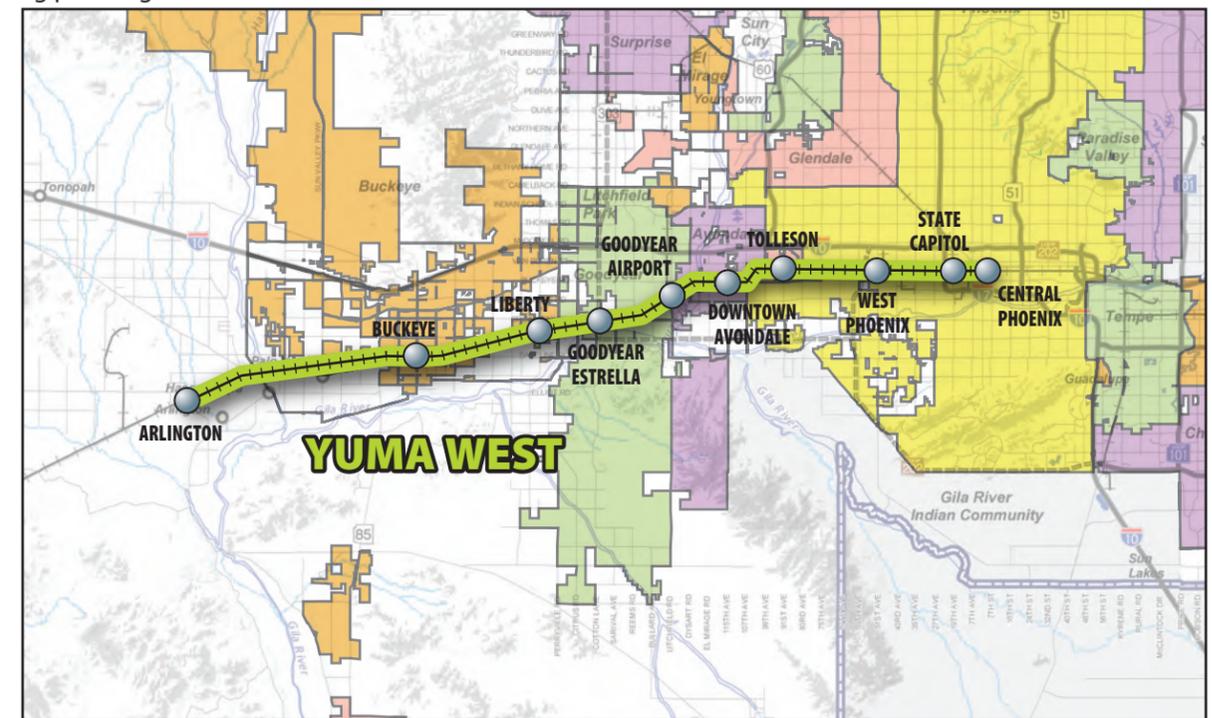
## COMMUTER RAIL CORRIDOR DEVELOPMENT PLAN

EXECUTIVE SUMMARY 2010

### YUMA WEST COMMUTER RAIL CORRIDOR DEVELOPMENT PLAN

The Phoenix metropolitan area has experienced unprecedented population growth over the last several decades, impacting all aspects of community development, land use, public service delivery, and particularly the demand on the Valley's transportation system. The western metropolitan region (or West Valley) has contributed a significant portion of the region's overall growth and, with developable land still available, is projected to continue to do so in the years ahead. The Yuma West Corridor Development Plan explores the feasibility of commuter rail to enhance mobility in the West Valley. It is assumed that commuter rail would share existing right-of-way owned by the Union Pacific Railroad (UPRR), similar to systems in other parts of the country.

Interstate 10 (I-10) is the only major freeway that connects downtown Phoenix with the communities in the West Valley. In addition to I-10, Buckeye Road is a major arterial roadway that provides a connection into downtown Phoenix and generally parallels the UPRR corridor. As the population of this area has grown, more residents are commuting along the I-10 and Buckeye Road corridors to key employment destinations in the central metropolitan area, including downtown Phoenix. Commuter rail technology can provide an additional tool to serve commuter travel demand. In addition, the implementation of commuter rail may promote economic and land use development opportunities if paired with local efforts to facilitate transit-supportive development. Many jurisdictions in the West Valley are identifying a public interest in such development in ongoing planning efforts.



