

In 2016, MAG initiated a technical update of the original 2010 Regional Commuter Rail System Study.

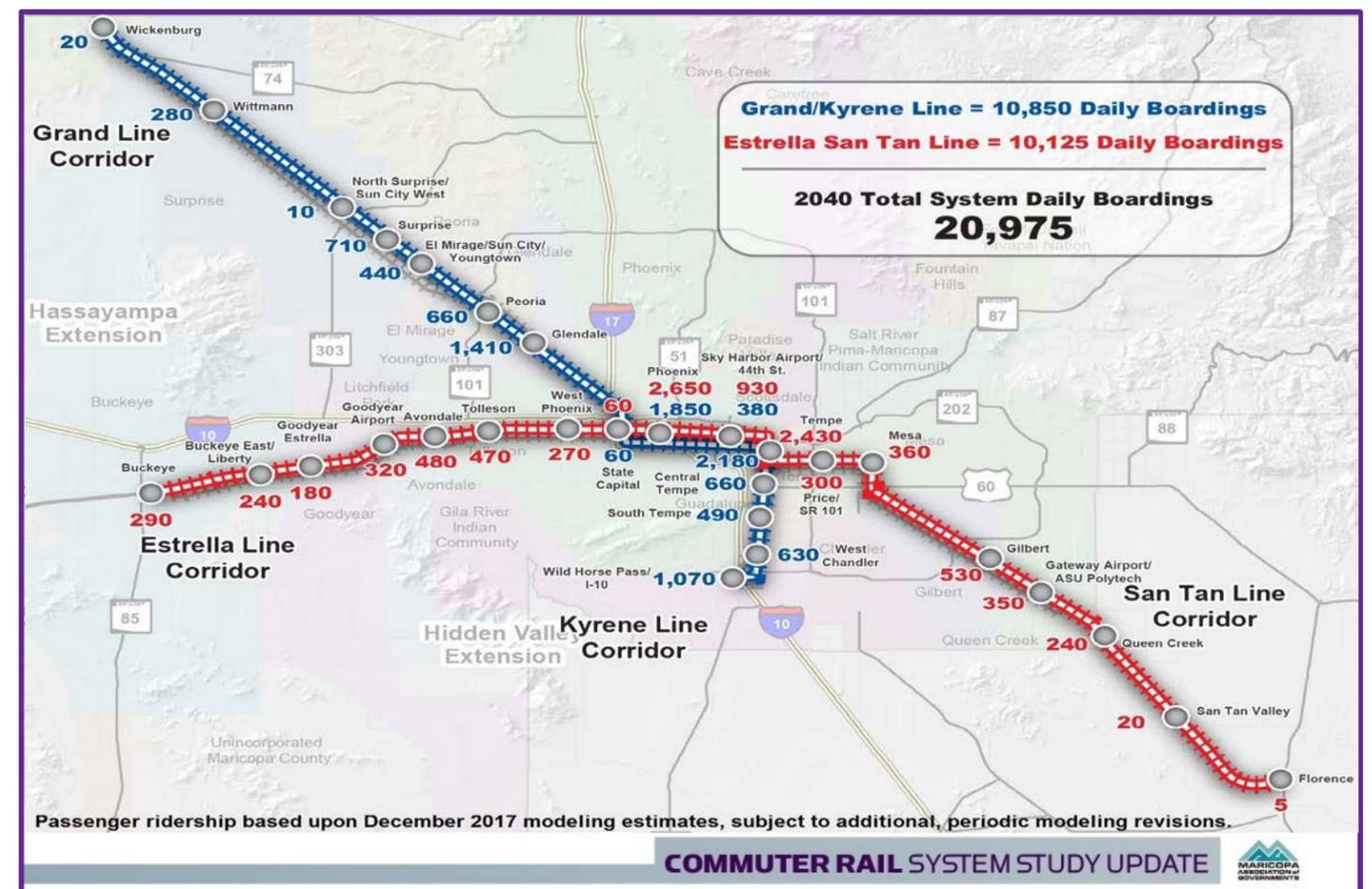
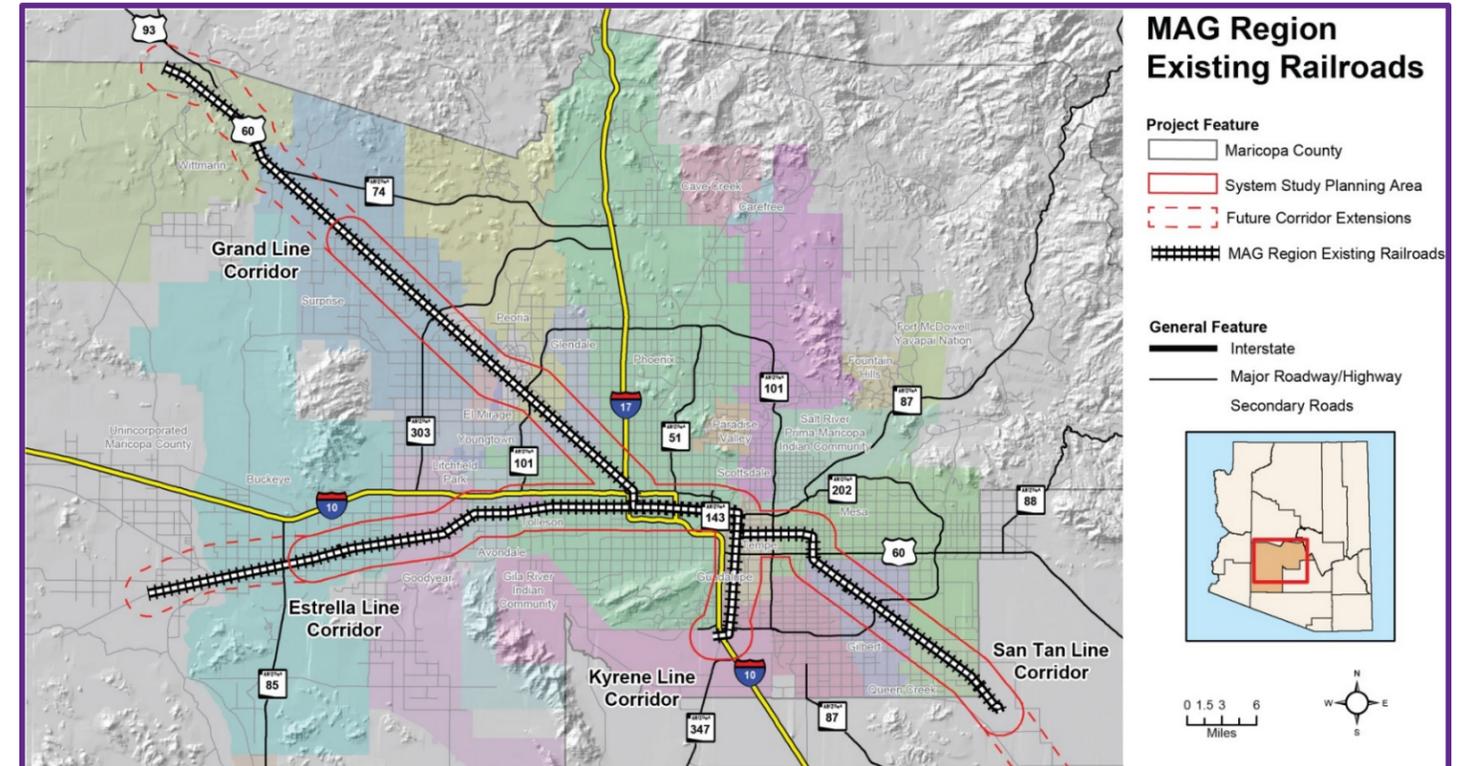
The purpose of the update is to revisit socioeconomic forecasts, projected ridership, cost estimates, and related data through a planning horizon of 2040. Technical review of governance and indemnity/liability matters related to passenger rail implementation was also updated, as these elements must be addressed with owner railroad(s) prior to implementation.

