APPENDICES

COMMUTER RAIL

STRATEGIC PLAN

MARCH 2008

submitted by: URS

Maricopa Association of Governments
Commuter Rail Strategic Plan

Appendices

Appendix A: Demographic Data
Appendix B: Summary of Previous Studies
Appendix C: Stakeholder Involvement
Appendix D: Working Papers

March, 2008

TABLE OF CONTENTS

A. APPENDIX- DEMOGRAPHIC DATA

Table A-1: Total Population Projections for 2005-2030

		Total Population	
MPA		**2005**	**2030**
TOTAL (MAG Region)		3,855,000	6,997,200
Absolute Growth (over '05)			3,142,200
Percent Growth (over '05)			82%
Annual Growth (over '05)			2.4%

Source: MAG (June 2007)

Table A-2: Total Population by Subarea (in descending order)

		Total Population				
MPA		**2005**	**2030**	**2030-2005**	**% Change**	**Annual % Growth**
SW Subarea						
BU	Buckeye	27,800	410,600	382,800	1377%	11.4%
CO-SW	County Areas - SW Subarea	6,900	63,000	56,100	813%	9.2%
GO	Goodyear	44,400	274,000	229,600	517%	7.6%
GB	Gila Bend	2,100	9,100	7,000	333%	6.0%
AV	Avondale	70,000	123,000	53,000	76%	2.3%
LP	Litchfield Park	6,700	10,400	3,700	55%	1.8%
	SW Subarea Total	*157,900*	*890,100*	*732,200*	*464%*	*7.2%*
NW Subarea						
SU	Surprise	92,800	400,100	307,300	331%	6.0%
PE	Peoria	138,500	301,800	163,300	118%	3.2%
WI	Wickenburg	8,300	15,100	6,800	82%	2.4%
CO-NW	County Areas - NW Subarea	58,600	77,600	19,000	32%	1.1%

		Total Population				
MPA		2005	2030	2030-2005	% Change	Annual % Growth
GL	Glendale	253,900	316,200	62,300	25%	0.9%
EL	El Mirage	31,900	38,600	6,700	21%	0.8%
YO	Youngtown	5,700	6,800	1,100	19%	0.7%
	NW Subarea Total	*589,700*	*1,156,200*	*566,500*	*96%*	*2.7%*

Central Subarea

CO-Central	County Areas - Central Subarea	3,200	16,700	13,500	422%	6.8%
CC	Cave Creek	4,800	9,600	4,800	100%	2.8%
CA	Carefree	3,700	6,100	2,400	65%	2.0%
TO	Tolleson	6,500	10,200	3,700	57%	1.8%
FM	Fort McDowell Yavapai Nation	800	1,200	400	50%	1.6%
PH	Phoenix	1,480,700	2,155,900	675,200	46%	1.5%
FH	Fountain Hills	24,200	29,600	5,400	22%	0.8%
SC	Scottsdale	232,200	282,600	50,400	22%	0.8%
PA	Paradise Valley	14,100	15,300	1,200	9%	0.3%
SA	Salt River Pima Maricopa Indian Community	6,700	7,300	600	9%	0.3%
	Central Subarea Total	*1,776,900*	*2,534,500*	*757,600*	*43%*	*1.4%*

SE Subarea*

PC-SE	Pinal County Areas - SE Subarea	58,200	400,800	342,600	589%	8.0%
QC	Queen Creek	21,800	95,100	73,300	336%	6.1%
MA	Maricopa (PC)	18,400	65,200	46,800	254%	5.2%
FL	Florence (PC)	6,600	21,800	15,200	230%	4.9%
AJ	Apache Junction (PC)	72,400	217,100	144,700	200%	4.5%
SP	Superior (PC)	3,500	7,500	4,000	114%	3.1%

MPA		Total Population 2005	2030	2030-2005	% Change	Annual % Growth
GI	Gilbert	178,400	299,900	121,500	68%	2.1%
CH	Chandler	234,500	281,200	46,700	20%	0.7%
ME	Mesa	480,000	575,100	95,100	20%	0.7%
TE	Tempe	159,300	183,600	24,300	15%	0.6%
CO-SE	County Areas - SE Subarea	9,300	10,000	700	8%	0.3%
GU	Guadalupe	5,600	6,000	400	7%	0.3%
	SE Subarea Total	*1,248,000*	*2,163,300*	*915,300*	*73%*	*2.2%*
South Subarea*						
EY	Eloy (PC)	12,900	58,100	45,200	350%	6.2%
CL	Coolidge (PC)	11,900	45,900	34,000	286%	5.5%
PC-South	Pinal County Areas - South Subarea	9,500	31,800	22,300	235%	5.0%
CG	Casa Grande (PC)	36,900	98,200	61,300	166%	4.0%
GC	Gila River Indian Community	11,200	14,700	3,500	31%	1.1%
	South Subarea Total	*82,400*	*248,700*	*166,300*	*202%*	*4.5%*
Other County Areas						
CO	County Areas	100	4,400	4,300	4300%	16.3%
	Other County Areas Total	*100*	*4,400*	*4,300*	*4300%*	*16.3%*
TOTAL (MAG Region)		**3,855,000**	**6,997,200**	**3,142,200**	***82%***	***2.4%***

*Includes Pinal County data

Source: MAG (June 2007)

Source: MAG (June 2007)

Table A-3: Total Employment Projections 2005-2030

		Total Employment	
MPA		**2005**	**2030**
TOTAL (MAG Region)		1,819,510	3,594,000
Absolute Growth (over '05)			1,774,490
Percent Growth (over '05)			98%
Annual Growth (over '05)			2.8%

Source: MAG (June 2007)

Table A-4: Total Employment by Subarea (in descending order)

		Total Employment				
MPA		**2005**	**2030**	**2030-2005**	**% Change**	**Annual % Growth**
SW Subarea						
BU	Buckeye	8,700	147,700	139,000	1598%	12.0%
CO-SW	County Areas - SW Subarea	3,700	48,600	44,900	1214%	10.9%
GO	Goodyear	15,800	117,200	101,400	642%	8.3%
GB	Gila Bend	1,100	6,800	5,700	518%	7.6%
AV	Avondale	12,300	53,100	40,800	332%	6.0%
LP	Litchfield Park	1,700	4,300	2,600	153%	3.8%
	SW Subarea Total	*43,300*	*377,700*	*334,400*	*772%*	*9.1%*
NW Subarea						
SU	Surprise	16,300	145,800	129,500	794%	9.2%
EL	El Mirage	2,900	11,500	8,600	297%	5.7%
PE	Peoria	34,700	117,600	82,900	239%	5.0%
WI	Wickenburg	4,500	10,300	5,800	129%	3.4%
GL	Glendale	88,100	171,500	83,400	95%	2.7%
CO-NW	County Areas - NW Subarea	17,400	25,500	8,100	47%	1.5%
YO	Youngtown	1,700	2,000	300	18%	0.7%
	NW Subarea Total	*165,600*	*484,200*	*318,600*	*192%*	*4.4%*

		Total Employment				
MPA		**2005**	**2030**	**2030-2005**	**% Change**	**Annual % Growth**
Central Subarea						
SA	Salt River Pima Maricopa Indian Community	6,000	49,900	43,900	732%	8.8%
CO-Central	County Areas - Central Subarea	1,200	4,700	3,500	292%	5.6%
CC	Cave Creek	2,600	6,100	3,500	135%	3.5%
TO	Tolleson	12,300	22,300	10,000	81%	2.4%
CA	Carefree	2,700	4,300	1,600	59%	1.9%
FM	Fort McDowell Yavapai Nation	1,200	2,000	800	67%	2.1%
PH	Phoenix	811,500	1,247,400	435,900	54%	1.7%
FH	Fountain Hills	7,200	10,900	3,700	51%	1.7%
PA	Paradise Valley	5,800	8,700	2,900	50%	1.6%
SC	Scottsdale	181,700	252,000	70,300	39%	1.3%
	Central Subarea Total	*1,032,200*	*1,608,300*	*576,100*	*56%*	*1.8%*
SE Subarea*						
QC	Queen Creek	4,200	37,300	33,100	788%	9.1%
PC-SE	Pinal County Areas - SE Subarea	6,700	32,200	25,500	381%	6.5%
MA	Maricopa (PC)	6,600	32,800	26,200	397%	6.6%
SP	Superior (PC)	300	1,100	800	267%	5.3%
AJ	Apache Junction (PC)	12,600	32,700	20,100	160%	3.9%
GI	Gilbert	56,300	128,900	72,600	129%	3.4%
CH	Chandler	86,700	178,100	91,400	105%	2.9%
ME	Mesa	174,900	306,000	131,100	75%	2.3%
FL	Florence (PC)	3,200	6,200	3,000	94%	2.7%
GU	Guadalupe	1,000	1,500	500	50%	1.6%

		Total Employment				
MPA		**2005**	**2030**	**2030-2005**	**% Change**	**Annual % Growth**
TE	Tempe	176,700	235,500	58,800	33%	1.2%
CO-SE	County Areas - SE Subarea	1,500	1,600	100	7%	0.3%
	SE Subarea Total	*530,700*	*993,900*	*463,200*	*87%*	*2.5%*
South Subarea*						
EY	Eloy (PC)	2,500	11,700	9,200	368%	6.4%
PC-South	Pinal County Areas - South Subarea	4,900	12,900	8,000	163%	3.9%
GC	Gila River Indian Community	7,200	19,600	12,400	172%	4.1%
CG	Casa Grande (PC)	29,000	73,500	44,500	153%	3.8%
CL	Coolidge (PC)	4,100	10,600	6,500	159%	3.9%
	South Subarea Total	*47,700*	*128,300*	*80,600*	*169%*	*4.0%*
Other County Areas						
CO	County Areas	10	1,600	1,590	15900%	22.5%
	Other County Areas Total	*10*	*1,600*	*1,590*	*15900%*	*22.5%*
TOTAL (MAG Region)		**1,819,510**	**3,594,000**	**1,774,490**	***98%***	***2.8%***

*Includes Pinal County data

Source: MAG (June 2007)

Table A-5: Total Household Projections 2005-2030

		Households	
MPA		**2005**	**2030**
TOTAL (MAG Region)		1,441,830	2,702,500
Absolute Growth (over '05)			1,260,670
Percent Growth (over '05)			87%
Annual Growth (over '05)			2.5%

Source: MAG (June 2007)

Table A-6: Total Households by Subarea (in descending order)

		Households				
MPA		**2005**	**2030**	**2030-2005**	**% Change**	**Annual % Growth**
SW Subarea						
BU	Buckeye	8,800	152,400	143,600	1632%	12.1%
CO-SW	County Areas - SW Subarea	2,500	26,200	23,700	948%	9.9%
GO	Goodyear	15,700	106,200	90,500	576%	7.9%
GB	Gila Bend	700	3,300	2,600	371%	6.4%
AV	Avondale	21,700	43,700	22,000	101%	2.8%
LP	Litchfield Park	3,100	4,700	1,600	52%	1.7%
	SW Subarea Total	*52,500*	*336,500*	*284,000*	*541%*	*7.7%*
NW Subarea						
SU	Surprise	35,400	160,200	124,800	353%	6.2%
PE	Peoria	50,100	118,900	68,800	137%	3.5%
WI	Wickenburg	3,700	7,000	3,300	89%	2.6%
EL	El Mirage	9,400	12,000	2,600	28%	1.0%
GL	Glendale	89,400	113,600	24,200	27%	1.0%
CO-NW	County Areas - NW Subarea	35,800	44,900	9,100	25%	0.9%
YO	Youngtown	2,500	3,100	600	24%	0.9%
	NW Subarea Total	*226,300*	*459,700*	*233,400*	*103%*	*2.9%*

		Households				
MPA		**2005**	**2030**	**2030-2005**	**% Change**	**Annual % Growth**
Central Subarea						
CO-Central	County Areas - Central Subarea	1,400	7,200	5,800	414%	6.8%
CC	Cave Creek	2,100	4,200	2,100	100%	2.8%
FM	Fort McDowell Yavapai Nation	200	400	200	100%	2.8%
CA	Carefree	1,700	2,800	1,100	65%	2.0%
TO	Tolleson	1,900	3,000	1,100	58%	1.8%
PH	Phoenix	534,800	808,500	273,700	51%	1.7%
FH	Fountain Hills	10,700	13,500	2,800	26%	0.9%
SC	Scottsdale	105,100	127,000	21,900	21%	0.8%
PA	Paradise Valley	5,200	5,800	600	12%	0.4%
SA	Salt River Pima Maricopa Indian Community	2,100	2,300	200	10%	0.4%
	Central Subarea Total	*665,200*	*974,700*	*309,500*	*47%*	*1.5%*
SE Subarea*						
QC	Queen Creek	6,500	32,600	26,100	402%	6.7%
FL	Florence (PC)	3,000	11,600	8,600	287%	5.6%
MA	Maricopa (PC)	6,800	25,200	18,400	271%	5.4%
AJ	Apache Junction (PC)	28,100	79,800	51,700	184%	4.3%
SP	Superior (PC)	1,300	2,800	1,500	115%	3.1%
GI	Gilbert	58,500	108,500	50,000	85%	2.5%
CH	Chandler	86,100	107,700	21,600	25%	0.9%
ME	Mesa	182,200	223,000	40,800	22%	0.8%
TE	Tempe	67,900	81,700	13,800	20%	0.7%
PC-SE	Pinal County Areas - SE Subarea	22,500	155,400	132,900	591%	8.0%

		Households				
MPA		**2005**	**2030**	**2030-2005**	**% Change**	**Annual % Growth**
CO-SE	County Areas - SE Subarea	5,400	5,900	500	9%	0.4%
GU	Guadalupe	1,200	1,300	100	8%	0.3%
	SE Subarea Total	*469,500*	*835,500*	*366,000*	*78%*	*2.3%*
South Subarea*						
EY	Eloy (PC)	4,700	23,400	18,700	398%	6.6%
CL	Coolidge (PC)	4,200	19,600	15,400	367%	6.4%
CG	Casa Grande (PC)	13,000	35,300	22,300	172%	4.1%
GC	Gila River Indian Community	2,800	3,700	900	32%	1.1%
PC-South	Pinal County Areas - South Subarea	3,600	12,300	8,700	242%	5.0%
	South Subarea Total	*28,300*	*94,300*	*66,000*	*233%*	*4.9%*
Other County Areas						
CO	County Areas	30	1,800	1,770	5900%	17.8%
	Other County Areas Total	*30*	*1,800*	*1,770*	*5900%*	*17.8%*
TOTAL (MAG Region)		**1,441,830**	**2,702,500**	**1,260,670**	***87%***	***2.5%***

*Includes Pinal County data

Source: MAG (June 2007)

B. APPENDIX-SUMMARY OF PREVIOUS STUDIES

Table B-1, on the following page, contains a summary of comparative information from previous commuter rail studies conducted between 1980 and 2003.

Table B-1: Metropolitan Phoenix Commuter Rail / High Capacity Studies: 1980-2003

Metropolitan Phoenix Commuter Rail / High Capacity Studies: 1980-2003					
1980 - Phoenix/Tucson Rail Passenger (ADOT) (UP's SE Queen Creek Line only)					
Valley Commuter Rail Corridor	**UP West/Yuma**	**UP SE (Chandler)**	**UP SE (Queen Creek)**	**BNSF Grand**	**UP Tempe/ I-10/Chandler**
Capital Cost Per Mile			$2.5 million		
Average Daily Ridership Opening Year			620-1250		
Metro/County Population - 1.5 million					
Urbanized Pop Density (sq. mile) 2348					
1989 - East Valley Commuter Rail Study (RPTA) (UP's SE Chandler Line only)					
Valley Commuter Rail Corridor	**UP West/Yuma**	**UP SE (Chandler)**	**UP SE (Queen Creek)**	**BNSF Grand**	**UP Tempe/ I-10/Chandler**
Capital Cost Per Mile		$2 - 3 million			
Average Daily Ridership Opening Year		1700-3200			
Metro/County Population - 2.1 million					
Urbanized Pop Density (sq. mile) 2600					
1990 - Regional Rail For Arizona (UTDC)					
Valley Commuter Rail Corridor	**UP West/Yuma**	**UP SE (Chandler)**	**UP SE (Queen Creek)**	**BNSF Grand**	**UP Tempe/ I-10/Chandler**
Capital Cost Per Mile	$1.7 - 2 million	$1.7 - 2 million	$1.7 - 2 million	$2 - 4 million	$2 million

Metropolitan Phoenix Commuter Rail / High Capacity Studies: 1980-2003					
Average Daily Ridership Opening Year	1500-2500	2000-3000	1500-2500	2000-3000	1000-1500
Metro/County Population - 2.1 million					
Urbanized Pop Density (sq. mile) 270					
1992 - Arizona Rail: A Regional Rail System For Arizona (Gale/ARPA)					
Valley Commuter Rail Corridor	**UP West/Yuma**	**UP SE (Chandler)**	**UP SE (Queen Creek)**	**BNSF Grand**	**UP Tempe/ I-10/Chandler**
Capital Cost Per Mile	$200k to 1 million	$650k - 1 million	$1.6 - 2 million	$500k -1 million	$600k
Average Daily Ridership Opening Year	1500-2600	900-1500	1500-2600	900-1500	900-1500
Metro/County Population - 2.2 million					
Urbanized Pop Density (sq. mile) 2800					
1993 - Rail Passenger Feasibility Study (Kimley-Horn/ADOT) (BNSF's Grand and UP's SE Queen Creek Line only)					
Valley Commuter Rail Corridor	**UP West/Yuma**	**UP SE (Chandler)**	**UP SE (Queen Creek)**	**BNSF Grand**	**UP Tempe/ I-10/Chandler**
Capital Cost Per Mile			$3 - 4 Million	$3 - 4 Million	
Average Daily Ridership Opening Year			2500-3000	2500-3000	
Metro/County Population - 2.3 million					
Urbanized Pop Density (sq. mile) 3000					
1994 - Rail Passenger Study - Project Planning (Kimley-Horn/ADOT) (BNSF's Grand and UP's SE Queen Creek Line only)					
Valley Commuter Rail Corridor	**UP West/Yuma**	**UP SE (Chandler)**	**UP SE (Queen Creek)**	**BNSF Grand**	**UP Tempe/ I-10/Chandler**
Capital Cost Per Mile			$5 Million	$5 Million	
Average Daily Ridership Opening Year			6200	6200	
Metro/County Population - 2.4 million					
Urbanized Pop Density (sq. mile) 3100					
1994/1995 - Commuter Rail Demonstration Project (Gale/RPTA/ADOT) (UP's West/Yuma and SE Queen Creek Lines only)					
Valley Commuter Rail Corridor	**UP West/Yuma**	**UP SE (Chandler)**	**UP SE (Queen Creek)**	**BNSF Grand**	**UP Tempe/ I-10/Chandler**
Capital Cost Per Mile	$5.5 Million		$5.5 Million		
Average Daily Ridership Opening Year	3000-4000		4100		

Metropolitan Phoenix Commuter Rail / High Capacity Studies: 1980-2003					
Metro/County Population - 2.6 million					
Urbanized Pop Density (sq. mile) 3200					
1997/1998 - Arizona High Speed Rail Feasibility Study (Kimley-Horn/ADOT) (UP's SE Queen Creek Line only)					
Valley Commuter Rail Corridor	**UP West/Yuma**	**UP SE (Chandler)**	**UP SE (Queen Creek)**	**BNSF Grand**	**UP Tempe/I-10/Chandler**
Capital Cost Per Mile			$3.1 million		
Average Daily Ridership Opening Year			3000		
Metro/County Population - 2.9 million					
Urbanized Pop Density (sq. mile) 3400					
2003 - High Capacity Transit Study (IBI/MAG) Milestone 6: Executive Summary-Addendum/Modeling Forecasts					
Valley Commuter Rail Corridor	**UP West/Yuma**	**UP SE (Chandler)**	**UP SE (Queen Creek)**	**BNSF Grand**	**UP Tempe/I-10/Chandler**
Capital Cost Per Mile	$14 mil.(Full Build)	$41 mil.(Full Build)	$16 mil.(Full Build)	$26 mil.(Full Build)	$57 mil.(Full Build)
Average Daily Ridership - Opening Day	6,017	*12,534	4,552	8,073	*13,765
Average Daily Ridership - **2026-2040**	16,163	n/a	9,594	28,227	n/a
Metro/County Population - **6.3 million**	**CRT only**	***LRT/BRT only**	**CRT only**	**CRT only**	***LRT/BRT only**
Urbanized Pop Density (sq. mile) 5000+					

C. APPENDIX-STAKEHOLDER INVOLVEMENT

Commuter Rail Stakeholders Group Workshop #1

The purposes of this CRSG workshop was to provide an overview of the Commuter Rail Strategic Plan Project, MAG plans for commuter rail, discussion of project issues and purpose statement, discussion of commuter rail operating requirements and coordination, and a description of the sub-area planning for SWOT analysis. There were approximately 55-60 stakeholders that attended the first Commuter Rail Stakeholder Group (CRSG) workshop. The meeting was held at the MAG offices on May 1, 2007.