Source: URS Corp., 2009



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**WHAT IS COMMUTER RAIL?**

Commuter rail trains typically provide service between suburbs to urban centers for the purpose of reaching activity centers, such as employment nodes, special events, and intermodal connections. Commuter rail trains are typically optimized for maximum passenger capacity and are equipped with comfortable seating and minimal luggage capacity. Service typically occurs at a lower frequency than light rail, serving primarily peak travel needs for commuters. Travel distance between a rail line's termini may range between 30 and 40 miles. Station spacing is typically 5 to 10 miles apart.



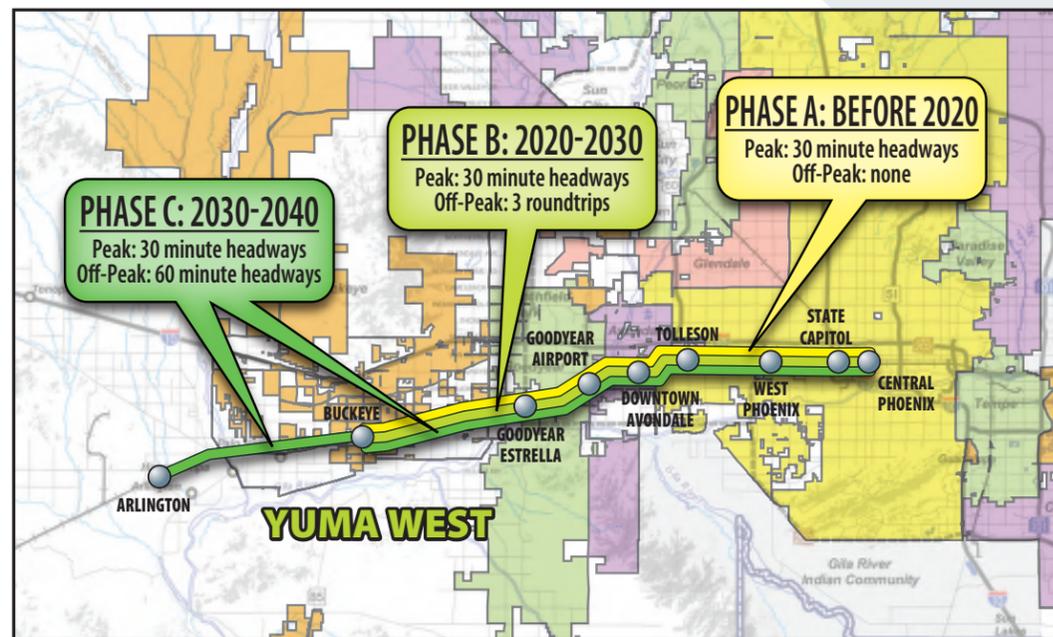
Rail Runner Express Commuter Train; Albuquerque, NM  
Source: MRCOG/HDR.



Sounder Commuter Train; Seattle, WA  
Source: MAG.

**HOW WOULD COMMUTER RAIL SERVICE BE OPERATED?**

The MAG Study Team developed three potential service levels as operating phases consisting of Phases A, B and C. Each phase increases levels of service as ridership would grow by increasing the frequency of trains (or headway) and/or expanding service areas, as shown below. Given the relatively small increase in cost between Phases A and B plus the ridership benefit of going to Phase B, it may be most cost-effective to implement both Phases A and B in any start-up scenario in this corridor.



Source: URS Corp., 2009

**IMPLEMENTATION STEPS**

Key implementation steps in the near-term include coordination with UPRR to further investigate opportunities for passenger rail service. A state-level initiative to advance legislation to address liability and indemnification issues is also a critical early step. Local jurisdictions, MAG, and transit providers also can work together to plan for the increased success of commuter rail service by promoting land use development and more robust transit connectivity options that will increase ridership potential.