The outcomes of this study will inform decisions regarding future regional, high-capacity transit investments.

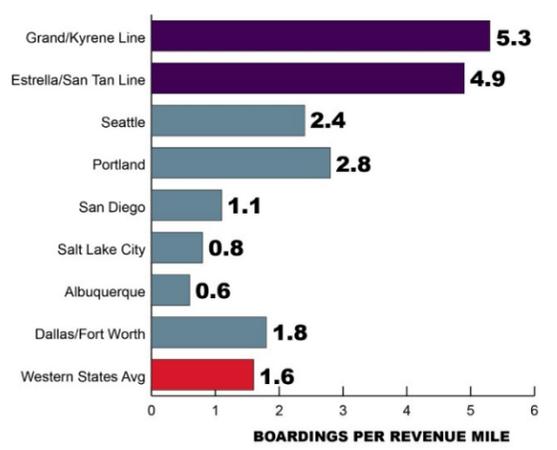
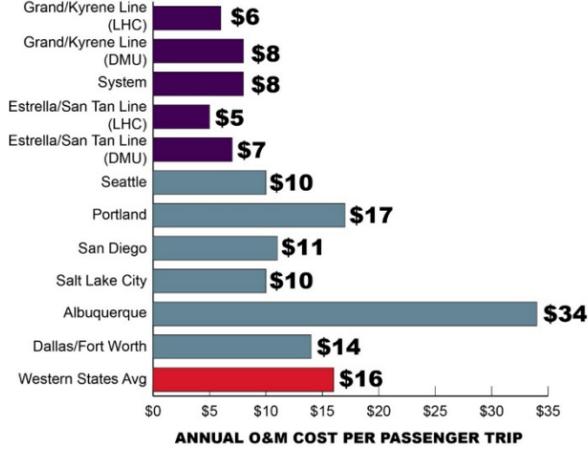
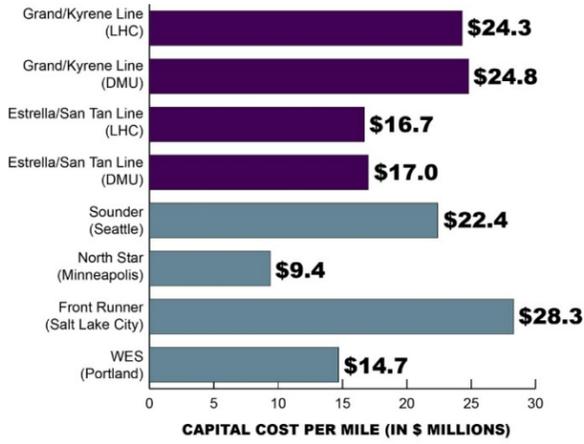


MAG Conceptual illustration

ALTERNATIVES	DESCRIPTION	DISTANCE	PEAK SERVICE	OFF-PEAK SERVICE	NO. OF STATIONS	TRAVEL TIME
<b>INDIVIDUAL CORRIDORS</b>						
Grand Line	Service between Wittmann and downtown Phoenix	35.8 mi.	30 min.	120 min.	8	38-42 min.
Kyrene Line	Service between Wild Horse Pass/I-10 and downtown Phoenix	18.0 mi.	30 min.	120 min.	7	26-29 min.
Estrella Line	Service between Buckeye and downtown Phoenix	30.4 mi.	30 min.	120 min.	9	34-39 min.
San Tan Line	Service between Queen Creek and downtown Phoenix	31.0 mi.	30 min.	120 min.	8	37-41 min.
<b>COMBINED CORRIDORS</b>						
Grand/Kyrene Line	Service between Wittmann and Wild Horse Pass/I-10 with a stop in Phoenix	53.8 mi.	30 min.	120 min.	14	66-73 min.
Estrella/San Tan Line	Service between Buckeye and Queen Creek with a stop in Phoenix	61.4 mi.	30 min.	120 min.	16	74-82 min.



## Peer City Comparisons



INTERLINKED ALTERNATIVE	DMU		LHC	
	Train Miles	Train Hours	Train Miles	Train Hours
Annual Weekday Train Miles and Hours	465,579	20,910	465,579	20,910
Annual Weekend Train Miles and Hours	35,442	1,210	35,442	1,210
Total Annual Train Miles and Hours	501,021	22,120	501,021	22,120
Average Peer City Cost per Mile and Hour	\$38.72	\$901.54	\$20.93	\$683.54
<b>Grand/Kyrene Line Corridor Total Cost</b>	<b>\$19.4 M</b>	<b>\$19.9 M</b>	<b>\$10.5 M</b>	<b>\$15.1 M</b>
Annual Weekday Train Miles and Hours	532,338	20,910	532,338	20,910
Annual Weekend Train Miles and Hours	40,524	1,210	40,524	1,210
Total Annual Train Miles and Hours	572,862	22,120	572,862	22,120
Average Peer City Cost per Mile and Hour	\$38.72	\$901.54	\$20.93	\$683.54
<b>Estrella/San Tan Line Corridor</b>	<b>\$22.2 M</b>	<b>\$19.9 M</b>	<b>\$12.0 M</b>	<b>\$15.1 M</b>