Key comments from stakeholders included:

- Freight traffic on the UP Railroad mainline between Tucson and California is at maximum capacity and it will only increase.
- Need to analyze air quality, noise pollution and grade separation
- The plan needs to relate to environmental benefits, such as reduction in pollutants, less usage of natural resources etc.
- The EPA designation of Maricopa County as a non-attainment area is a real problem
- Consider making the rail lines attractive for use by both freight railroads and commuter rail.
- Convenience is important for commuters.
- The cost of both capital improvements and commuter rail operations will be a challenge.
- Downtown Phoenix, ASU campus will provide multiple possibilities for mobility.
- Look into private and public funding.
- Look into unique funding sources such as value capture.
- Use an established cost benefit analysis to assess cost effectiveness.
- Commuter rail can help mold future centralized land use and therefore dispersed development can be positively guided by commuter rail.
- Look into purchasing existing rail road branch lines
- Investigate the alternatives of public vs. private ownership (railroad ownership) of the rail lines for commuter rail use.

- Determine a methodology to address possible reverse commutes
- Commuter rail has the potential for sustainable economic and social benefits.
- ADOT is the central point of contact for the Railroads.

Commuter Rail Stakeholders Group Workshop #2

The second CRSG workshop began to analyze Strengths, Weaknesses, Opportunities and Threat (SWOT) issues by subarea, allowing stakeholders from every part of the area to begin examining connectivity, land use, capacity requirements, and other commuter rail related issues from a corridor or localized stand point. There were over 130 participants at the second CRSG workshop. The workshop was held in Mesa at the Mesa Convention Center on June 28, 2007.

The CRSG members were assigned to a focus group dependent on the sub area definition. The focus groups representing the five subareas of Southwest, Southeast, Northwest, Central, and South corridors, analyzed SWOT for their respective subarea. These SWOT's were documented on flip charts and the participants were asked to prioritize their identified SWOT issues. Table C-1 provides the top priorities SWOT's associated with commuter rail in the study area and is separated by subarea. High priority SWOT's are identified in bold text.

Table C-1: HIGH PRIORITY STRENGTHS, WEAKNESSES, OPPORTUNITIES AND THREATS

SWOT	Subareas				
	Central Subarea	South Subarea	Southeast Subarea	Southwest Subarea	Northwest Subarea
Strengths					
Regional Growth			▪Will create retail/industrial development opportunities for small towns/economic development ▪Relieve congestion on freeways ▪Reduces time tax – lost opportunity	▪Reduce congestion ▪Growing population along the line	▪Reduces congestion on roadways
Multimodal Opportunities	▪Improved mobility, multimodal connectivity ▪Expanded transit adds rush hour capacity ▪Travel options	▪Construction mitigation, build prior to I-10	▪Reliability in travel time connectivity ▪Promotes regional airport alternatives (WGA) ▪Connecting Pinal County to Maricopa County	▪Connectivity of valley, regions, light rail and other transit	
Existing Land and ROW			▪Several existing rail corridors ▪Ahead of development curve – available land	▪Existing track (ROW)	▪Rail exists/economic linkages
Cost and Affordability			▪Alternative form of transportation as gas prices increase		
Sustainability	▪Mitigates pollution and saves energy (fuel) ▪Multi-nodal community is suited to commuter rail across valley ▪Activity into downtown area	▪I-10 24-lane mitigation option	▪Air quality improvement ▪Creates greater sustainability for region ▪Promotes nodal development: business, sports, resorts, activities; connects high density areas ▪Cost savings (economic, environmental, etc)	▪Environmental friendly ▪Long-term transportation solution	▪Increase quality of life – reduction in commute ▪Reduces pollution
Public and Private Cooperation			▪Growing community support		

Source: MAG CRSG, 2007

Table C-1 (cont):: HIGH PRIORITY STRENGTHS, WEAKNESSES, OPPORTUNITIES AND THREATS

SWOT	Subareas				
	Central Subarea	South Subarea	Southeast Subarea	Southwest Subarea	Northwest Subarea
Weaknesses					
Regional Growth			▪Polycentric employment centers ▪Speed of development - vanishing opportunities ▪Security screening/concerns – terrorists ▪Density – will Arizona densities sustain mass transit?		▪Initial ridership
Existing Land and ROW	▪Railroads indicate limited additional capacity of existing infrastructure		▪Congestion on the rail lines ▪Need to acquire right-of-way through developed areas	▪Lack of signalization along line – cost and safety	
Cost	▪No defined funding source yet	▪Cost	▪Costs– no funding source ▪Competition for available funds by many areas of transportation	▪Money	▪New funding source needed ▪Infrastructure costs
Public/ Private Cooperation	▪Willingness to fund and operate ▪No leverage or cooperation with railroads	▪Buy-in/cooperation by UPRR	▪Lack of multi-jurisdiction planning ▪Public support – some want to see benefit ▪Partnering with existing railroads very difficult ▪Legislative support	▪Political resistance ▪Competition with populous areas ▪Communication between railroad, region and state ▪Competing transportation project	

Source: MAG CRSG, 2007

Table C-1 (cont): HIGH PRIORITY STRENGTHS, WEAKNESSES, OPPORTUNITIES AND THREATS

SWOT	Subareas				
	Central Subarea	South Subarea	Southeast Subarea	Southwest Subarea	Northwest Subarea
Opportunities					
Regional Growth	▪ Intensifies economic and social activity at nodes ▪ Reduce congestion		▪ Economic development corridor ▪ Re-development of inner cities (i.e., Phoenix, Tempe, Mesa) ▪ Stimulate growth	▪ New employment centers	▪ Economic development ▪ Business investments ▪ Higher density opportunities ▪ Relocating district center to northwest valley creates redevelopment opportunities for Phoenix, Glendale, Surprise, etc ▪ Tourism
Multimodal Opportunities	▪ Becomes spine and improves effectiveness of all connecting transit systems ▪ Ability to use commercial rail as a construction alternative (I-10 widening)	▪ Solving regional mobility/connective challenges	▪ Connectivity-education, air/sea/rail – regions ▪ Multi-modal planning corridor		
Existing Land and ROW	▪ Large scale joint development opportunity		▪ Combined corridors ▪ Use of PPP with existing corridors, right-of-ways, and large landholders	▪ Clean slate to create a transit corridor (freight/commuter)	▪ Ability to plan as integrated corridors

SWOT	Subareas				
	Central Subarea	South Subarea	Southeast Subarea	Southwest Subarea	Northwest Subarea
Cost			▪PM-10 preservation of funding	▪PM-10 preservation of funding	
Sustainability		vironmental benefit by utilizing existing freight	Transit oriented development ▪Competitive advantage over other western states ▪Creative transit planning	Creative transit planning	
Public/ Private Cooperation			▪Regional planning for regional success (Sun corridor partnership) ▪Arizona Corporation Commission/regional/state agencies to partner (ADOT, MAG, etc) ▪opportunity to change people's paradigms		

Source: MAG CRSG, 2007

Table C-1 (cont): HIGH PRIORITY STRENGTHS, WEAKNESSES, OPPORTUNITIES AND THREATS

SWOT	Subareas				
	Central Subarea	South Subarea	Southeast Subarea	Southwest Subarea	Northwest Subarea
Threats					
Regional Growth			▪Development incentives from other states and regions		▪Terrorist threat
Existing Land and RR ROW	▪Continued increases in freight traffic				
Cost	▪Competition for limited federal funds	▪Funding	▪Cost of fare may discourage ridership ▪Ongoing maintenance costs/ operations ▪Lack of subsidy ▪No funding source identified	▪Cost	▪Federal transportation money goes away in 2009 ▪Sustainable Funding
Sustainability				▪Sustainability	
Public/ Private Cooperation	▪Lack of political will, funding commitment, inter-regional cooperation ▪Ineffective long-range planning ▪Legislative may prevent,	▪Public perception/misperception ▪Legislative implementation/regional competition	▪Politics ▪Regional competition ▪User apathy ▪Old thinking on the part of rail companies; citizens and elected positions	▪Prioritizations vs. Regions (system) ▪Political support ▪Public perception (Don't take money away from freeway mentality)	▪Political buy-in

SWOT	Subareas				
	Central Subarea	South Subarea	Southeast Subarea	Southwest Subarea	Northwest Subarea
	delay, or raise price		▪Railroads (freight) ▪Comprehensive plan revisions ▪Agency support and planning ▪Anti-tax communities ▪NIMBY opposition ▪Organized opposition ▪Tribal nation "Buy-in/support" ▪Competing stakeholders groups		

Source: MAG CRSG, 2007

Commuter Rail Stakeholder Group Observations

There were several key issues identified in CRSG #1 and they were further developed in CRSG #2. These key issues include:

- Continued regional growth of population and employment throughout the metropolitan area.
- Availability of existing railroad alignments in the primary travel corridors
- Increase in the cost of fuel and travel.
- Promote sustainability by reducing air pollutants and usage of natural resources.
- Promote cooperation between public and private entities.

In addition, critical challenges were also identified and included:

- Possible conflicts with current and planned freight railroad operations.
- Rapid development of land uses foreclosing opportunities for alignments and stations.
- Physical and geographic constraints limit locations for new alignments.
- Coordination with jurisdictional interests and policies.
- Availability and competition for regional, state and federal funding and resources.
- Cost of building and operating a commuter rail system.

Goals and Objectives:

Based on the input received from the first two CRSG workshops, proposed goals and objectives were drafted for the MAG Commuter Rail Strategic Plan and include:

Goal 1: Employ Commuter Rail to Shape Regional Growth
Objective 1: Create multi-centered development
Objective 2: Stimulate economic development
Objective 3: Spur development in Urban Centers

Goal 2: Improve Transportation Mobility Opportunities by Implementing Commuter Rail
Objective 1: Provide multimodal travel options
Objective 2: Minimize future vehicular congestion

Objective 3: Serve regional trips, as well as trips between and within major activity centers
Objective 4: Maintain or improve travel times within existing and planned activity centers

Goal 3: Provide a Seamless and Cost Effective Commuter Rail Option
Objective 1: Utilize existing land and railroad right-of-way
Objective 2: Utilize available funding sources
Objective 3: Minimize capital and operating costs
Objective 4: Plan integrated corridors

Goal 4: Promote Sustainability through the Implementation of Commuter Rail
Objective 1: Maintain or improve regional air quality
Objective 2: Develop transportation projects that help focus developments near activity centers.
Objective 3: Provide a long-term transportation solution

Goal 5: Increase Public/Private Cooperation to Implement Commuter Rail
Objective 1: Create public/private partnerships
Objective 2: Educate and inform the public
Objective 3: Provide funding options
Objective 4: Develop local and regional support for commuter rail

Commuter Rail Stakeholders Group Workshop #3

The purpose of CRSG #3 was to develop Action Plans related to the identified commuter rail Goals and Objectives listed above. The workshop was held at the Glendale Civic Center on September 12, 2007. There were approximately 80 to 90 stakeholders that attended the third CRSG meeting.

The consultant team summarized the project purpose/need and presented the outcomes of the SWOT analysis developed at CRSG #2. Proposed Goals and Objectives, drafted from the SWOT analysis, were presented to the CRSG. Stakeholders were asked to work in small focus groups to develop action plans for their assigned goal, identifying: action items, owners, partners, and timeframe/phases.

This information will help to develop an implementation strategy for commuter rail in Maricopa and Pinal County. The tables below include action plans for each of the five commuter rail goals and objectives (bolded text indicates high priority action plan).

GOAL: EMPLOY COMMUTER RAIL TO SHAPE REGIONAL GROWTH

OBJECTIVES

- Create multi-centered nodal development (Multi-centered nodal development describes development that is a more intensive mix of uses and densities, typically at transportation junctions)
- Stimulate economic development
- Spur development in Urban Centers (an Urban Center can be defined as a large node, usually a densely populated urban area such as downtowns in Phoenix, Tempe, Mesa, Glendale etc.)

KEY QUESTIONS

- Considering existing transportation corridors, how or where would commuter rail be effective in fostering multi-nodal development?
- Is commuter rail alone sufficient for creating multi-nodal development or are there other elements necessary?
- What types of activity nodes should be served by commuter rail?
- Where and how can economic development be promoted?
- Which types of businesses or land uses would support commuter rail?
- Which groups or organizations could help to promote economic development, who should be involved?
- Consider ways in which commuter rail can spur development in key urban centers
- Which urban centers should be served by commuter rail?

ACTION PLAN

ACTION ITEM	OWNER	PARTNERS	TIME FRAME/PHASES
***High Priority*- Stimulate economic development by connecting to ASU, Sun Health Research, TGEN, with each other and to residential communities.**	**Developers University Medical**	**Railroads University Medical**	**5-10 years**
Assemble land for multi centered nodal development and approve appropriate zoning and development codes.	Private developers State Land Dept. Cities Railroad	Land Developers Major employers Railroads	3-5 years

ACTION PLAN			
ACTION ITEM	OWNER	PARTNERS	TIME FRAME/PHASES
Connect communities to downtown and major airports and assisting Luke carrying out its mission.	All cities in corridor	Airport Luke AFB Cites Railroad	
Create new urban centers with connection to the existing core areas.	Cities MAG	Developers	5-20 years
Create new bus services to feed rail lines Build park and ride facilities at station nodes	Valley Metro Cities		5-10 years
Find regional agency “champion” to lead commuter rail			
Identify and “sell” funding source			
Define placement of commuter rail stations	MAG/ Communities		
Define transit corridors in the General Plan	Communities		
Collect general plans of various municipalities	MAG		

GOAL: IMPROVE TRANSPORTATION MOBILITY OPPORTUNITIES BY IMPLEMENTING COMMUTER RAIL

OBJECTIVES

- Provide multi-modal travel options (multi-modal refers to providing many transportation options)
- Minimize future vehicular congestion
- Serve regional trips, as well as trips between and within major activity centers (activity centers include places such as downtowns, stadiums, universities, large commercial areas etc.)
- Maintain or improve travel times within existing and planned activity centers

KEY QUESTIONS

- Identify travel deficiencies in the MAG region
- Consider where multi-modal options are needed
- Consider the importance of commuter rail service characteristics such as:
    - Origins/Destinations for person trips?
    - How frequent should the service run? (Peak Rush Hours, Day Time, Evening, Weekend)
    - Length of the service day-start and stop times?
    - Transfers to other modes (Where? What modes? Are inter-modal centers important?)
- Identify where the congestion relief is most needed-where could commuter rail make a difference?
- What consumer benefits are needed for people to choose commuter rail over the automobile?
- Consider how to make commuter rail convenient and attractive to the masses-what features are important?
- Which activity centers should be connected by commuter rail?
- Consider possibilities for connecting commuter rail patrons to other transportation modes, where should the connections be located?
- Consider how to offer reliability in travel time connectivity-can commuter rail help to improve?
- If your commute to work is 60 minutes, how fast would the commuter rail commute time need to be to provide incentive to use the commuter rail over the automobile?

ACTION PLAN

ACTION ITEM	OWNER	PARTNERS	TIME FRAME/PHASES
***High Priority*-Provide reliable and integrated transportation alternatives**	**Partnership**	**MAG, ADOT, RPTA, Local jurisdictions. railroads, major land owners, business community**	**Start now building from existing system**
Multi modal transfer locations: Preserve/identify stations and appropriate spacing Preserve ROW and location needs for stations and transfer locations Core Business/Gov't, Education (ASU and MCCC)	Regional entity Statewide entity Without losing regional focus/decision-making	All of the municipalities ADOT/ USDOT/FRA MAG-Tribal communities Valley Metro/ RPTA/ Metro Rail Pinal County Maricopa County	Start now
Timing of commuter rail service hours from 6:00 a.m. to midnight- Conduct consumer research Financial models Recommended Schedule: Peak-1/2 hour Off Peak- 1hour Weekend- 1 hour Evening- ¾ hour	Regional entity Statewide entity Without losing regional focus/decision-making	All of the municipalities ADOT/ USDOT/FRA MAG-Tribal communities Valley Metro/ RPTA/ Metro Rail Pinal County Maricopa County	Start now
Commuter rail as solution to I-10 east	ADOT	MAG, City of Phoenix Tempe, Chandler, RPTA, FHWA	Now

ACTION PLAN			
ACTION ITEM	OWNER	PARTNERS	TIME FRAME/PHASES
Preserve accessibility to the network	MAG and Cities	MAG, ADOT, RPTA local jurisdictions. Railroads, major land owners, business community	Start now
Provide reliable connections and limited strategic stops	Cities	MAG, ADOT, RPTA local jurisdictions. Railroads, major land owners, business community	Begin planning now
Create and implement a ridership schedule that emphasizes user convenience (with regional survey)	Rail authority Independent agency	Communities Riders Chamber/GPEC ADOC-ADOT	
Partnering with existing railroad companies	Rail Authority BNSF UP	Elected officials Governor Chambers/ GPEC ADOC- ADOT	Now
Create template for regional linkages	MAG and counterparts	Governor	

GOAL: PROVIDE A SEAMLESS AND COST EFFECTIVE COMMUTER RAIL OPTION

OBJECTIVES

- Utilize Existing Land and Railroad ROW
- Utilize available funding sources
- Minimize capital and operating costs
- Plan integrated corridors

KEY QUESTIONS

- What corridor locations are appropriate?
  - Existing freight rail lines?
  - New Alignments
  - Extensions
- How and where can capacity improvements be achieved in existing freight rail corridors?
- What existing funding could be available?
- Would new sources be needed?
- What cost mechanisms could be employed to reduce operating and capital costs?
- How could commuter rail operations pay a large share of the costs?
- How can system continuity, connectivity and efficiency be maximized throughout the region?
- Identify local and regional plans that would be appropriate to integrate with commuter rail
- Consider how local and regional plans impact each other and commuter rail

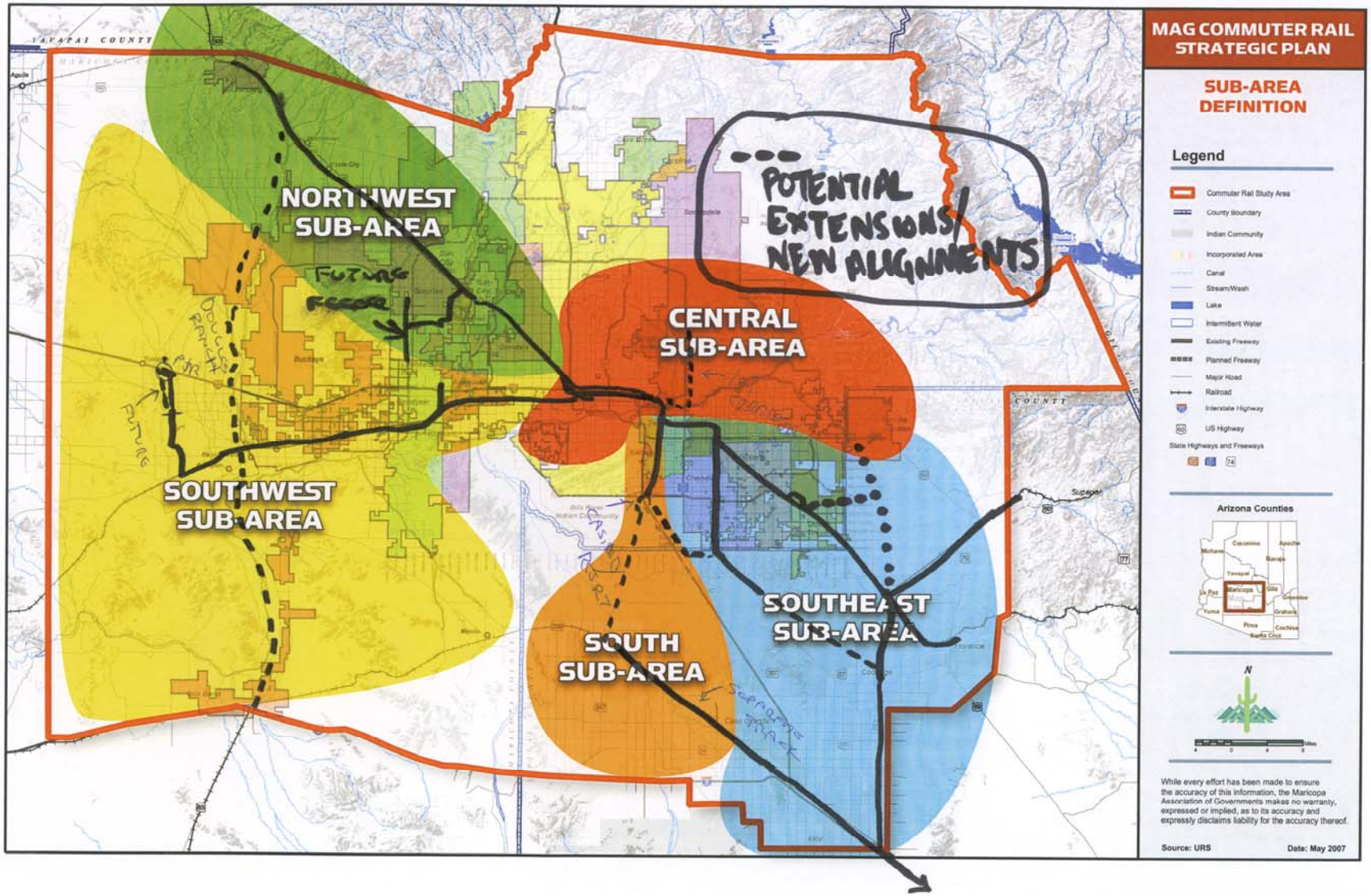
ACTION PLAN

ACTION ITEM	OWNER	PARTNERS	TIME FRAME/PHASES
***High Priority*-Identify and preserve future corridors. Including future freeway corridors to include passenger rail lines (preferably to side-not median) (could be LRT in some cases) SEE MAP**	**GOV'T/ ADOT/Community rail authority tribes**	**UP, BNSF, ADOT, Stakeholders**	**ASAP**
***High Priority*-Further study about methodologies of taxing/fundraising (taxes, user fees, tier beneficiaries etc.)**	**Sub-contractors Policy makers Transit authorities**	**MAG, ADIT Elected officials Local/regional/sta**	**On-going**