**WHAT NEAR-TERM IMPLEMENTATION STEPS ARE PROPOSED TO ADVANCE PLANNING FOR COMMUTER RAIL?**

ITEM	RESPONSIBLE PARTY	PARTNERS	TIME FRAME
Periodic Ridership Forecasting Updates	MAG	Local Jurisdictions	Ongoing
Coordinate with UPRR → Maintain point of contact and communication protocols → Develop partnership to investigate options	ADOT MAG UPRR	Local jurisdictions METRO RPTA	Ongoing
Address Enabling Legislation (Liability and Indemnification)	ADOT (as a statewide issue)	MAG UPRR	2010-2013
Identify Funding Commitments	MAG ADOT Legislature	Local jurisdictions	2010-2015
Develop and Implement Governance Plan	MAG ADOT	METRO RPTA Local jurisdictions	Following identification of local funding commitments
Preserve Future Options	Commuter Rail Authority or JPA	Local jurisdictions UPRR MAG ADOT	Ongoing
Local Planning Efforts	Local Jurisdictions	MAG ADOT	Ongoing

**LONG-TERM IMPLEMENTATION STEPS**

The identification of funding commitments and determination of the appropriate governance structure for commuter rail, which are likely to influence each other, will set the stage for moving into the next level of investment in commuter rail within the MAG region. Recommended long-term implementation steps include:

- Formalize partnership with the railroad
- Secure sources of funding, including federal, state, regional, and local public funding as well as private sector participation
- Design, construct, and operate initial commuter rail system
- Conduct further planning to develop a seamless transportation system and meet regional sustainability goals

**COORDINATION OF INFRASTRUCTURE IMPROVEMENTS**

A successful commuter rail project will require a collaboration of all participants – primarily the local governments as the development regulator and financial partner, the transit agency as the transit infrastructure builder, and the UPRR as the railroad right-of-way owner.

The Yuma West Corridor is a portion of the 208-mile Phoenix Line of the UPRR. The Phoenix Line hosted Amtrak’s Sunset Limited until June 1996, when Amtrak began to use the Gila Line south of Phoenix. When Amtrak used the line for passenger service, the maximum operating speed was 50 to 60 mph for passenger trains. Ongoing freight activity on the line today consists of local traffic only, with an average of four to six local train movements per day.

The Yuma West Corridor is a single track with few sidings and frequent industrial leads and spur tracks. Passing sidings are located at 23rd Avenue in Phoenix, Cashion, Buckeye, Dixie, and Arlington. The primary issue along this corridor with regard to concurrently operating passenger and current local freight traffic is the use of Campo Yard, which is located between 35th Avenue and 43rd Avenue in Phoenix. Campo Yard is an industrial yard that serves local industries, where rail cars coming from local industries are assembled into trains and rail cars going to local customers are broken down from incoming trains. Due to limited right-of-way, routing commuter rail tracks through or around the facility without interfering with yard activities will be a challenge. To address this issue, several infrastructure improvements are proposed and coordination with UPRR on operations will be critical.

Some infrastructure improvements that potentially would be required as the level of commuter rail service increases includes Positive Train Control, or PTC, and quiet zones may be implemented by UPRR or other parties independently of commuter rail to address FRA requirements or meet community needs. Fundamental improvements, such as upgrading the existing main line to accommodate higher train speeds, would be needed with the initial service levels of commuter rail. Sidings would also be provided at critical commuter rail stations where passenger train meets would be expected.

Prior to securing project financing, local governments within the corridor can take steps to lay the foundation for commuter rail implementation. The following is a list of such actions:

- Control regulatory actions within station areas, including the planning, zoning, and development permitting process, to facilitate the development of commuter rail stations.
- Use other implementation tools such as infrastructure construction (for example, streets and utilities), land purchase and assembly, and creation of urban design guidelines to facilitate transit-supportive development.



**STAKEHOLDER INVOLVEMENT DURING THE PLANNING PROCESS**

The stakeholder involvement component of the planning process for this Corridor Development Plan was extensive. Throughout the study process, several groups met regularly to review project information and provide feedback. These groups included:

*Project Management Team (PMT):* The PMT included representatives from MAG, the Regional Public Transportation Authority (RPTA), Valley Metro Rail, Inc. (METRO), and the Arizona Department of Transportation (ADOT). The PMT met monthly to review study information and coordinate ongoing planning activities.