FAREBOX REVENUE							
COMMUTE RAIL LINE	2040 PROJECTED WEEKDAY RIDERSHIP	WEEKDAYS/ YEAR	ANNUAL WEEKDAY RIDERSHIP	SATURDAYS & HOLIDAYS/ YEAR	ANNUAL WEEKEND/ HOLIDAY RIDERSHIP (10% WEEKDAY)	TOTAL ANNUAL RIDERSHIP	ANNUAL FAREBOX REVENUE (\$3.00/TRIP)
Grand/Kyrene	10,100	255	2,575,500	55	55,550	2,631,050	\$7,893,150
Estrella/San Tan	10,830	255	2,761,650	55	59,565	2,821,215	\$8,463,645
<b>SYSTEM TOTAL</b>	<b>20,930</b>	<b>255</b>	<b>5,337,150</b>	<b>55</b>	<b>115,115</b>	<b>5,452,265</b>	<b>\$16,356,795</b>

FAREBOX RECOVERY							
COMMUTER RAIL LINE	ANNUAL OPERATING COST (TRAIN MILE)	ANNUAL OPERATING COST (TRAIN HOUR)	AVERAGE ANNUAL OPERATING COST	ANNUAL FARE BOX REVENUE (90%)	ANNUAL FARE BOX REVENUE (100%)	FAREBOX RECOVERY RATE (90%)	FAREBOX RECOVERY RATE (100%)
Grand/Kyrene	\$19,399,533	\$19,942,065	\$19,670,799	\$7,103,835	\$7,893,150	36.1%	40.1%
Estrella/San Tan	\$22,181,217	\$19,942,065	\$21,061,641	\$7,617,281	\$8,463,645	36.2%	40.2%
<b>SYSTEM TOTAL</b>	<b>\$41,580,750</b>	<b>\$39,884,130</b>	<b>\$40,732,440</b>	<b>\$14,721,116</b>	<b>\$16,356,795</b>	<b>36.1%</b>	<b>40.2%</b>



INTERLINKED ALTERNATIVE	CAPITAL COST	
	DMU	LHC
Grand/Kyrene Line Corridor (same for both vehicle types)	\$1.075 B (\$23.4 Million/mile)	\$1.075 B (\$23.4 Million/mile)
Estrella/San Tan Line Corridor (same for both vehicle types)	\$1.160 B (\$16.2 Million/mile)	\$1.160 B (\$16.2 Million/mile)
System Elements (includes Union Station and Commuter Rail Maintenance Facility)	\$152 Million	\$152 M
Vehicles (15 trainsets)	\$180 M	\$135 M
<b>SYSTEM TOTAL</b>	<b>\$2.566 B</b>	<b>\$2.521 B</b>

## Commuter Rail Implementation Next Steps

ITEM	RESPONSIBLE PARTY	PARTNERS	TIMEFRAME
1  Periodic Ridership Forecasting Updates	• MAG	• Local Jurisdictions	Ongoing
2  Coordination with Railroads	• ADOT • MAG • Railroads	• Local Jurisdictions • Valley Metro	Ongoing
3  Local Planning Efforts	• Local Jurisdictions	• MAG • ADOT	Ongoing
4  Address Enabling Legislation regarding Liability and Indemnification	• ADOT • MAG	• Railroads	2018-2022
5  Coordination of Infrastructure Improvements with the Railroads, ADOT and Local Jurisdictions	• MAG • Local Jurisdiction • ADOT	• Railroads • Valley Metro	Ongoing
6  Identify Funding Commitments	• MAG • ADOT • Legislature	• Local Jurisdictions	2018-2022
7  Develop and Implement Governance Plan	• MAG • ADOT	• Local Jurisdictions • Valley Metro	Following identification of local funding commitments
8  Initiate Process for Federal Funding	• MAG	• Local Jurisdictions	Following identification of local funding commitments
9  Preserve Future Options	• Commuter Rail Authority or JPA	• Local Jurisdictions • Railroads • MAG • CAG • ADOT	Ongoing

## Project Contact

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## For More Information

<http://www.azmag.gov/commuterrail>