ACTION PLAN			
ACTION ITEM	OWNER	PARTNERS	TIME FRAME/PHASES
(Private and public partnership TIF, CFDD, Federal funds		**te orgs FY 2010 General Public**	
***High Prioirty*-1)Begin ROW discussions with railroads** 2)Study to determine best locations of transportation corridors 3)Explore existing and future technologies to maximize capacity	1) ADOT 2) MAG 3) ADOT	1) Gov. Office, RR, MAG 2) ADOT 3) RR	
***High Prioirty*-1) Examine all current, ROW inventory** 2) Ensure that future development addresses multi=modal transportation corridors	ADOT	MAG	**1) Examine all current, ROW inventory** 2) Ensure that future development addresses multi=modal transportation corridors
In metro area provide a double track commuter rail line UP Transcontinental mainline requires a separate passenger track	FRT RR's/ Commuter Rail Authority	UP, BNSF, ADOT, Stakeholders	
Assess funding options: Funding special districts (like CAP) Impact fees CMAQ FTA	State, cities, counties	UP, BNSF, ADOT, Stakeholders	

ACTION PLAN			
ACTION ITEM	OWNER	PARTNERS	TIME FRAME/PHASES
Shared track whenever possible (possibly terminal district/ RR)* DMU's vs. locomotive hauled trains All day/seven day service vs. peak only=better utilization of capital cost and operating crews *purchase tracks from UP and BNSF- Lease back)		UP, BNSF, ADOT, Stakeholders	
Should be integrated with all local and regional transportation plans Example: park and ride lots at all freeways			
Build a relationship with existing freight companies, land owners and Indian reservations. Understanding freight service better	State, UPRR, BNSF, tribal/federal communities, independent land owners	Owners, RPTA, Pinal County, RTA	On-going
New and existing ROW Preservation (capital and privatization (operation)			
Linage to mass transit (depots)			
1) Explore current sources of federal funds. 2) Explore public/ private partnerships to build infrastructure	1) MAG 2) MAG	1) ADOT 2) Legislature	

ACTION PLAN			
ACTION ITEM	OWNER	PARTNERS	TIME FRAME/PHASES
1) Utilize existing ROW wherever possible 2) Explore public/ private partnerships to fund capital needs	1) ADOT 2) MAG	2) Legislature	


NORTHWEST SUB-AREA
CENTRAL SUB-AREA
SOUTHWEST SUB-AREA
SOUTHEAST SUB-AREA
SOUTH SUB-AREA
POTENTIAL EXTENSIONS/ NEW ALIGNMENTS
MAG COMMUTER RAIL STRATEGIC PLAN
SUB-AREA DEFINITION
Legend
Commuter Rail Study Area
County Boundary
Indian Community
Incorporated Area
Canal
Stream/Wash
Lake
Intermittent Water
Existing Freeway
Planned Freeway
Major Road
Railroad
Interstate Highway
US Highway
State Highways and Freeways
Arizona Counties
While every effort has been made to ensure the accuracy of this information, the Maricopa Association of Governments makes no warranty, expressed or implied, as to its accuracy and expressly disclaims liability for the accuracy thereof.
Source: URS
Date: May 2007

GOAL: Promote Sustainability through the Implementation of Commuter Rail

OBJECTIVES

- Maintain or improve regional air quality
- Develop transportation projects that help focus development near activity centers
- Provide a long-term transportation solution

KEY QUESTIONS

- Would air quality improvements be available from commuter rail implementation?
- Which activity centers could help to focus development
- Consider the importance of commuter rail service characteristics such as:
  - Origins/Destinations for person trips?
  - How frequent should the service run? (Peak Rush Hours, Day Time, Evening, Weekend)
  - Length of the service day-start and stop times?
  - Transfers to other modes (Where? What modes? Are intermodal centers important?)
- What role would commuter rail serve in the overall Regional Transportation Plan (RTP)?

ACTION PLAN

ACTION ITEM	OWNER	PARTNERS	TIME FRAME/PHASES
Build air quality model to forecast with and without rail. Under various growth scenarios	MAG	ADOT, MCDOT, Railroad, Cities	18 months

ACTION PLAN			
ACTION ITEM	OWNER	PARTNERS	TIME FRAME/PHASES
Overlay commuter rail alternatives on existing regional system and plan (RTP)-also employment centers and support services- Large under utilized areas for redevelopment	MAG	Cities along rail lines, major landowners, business owners	6 months
Study of future lifestyle and work changes that May affect transportation. i.e. internet; work at home	MAG	Cities, ASU, Census	6 months
Invest in rolling stock with air quality standards in mind Impact to other emissions Ex: offset from car/ auto emissions to additional power plant emissions for electricity	Future multi: county or state passenger rail authority	Newly created authority ADOT	FY 08 or later funding depend
Implementation of system will reduce cars on the road reducing emissions Approximately 75 % of commuters are solo in their cars	Single commuters Rail authority MPO's and COG's (air quality piece)	Employees, employers- subsidies for employees Cities and towns- planning	Allow time for RR to alter current operations to accommodate additional freight demands and passenger rail 5 years

ACTION PLAN			
ACTION ITEM	OWNER	PARTNERS	TIME FRAME/PHASES
Regional or state wide p.r. corridors must be established so cities towns and counties can develop land use and transit plans that support appropriate development along the corridors	MPO's, COG;s,ADOT, P.R. Authority Cities and towns GPCC, other E.D. orgs	Ditto (MPO's, COG;s,ADOT, P.R. Authority Cities and towns GPCC, other E.D. Orgs)	now
Funding must be identified and secured not only for P.R but also for other transit to create and sustain the system	MPO's, COG;s,ADOT, P.R. Authority Cities and towns GPCC, other E.D. orgs	Ditto (MPO's, COG;s,ADOT, P.R. Authority Cities and towns GPCC, other E.D. Orgs)	now
Develop commuter rail coalition -education -funding -sustainability	Politicians MPO's, COG;s,ADOT, P.R. Authority Cities and towns GPCC, other E.D. orgs	Ditto AZTA (MPO's, COG;s,ADOT, P.R. Authority Cities and towns GPCC, other E.D. Orgs)	now

GOAL: INCREASE PUBLIC/PRIVATE COOPERATION TO IMPLEMENT COMMUTER RAIL

OBJECTIVES

- Encourage public/private partnerships
- Educate or inform the public
- Provide funding options
- Develop local and regional support for commuter rail

KEY QUESTIONS

- Which agencies, groups or individuals should be engaged in the process?
- Consider how to promote consistency between commuter rail and local and regional comprehensive plans.
- What implementation measures are needed to reduce noise, visual and traffic impacts to existing communities?
- Identify where the potential for adverse affects on the natural environment may take place.
- How is the system administered when the corridor passes through several jurisdictions?
- Provide options for coordinating with the railroad
- Consider ways in which to engage the public and other interested parties
- What educational resources are available to promote commuter rail?
- What would you be willing to pay for the service? (The same as the cost of highway lane per mile? Low cost-just get it started?)
- How would you pay for it? Consider creative alternatives for funding commuter rail
- Identify leaders in the community that can help promote commuter rail
- Consider organizations that are strongly represented along the corridor.

ACTION PLAN			
ACTION ITEM	OWNER	PARTNERS	TIME FRAME/PHASES
***High Priority*-Establish public private formal agreements that are consistent with other modes of transportation and land use plans with individual and interest groups**	**MAG and northern Pinal county Dedicated CR group**	**Elected officials, jurisdictions, transit departments, Rail groups, Advocacy groups, other mode groups**	**Now. Included in formal planning stage**
***High Priority*- Statewide transportation tax** -Bring interested public together to create stakeholder support	-Lead Agency -Governor's office/ Legislature/ Fed. Government/ ADOT	-Media, cities, private sector -Everyone	-1 year -2009
***High Priority*- 3A Include commuter rail as alternative to 24-lane I-10**	**MAG/ ADOT**	**Tempe**	**Now**
Establish a public relations group that uses all media outlets and perform public (news and community) and group meetings.	MAG and northern Pinal county Dedicated CR group	Public and media, business groups and interest groups Elected officials, jurisdictions, transit departments, Rail	

ACTION PLAN			
ACTION ITEM	OWNER	PARTNERS	TIME FRAME/PHASES
		groups, Advocacy groups, other mode groups	
Create sustainable regional and state tax proposals that efficiently use developer/ business contributions and fees			
Create outlets for active participation and education for all			
-Bring railroad companies and municipalities together -Work with developers industry and municipalities to plan transit-oriented and neighborhood development -Identify and lead entity to coordinate public/ private cooperation	-Municipalities Rep (MAG, State, RRTA) -Municipalities and Land Owners -Governor's Office	-Cities, County, Railroads and other involved parties-Developers -Municipalities, Counties	-Now -Within 2 years -Within 1 year
-Identify groups to engage in the process -Promote consistency between transportation and local land use plans. (Regional and local) -Incorporate design standards to mitigate noise, visual, and design impacts	-Yet to i.d agency to develop and operate system -MAG	-Private land owners, employers, employees, developers, railroads, Eco Devo groups from	

ACTION PLAN			
ACTION ITEM	OWNER	PARTNERS	TIME FRAME/PHASES
		jurisdictions, GPEC -MAG Mentors -Individual communities (standards)	
Organize public meetings to solicit support	Chambers, westmarc, east valley partnership	Cities, MAG	Early
Look at best practices of successful commuter rail systems that have been implemented	MAG membership	State Representatives	
Develop a champion for the cause	Governor CZAR	State and local agencies	Real early
3B Consider commuter rail ridership potential as part of future freeways	MAG/ ADOT	Cities	Now
1A Identify air quality benefits of commuter rail	MAG		

ACTION PLAN			
ACTION ITEM	OWNER	PARTNERS	TIME FRAME/PHASES
3C Implement commuter rail to provide travel options	MAG/ ADOT/ Rail	Cities/ transit	
2A Initial phase to serve existing activity centers already served by transit (LRT).	MAG/ ADOT/ Rail		
2B Serve peak hour trips to/ from suburbs to/from employment centers and park and rides			

Commuter Rail Stakeholders Group Workshop #4

The final CRSG meeting was held in Phoenix on October 30, 2007 at the Phoenix Convention Center. Approximately 95 people attended the meeting.

The format of the meeting was an open house format with boards presenting issues and challenges associated with implementing commuter rail in the MAG region. Topics included: Project Vision, Stakeholder Involvement, Concept System Plan, Implementation Framework, Governance, Railroad Coordination, and Funding.

A Commuter Rail Stakeholders Group Survey was conducted which asked stakeholders to rank various issues/challenges related to commuter rail and the CRSG planning process. The results of the survey are provided below and a sample survey is included in Appendix B. In addition to the survey conducted, a MAG Commuter Rail panel answered questions raised by the stakeholders. An overview of the questions and answer session is provided below and Appendix B includes the finalized notes for the session.

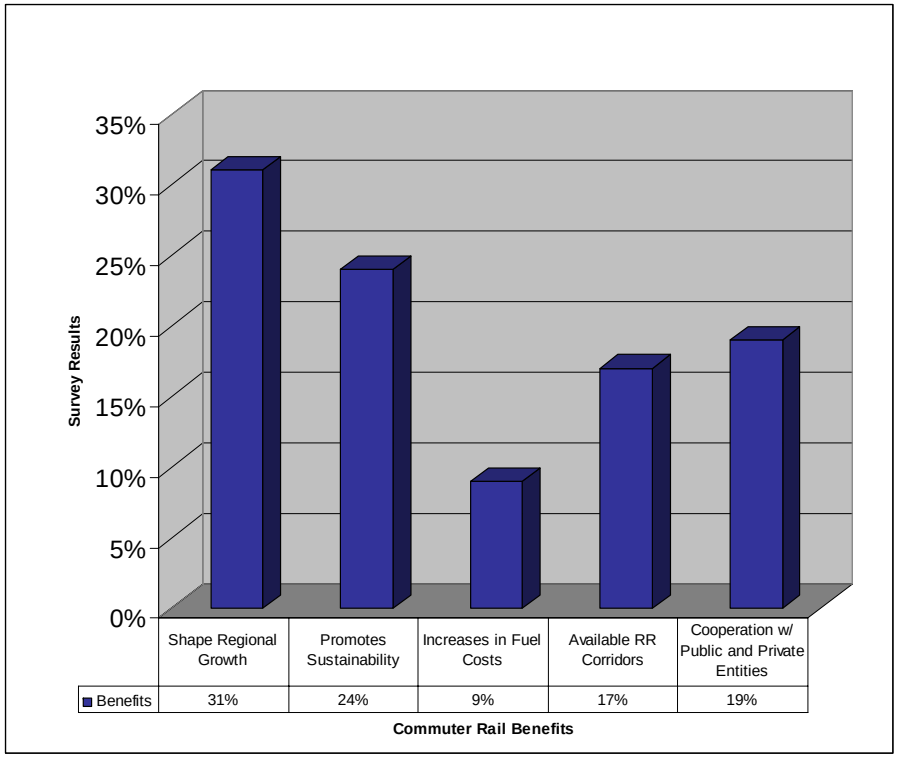
Commuter Rail Stakeholder Group Survey

Question 1) Several benefits of bringing commuter rail to the MAG and Pinal region have been identified by the Commuter Rail Stakeholders Group (CRSG) and include:

- **Help to shape continued regional growth of population and employment throughout the region**
- **Promotes sustainability by reducing air pollutants and usage of natural resources**
- **Alternative to the increase in the cost of fuel and travel**
- **Availability of existing railroad corridors alignments in primary travel corridors**
- **Promotes cooperation between public and private entities**

Stakeholders were asked to rank the identified benefits listed above at the final CRSG workshop. Among the individuals surveyed one-third indicated the greatest benefit for brining commuter rail into the region is to help shape continued regional growth of population and employment. The survey results indicate that sustainability is an important aspect to the benefits of commuter rail with 24% of respondents in support for this benefit. The chart below demonstrates the commuter rail benefits that were identified by the CRSG as being the most beneficial aspect of employing commuter rail in the MAG and Pinal Region.

Figure C-1: Summary of Survey Results-Commuter Rail Benefits



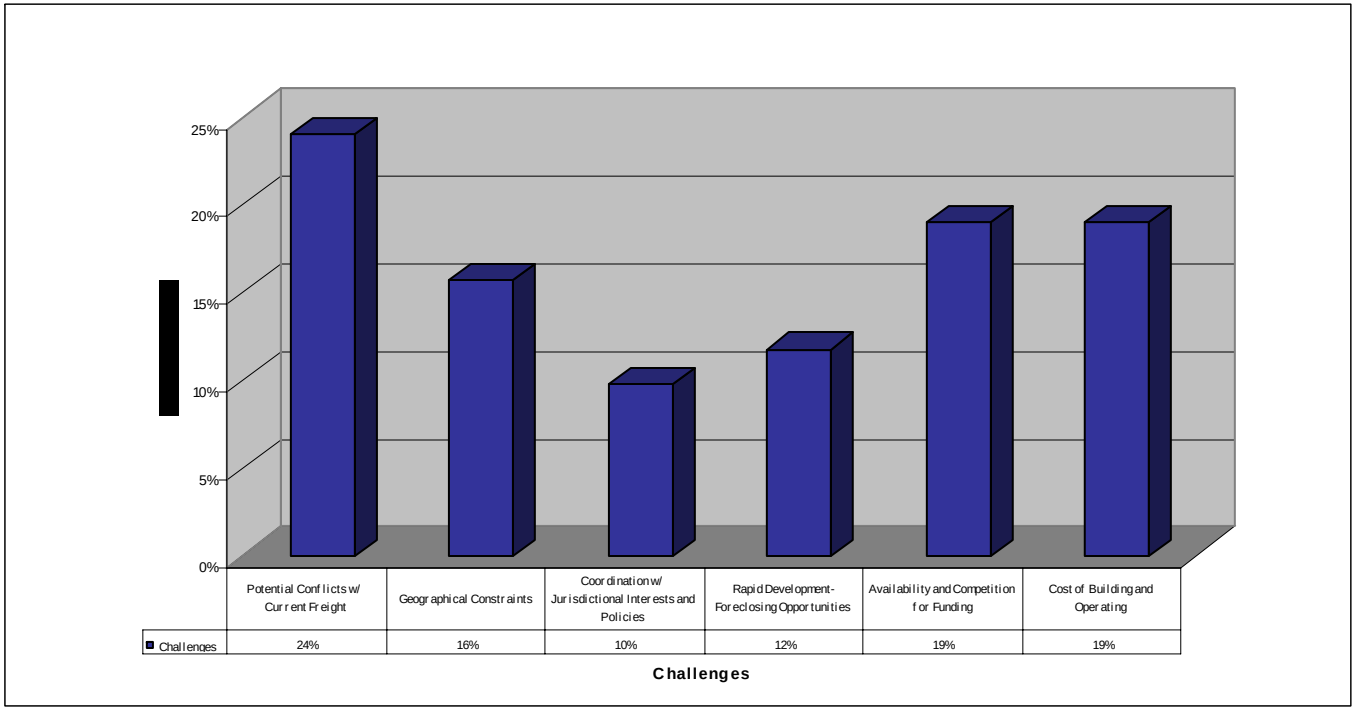
Source: CRSG, 2007

Question 2) Several challenges to bringing commuter rail to the region have been identified by the CRSG and include the following:

- **Potential conflicts with current and planned freight railroad operations**
- **Physical and geographical constraints limiting locations of new alignments**
- **Coordination with jurisdictional interests and policies**
- **Rapid development of land uses foreclosing opportunities for alignments and stations**
- **Availability and competition for regional state and federal funding and resources**
- **Cost of building and operating a commuter rail system**

The CRSG was asked to rank the challenges listed above. The following chart provides a summary of the results of identified challenges.

Figure C-2: Summary of Survey Results- Commuter Rail Challenges



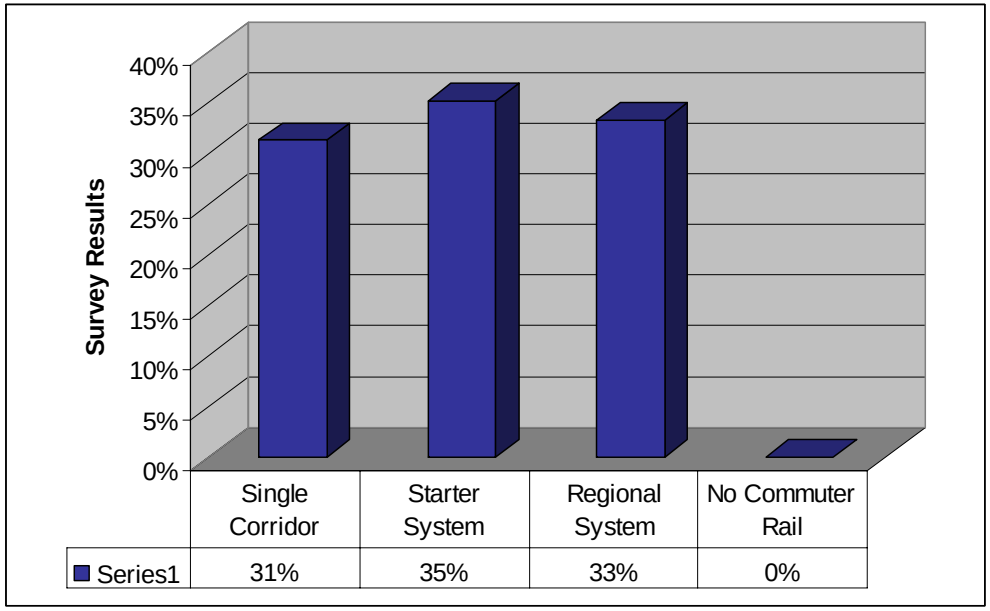
Source: CRSG, 2007

Question 3) During the development of the MAG Commuter Rail Strategic Plan three scenarios were developed and include:

- **Single Corridor**
- **Starter System**
- **Regional System**

The three commuter rail implementation scenarios, described above, were presented to the Stakeholders at the final CRSG workshop. The Stakeholders were asked to choose an implementation scenario that would best suit the region. The results indicate that there was no clear preference among the three scenarios with 31% in favor for a Single Corridor, 35% in favor for a Starter System and 33% in favor of a Regional System. The chart below demonstrates the CRSG survey results.