*Project Review Team (PRT):* The PRT included representatives from the local jurisdictions throughout the Yuma West Corridor. This group met quarterly throughout the year-long study process and provided feedback on study information and updated MAG’s Study Team on ongoing planning efforts in their communities.

*Stakeholders Meetings:* Stakeholders meetings were conducted quarterly to review and provide input into the planning process. This group had the broadest representation, as it included representatives of jurisdictions from throughout the MAG region, state agencies, and interest groups.

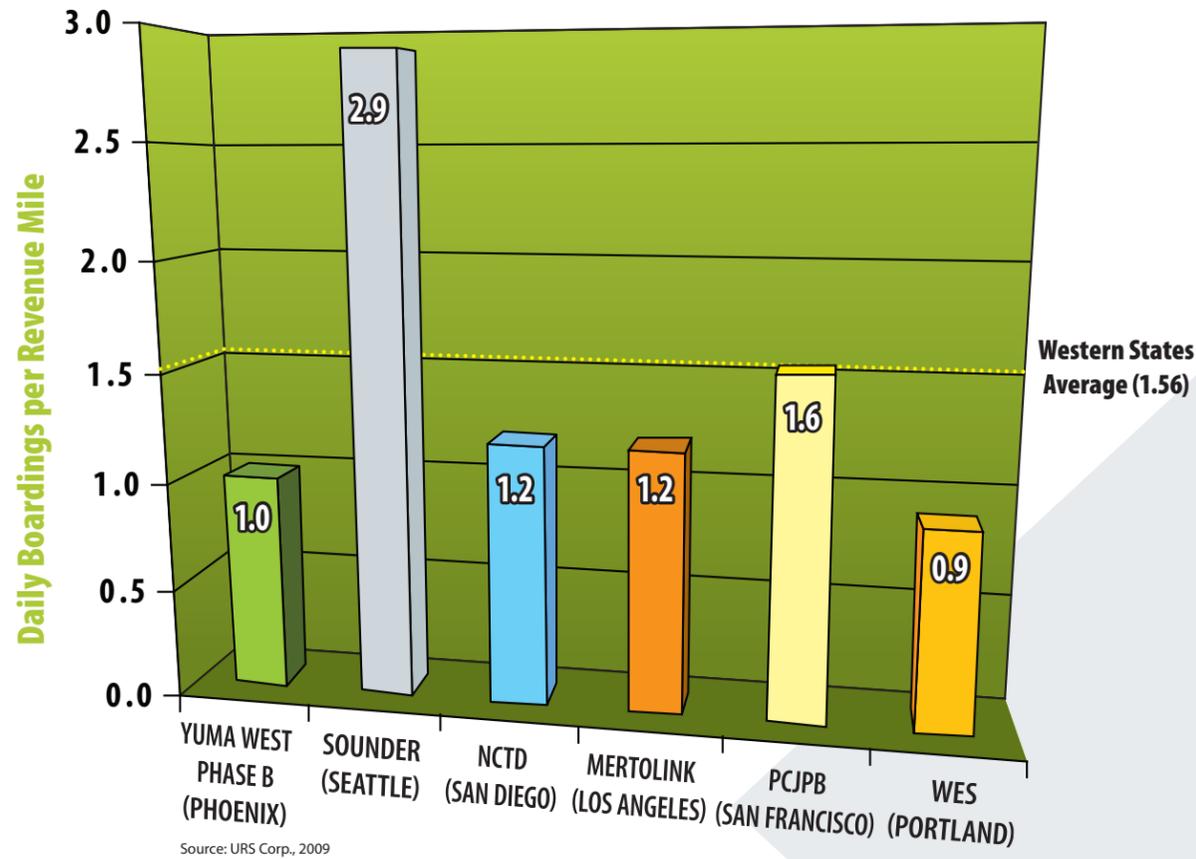
**WHAT RIDERSHIP COULD BE EXPECTED ON COMMUTER RAIL?**

Ridership modeling was conducted to evaluate the feasibility of commuter rail along the Yuma West Corridor. Phases A and B provide primarily peak period service, and the jump in ridership for Phase C reflects more frequent service as well as a longer line to Arlington.

YUMA WEST CORRIDOR DEVELOPMENT PHASES	YUMA WEST CORRIDOR DAILY BOARDINGS
Phase A: Phoenix – Buckeye (Before 2020)	1,200
Phase B: Phoenix – Buckeye (2020 – 2030)	1,420
Phase C: Phoenix – Arlington (2030 – 2040)	2,540

These ridership figures were estimated through use of the MAG travel demand model. Additional potential influences on ridership in the Yuma West Corridor also were identified. Although these are not quantified in the model, potential ridership could be expanded due to the following considerations:

- Changes in planned mobility improvements in the West Valley
- Special events
- Palo Verde Generation Station commuters



**YUMA WEST CORRIDOR AS PART OF A LARGER COMMUNITY RAIL SYSTEM**

In a multi-corridor scenario, the Yuma West Corridor would be connected to one or more other commuter rail corridors to create one continuous route that provides a one-seat ride throughout the region. Multi-corridor scenarios were considered as part of the MAG Commuter Rail System Study. Overall, combining corridors provides the opportunity to increase overall ridership and reduce per-rider costs. The recommendations that emerged from MAG's System Study included the Yuma West Corridor as part of the most productive and effective overall regional system. For more information, refer to the System Study Final Report or Executive Summary.

**WHAT WOULD COMMUTER RAIL COST IN THE YUMA WEST CORRIDOR?**

Preliminary cost estimates were prepared for the Yuma West Corridor by phase. These are considered to be conservative estimates, and would be expected to change as negotiations with the railroad progress and specific, needed improvements are confirmed.

**ESTIMATED CAPITAL COSTS FOR THE YUMA WEST CORRIDOR**

COST CATEGORY	PHASE A (MILLIONS)	PHASE B (MILLIONS)	PHASE C (MILLIONS)
Total Estimated Capital Cost*	\$356.0	\$365.2	\$453.5
Estimated Annual O&M Costs*	\$3.8	\$11.9	\$28.1

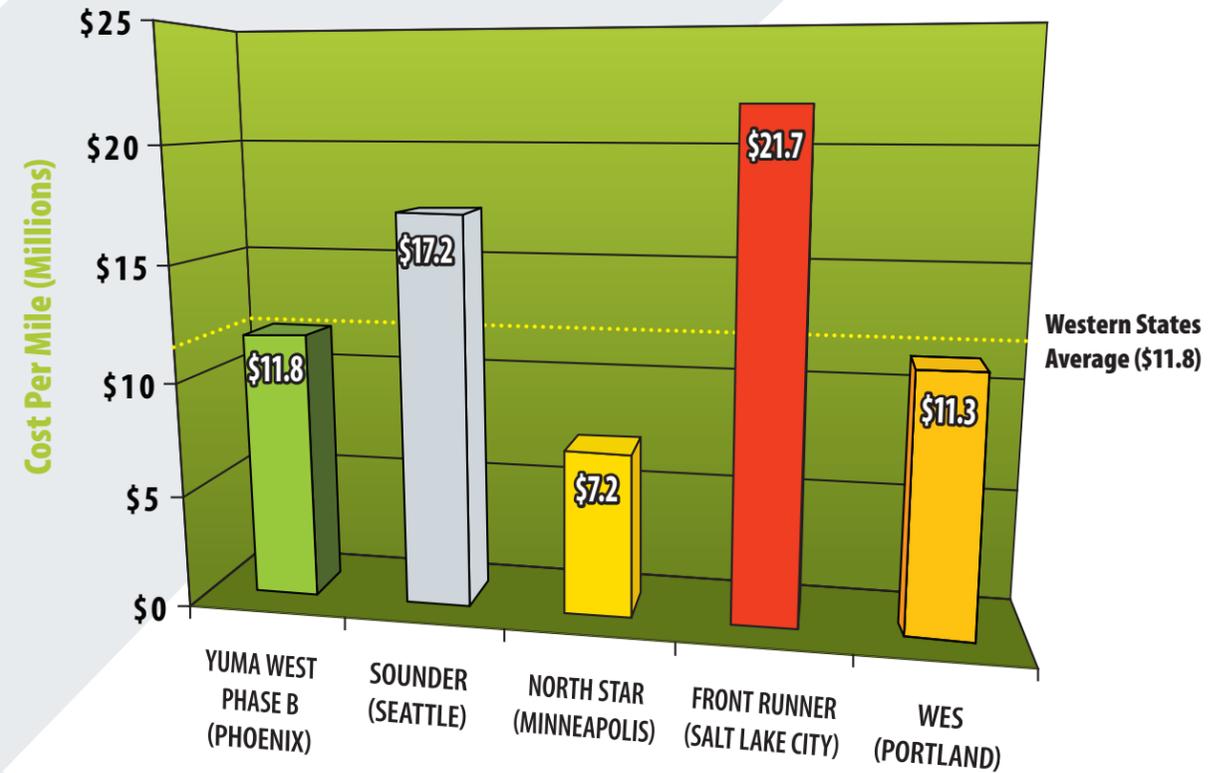
\* Cost in 2009 US dollars.