Figure C-3: Commuter Rail Scenarios



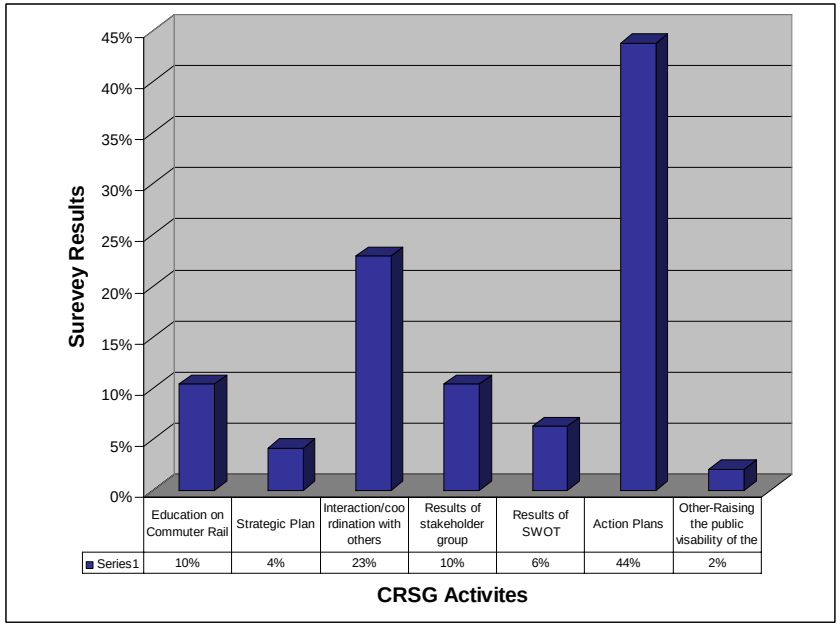
Source: CRSG, 2007

Question 4) Throughout the MAG Commuter Rail planning process several activities took place to gain stakeholder input and include:

- **Education on Commuter Rail**
- **Developments of Strategic Plan**
- **Interaction/coordination with others from across the region**
- **Seeing results of the stakeholder group meetings**
- **Commuter Rail SWOT analysis**
- **Development of action plans**

Stakeholders were asked to rank the activities mentioned above, to identify which activity is most valuable/least valuable to assist with gaining approval for implementation. The chart below demonstrates the most valuable activity. Development of action plans was considered to be the most valuable activity with 44% of the survey respondents in favor of this activity.

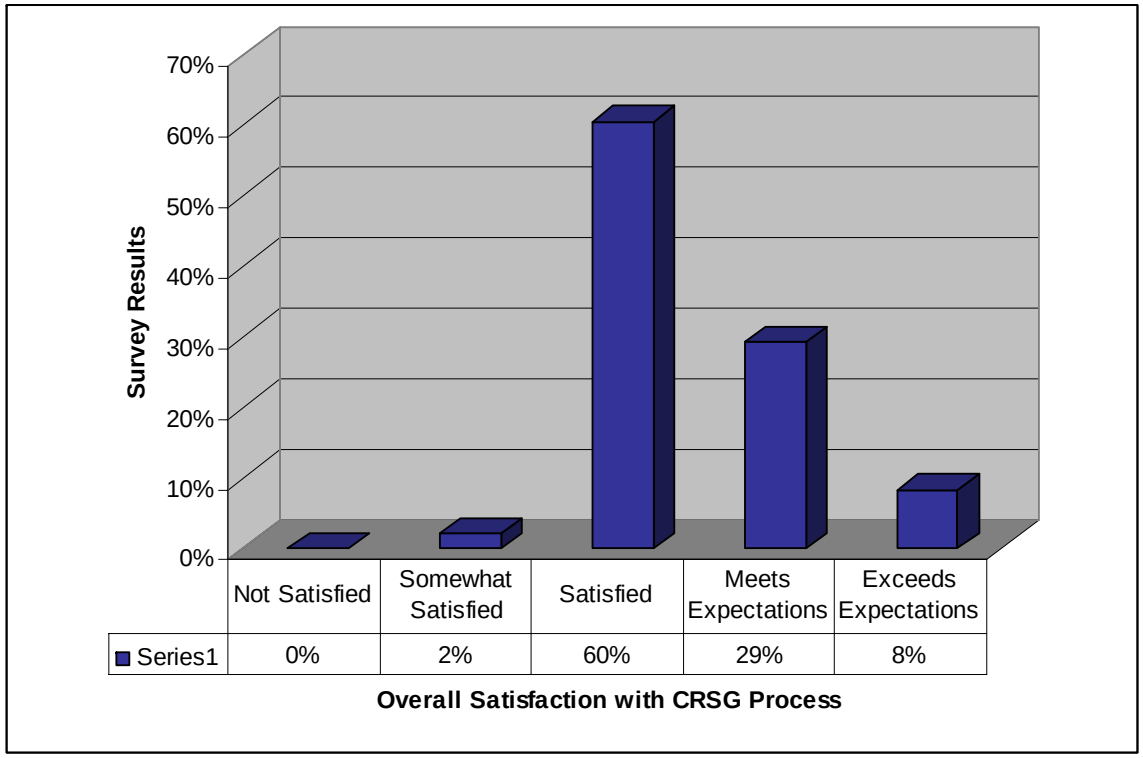
Figure C-4: Most Valuable CRSG Activity



Source: CRSG, 2007

Question 5) Stakeholders were asked to rate their overall satisfaction with the Commuter Rail Stakeholder Group Process. Figure C-5 indicates that the majority, 60% of the survey respondents were satisfied with the CRSG planning process.

Figure C-5: Overall Satisfaction with CRSG Process



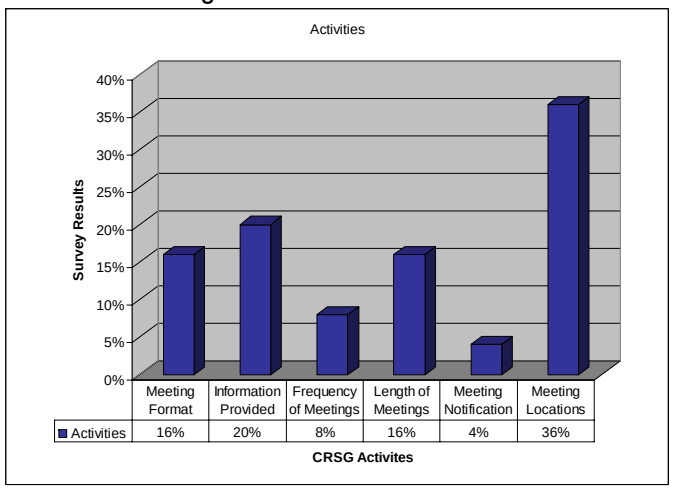
Source: CRSG, 2007

Question 6)
Throughout the planning process four CRSG meetings were held. Stakeholders were asked if they would make changes to the meeting format including the following categories:

- **Meeting Format**
- **Frequency of Meetings**
- **Meeting Notifications**
- **Information Provided**
- **Length of Meetings**
- **Meeting Locations**

The majority of respondents, 36% indicated that they would change the meeting location. Several individuals commented that Downtown Phoenix was not an adequate location as there was no parking available and when parking was available it was expensive. 20% of the respondents surveyed suggested changes to the information provided to the stakeholders. More specifically, stakeholders requested that the power point presentation be handed out at the meetings, and to send handouts/pre-reads in advance of the meeting.
Another comment was to provide detailed information addressing RR coordination, funding and determination of corridors.

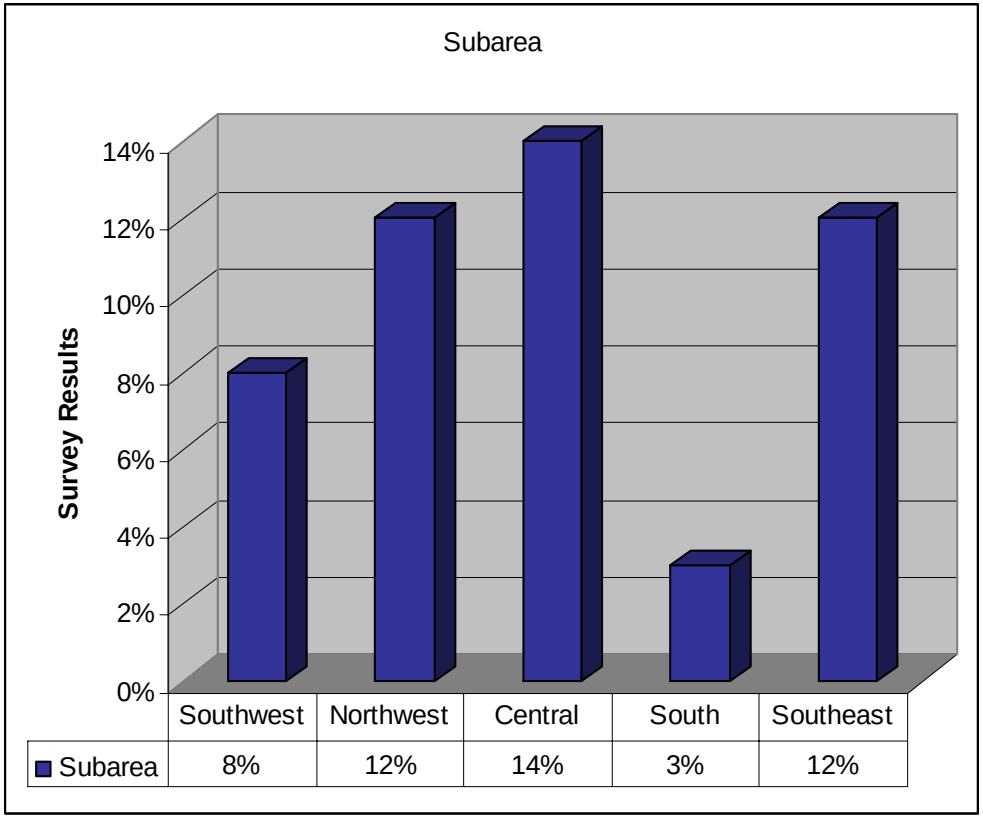
Figure C-6: CRSG Activities



Source: CRSG, 2007

Question 7) Finally stakeholders were asked to identify the sub-area that they represent.
All five sub areas appeared to be represented except for the south sub area as 3% of the survey respondents indicated that they represent the South subarea. Chart 7 displays the results for all five subareas.

Figure C-7: Sub-Areas Represented



Source: CRSG, 2007

Results of SWOT Analysis

The bullets below provide a list of Strengths, Weaknesses, Opportunities and Threats (SWOT) associated with commuter rail in Maricopa County and northern Pinal County. These opportunities and constraints were identified by the Commuter Rail Stakeholders Group (CRSG) at the second CRSG meeting held on June 28th. The CRSG comments are organized by sub-area and the high priority comments are identified in bolded text. Over 130 people were in attendance at the second CRSG meeting.

Strengths

Central Subarea

Facilitator: Maria Hyatt

- Primary employment base
- Strong economy
- Political interest and community interest
- Improved mobility, multimodal connectivity
- Reduced pollution
- Corridor activity centers (Williams gateway, Scotts. Airpark Capitol Complex, sports, arts)
- Sky Harbor accessibility (reduction in package needs)
- Land available for rail corridors
- Currently ahead of the need
- Creates economic opportunities
- Population growth creates strong need and alternatives discussion
- Mitigates pollution and saves energy (fuel)
- Promotes tourism
- Easy 'designated driver'
- I-10 East/West are effective corridors
- Identify north corridor for existing need
- Freeways can't keep up with growth
- Safer than autos

Facilitator: Brian Kearney

- As population grows to 4 million – need for rail grows – we will have sufficient density
- Geographic size – so large that we need alternatives beyond light rail for longer distances
- Environment – quality of life – can promote better urban design
- There is some existing infrastructure
- Economic benefits – stations have benefits like highway interchanges?
- More cost effective than highway expansion – better social benefits
- Expanded transit adds rush hour capacity
- Commuter rail lines have priority of right-of-way at grade crossings
- Creates a government authority to promote improvement of metro freight and passenger rail facilities and infrastructure – creates a channel through which to accomplish multiplier impact
- Railroads will respond to available money flow
- Multi-nodal community is suited to commuter rail across valley
- Concentrates development at nodal points

- Increases range of travel for tourists – more places, more attractive
- Helps create regional identity
- Major investment defines future transportation systems and creates economic development
- Reduce autos per family requirement

Facilitator: Peggy Rubach

- Activity into downtown area
- Travel options
- Less stress (traveling)
- More time for individuals
- Economic opportunities/expanded labor force to draw from
- Promotes community
- Travel capacity during peak hours
- Connect cities/promote regionalism
- Promotes tourism
- Reduce traffic accidents – safety
- Utilization of existing assets (railroad tracks)
- Efficient implementation

South Subarea

Facilitator: Charlea Huellmantel

- Speed, efficiency, safety, maintenance
- Congestion relief
- Environmental
- I-10 24-lane mitigation option
- Construction mitigation, build prior to I-10
- NEPA requirements for mitigation
- Reduce stress, fatigue for driver
- Convenient alternative to driving
- Travel safety, reduction in auto accidents
- Technology safe, limited interfaces with autos
- Corridor strengths – Tempe Kyrene
- I-10 capacity limited to handle future growth
- Residential connections – connect to improvement centers
- Make population growth in south
- Past line (ROW) exists today
- Native American (Gila) opportunities
- Regional cooperation
- Station opportunity at casino/connection to existing transit
- Chandler Branch
- Addresses future growth
- Improved productivity (personal)
- Can utilize travel time (time tax)
- Social benefit

Southeast Subarea

Facilitator: Craig Ringer

- Several existing rail corridors
- Ahead of development curve – available land
- Lots of people work in the Central Valley
- Corridor studies underway (freeway and electrical)
- Conceptual support for rail – like the idea
- Already impacted by freight rail traffic
- Demographic changes – aging population
- The higher the gas prices, the better rail looks

- Health benefits of reduced pollution. Breathing is easier in a rail car

Facilitator: Claudia Walters

- Strong immigration of individuals
- Job center corridors
- Relieves highway system
- Air quality improvement
- Legislative interest
- Creates greater sustainability for region
- Cost effective once in place
- Economic development
- Connecting two areas – Phoenix to Tucson
- Connects urban activities
- Helps clustering of business in areas
- Helps spread out residential
- Multi-modal
- Commuter rail removes stigma of bus rapid transit
- Critical infrastructure addition
- Effective in Southeast Valley
- Commuter rail to Tempe to Apache Junction
- West Valley important as well
- Freeway corridors and along existing tracks
- Productivity increases
- Reduction of "timetax"
- Grade separations for faster ease of congestion
- Great nodes of development

Facilitator: Mike Normand

- Moving large groups of people
- Bedroom communities (i.e. Johnson Ranch) moving those people to employment areas
- Access for Gilbert residents on existing rail corridor
- Right service to provide "longer distance" service
- Corridor as a potential route for utilities (SRP)/common resources (all utilities – gas, water, phone)
- Relieve freeway congestion
- Alternate choice for transportation
- Directed toward employment centers
- Relieves parking
- Air quality/energy issues putting pressure on our society to look for solutions
- Legislative interest is much higher now
- Will create retail/industrial development opportunities for small towns/economic development
- Successful models to follow in west
- No more "room" or "space" left (i.e. ground spare)
- Many existing rail corridors available
- Small town growth will be encouraged
- Growing community support

Facilitator: Maria Deeb

- Manage traffic – less car travel
- Relieve congestion on freeways
- Less pollution
- Other travel options
- Save time – can do other activities: email, read, etc.
- Save money

- Less road rage
- Better access to employment – competitive advantage for area
- Provides link to various means of transportation
- Future growth areas – early planning for station locations
- Alternative form of transportation as gas prices increase
- Population and density to manage commuter rail
- Creates transportation to affordable housing

Facilitator: Mack Lake

- Relieve congestion on alternative modes of transportation
- Speed
- Less congestion at destinations
- Reliability in travel time connectivity
- Reduces time tax – lost opportunity
- Promotes regional airport alternatives (WGA)
- Promotes nodal development: business, sports, resorts, activities; connects high density areas
- Air quality benefits
- Lower business costs
- Lowers individual travel costs
- Lessens investment in other forms of transportation

Facilitator: Dan Shreeve

- Minimizing roadway congestion
- Connecting economic centers
- Connecting education centers
- Connecting Pinal County to Maricopa County
- Potentially less environmental impacts
- Minimizing conflict with "GRIC"
- Increase property value (potentially)
- Could facilitate growth
- Potentially less dependent on fossil fuels
- Connectivity with future super-station vistas

Facilitator: Vic Linoff

- Reducing congestion
- Existing Infrastructure in southeast
- Defined geographic business areas
- Less freeways = less ROW purchase
- Access to regional airpark/Employment centers
- Moving tourist traffic
- Connecting to other transit needs
- Cost savings (economic, environmental, etc)
- Growing community support
- Mutual benefits

Southwest Subarea

Facilitator: Marie Lopez Rogers

- Reduce congestion
- Existing infrastructure in Southeast
- Is there enough ROW?
- Less pollutants, environmental impacts
- Define geographic business areas
- Less freeways = less ROW purchase
- Access to regional airport
- Moving tourist traffic
- Connectivity to other transit needs

- Land use planning connectivity
- Backbone
- Existing track (ROW)
- Ability to reduce traffic on I-10 to Palo Verde
- Reduce congestion
- Enhance employment centers
- Airports

Facilitator: Mario Sandamando

- Environmental friendly
- Removes strain on existing infrastructure
- Reduce congestion on freeways/arterials
- Improves public safety/quality of life
- Provides more options for commuters
- Long-term transportation solution
- Promotes economic development/commerce
- Tourism
- Computer rail is a regional partnership
- Compliments existing transit plans

Northwest Subarea

Facilitator: Kathy Rice

- Cliff Elkin's experience
- Demographics of existing freight usage is compatible to commuter rail
- Will connect old and new developed areas
- Raw land along the line
- Planned grade separation railroad crossings on Grand
- Growing population along the line
- Gas prices
- Present road congestion
- Another way in and out – very limited currently
- Favorable community climate
- BNSF owns 900 acres along line – Ops center, rail served business
- Will create competitive education opportunities
- Volume on current line is light
- Highway safeway – less freight, less congestion on freeways
- Qualifies for Federal Small Starts Program
- Public yearning for public transportation – transplants
- Modernize Arizona's image --> Welcome to the 21st Century
- Connectivity of valley, regions, light rail and other transit
- Grand Avenue land use planning
- Connects workforce to jobs
- Air quality will improve
- Congressional leaderswell placed for federal support money
- Create transportation centers
- Westmarc – leverage
- Connectivity to national system – Amtrak

Facilitator: Scott Chesney

- Rail exists/economic linkages
- Moving large amounts of people
- Creation of ED centers
- Transit-oriented development
- Linking economic nodes
- Improve air quality

- Serving underserved populations
- Reduce need for highway construction
- Preserve the desert
- Reduce heat island
- Streets/highways are safer
- Creates more spend-able income
- Higher level of service on existing roadways
- Increase home values in the corridor
- Overall reduction in gasoline consumption – possibility for alternate diesel fuel
- Access to airport
- Interconnectivity
- Increase quality of life – reduction in commute

Facilitator: Carl Swenson

- Enhances mobility
- More economical
- Reduces pollution
- Provides transportation choices
- Reduces congestion on roadways
- Improves travel safety
- Serves transit dependent community
- Ties communities together
- Increases densities along transit corridors
- Conserves resources
- Reduces commute times
- Opportunities for social interactions
- Important part of transportation and transit mix
- Can use existing corridors

Notes provided by attendee:

- Rail lines and ROW in place.
- Signal Pre-emption in place
- In many locations, grade separations are in place (especially Grand Avenue)
- Both lines (UP and BNSF) serve CBD destinations
- Other western states are doing major rail projects (UT, NM)
- Several major segments parallel regional highways and may reduce some peak hour congestion on:
    - I-10
    - US 60 Grand Avenue
    - SR 101 Agua Fria Freeway
    - SR 303L Estrella Freeway
    - US 60 Superstition Freeway
    - SR 202L San Tan Freeway
- This can directly connect the West Valley with ASU and ASU East.
- Rail line is adjacent to Sky Harbor Airport
- Extension of regional service to Tucson and Pinal County high growth areas is a possibility.
- Service can help revitalize and redevelop declining areas along older rail yards.
- Major rail segments are in areas underserved by regional bus system.