LOCAL OR REGIONAL FUNDING		
FUND SOURCE	CAPITAL AND/OR OPERATIONS	VIABILITY
Maricopa County Transportation Excise Tax (Sales Tax)	Supports capital and/or operations	Moderate. Although the revenue generated from the current tax (Proposition 400) is programmed, future propositions are expected to occur.
Vehicle Miles Travelled (VMT) Tax	Supports capital and/or operations	Moderate. Typically used for roadway maintenance. Commonly unpopular with voters because of perceived invasion of privacy. Would be considered to be a more consistent funding alternative to a gas tax.
Payroll Tax	Potentially support capital and/or operations.	Low. Existing State, and potentially Federal, tax codes must be modified to support these uses.
Motor Vehicle Sales Tax	Potentially support capital and/or operations.	Low. The MAG region's allocation programmed. The revenue generated from the tax may not be a sustainable source of funding in the future.
Vehicle Rental Tax	Supports capital and/or operations	Low. Special uses for the surcharges collected for this tax will require County, and possibly State, law modification for the purpose of commuter rail.
Local Gas Tax	Potentially supports capital and/or operations	Low. The MAG region's allocation is currently programmed. The revenue generated from the tax may not be a sustainable source of funding in the future. State tax codes will likely require modification to authorize uses.
Vehicle License Tax by District	Supports capital and/or operations	Moderate. The VLT by district concept would require significant political support since it has not been implemented. State and/or County tax codes will likely require modification to authorize districts and uses.

PRIVATE FUNDING		
FUND SOURCE	CAPITAL AND/OR OPERATIONS	VIABILITY
Public Value Capture: Benefits Assessment Districts	Potentially support capital and/or operating uses.	Low. Setting up the finance mechanism for such a public investment will require State and County statute or code modification.
Public Value Capture: Tax Increment Financing	Potentially support capital and/or operating uses.	Low. The authorization of such a mechanism will require political support and State law modification.
Public-Private Partnerships (PPP)	Potentially support capital and/or operating uses.	Moderate. ADOT is investigating new PPP opportunities. This approach is being used sparingly in other cities given uncertain nature of financial markets, but may be more viable in the future.

FEDERAL FUNDING		
Federal Railroad Administration Section 130	Supports transportation capital uses only, primarily for the use of improving grade crossings.	Low. The State's allocation of Section 130 funding is relatively small and may likely only support a portion of a safety improvement project.
Congestion Mitigation and Air Quality (CMAQ) Funds	Supports transportation capital uses only	Low. A commuter rail project application will contend with many other capital projects in the MAG region.
Surface Transportation Program (STP) Funds	Supports transportation capital uses only	Low. A commuter rail project application will contend with many other capital projects in the MAG region.
Federal Railroad Administration High Speed and Passenger Rail Program	Supports transportation capital uses only.	Low. May only address some intercity components of commuter rail or related rail projects.

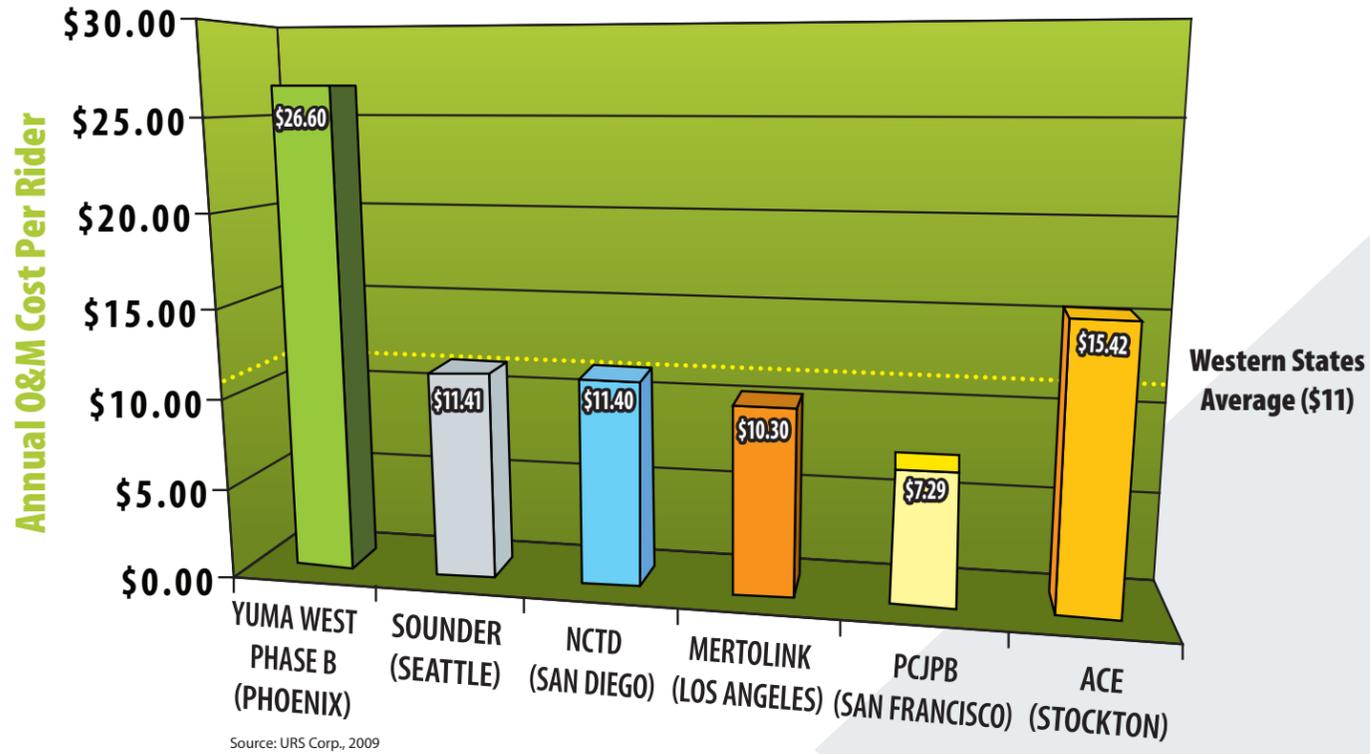
STATE FUNDING		
FUND SOURCE	CAPITAL AND/OR OPERATIONS	VIABILITY
Highway User Revenue Fund (HURF)	Supports transportation capital uses only	Low. Funding is driven by fuel taxes and vehicle license taxes, which may not be sustainable sources in the future. In order to use HURF, State statute changes would be required.
Vehicle License Tax (VLT)	Supports transportation capital and/or operations	Low. The MAG region's allocation is currently programmed. The revenue generated from the tax may not be a sustainable source of funding in the future.
Statewide Transportation Acceleration Needs (STAN) Account	Supports transportation capital and/or operations	Low. The STAN account was a potential source of transit funding in the recent past, however it is not considered to be a reliable funding source in the future.
New Dedicated Statewide Transportation Funding (e.g. statewide tax)	Supports transportation capital and/or operations	Low. Unclear if new tax would be considered viable in the future.



Source: URS Corp., 2009

Capital costs to implement Phases A and B of the Yuma West Corridor are estimated to be approximately \$11.8 million per mile. A review of the capital costs to build commuter rail in peer cities indicated that capital costs ranged from \$7.2 to 21.7 million; Yuma West would be in the low-to-mid range of these peer city costs. Due to the relatively low ridership projected for the Yuma West Corridor, the estimated operations and maintenance (O&M) cost of \$26.60 per rider is relatively high compared to peer cities.