Weaknesses

Central Subarea

Facilitator: Maria Hyatt

- Can't go everywhere; won't serve entire valley
- Haven't really proven it's a solution
- Willingness to fund and operate
- Must be a regional solution with regional funding
- "NIMBY" – Historical problem (political will → land use)
- Grade crossing safety issues
- Train noise (PR issue)
- Lack of legislative support – must be long-term
- Political patience
- Valley growing faster than we can plan
- Constitutional limits on state trust land
- Lack of multiregional cooperation
- Take land off the tax roles
- No leverage or cooperation with railroads
- Freight corridors over capacity
- More community support than political? No high-profile champions
- No clear support from governor
- Perceived lack of interest from ADOT
- Doesn't provide greatest benefit to Central Subarea
- In slow economic times, transportation subsidy availability in question; can't really privatize
- Lack of private infrastructure opportunities

Facilitator: Brian Kearney

- Railroads indicate limited additional capacity of existing infrastructure
- Land use patterns may not fit perfectly
- Continued growth making more difficult to place stations
- Will people use it?
- Line locations and station locations – present uncertainty and possible sustainability for communities not directly served
- Limited number of existing rail corridors and cost to improve existing ….
- Possible economic impact of displacement when improved
- Environmental justice concerns may complicate issue
- User acceptance unknown
- Political acceptance unknown
- Environmental justice concerns may complicate issue
- Impact on traffic safety
- Requirement to add more grade separations
- Cost to build and operate – requires public subsidy
- No defined funding source yet
- May require lengthy negotiations with freight railroads

Facilitator: Peggy Rubach

- Who would run operation?
- Where is money coming from?
- Public support
- Who assumes liability
- Limited right-of-way
- Railroad organizations not interested
- Residents opposition to tracks near homes
- Current location of tracks
- Developing connectivity
- Crossings at grade

- Phasing of construction
- Potential perception problem
- Encourages sprawl
- Cost effective solution to current lack of infrastructure (transportation)
- Constructability
- Speed limitations/restrictions
- Cooperation of other agencies
- Use of existing rail that is at full capacity (freight)

South Subarea

Facilitator: Charles Huellmantel

- Buy-in/cooperation by UPRR
- Train frequency'
- Cost
- ROW availability
- Encourages urban sprawl
- Noise/vibration/traffic impacts

Southeast Subarea

Facilitator: Craig Ringer

- Densities to low to support rail
- Need for subsidies
- Polycentric employment centers
- "Rugged Individualism", I love my truck!
- To and from station logistics
- Difficulty of partnering with existing rail companies
- Availability/cost for additional ROW/stations
- Speed of development. Vanishing opportunities
- Lack of comprehensive multi-modal planning
- Do we have employers who will support
- Funding!!!

Facilitator: Claudia Walters

- Think it will solve all problems
- Overselling
- Costs!! – no funding source
- Access to right-of-way
- Pulls money
- Encourage sprawl
- Divide communities
- Creates winners/losers – those you have it/don't have it
- Divided community support
- Enough community support
- Legislative support
- May need to see before believing
- Ability to get rail/PPL to employment centers
- Lack of multi-jurisdiction planning
- No existing funding source
- Bringing Phoenix to Tucson and Florence/Pinal County to same table

Facilitator: Mike Normand

- Availability of space, (i.e. park-n-ride stations in congested areas
- Must be convenient
- Mis-match between modes of transit
- Does not go to heart of congestion

- Congestion on the rail lines
- Convert/combine restaurants to railroad stations
- Integrating many different interests/cities/towns to agree
- Government of a regional rail
- No one organization championing the cause
- Competition for available funds by many areas of transportation
- What is the fastest way to solve the congestion we have now?
- Lack of planned growth (developers are in control)
- No process to follow
- Upgrading infrastructure to support high-speed commuter rail
- Energy needed for commuter rail
- EPA funding threatened
- Right-of-way issues
- Buy-in from rail companies

Facilitator: Maria Deeb

- Cost – who is going to pay? Where will money come from?
- Set alignments – not exactly natural
- Only stops 2-4 miles
- ROW and new alignment cost and time
- Business impact
- Mechanical failures – System shutdown – DELAYS
- Security screening/concerns – terrorists
- Automobile delays/congestion
- Noise distractions
- Cost/benefit compared to other modes of transportation
- Public support – some want to see benefit
- Negative image of public transportation
- Negative issues of light rail
- Agency Coordination

Facilitator: Mack Lake

- Need to acquire right-of-way through developed areas
- Railroad crossings very expensive
- Partnering with existing railroads very difficult
- Railroad construction is very expensive
- Noisy
- Headway times, reliability of schedules
- Inflexibility
- Increased transportation planning
- Perceptions re: personal safety – terrorism, gangs, etc
- Number of passengers – economic viability
- Parochialism
- Time from idea to opening day

Facilitator: Dan Shreeve

- Unknown funding
- Uncertainty of availability with "right-of-way" through tribal lands
- Uncertainty of use of railroad "right-of-way"
- Are existing ROW located where they are needed
- Availability or use of existing railroad lines
- Environmental impact
- Uncertainty of ridership – "Can it support itself?"
- Spread out economic base – "Difficult to connect"
- Grade crossings
- Who manages? – state, county, new?

- Density – will Arizona densities sustain mass transit?
- People love their cars – will they use it?
- Public subsidies?

Facilitator: Vic Linoff
- Existing rail does not meet passenger standards
- ROW issues
- Safety issues
- Density issues
- NIMBY
- Who is going to pay?
- Legislative support
- Leadership

Southwest Subarea

Facilitator: Marie Lopez Rogers
- Existing rail may not be up to passenger standards
- Potential for ROW issues
- Safety issues
- Density issues
- NIMBY
- Who is going to pay?
- Legislative support?
- Leadership
- Sprawl
- Low baseline population
- Political resistance
- LOS issues
- Competition with populous areas
- Traffic congesting at crossings

Facilitator Mario Sandamando
- Money
  - None identified
  - Competition for Federal money
  - Cost-effectiveness
  - Total costs = capital vs. operations
  - Who pays?
- Unknowns
  - Will people use it?
  - Must change behavior and public perception
- Interconnectivity infrastructure is not in place
- Communication between railroad, region and state
- Disruptions
  - Local businesses
  - Homes
  - Freeway/arterial traffic
  - Freight
- Promotes sprawl
- New legislation needed
- Public noise
- Land
  - ROW, general plan compatibility

No commuter rail master plan in municipalities

Facilitator: Kathy Rice
- Funding uncertainty
- Arizona love our cars – mindset shift necessary

- Noise concerns
- Public perception
- Competing transportation project
- Lack of signalization along line – cost and safety
- Homeland security issues
- BNSF has full veto authority over line use
- Operations uncertainties – who owns and operates what?
- Timing – cannot build soon enough
- Second track needed
- ROW availability unknown along entire line
- Emergency vehicles delayed?
- Perceived value for/to northwest valley
- Competing communities for money, implementation
- Limited Vision → Arizona only
- Amtrak failures → perception
- How do I get my stuff there? Connected transit-wise on the other end?
- Safety issues – derailments
- Lack of community demand/support

Northwest Subarea

Facilitator: Scott Chesney

- Rail line may currently be at capacity
- Potential for increased crossing conflicts
- Increased noise to adjacent residents
- Need to construct stations and other facilities
- New funding source needed
- Lack of Board support
- Regional system gaps
- Lack of education
- Lack of operational resources
- More delays to vehicular traffic at crossings
- Feeder bus service may be lacking
- Undetermined potential for ridership

Facilitator: Carl Swenson

- Initial ridership
- Community acceptance
- Parking at stations
- Traffic congestion at grade crossings
- Infrastructure costs
- Right-of-way acquisition
- Equipment cost
- Noise Pollution
- Scheduling
- Added vehicular delay at at-grade crossings
- Funding
- Limited stations
- Partnership challenges with railroad companies

Notes provided by attendee:

- Resurgence of rail freight demand is competing for track time.
- Probably will require double tracking to support demand in the corridors.
- Cost of stations, crossing upgrades and other improvements will be high.

- No rail corridors exist in the Northeast Valley, leaving a system "gap" and the potential that residents of that area may not support funding for a system which will not directly benefit them.
- Currently known regional funding is committed through 2025.
- Regional bus system is inadequate to feed the rail stations in suburban locations.
- High number of at-grade crossings system wide. *

* Number of at-grade public crossings:

Buckeye to Phoenix (southwest corridor)	81	
Phoenix to Wickenburg (northwest corridor)		132
Phoenix to Picacho (southeast and Pinal Co. corridor)		125
Picacho to Tucson Corridor		31
Total Phoenix to Tucson	156	

Opportunities

Central Subarea

Facilitator: Maria Hyatt

- Ability to use commercial rail as a construction alternative (I-10 widening)
- Connectivity to central area bus and rail
- Connects people to affordable homes and jobs
- Economic development around stations/transit-oriented development
- Connects to Sky Harbor and Williams Gateway
- Positive environmental impacts
- Connections allow growth to arts/culture visitors
- Enhance role as "destination"
- Large scale joint development opportunity
- Congestion mitigation
- Justifies additional circulators
- Reuse/redevelop Union Station
- Innovative funding mechanisms
- We have opportunity to plan ahead
- Enhance viability of opportunity corridor
- Urban revitalization
- Can create a truly integrated regional system (ADOT/MAG/RPTA, etc)
- Aids in business locates (ED)
- Create a "big city" image

Facilitator: Brian Kearney

- Intensifies economic and social activity at nodes
- Wealth generating for served communities
- Improves Valley's competitive position for national and international position
- Becomes spine and improves effectiveness of all connecting transit systems
- Can serve corridors BRT cannot
- Increased opportunities to attract workers from whole region and for employees to have more work options
- Can increase population and economic density
- Opportunity for public-private partnership at station locations
- Better land use

- Improves urban design and pedestrian access – improved personal health
- Opportunity for increased social interaction

Facilitator: Peggy Rubach

- Connectivity
- Reduce congestion
- Use new leg to bring railroads on board (AP 220?)
- Develop/increase infill projects and stationeries
- Create partnership with freight

South Subarea

Facilitator: Charles Huellmantel

- Low utilization of existing freight
- Local state/federal political support
- Metro area
- Local expertise on commuter rail
- Urban lifestyle in demand
- Multi-nodal culture expansion
- Environmental mindset
- Job creation/economic impacts of system development
- Creation of destinations
- Transit oriented development
- Opportunity for connections in/out of Maricopa in extreme conditions
- Maricopa support of alternatives
- Track option for freight capacity
- Future connection SE/Tucson
- Encourage economic development
- Undeveloped land offers no business/residential impact/displacement
- Opportunity
- Solving regional mobility/connective challenges
- Environmental benefit by utilizing existing freight

Southeast Subarea

Facilitator: Craig Ringer

- Economic development corridor
- Improve air quality
- Educating public as to rail option
- Combined corridors
- Tourism opportunities
- Improved traffic flows
- Work with Native American opportunities
- Evacuation civil defense option

Facilitator: Claudia Walters

- Rail and highways together as state-wide tax
- Multi-modal capacity – all
- Multi-jurisdiction
- Get rid of “great state of Maricopa” concept and make “great State of Arizona”
- Link education corridors (universities)
- Greater group lobbying for funds (federal)
- Work on air quality issues as a state
- Enhance tourism

- Bring economic development and Jobs and housing to not fully developed areas along corridor
- Encourage infill
- Program/better planned growth
- Globally competitive
- Increase/enhance freight rail
- Improve cargo/freight rail/air transportation
- Connection for Sky Harbor to Williams Gateway
- Connect to port
- Allow for greater security
- PPP financing
- Use other financing options
- Incentive for business to encourage employers
- Connectivity!! Education, transportation air/sea/rail – regions
- Regional planning for regional success (Sun corridor partnership)

Facilitator: Mike Normand

- Locating in new planned corridors
- Any rail in corridors
- A plan developed for the open spaces we do have
- Establish corridor even if construction is decades away (line Santan freeway)
- Involve Indian communities and developers
- Improve grade separations
- Railroad crossing noise improvements especially in residential areas
- Use air space
- Arizona Corporation Commission/regional/state agencies to partner up (ADOT, MAG, etc)
- So many corridors available
- Public support through legislative officials
- Economic development groups to learn/get up to speed
- Business community tie in
- Multi-modal planning corridor

Facilitator: Maria Deeb

- Transit oriented development
- Re-development of inner cities (i.e., Phoenix, Tempe, Mesa)
- Bring life back into distressed areas (i.e., Phoenix, Tempe, Mesa)
- Link college campuses, airports (future passenger service) – connectivity
- Expansion of medical centers
- Minimize pollution
- Increase potential for Williams Gateway area
- New technology – implement other commuter rail systems
- To change transportation negative image
- Utilize existing infrastructure
- Apply for federal grants/state revenue
- Added mode of evacuation in event of an emergency
- Connectivity between sub-regions
- More options
- Less stress for riders
- Eliminate future planned freeway corridors

Facilitator: Mack Lake

- Existing corridors and right-of-ways
- Start with existing rail, irrigation, transportation, drainage corridors
- Partner with state land trust and other large landholders; re: corridors and alignments
- Public and private interests – opportunity to change people's paradigms
- Area can-do attitude – University development, etc
- Use of PPP with existing corridors, right-of-ways, and large landholders
- Increase trade and business growth
- Consider using "transit" district taxes to retire transit investment
- Create high tech – WIFI, etc
- Effective use of commute time
- Safety – text message, grooming etc, -- less accidents
- Cluster development and preserve open space

Facilitator: Dan Shreeve

- Plan early
- Stimulate growth
- Improving connectivity to Williams Gateway Airport
- Connectivity to the "light rail"
- Linking ASU's campus to Gateway
- Competitive advantage over other western states
- Opportunities for public and private ventures

Facilitator: Vic Linoff

- Rail to communities for planned growth
- Rail partnerships (Railroad companies, communities)
- Increased quality of life = economic
- Improved safety
- Utility corridors
- Public/private Opportunities (business)
- Alternate revenue for railroad

Southwest Subarea

Facilitator: Marie Lopez Rogers

- Get rail in early to design communities around rail
- Rail partnership (business, government, planning agency)
- Quality of life = economic competitiveness
- Improved safety
- Utility corridors
- Public/private partnership
- Alternate revenue opportunity for freight rail companies
- Clean slate to create a transit corridor (freight/commute)
- Extend study to Palo Verde area
- Yuma Port of Entry
- PM-10 preservation of funding
- Economic development
- Promote sustainability

Facilitator: Mario Sandamando

- Economic development
  - New events
  - New employment centers
  - Improve mobility = global competitor
- Public/private partnerships

- Creative transit planning
  - Incorporate rail into existing plans
  - Combine park and rides with commuter rail stations
  - Preserve historical, cultural, and environmental areas
- Revitalize neighborhoods
- Become designated federal transportation recipient
- Improve maintenance system/technology
- Educate public on alternative modes

Facilitator: Kathy Rice

- Relocating district center to northwest valley creates redevelopment opportunities for Phoenix, Gila, Surprise, etc
- Tourism
- Opportunity to build transit-oriented communities
- Access to educational institutions
- Classes on the cars
- BNSF is passenger-friendly; good on time performance
- Free trade zones, foreign trade zones
- Development likely to occur around stations
- Government is supportive of passenger rail
- Quality of life as valley, region, state grows
- Puts pressure on completion of other transportation projects
- Cleaner air
- Connectivity to arts, recreation, airport (Sky Harbor)
- Opportunity to develop something new – technology
- Learning from the best in world to implement best practices, technologies, marketing, etc.
- Access for elderly, disabled, youth, other non-drivers
- Urban planning versus suburban planning opportunities
- Regional planning opportunities
- Comprehensive transportation system for the state
- Military industry – connectivity among state bases, federal government, national defense tie-in
  - Use to make more bases more viable

Northwest Subarea

Facilitator: Scott Chesney

- Ability to plan as integrated corridors
- Need for new classification yards (may create trade opportunities
- Use of existing rail yards for redevelopment
- Homeland security
- Rail oriented tourism excursion rail
- Economic development
- New employment hubs
- Educational opportunities with new elected officials
- Provides connectivity; linking cultural and recreational activities
- Reverse commute to new employment centers
- Help to create sustainability using transit oriented development; linking future and existing education campuses
- Involvement of business community; public/private partners

Facilitator: Carl Swenson

- Business investments
- Transit-oriented development
- Inter-governmental cooperation
- Urban renewal

- Inter-governmental opportunities
- Higher density opportunities
- Federal and State funding
- Inter-modal connectivity
- Improved land use planning
- Improved air quality
- Source of emergency evacuation
- Increased work productivity
- Technology opportunities for passengers
- Increased pedestrian opportunities

Notes provided by attendee:

- Railroads need land for new Classification Yards in Surprise, Tonopah, and Eloy. ASLD properties at those locations could be part of a negotiation.
- Development of shared use agreements in adjacent states (NM, UT) may help break the ice.
- Railroads need ACC approval for new spur lines to serve industrial clients in El Mirage and other communities
- Passengers may transfer to LRT system in the urban core, providing needed rider-ship to justify expansion of that system.

Threats

Central Subarea

Facilitator: Maria Hyatt

- Lack of political will, funding commitment, inter-regional cooperation
- Railroads' increase in freight business
- Cost of building new corridors/rising R/W costs
- Potential economic slowdown
- Ineffective long-range planning
- Delay = escalating costs and more lost opportunities
- Encourages sprawl

Facilitator: Brian Kearney

- Impact on Rail industry and future freight uses/ economic/commerce??
- Railroads may prevent, delay, or raise price of system
- Legislative may prevent, delay, or raise price
- Federal regulations may prevent, delay, or raise price
- Communities may protest new building or operation
- Incompatibility with existing or future land uses
- Security concerns
- Continued increases in freight traffic
- Funding?
- Unions

Facilitator: Peggy Rubach

- Legislature
- Environmental issues and clearances
- Land acquisition from existing owners
- Sustaining rider-ship
- Cost benefit analysis
- People love their cars
- Hidden agendas from interest groups
- Fight over ownership of project (joint government ventures)
- Fear of increased taxes

- Homeland security
- Competition for limited federal funds

South Subarea

Facilitator: Charles Huellmantel

- Public perception/misperception
- Funding
- Habits
- Turf Battle
- Legislative implementation/regional competition
- Governing Structure

Southeast Subarea

Facilitator: Craig Ringer

- Politics
- Regional competition
- User apathy
- Railroads not motivated
- Pace of entitlements threatens ROW availability
- Need for many, many at grade and grade separated crossings
- Costs!!!
- Competition for ROW between freight and passenger

Facilitator: Claudia Walters

- No need for urgency
- Not going to get the rail companies to participate
- Freeway advocates opposition
- Taking funding from other sources
- No growth folks/ unrestrained growth folks
- History of rail companies being independent
- Trying to create partnership with rail companies when none have existed
- Legislative interest/political will
- Old thinking on the part of rail companies; citizens and elected positions
- Water issues
- Cost of fare may discourage rider-ship
- Ongoing maintenance costs/ operations
- Lack of subsidy
- Overcoming 1% factor
- Lack of public/business rider-ship

Facilitator: Mike Normand

- Railroads (freight)
- Timing → get ahead of the curve
- Comprehensive plan revisions
- Developers!!
- Not part of current funded regional transportation plan
- No money
- Lack of public awareness and support
- Federal money limited (i.e. light rail vs commercial rail)
- Availability of right-of-way competing for same funding
- Long range planning
- Building a consensus – in-fighting between cities
- Arizona State land trust (land devaluation due to infrastructure)
- Coordinating multi-regions
- ADOT/state land

- ADOT policies not focused on other modes of transportation

Facilitator: Maria Deeb
- Agency support and planning
- Slow process
- Existing zoning and development processes
- No funding source identified
- Poor planning
- Existing utilities
- Public perception
- Competition with freight lines (space)
- Location and frequency of freight
- Safety issues
- Maintenance issues

Facilitator: Mack Lake
- Anti-tax communities
- NIMBY opposition
- Organized opposition
- Road vs rail mentality
- Railroad could resist cooperation
- Costs $$$

Facilitator: Dan Shreeve
- Development incentives from other states and regions
- New roadway development
- Lack of roadway "ROW" where it's needed
- Funding
- Environmental concerns
- Support by the populous? – will people give up their cars?
- Telecommuting – does it reduce the need for travel?
- Tribal nation "Buy-in/support"
- Does development occur where anticipated?
- Security
- Market strength

Facilitator: Vic Linoff
- Maintaining rail line
- Competing stakeholders groups
- Safety
- Funding
- Jurisdictional conflicts
- Lack of cooperation from railroads

Southwest Subarea

Facilitator: Marie Lopez Rogers
- Maintains rail line
- Opposition from truckers, etc (competing stakeholder group)
- Safety
- Funding
- Jurisdictional conflicts
- Lack of cooperation from railroads
- Takings
- Proposition 207
- Speed of development
- Voters
- Funding Opportunities
- Political threats

- Public backlash over light rail
- Where do we fall in priority?
- Union Pacific
- Not promoting internal sustainability
- Prioritizations vs Regions (system)
- Cost

Facilitator: Mario Sandomando

- Political support
- New technology
- Sustainability
- Crime increase

Facilitator: Kathy Rice

- Public perception
- Don't take money away from freeway mentality
- MAG planning does not emphasize passenger rail
- "I don't want those people coming into our community"
- Too much competition for E.D. – can move people too easily
- Freight operations might be impacted
- Railroads can uncooperative
- Perception that it is subsidized and a money loser with no upside
- Not enough political wherewithal
- Phoenix – Tucson is sexier
- System isn't fully developed – self destructive set up for failure
- ROW encroachment

Northwest Subarea

Facilitator: Scott Chesney

- Political buy-in
- State legislature would have to be put on the ballot
- Environmental effects
- Buy-in from both railroads required
- Funding competition
- Federal transportation money goes away in 2009
- Lack of new money
- Adverse impacts to development community
- Public perception that density creates crime and blight
- Public trust in government

Facilitator: Carl Swenson

- Sustainable Funding
- Service/labor disruption
- Environmental mitigation
- Terrorist threat
- Expands growth area boundaries

Notes provided by attendee:

- LRT stakeholders may oppose commuter rail due to perceived competition for federal "new starts" funds and a "full funding grant agreement for the LRT system."
- Urban Core communities may perceive the service as continued suburban sprawl and loss of impetus for infill development. (They count on future suburban congestion as a tool to spur infill and redevelopment of the core.
- Need for not one, but two Class One Railways to agree for the system to work effectively.
- Parochialism throughout the region.

- Public perception that this is another expensive boondoggle, which no one will ride. (Full buses throughout the region will help dispel return of the “empty buses” argument of the Eighties)
- City of Glendale view of BNSF as a blighting influence in their city, and their uncertainty on whether whey would support heavy rail.
- Competition with other transportation modes for scarce resources.
- Potential diminishment of the federal role in transportation post SAFETEALU (The Highway Trust Fund will be broke by 2009); and/or devolution of the role from USDOT to the state

Commuter Rail Stakeholder Group Survey (Sample)

1. Several benefits of bringing commuter rail to the region have been identified by the Commuter Rail Stakeholder Group. Please rank the following identified benefits from 1 to 5, 1 being the least beneficial and 5 being the most beneficial:

_____ Continued regional growth of population and employment throughout the region.

_____ Promotes sustainability by reducing air pollutants and usage of natural resources.

_____ Increases in the cost of fuel and travel.

_____ Availability of existing railroad alignments in the primary travel corridors.

_____ Promotes cooperation between public and private entities.

☐ I do not believe there is a benefit to bringing commuter rail to the region.

Other:

_____

_____

2. Several challenges to bringing commuter rail to the region have been identified by the Commuter Rail Stakeholder Group. Please rank the following identified challenges from 1 to 6, 1 being the least challenging and 6 being the most challenging:

_____ Potential conflicts with current and planned freight railroad operations.

_____ Physical and geographic constraints limiting locations for new alignments.

_____ Coordination with jurisdictional interests and policies.

_____ Rapid development of land uses foreclosing opportunities for alignments and stations.

_____ Availability and competition for regional, state and federal funding and resources.

_____ Cost of building and operating a commuter rail system.

☐ I do not believe there are any challenges to bringing commuter rail to the region.

Other:

_____

_____

3. Do you think commuter rail should be brought to the region and if so, how should it be implemented?

☐ Yes. We should get started with a single corridor.

☐ Yes. We should create a starter service with two corridors.

☐ Yes. We should create a full regional system.

☐ No. Commuter rail should not be brought to the region.

4. Looking at the following stakeholder group activities and their value to you, please rank the following from 1 to 6, one being least valuable and 6 being the most valuable.

_____ Education on commuter rail

_____ Seeing ideas for the strategic plan

_____ Interaction/coordination with others from across the region

_____ Seeing results of the stakeholder group meetings

_____ Commuter rail SWOT analysis

_____ Development of action plans

Other:_____

_____

5. Please rate your overall satisfaction with the Commuter Rail Stakeholder Group process:

1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
Not Satisfied		Satisfied		Beyond my expectations

6. For future MAG stakeholder groups, would you suggest a change be made in any of the following categories? If you check any of the boxes below, please explain in the space provided.

☐ Meeting Format ☐ Frequency of Meetings ☐ Meeting Notifications

☐ Information Provided ☐ Length of Meetings ☐ Meeting Locations

_____

_____

7. Which sub-area do you best represent?

Southwest	Northwest	Central	South	Southeast
☐	☐	☐	☐	☐

Additional Comments:

_____

Meeting Attendees

Full Name	ORG	TITLE	Attended 6/28	Attended 9/12	Attended 10/30
Ron Aames	City of Peoria	Councilmember, Palo Verde District	Y	Y	Y
John Anderson	Arizona Transit Association	Executive Director	Y	Y	
F. Rockne Arnett	Citizens Transportation Oversight Committee	Chair	Y		
Paul Berumen	Arizona State University Office of Public Affairs	Director for Local Government Relations	Y	Y	
Brent D. Billingsley	City of Maricopa	Transportation Manager	Y		Y
Stuart Boggs	Valley Metro/RPTA	Manager of Transit Planning	Y	Y	Y
George Bosworth	Urban Land Institute Arizona	Executive Director			Y
Frank Cavalier	City of Goodyear	Vice Mayor		Y	
Scott R. Chesney AICP	City of Surprise	Planning and Community Development Director	Y		
Charlie Deaton	Mesa Chamber of Commerce	President and CEO	Y		
Pat Dennis	City of El Mirage	Intergovernmental Relations Representative		Y	Y
Jim Dickey	Arizona Department of Transportation	Director, Public Transportation Division	Y	Y	Y
Matt Dudley	City of Glendale	Transit Planner	Y	Y	
Cliff Elkins	City of Surprise	Former Councilmember, District 1	Y	Y	Y
Marcia Ellis	City of Litchfield Park	Councilmember			Y
Eric W. Emmert	Tempe Chamber of Commerce	Transportation Committee Chair		Y	
Steven E Frate	City of Glendale	Councilmember, Sahuaro District	Y	Y	Y
Scott Friedson	Arizona Department of Transportation				Y
Sharolyn Hohman	Southwest Valley Chamber of Commerce	President and CEO	Y	Y	Y
Don Homan	Town of Buckeye		Y		
Maria Hyatt	City of Phoenix		Y		Y
Terry Max Johnson	City of Glendale	Deputy Transportation Director		Y	
Brian Kearney	Downtown Phoenix Partnership	Chief Executive Officer	Y		
Carol Ketcherside	Valley Metro RPTA	Deputy Executive Director of Planning	Y	Y	Y
Donald P Keuth	Phoenix Community Alliance	President and CEO	Y		Y
Kathy Langdon	Gilbert Chamber of Commerce	President and CEO	Y		

Full Name	ORG	TITLE	Attended 6/28	Attended 9/12	Attended 10/30
Brian Lehman	Arizona Corporation Commission	Rail Programs Manager		Y	
Michelle Lehman	City of Surprise	Intergovernmental Relations Director	Y	Y	Y
Carlo Leone	City of Peoria	Councilmember, Pine District			Y
David Lewis	Northwest Valley Chamber of Commerce	President and CEO	Y	Y	
William Lindley	Arizona Rail Passenger Association	Treasurer and Webmaster	Y	Y	Y
Daniel Lundberg	City of Surprise	Director, Community Initiatives			Y
Alisa Lyons	Valley Partnership	Vice President, Governmental Affairs		Y	
Ken-Ichi Maruyama	Town of Gilbert	Management Assistant	Y	Y	Y
Catherine A. Mayorga	Tempe Chamber of Commerce	Vice President Public Affairs		Y	Y
Mary Ann Miller	Tempe Chamber of Commerce	President and CEO		Y	
Mike Normand	City of Chandler	Transportation Services & Planning Manager	Y		Y
Randy Overmyer	City of Surprise	Community and Economic Development Department	Y	Y	Y
Stephanie Prybyl	Town of Gilbert	Intergovernmental Relations Coordinator	Y		
David Raber	Arizona Corporation Commission	Director Safety Division		Y	
Paul Rasmussen	Arizona Department of Environmental Quality	Director of Policy, Planning and Operations		Y	Y
Tom Remes	City of Phoenix	Intergovernmental Liaison	Y		Y
Don Rinehart	Glendale Chamber of Commerce	President/CEO		Y	
Tracey Rivas	City Of Phoenix	Aviation Department	Y	Y	
Randy Roberts	City Of Peoria	Transit Department	Y		
Peggy Rubach	Maricopa County Department of Transportation	Bicycle/Multimodal Planner	Y	Y	Y
Mario Saldamando	City of Goodyear	Management Assistant to the City Manager	Y		Y
Jess Segovia	City of Avondale	Transit Administrator	Y	Y	
Tom Smith	Pinal Partnership	Executive Director	Y		
Jay R. Smyth PhD, PRP	Southwest Rail Corridor Coalition	Coordinator	Y	Y	Y
Woody Thomas		Former Mayor of Litchfield Park		Y	Y
Chuck Ullman	Sun City West Property Owners & Residents Association	President		Y	
Mike Williams	Williams Gateway Airport		Y		
Robert Yabes	City of Tempe	Principal Planner	Y		

Full Name	ORG	TITLE	Attended 6/28	Attended 9/12	Attended 10/30
Mark Young	Town of Queen Creek	Management Assistant		Y	Y
Dianne Kresich	Arizona Dept of Transportation				Y
Don Veidt	Southwest Rail Corridor Coalition	Retired	Y		
Mark McLaren	HDR, Inc.		Y	Y	
Sam Morse	Western Architect		Y		
Robert Maki	City of Surprise	Engineering Department	Y	Y	
Don Noble	Town of Queen Creek	Interim Public Works Manager	Y		Y
Michael Celaya	City of Surprise		Y	Y	Y
Alton Bruce	City of Coolidge	Growth Management Director	Y		Y
Jamal Rahimi	City of Peoria	City Traffic Engineer	Y	Y	Y
Michele Pino	Land Advisors Organization	Business Development and Client Relations Specialist	Y		
Kathy Rice	City of Surprise	Assitant City Manager	Y	Y	Y
Jan See	City of Surprise	City Planner	Y	Y	
Brent Stoddard	City of Glendale	Legislative Coordinator	Y		Y
Chuck Russell	SRP		Y		
Jyme Sue McLaren	City of Tempe	Department of Public Works Manager	Y	Y	Y
Todd Cooley			Y		
Todd Kennedy	City of Apache Junction	Assitant Planner	Y		Y
Ariel Ohler			Y		
Mark Thompson	Arizona Advocacy Group, LLC		Y	Y	Y
Darrell Truitt	EPS Group, Inc.	Public Works Department	Y		
Linda Wegener			Y		
Ken Buchanan	Pinal County	Assistant County Manager for Development Services	Y	Y	
Bob Ware	Peoria Chamber of Commerce		Y		
Craig Ringer	Central Arizona Association of Governments	Deputy Director/EDD Director	Y		
Jeanne Blackman	APS	Community Development Manager	Y	Y	Y
Stephanie Wilson	City of Surprise	Community Development	Y	Y	
Keith Watkins	JF Companies	Vice President	Y		
Mack Lake			Y		
Jennifer Whalley	East Valley Partnership	Director of Programs & Operations	Y	Y	
Dave Gobelle	PB		Y		
Reed Caldwell			Y		
John Mitchell			Y		
David Golder	City of Surprise		Y	Y	Y

Full Name	ORG	TITLE	Attended 6/28	Attended 9/12	Attended 10/30
Jamie Hogue	State Land Department	Deputy State Land Commissioner	Y		
Pat Gilbert	Marc Center		Y		
Marie Lopez Rogers	City of Avondale; MAG	Mayor	Y		Y
Pat Dennis			Y		
Shane Kiesow	City of Apache Junction		Y		
Ethan Rauch			Y		
Vic Linoff			Y		Y
Ray Brown	City of Phoenix		Y		
Dale Despain			Y		
John Gale	Maricopa County		Y	Y	Y
Luis Heredia	Union Pacific		Y	Y	
Julie Howard	City of Mesa		Y	Y	Y
Amy Johnson			Y		
Bruce Hallsted			Y		Y
Darrell Wilson	CMX LLC.	Sr. Executive Vice President	Y	Y	
Kevin Attebery	City of Goodyear		Y		
Dan Shreeve	Land Advisors Organization		Y		
Mike James	City of Mesa		Y		
Dan Cassano			Y		
Hugh Hallman	City of Tempe	Mayor	Y		
Charles Huellmantel	Huellmantel & Affiliates		Y	Y	Y
Mike DiDomnico	City of Tempe	DRC	Y	Y	
Lisa Estrada	City of Peoria	Intergovernmental Affairs Coordinator	Y	Y	Y
Megan Griego	City of Surprise		Y	Y	Y
Ken Driggs			Y		Y
David Bell			Y	Y	
Vanessa MacDonald	City of Tempe	Development Review Commission	Y	Y	
Scott Switzer			Y		
Stacie Muller			Y		
Sean Banda	Town of Buckeye		Y	Y	Y
Jeff Martin			Y		
Becky Rutledge	Arizona Transit Association		Y	Y	
Andy Smith	Pinal County Department of Public Works	Transportation Planner	Y	Y	Y
Dave McGrew			Y		
Stacie Harrison	HDR, Inc.		Y		
Jeff Cooley			Y		
Kathryn Pett			Y		
Kevin Collins	HDR, Inc.		Y		
Eric Emmert			Y		Y
Robert Mulvihill			Y		
Gene Holmerud	Coalition of Arizona Bicyclists		Y	Y	Y
Bobby Bryant	Town of Buckeye	Mayor	Y		

Full Name	ORG	TITLE	Attended 6/28	Attended 9/12	Attended 10/30
Carl Swenson	City Of Peoria	Deputy City Manager	Y	Y	Y
Dale Hardy	City of Phoenix		Y		Y
Claudia Walters			Y		
Jordan Feld	City of Phoenix		Y		
Sam Wheeler	ASU		Y	Y	
Giao Pham	City of Apache Junction		Y		
Janet Zuber			Y		
Ian Satter	Sonoran Institute		Y	Y	Y
Carson Brown			Y		Y
Maria Deeb	City of Mesa	Transportation Department	Y	Y	Y
Jim Winterton			Y		
Dolores Shoecraft	Arizona State University		Y		
Mitchell Foy			Y		
Christian Stumpf			Y		
Amanda Nelson	City of Tempe		Y		
Wulf Grote	Valley Metro Rail	Director of Project Development	Y	Y	Y
Heather Garbarino	Arizona Planning Association	Senior Planner, Arizona Department of Commerce		Y	Y
Kristina Fretwell	Greater Phoenix Chamber of Commerce	Public Affairs Manager			Y
Jessica Blazina	City of Glendale			Y	
Cathy Colbath	City of Glendale			Y	
Feliciano Vera				Y	
Mark Melnychenko	City of Phoenix	Public Transit Department		Y	
Scott Miller	HDR/S.R. Beard & Associates			Y	
Joe LaRue	Sun Health			Y	
Jim Rumpeltes	City of Surprise	City Manager		Y	
Jamsheed Mehta	City of Glendale			Y	
Doc Sullivan	City of Surprise	Councilman		Y	
Chris Salas	City of Maricopa			Y	
Shana Ellis	City of Tempe			Y	
Michelle Green	Arizona State Land Department			Y	
Amber Wakeman	City of Tempe			Y	
John Hagen	City of Surprise	Economic Development Director		Y	Y
Frank Hutcheson	Arizona Rail Passengers Association			Y	Y
Dawn Coomer	City of Tempe	Light Rail Transit Department		Y	Y
Shelley Vasquez	City of Goodyear			Y	
Jim Mathien	METRO				Y
Eric Johnson	City of Phoenix				Y
Nathan Pryor	MAG				Y
Albert Santana	City of Phoenix, City Manager's Office				Y
Barbara Guenther	Arizona State Senate				Y

Full Name	ORG	TITLE	Attended 6/28	Attended 9/12	Attended 10/30
Ryan DeMenna	Arizona Sstate Senate				Y
Kellee Kelly	City of Maricopa				Y
Michele Tucker	BNSF				Y
Cheryl Toy	City of Phoenix, Aviation Department				Y
Megan Schmitz	City of Phoenix				Y
Michelle Rill	Greater Phoenix Chamber of Commerce				Y
Gabe Rushing	Greater Phoenix Chamber of Commerce				Y
Maureen Decindes	MAG				Y
Marc Sorensen	HDR				Y
Terry Phemister	HDR/S.R. Beard & Associates				Y
Don Klocke	Downtown Phoenix Partnership				Y
Brian Townsend	Arizona State Senate				Y
Tom Simplot	Phoenix City Council	Councilman			Y
Eileen Yazzie	MAG				Y
Vladimir Livshits	MAG				Y
John Farry	METRO				Y
Julie Rees	Triadvocates				Y
Clancy Jayne	Clancy Jayne Consulting				Y
Mike Cartsonis	City of Litchfield Park	Planner			Y
Bill Leister	CAAG				Y
Ernest Rubi	MCDOT				Y
Monique de los Rios-Urban	MAG				Y
Paul Davenport	Associated Press				Y
Jane Morris	City of Phoenix Aviation Department	Deputy Aviation Director			Y

D. APPENDIX: WORKING PAPERS

Maricopa Association of Governments
Commuter Rail Strategic Plan

Working Paper #1
Summary of Commuter Rail Stakeholders Group Process and Inputs

Final
November 2007

Table of Contents

Figures

Tables

INTRODUCTION

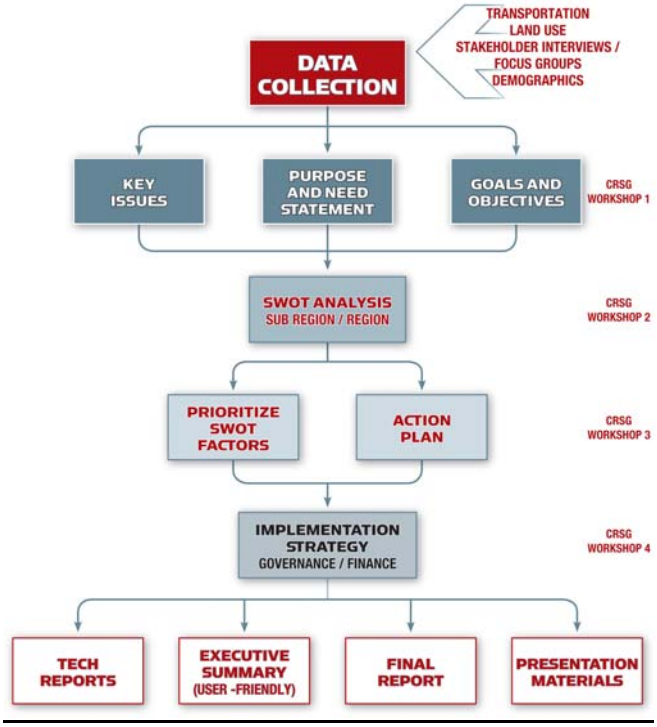
The Maricopa Associations of Governments (MAG) has been actively exploring potential options for enhancing the longer-term economic vitality of the county and the mobility and well-being of its citizens. MAG further recognizes that commuter rail corridors may potentially serve a critical function in addressing future travel needs in the region.

The purpose of this working paper is to provide a summary of the results for the first of three MAG Commuter Rail Stakeholder Group (CRSG) workshops. The CRSG was established to comment on and help shape major recommendations to the MAG Commuter Rail Strategic Plan. The MAG Commuter Rail Strategic Plan will identify priorities and develop an implementation strategy and plan for commuter rail service in Maricopa County and northern Pinal County.

OVERVIEW OF PROCESS

The planning process for the MAG Commuter Rail Strategic Plan began in February 2007 and will be completed by January 2008. Several individuals have contributed to the development of the plan and include Maricopa Association of Governments (MAG) the Commuter Rail Stakeholders Group (CRSG), staff representatives from Arizona Department of Transportation (ADOT), METRO, and Regional Public Transportation Authority (RPTA); members of the consultant team. The CRSG consists of public and private agencies and entities with an interest in transit and those involved in past transit studies. The CRSG meet a total of four times throughout the planning process and helped to identify opportunities and threats of commuter rail and developed action plans to identify strategies to implement commuter rail in the region. Figure 1 illustrates the commuter rail strategic planning process.

Figure 1: Planning Process



Data Collection- To initiate the process, a summary of previous work was conducted to summarize the findings relative to Commuter Rail. Studies and plans that were summarized include:

- The results of the Proposition 400 vote that dedicated approximately one-third of half-cent sales tax at the regional level to mass transit.
- The current MAG Regional Transportation Plan (RTP) that reflects this significant increase in transportation funding, with expanded transit plans and programs. The Commuter Rail Strategic Plan will be a resource for possible adjustment and expansion of the RTP, as part of future updates.
- The MAG 2003 High-Capacity Transit Study findings that demonstrated sufficient travel need to justify additional light rail/bus rapid transit and commuter rail corridors. Note that this Commuter Rail Strategic Plan will update and expand the commuter rail portion of this Study.
- The ADOT High Speed Rail Strategic Plan that concluded that high speed rail was a possibility for the Phoenix-Tucson Corridor.
- The ADOT State of Arizona Railroad Inventory Assessment that reflects a baseline assessment of the entire states current rail infrastructure.

Commuter Rail Stakeholders Group- A Commuter Rail Stakeholders Group (CRSG) was established, which is an expansion of the previous Commuter Rail Stakeholders Group. This council consists of public and private agencies and entities involved in past studies and those that should be involved in future.