The relatively low capital costs associated with the Yuma West Corridor and higher development potential (due to more vacant land in the West Valley that may develop over time) are positive attributes of this corridor. As discussed in the MAG Commuter Rail System Study, the Yuma West Corridor is most cost-effective as part of a larger, interlined system that would spread the O&M costs among more riders.



## HOW CAN COMMUTER RAIL BE IMPLEMENTED?

### POTENTIAL GOVERNANCE STRUCTURES

One of the most significant issues to be resolved for the implementation of commuter rail in the MAG region is the question of who will be the responsible party for managing, designing, constructing and operating the system. Implementation of a commuter rail system will require a governance structure that reflects the financial, political, and representational patterns of the areas served by commuter rail.

The existing structure of transit service providers in the Phoenix metropolitan region is a complex mix of historical operations such as the City of Phoenix transit system, the Regional Public Transportation Authority (RPTA) and Valley Metro Rail Inc. (METRO), a nonprofit, public corporation charged with the design, construction, and operation of the Valley's light rail system. In addition, ADOT is exploring intercity rail opportunities within the state. Defining appropriate governance structures for a commuter rail system would depend upon opportunities that arise for cooperation and use of railroad right-of-way. Each agency would have to participate in the process to define the appropriate structure.

Generally, the institutional arrangements for regional or commuter rail service throughout the country range from state-run regional rail operations to large single-purpose regional rail authorities that extend service into multiple political jurisdictions, to regional transit authorities that are responsible for multimodal services, to sub-regional agreements between cities to contribute to the management of a rail service in a common corridor. Based on the decisions regarding governance made in the most recent commuter rail projects, two key factors are likely to determine the success of a new governance structure. These factors include the ability of the institutional arrangement to (1) balance local control with the need for regional

system performance; and (2) provide stable funding opportunities. The options for an appropriate institutional structure for regional commuter rail, based on both the national experience and the local situation, are summarized below.

**Regional Transit Authority/District (Multi-Modal):** Should MAG consider this model in the implementation of commuter rail, it would likely entail a restructuring of RPTA, which was authorized in 1985 by the State legislature.

**Regional Rail Authority/District (Single-Purpose):** A newly formed regional rail authority with the sole purpose of implementing commuter rail in the region would likely involve membership by Maricopa County, and potentially Pinal County if service is expanded. This new authority would be similar to METRO.

**Joint Powers Authority (JPA):** In the MAG region, a JPA would be formed by aggregating authorities from constituent districts. For example, METRO could enter into an agreement with the cities to be served by commuter rail to form a JPA responsible for the design, construction and operation of commuter rail service.

**Division of State Department of Transportation:** While this model is primarily found in smaller states with a single metropolitan area, it may have an application in the MAG region, particularly in conjunction with a state-sponsored intercity rail connection between Tucson and Phoenix and a statewide passenger rail system.

**Division of Metropolitan Planning Organization:** This governance model would require expanding the charter of MAG to include the operation of commuter rail.

### FUNDING OPTIONS

Another initial step to develop a funding implementation strategy is to gauge possible or probable funding options from governments at the federal, state and local levels.

#### FEDERAL, STATE, LOCAL AND PRIVATE FUNDING SOURCES

FEDERAL FUNDING		
FUND SOURCE	CAPITAL AND/OR OPERATIONS	VIABILITY
Federal Transit Administration Section 5307	Supports transportation capital costs including preventive maintenance	Low. The MAG region's allocation is currently programmed to support a host of other transit projects; future funds could be allocated to commuter rail. This is an annual programming allocated by formula; if and when commuter rail is added to the region, its data would enter into the formula calculation.
Federal Transit Administration Section 5309 New Starts	Supports transportation capital	Moderate. The application of Section 5309 is feasible, but the New Starts alternatives analysis planning requirements will require a significant evaluation and time. However, New Starts regulations have been relaxed recently and additional funding will likely be provided nationwide in the next authorization bill.

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