The CRSG will meet a total of four times throughout the course of the project to review progress and comment on-and help shape major recommendations. In addition, the CRSG helped define smaller geographic study areas that will focus stakeholder involvement and create a sense of community building and linkages. These sub-areas include the Southwest, Southeast, Northwest, Central, and South corridors. Figure 2 below depicts the location of all five sub-areas.

ORGANIZATION OF WORKING PAPER #1

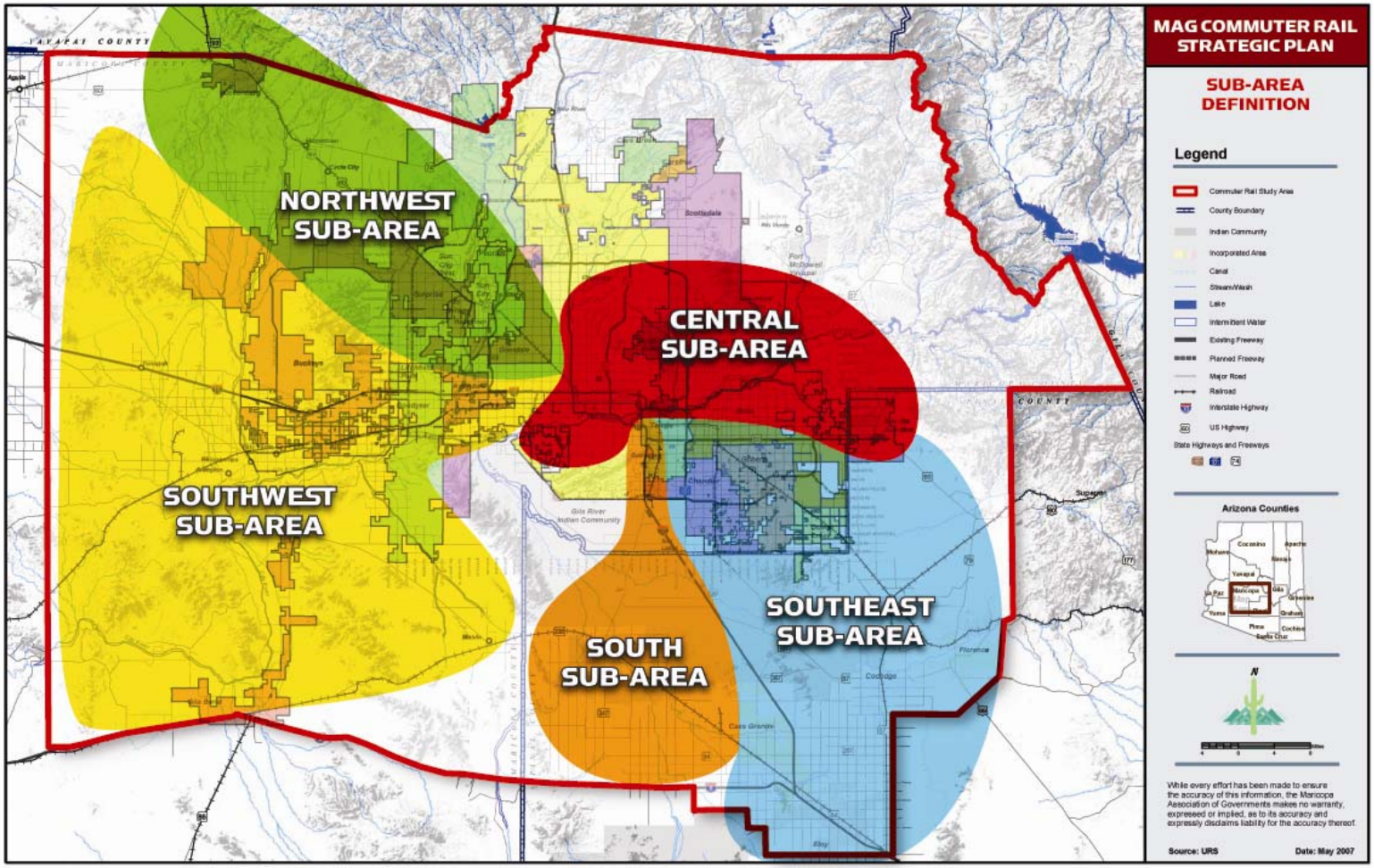
This working paper begins with the summary of CRSG workshop #1. The purpose of the first CRSG workshop was to provide an overview of the Commuter Rail Strategic Plan Project, MAG plans for commuter rail, discussion of commuter rail operating requirements and coordination, and a description of the MAG sub-areas.

The second CRSG workshop began to analyze Strengths, Weaknesses, Opportunities and Threat (SWOT) issues by subarea. This analysis examined connectivity, land use, capacity requirements, and other commuter rail related issues from a corridor or localized standpoint.

At the third CRSG workshop, stakeholders developed action plans related to the identified commuter rail goals and objectives. These action plans will help to develop an implementation strategy for commuter rail in Maricopa and Pinal County.

The final CRSG workshop presented issues and challenges of implementing commuter rail in the MAG region. The workshop was an open house format, displaying various informational boards. A MAG Commuter Rail panel answered questions raised by the stakeholders. In addition, a Commuter Rail Stakeholders Group survey was conducted to obtain additional input from the MAG CRSG.

Figure 2: Subarea Definition



COMMUTER RAIL STAKEHOLDERS GROUP WORKSHOP #1

The purposes of this CRSG workshop was to provide an overview of the Commuter Rail Strategic Plan Project, MAG plans for commuter rail, discussion of project issues and purpose statement, discussion of commuter rail operating requirements and coordination, and a description of the sub-area planning for SWOT analysis. There were approximately 55-60 stakeholders that attended the first Commuter Rail Stakeholder Group (CRSG) workshop. The meeting was held at the MAG offices on May 1, 2007.

Key comments from stakeholders included:

- Freight traffic on the UP Railroad mainline between Tucson and California is at maximum capacity and it will only increase.
- Need to analyze air quality, noise pollution and grade separation
- The plan needs to relate to environmental benefits, such as reduction in pollutants, less usage of natural resources etc.
- The EPA designation of Maricopa County as a non-attainment area is a real problem
- Consider making the rail lines attractive for use by both freight railroads and commuter rail.
- Convenience is important for commuters.
- The cost of both capital improvements and commuter rail operations will be a challenge.
- Downtown Phoenix, ASU campus will provide multiple possibilities for mobility.
- Look into private and public funding.
- Look into unique funding sources such as value capture.
- Use an established cost benefit analysis to assess cost effectiveness.
- Commuter rail can help mold future centralized land use and therefore dispersed development can be positively guided by commuter rail.
- Look into purchasing existing rail road branch lines
- Investigate the alternatives of public vs. private ownership (railroad ownership) of the rail lines for commuter rail use.
- Determine a methodology to address possible reverse commutes
- Commuter rail has the potential for sustainable economic and social benefits.
- ADOT is the central point of contact for the Railroads.

COMMUTER RAIL STAKEHOLDERS GROUP WORKSHOP #2

The second CRSG workshop began to analyze Strengths, Weaknesses, Opportunities and Threat (SWOT) issues by subarea, allowing stakeholders from every part of the area to begin examining connectivity, land use, capacity requirements, and other commuter rail related issues from a corridor or localized stand point. There were over 130 participants at the second CRSG workshop. The workshop was held in Mesa at the Mesa Convention Center on June 28, 2007.

The CRSG members were assigned to a focus group dependent on the sub area definition. The focus groups representing the five subareas of Southwest, Southeast, Northwest, Central, and South corridors, analyzed SWOT for their respective subarea. These SWOT's were documented on flip charts and the participants were asked to prioritize their identified SWOT issues. The Table 1 provides the top priorities SWOT's associated with commuter rail in Maricopa County and northern Pinal County and is separated by subarea. In addition, Appendix A includes the complete list of SWOT for all five subareas and the high priority SWOT's are identified in bold text.

Table 1: HIGH PRIORITY STRENGTHS, WEAKNESSES, OPPORTUNITIES AND THREATS

SWOT	Subareas				
	Central Subarea	South Subarea	Southeast Subarea	Southwest Subarea	Northwest Subarea
Strengths					
Regional Growth			▪ Will create retail/industrial development opportunities for small towns/economic development ▪ Relieve congestion on freeways ▪ Reduces time tax – lost opportunity	▪ Reduce congestion ▪ Growing population along the line	▪ Reduces congestion on roadways
Multimodal Opportunities	▪ Improved mobility, multimodal connectivity ▪ Expanded transit adds rush hour capacity ▪ Travel options	▪ Construction mitigation, build prior to I-10	▪ Reliability in travel time connectivity ▪ Promotes regional airport alternatives (WGA) ▪ Connecting Pinal County to Maricopa County	▪ Connectivity of valley, regions, light rail and other transit	
Existing Land and ROW			▪ Several existing rail corridors ▪ Ahead of development curve – available land	▪ Existing track (ROW)	▪ Rail exists/economic linkages
Cost and Affordability			▪ Alternative form of transportation as gas prices increase		
Sustainability	▪ Mitigates pollution and saves energy (fuel) ▪ Multi-nodal community is suited to commuter rail across valley ▪ Activity into downtown area	▪ I-10 24-lane mitigation option	▪ Air quality improvement ▪ Creates greater sustainability for region ▪ Promotes nodal development: business, sports, resorts, activities; connects high density areas ▪ Cost savings (economic, environmental, etc)	▪ Environmental friendly ▪ Long-term transportation solution	▪ Increase quality of life – reduction in commute ▪ Reduces pollution
Public and Private Cooperation			▪ Growing community support		

Source: MAG CRSG, 2007

Table 2 (Continued): HIGH PRIORITY STRENGTHS, WEAKNESSES, OPPORTUNITIES AND THREATS

SWOT	Subareas				
	Central Subarea	South Subarea	Southeast Subarea	Southwest Subarea	Northwest Subarea
Weaknesses					
Regional Growth			▪ Polycentric employment centers ▪ Speed of development - vanishing opportunities ▪ Security screening/concerns – terrorists ▪ Density – will Arizona densities sustain mass transit?		▪ Initial ridership
Existing Land and ROW	▪ Railroads indicate limited additional capacity of existing infrastructure		▪ Congestion on the rail lines ▪ Need to acquire right-of-way through developed areas	▪ Lack of signalization along line – cost and safety	
Cost	▪ No defined funding source yet	▪ Cost	▪ Costs– no funding source ▪ Competition for available funds by many areas of transportation	▪ Money	▪ New funding source needed ▪ Infrastructure costs
Public/ Private Cooperation	▪ Willingness to fund and operate ▪ No leverage or cooperation with railroads	▪ Buy-in/cooperation by UPRR	▪ Lack of multi-jurisdiction planning ▪ Public support – some want to see benefit ▪ Partnering with existing railroads very difficult ▪ Legislative support	▪ Political resistance ▪ Competition with populous areas ▪ Communication between railroad, region and state ▪ Competing transportation project	

Source: MAG CRSG, 2007

Table 3 (Continued): HIGH PRIORITY STRENGTHS, WEAKNESSES, OPPORTUNITIES AND

SWOT	Subareas				
	Central Subarea	South Subarea	Southeast Subarea	Southwest Subarea	Northwest Subarea
Opportunities					
Regional Growth	▪ Intensifies economic and social activity at nodes ▪ Reduce congestion		▪ Economic development corridor ▪ Re-development of inner cities (i.e., Phoenix, Tempe, Mesa) ▪ Stimulate growth	▪ New employment centers	▪ Economic development ▪ Business investments ▪ Higher density opportunities ▪ Relocating district center to northwest valley creates redevelopment opportunities for Phoenix, Glendale, Surprise, etc ▪ Tourism
Multimodal Opportunities	▪ Becomes spine and improves effectiveness of all connecting transit systems ▪ Ability to use commercial rail as a construction alternative (I-10 widening)	▪ Solving regional mobility/connective challenges	▪ Connectivity-education, air/sea/rail – regions ▪ Multi-modal planning corridor		
Existing Land and ROW	▪ Large scale joint development opportunity		▪ Combined corridors ▪ Use of PPP with existing corridors, right-of-ways, and large landholders	▪ Clean slate to create a transit corridor (freight/commuter)	▪ Ability to plan as integrated corridors
Cost			▪ PM-10 preservation of funding	▪ PM-10 preservation of funding	
Sustainability		Environmental benefit by utilizing existing freight	Transit oriented development ▪ Competitive advantage over other western states ▪ Creative transit planning	Creative transit planning	
Public/ Private Cooperation			▪ Regional planning for regional success (Sun corridor partnership) ▪ Arizona Corporation Commission/regional/state agencies to partner (ADOT, MAG, etc) ▪ opportunity to change people's paradigms		

Source: MAG CRSG, 2007

Table 4 (Continued): HIGH PRIORITY STRENGTHS, WEAKNESSES, OPPORTUNITIES AND THREATS

SWOT	Subareas				
	Central Subarea	South Subarea	Southeast Subarea	Southwest Subarea	Northwest Subarea
Threats					
Regional Growth			▪ Development incentives from other states and regions		▪ Terrorist threat
Existing Land and RR ROW	▪ Continued increases in freight traffic				
Cost	▪ Competition for limited federal funds	▪ Funding	▪ Cost of fare may discourage ridership ▪ Ongoing maintenance costs/ operations ▪ Lack of subsidy ▪ No funding source identified	▪ Cost	▪ Federal transportation money goes away in 2009 ▪ Sustainable Funding
Sustainability				▪ Sustainability	
Public/ Private Cooperation	▪ Lack of political will, funding commitment, inter-regional cooperation ▪ Ineffective long-range planning ▪ Legislative may prevent, delay, or raise price	▪ Public perception/misperception ▪ Legislative implementation/regional competition	▪ Politics ▪ Regional competition ▪ User apathy ▪ Old thinking on the part of rail companies; citizens and elected positions ▪ Railroads (freight) ▪ Comprehensive plan revisions ▪ Agency support and planning ▪ Anti-tax communities ▪ NIMBY opposition ▪ Organized opposition ▪ Tribal nation "Buy-in/support" ▪ Competing stakeholders groups	▪ Prioritizations vs. Regions (system) ▪ Political support ▪ Public perception (Don't take money away from freeway mentality)	▪ Political buy-in

Source: MAG CRSG, 2007

Commuter Rail Stakeholder Group Observations

There were several key issues identified in CRSG #1 and they were further developed in CRSG #2. These key issues include:

- Continued regional growth of population and employment throughout the metropolitan area.
- Availability of existing railroad alignments in the primary travel corridors
- Increase in the cost of fuel and travel.
- Promote sustainability by reducing air pollutants and usage of natural resources.
- Promote cooperation between public and private entities.

In addition, critical challenges were also identified and included:

- Possible conflicts with current and planned freight railroad operations.
- Rapid development of land uses foreclosing opportunities for alignments and stations.
- Physical and geographic constraints limit locations for new alignments.
- Coordination with jurisdictional interests and policies.
- Availability and competition for regional, state and federal funding and resources.
- Cost of building and operating a commuter rail system.

Goals and Objectives:

Based on the input received from the first two CRSG workshops, proposed goals and objectives were drafted for the MAG Commuter Rail Strategic Plan and include:

Goal 1: Employ Commuter Rail to Shape Regional Growth
Objective 1: Create multi-centered development
Objective 2: Stimulate economic development
Objective 3: Spur development in Urban Centers

Goal 2: Improve Transportation Mobility Opportunities by Implementing Commuter Rail
Objective 1: Provide multimodal travel options
Objective 2: Minimize future vehicular congestion
Objective 3: Serve regional trips, as well as trips between and within major activity centers
Objective 4: Maintain or improve travel times within existing and planned activity centers

Goal 3: Provide a Seamless and Cost Effective Commuter Rail Option
Objective 1: Utilize existing land and railroad right-of-way
Objective 2: Utilize available funding sources
Objective 3: Minimize capital and operating costs
Objective 4: Plan integrated corridors

Goal 4: Promote Sustainability through the Implementation of Commuter Rail
Objective 1: Maintain or improve regional air quality
Objective 2: Develop transportation projects that help focus developments near activity centers.
Objective 3: Provide a long-term transportation solution

Goal 5: Increase Public/Private Cooperation to Implement Commuter Rail

Objective 1: Create public/private partnerships
Objective 2: Educate and inform the public
Objective 3: Provide funding options
Objective 4: Develop local and regional support for commuter rail

COMMUTER RAIL STAKEHOLDERS GROUP WORKSHOP #3

The purpose of CRSG #3 was to develop Action Plans related to the identified commuter rail Goals and Objectives listed above. The workshop was held at the Glendale Civic Center on September 12, 2007. There were approximately 80 to 90 stakeholders that attended the third CRSG meeting.

The consultant team summarized the project purpose/need and presented the outcomes of the SWOT analysis developed at CRSG #2. Proposed Goals and Objectives, drafted from the SWOT analysis, were presented to the CRSG. Stakeholders were asked to work in small focus groups to develop action plans for their assigned goal, identifying: action items, owners, partners, and timeframe/phases.

This information will help to develop an implementation strategy for commuter rail in Maricopa and Pinal County. The tables below include action plans for each of the five commuter rail goals and objectives (bolded text indicates high priority action plan).

GOAL: EMPLOY COMMUTER RAIL TO SHAPE REGIONAL GROWTH

OBJECTIVES

- Create multi-centered nodal development (Multi-centered nodal development describes development that is a more intensive mix of uses and densities, typically at transportation junctions)
- Stimulate economic development
- Spur development in Urban Centers (an Urban Center can be defined as a large node, usually a densely populated urban area such as downtowns in Phoenix, Tempe, Mesa, Glendale etc.)

KEY QUESTIONS

- Considering existing transportation corridors, how or where would commuter rail be effective in fostering multi-nodal development?
- Is commuter rail alone sufficient for creating multi-nodal development or are there other elements necessary?
- What types of activity nodes should be served by commuter rail?
- Where and how can economic development be promoted?
- Which types of businesses or land uses would support commuter rail?
- Which groups or organizations could help to promote economic development, who should be involved?
- Consider ways in which commuter rail can spur development in key urban centers
- Which urban centers should be served by commuter rail?

ACTION PLAN

ACTION ITEM	OWNER	PARTNERS	TIME FRAME/PHASES
***High Priority*- Stimulate economic development by connecting to ASU, Sun Health Research, TGEN, with each other and to residential communities.**	**Developers University Medical**	**Railroads University Medical**	**5-10 years**
Assemble land for multi centered nodal development and approve appropriate zoning and development codes.	Private developers State Land Dept. Cities Railroad	Land Developers Major employers Railroads	3-5 years

ACTION PLAN			
ACTION ITEM	OWNER	PARTNERS	TIME FRAME/PHASES
Connect communities to downtown and major airports and assisting Luke carrying out its mission.	All cities in corridor	Airport Luke AFB Cites Railroad	
Create new urban centers with connection to the existing core areas.	Cities MAG	Developers	5-20 years
Create new bus services to feed rail lines Build park and ride facilities at station nodes	Valley Metro Cities		5-10 years
Find regional agency “champion” to lead commuter rail			
Identify and “sell” funding source			
Define placement of commuter rail stations	MAG/ Communities		
Define transit corridors in the General Plan	Communities		
Collect general plans of various municipalities	MAG		

GOAL: IMPROVE TRANSPORTATION MOBILITY OPPORTUNITIES BY IMPLEMENTING COMMUTER RAIL

OBJECTIVES

- Provide multi-modal travel options (multi-modal refers to providing many transportation options)
- Minimize future vehicular congestion
- Serve regional trips, as well as trips between and within major activity centers (activity centers include places such as downtowns, stadiums, universities, large commercial areas etc.)
- Maintain or improve travel times within existing and planned activity centers

KEY QUESTIONS

- Identify travel deficiencies in the MAG region
- Consider where multi-modal options are needed
- Consider the importance of commuter rail service characteristics such as:
    - Origins/Destinations for person trips?
    - How frequent should the service run? (Peak Rush Hours, Day Time, Evening, Weekend)
    - Length of the service day-start and stop times?
    - Transfers to other modes (Where? What modes? Are inter-modal centers important?)
- Identify where the congestion relief is most needed-where could commuter rail make a difference?
- What consumer benefits are needed for people to choose commuter rail over the automobile?
- Consider how to make commuter rail convenient and attractive to the masses-what features are important?
- Which activity centers should be connected by commuter rail?
- Consider possibilities for connecting commuter rail patrons to other transportation modes, where should the connections be located?
- Consider how to offer reliability in travel time connectivity-can commuter rail help to improve?
- If your commute to work is 60 minutes, how fast would the commuter rail commute time need to be to provide incentive to use the commuter rail over the automobile?

ACTION PLAN			
ACTION ITEM	OWNER	PARTNERS	TIME FRAME/PHASES
***High Priority*-Provide reliable and integrated transportation alternatives**	**Partnership**	**MAG, ADOT, RPTA, Local jurisdictions. railroads, major land owners, business community**	**Start now building from existing system**
Multi modal transfer locations: Preserve/identify stations and appropriate spacing Preserve ROW and location needs for stations and transfer locations Core Business/Gov't, Education (ASU and MCCC)	Regional entity Statewide entity Without losing regional focus/decision-making	All of the municipalities ADOT/ USDOT/FRA MAG-Tribal communities Valley Metro/ RPTA/ Metro Rail Pinal County Maricopa County	Start now
Timing of commuter rail service hours from 6:00 a.m. to midnight- Conduct consumer research Financial models Recommended Schedule: Peak-1/2 hour Off Peak- 1hour Weekend- 1 hour Evening- ¾ hour	Regional entity Statewide entity Without losing regional focus/decision-making	All of the municipalities ADOT/ USDOT/FRA MAG-Tribal communities Valley Metro/ RPTA/ Metro Rail Pinal County Maricopa County	Start now

ACTION PLAN

ACTION ITEM	OWNER	PARTNERS	TIME FRAME/PHASES
Commuter rail as solution to I-10 east	ADOT	MAG, City of Phoenix Tempe, Chandler, RPTA, FHWA	Now
Preserve accessibility to the network	MAG and Cities	MAG, ADOT, RPTA local jurisdictions. Railroads, major land owners, business community	Start now
Provide reliable connections and limited strategic stops	Cities	MAG, ADOT, RPTA local jurisdictions. Railroads, major land owners, business community	Begin planning now
Create and implement a ridership schedule that emphasizes user convenience (with regional survey)	Rail authority Independent agency	Communities Riders Chamber/GPEC ADOC-ADOT	
Partnering with existing railroad companies	Rail Authority BNSF UP	Elected officials Governor Chambers/ GPEC ADOC- ADOT	Now

ACTION PLAN			
ACTION ITEM	OWNER	PARTNERS	TIME FRAME/PHASES
Create template for regional linkages	MAG and counterparts	Governor	

GOAL: PROVIDE A SEAMLESS AND COST EFFECTIVE COMMUTER RAIL OPTION

OBJECTIVES

- Utilize Existing Land and Railroad ROW
- Utilize available funding sources
- Minimize capital and operating costs
- Plan integrated corridors

KEY QUESTIONS

- What corridor locations are appropriate?
  - Existing freight rail lines?
  - New Alignments
  - Extensions
- How and where can capacity improvements be achieved in existing freight rail corridors?
- What existing funding could be available?
- Would new sources be needed?
- What cost mechanisms could be employed to reduce operating and capital costs?
- How could commuter rail operations pay a large share of the costs?
- How can system continuity, connectivity and efficiency be maximized throughout the region?
- Identify local and regional plans that would be appropriate to integrate with commuter rail
- Consider how local and regional plans impact each other and commuter rail

ACTION PLAN

ACTION ITEM	OWNER	PARTNERS	TIME FRAME/PHASES
***High Priority*-Identify and preserve future corridors. Including future freeway corridors to include passenger rail lines (preferably to side-not median) (could be LRT in some cases) SEE MAP**	**GOV'T/ ADOT/Community rail authority tribes**	**UP, BNSF, ADOT, Stakeholders**	**ASAP**

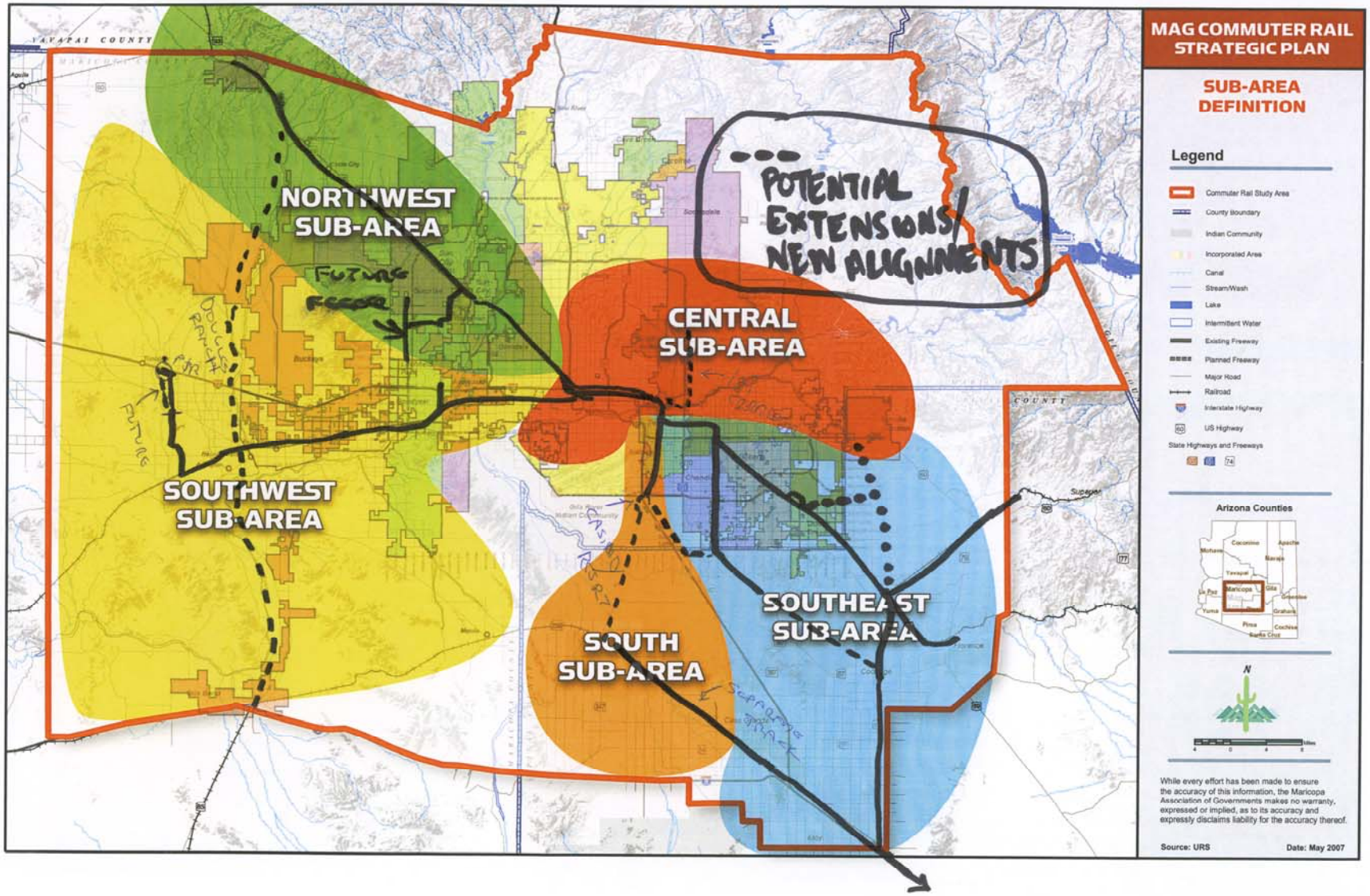
ACTION PLAN			
ACTION ITEM	OWNER	PARTNERS	TIME FRAME/PHASES
***High Priority*-Further study about methodologies of taxing/fundraising (taxes, user fees, tier beneficiaries etc.) (Private and public partnership TIF, CFDD, Federal funds**	**Sub-contractors Policy makers Transit authorities**	**MAG, ADIT Elected officials Local/regional/state orgs FY 2010 General Public**	**On-going**
***High Prioirty*-1)Begin ROW discussions with railroads** 2)Study to determine best locations of transportation corridors 3)Explore existing and future technologies to maximize capacity	1) ADOT 2) MAG 3) ADOT	1) Gov. Office, RR, MAG 2) ADOT 3) RR	
***High Prioirty*-1) Examine all current, ROW inventory** 2) Ensure that future development addresses multi=modal transportation corridors	ADOT	MAG	**1) Examine all current, ROW inventory** 2) Ensure that future development addresses multi=modal transportation corridors
In metro area provide a double track commuter rail line UP Transcontinental mainline requires a separate passenger track	FRT RR's/ Commuter Rail Authority	UP, BNSF, ADOT, Stakeholders	
Assess funding options: Funding special districts (like CAP) Impact fees CMAQ FTA	State, cities, counties	UP, BNSF, ADOT, Stakeholders	

ACTION PLAN

ACTION ITEM	OWNER	PARTNERS	TIME FRAME/PHASES
Shared track whenever possible (possibly terminal district/ RR)* DMU's vs. locomotive hauled trains All day/seven day service vs. peak only=better utilization of capital cost and operating crews *purchase tracks from UP and BNSF- Lease back)		UP, BNSF, ADOT, Stakeholders	
Should be integrated with all local and regional transportation plans Example: park and ride lots at all freeways			
Build a relationship with existing freight companies, land owners and Indian reservations. Understanding freight service better	State, UPRR, BNSF, tribal/federal communities, independent land owners	Owners, RPTA, Pinal County, RTA	On-going
New and existing ROW Preservation (capital and privatization (operation)			
Linage to mass transit (depots)			
1) Explore current sources of federal funds. 2) Explore public/ private partnerships to build infrastructure	1) MAG 2) MAG	1) ADOT 2) Legislature	

ACTION PLAN

ACTION ITEM	OWNER	PARTNERS	TIME FRAME/PHASES
1) Utilize existing ROW wherever possible 2) Explore public/ private partnerships to fund capital needs	1) ADOT 2) MAG	2) Legislature	


NORTHWEST SUB-AREA
CENTRAL SUB-AREA
SOUTHWEST SUB-AREA
SOUTHEAST SUB-AREA
SOUTH SUB-AREA
POTENTIAL EXTENSIONS/ NEW ALIGNMENTS
MAG COMMUTER RAIL STRATEGIC PLAN
SUB-AREA DEFINITION
Legend
Commuter Rail Study Area
County Boundary
Indian Community
Incorporated Area
Canal
Stream/Wash
Lake
Intermittent Water
Existing Freeway
Planned Freeway
Major Road
Railroad
Interstate Highway
US Highway
State Highways and Freeways
Arizona Counties
While every effort has been made to ensure the accuracy of this information, the Maricopa Association of Governments makes no warranty, expressed or implied, as to its accuracy and expressly disclaims liability for the accuracy thereof.
Source: URS
Date: May 2007

GOAL: Promote Sustainability through the Implementation of Commuter Rail

OBJECTIVES

- Maintain or improve regional air quality
- Develop transportation projects that help focus development near activity centers
- Provide a long-term transportation solution

KEY QUESTIONS

- Would air quality improvements be available from commuter rail implementation?
- Which activity centers could help to focus development
- Consider the importance of commuter rail service characteristics such as:
  - Origins/Destinations for person trips?
  - How frequent should the service run? (Peak Rush Hours, Day Time, Evening, Weekend)
  - Length of the service day-start and stop times?
  - Transfers to other modes (Where? What modes? Are intermodal centers important?)
- What role would commuter rail serve in the overall Regional Transportation Plan (RTP)?

ACTION PLAN

ACTION ITEM	OWNER	PARTNERS	TIME FRAME/PHASES
Build air quality model to forecast with and without rail. Under various growth scenarios	MAG	ADOT, MCDOT, Railroad, Cities	18 months

ACTION PLAN			
ACTION ITEM	OWNER	PARTNERS	TIME FRAME/PHASES
Overlay commuter rail alternatives on existing regional system and plan (RTP)-also employment centers and support services- Large under utilized areas for redevelopment	MAG	Cities along rail lines, major landowners, business owners	6 months
Study of future lifestyle and work changes that May affect transportation. i.e. internet; work at home	MAG	Cities, ASU, Census	6 months
Invest in rolling stock with air quality standards in mind Impact to other emissions Ex: offset from car/ auto emissions to additional power plant emissions for electricity	Future multi: county or state passenger rail authority	Newly created authority ADOT	FY 08 or later funding depend
Implementation of system will reduce cars on the road reducing emissions Approximately 75 % of commuters are solo in their cars	Single commuters Rail authority MPO's and COG's (air quality piece)	Employees, employers- subsidies for employees Cities and towns- planning	Allow time for RR to alter current operations to accommodate additional freight demands and passenger rail 5 years

ACTION PLAN			
ACTION ITEM	OWNER	PARTNERS	TIME FRAME/PHASES
Regional or state wide p.r. corridors must be established so cities towns and counties can develop land use and transit plans that support appropriate development along the corridors	MPO's, COG;s,ADOT, P.R. Authority Cities and towns GPCC, other E.D. orgs	Ditto (MPO's, COG;s,ADOT, P.R. Authority Cities and towns GPCC, other E.D. Orgs)	now
Funding must be identified and secured not only for P.R but also for other transit to create and sustain the system	MPO's, COG;s,ADOT, P.R. Authority Cities and towns GPCC, other E.D. orgs	Ditto (MPO's, COG;s,ADOT, P.R. Authority Cities and towns GPCC, other E.D. Orgs)	now
Develop commuter rail coalition -education -funding -sustainability	Politicians MPO's, COG;s,ADOT, P.R. Authority Cities and towns GPCC, other E.D. orgs	Ditto AZTA (MPO's, COG;s,ADOT, P.R. Authority Cities and towns GPCC, other E.D. Orgs)	now

GOAL: INCREASE PUBLIC/PRIVATE COOPERATION TO IMPLEMENT COMMUTER RAIL

OBJECTIVES

- Encourage public/private partnerships
- Educate or inform the public
- Provide funding options
- Develop local and regional support for commuter rail

KEY QUESTIONS

- Which agencies, groups or individuals should be engaged in the process?
- Consider how to promote consistency between commuter rail and local and regional comprehensive plans.
- What implementation measures are needed to reduce noise, visual and traffic impacts to existing communities?
- Identify where the potential for adverse affects on the natural environment may take place.
- How is the system administered when the corridor passes through several jurisdictions?
- Provide options for coordinating with the railroad
- Consider ways in which to engage the public and other interested parties
- What educational resources are available to promote commuter rail?
- What would you be willing to pay for the service? (The same as the cost of highway lane per mile? Low cost-just get it started?)
- How would you pay for it? Consider creative alternatives for funding commuter rail
- Identify leaders in the community that can help promote commuter rail
- Consider organizations that are strongly represented along the corridor.

ACTION PLAN			
ACTION ITEM	OWNER	PARTNERS	TIME FRAME/PHASES
***High Priority*-Establish public private formal agreements that are consistent with other modes of transportation and land use plans with individual and interest groups**	**MAG and northern Pinal county Dedicated CR group**	**Elected officials, jurisdictions, transit departments, Rail groups, Advocacy groups, other mode groups**	**Now. Included in formal planning stage**
***High Priority*- Statewide transportation tax** -Bring interested public together to create stakeholder support	-Lead Agency -Governor's office/ Legislature/ Fed. Government/ ADOT	-Media, cities, private sector -Everyone	-1 year -2009
***High Priority*- 3A Include commuter rail as alternative to 24-lane I-10**	**MAG/ ADOT**	**Tempe**	**Now**
Establish a public relations group that uses all media outlets and perform public (news and community) and group meetings.	MAG and northern Pinal county Dedicated CR group	Public and media, business groups and interest groups Elected officials, jurisdictions, transit departments, Rail	

ACTION PLAN			
ACTION ITEM	OWNER	PARTNERS	TIME FRAME/PHASES
		groups, Advocacy groups, other mode groups	
Create sustainable regional and state tax proposals that efficiently use developer/ business contributions and fees			
Create outlets for active participation and education for all			
-Bring railroad companies and municipalities together -Work with developers industry and municipalities to plan transit-oriented and neighborhood development -Identify and lead entity to coordinate public/ private cooperation	-Municipalities Rep (MAG, State, RRTA) -Municipalities and Land Owners -Governor's Office	-Cities, County, Railroads and other involved parties-Developers -Municipalities, Counties	-Now -Within 2 years -Within 1 year
-Identify groups to engage in the process -Promote consistency between transportation and local land use plans. (Regional and local) -Incorporate design standards to mitigate noise, visual, and design impacts	-Yet to i.d agency to develop and operate system -MAG	-Private land owners, employers, employees, developers, railroads, Eco Devo groups from	

ACTION PLAN			
ACTION ITEM	OWNER	PARTNERS	TIME FRAME/PHASES
		jurisdictions, GPEC -MAG Mentors -Individual communities (standards)	
Organize public meetings to solicit support	Chambers, westmarc, east valley partnership	Cities, MAG	Early
Look at best practices of successful commuter rail systems that have been implemented	MAG membership	State Representatives	
Develop a champion for the cause	Governor CZAR	State and local agencies	Real early
3B Consider commuter rail ridership potential as part of future freeways	MAG/ ADOT	Cities	Now
1A Identify air quality benefits of commuter rail	MAG		

ACTION PLAN			
ACTION ITEM	OWNER	PARTNERS	TIME FRAME/PHASES
3C Implement commuter rail to provide travel options	MAG/ ADOT/ Rail	Cities/ transit	
2A Initial phase to serve existing activity centers already served by transit (LRT).	MAG/ ADOT/ Rail		
2B Serve peak hour trips to/ from suburbs to/from employment centers and park and rides			

COMMUTER RAIL STAKEHOLDERS GROUP WORKSHOP #4

The final CRSG meeting was held in Phoenix on October 30, 2007 at the Phoenix Convention Center. Approximately 95 people attended the meeting.

The format of the meeting was an open house format with boards presenting issues and challenges associated with implementing commuter rail in the MAG region. Topics included: Project Vision, Stakeholder Involvement, Concept System Plan, Implementation Framework, Governance, Railroad Coordination, and Funding.

A Commuter Rail Stakeholders Group Survey was conducted which asked stakeholders to rank various issues/challenges related to commuter rail and the CRSG planning process. The results of the survey are provided below and a sample survey is included in Appendix B. In addition to the survey conducted, a MAG Commuter Rail panel answered questions raised by the stakeholders. An overview of the questions and answer session is provided below and Appendix B includes the finalized notes for the session.

MAG Commuter Rail Panel-Q/A Session

A MAG Commuter Rail panel answered questions raised by the stakeholders. The Panel consisted of members from the project management team and included: Rick Pilgrim (URS), Jim Dickey (ADOT), Lonnie Blaydes (Lonnie Blaydes Consulting), Kevin Wallace (MAG), Roger Milroy (Gannett Fleming), and Larry Miller (Gannett Fleming). There was a wide range of questions raised, however most questions focused on choosing a corridor, funding, railroad coordination, and next steps. Some of the questions included:

- What can you do to get this completed and moving forward?
- How will the first priority corridor be selected if moving forward with "get started scenario"?
- What funding mechanisms would best assure a sustainable long term system that can be added to over the years
- What discussions have we had with railroads and how do we get them engaged in the next steps?

There were several questions asked that were not answered due to the time allotted. For a complete list of questions and answers refer to Appendix C.

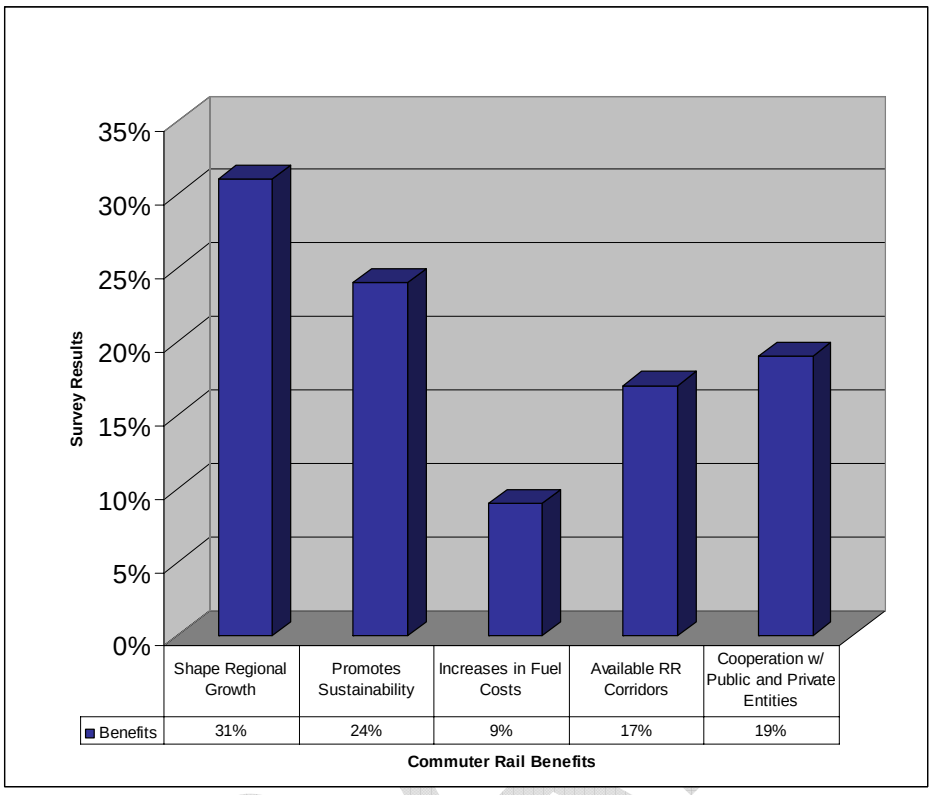
Commuter Rail Stakeholder Group Survey

Question 1) Several benefits of bringing commuter rail to the MAG and Pinal region have been identified by the Commuter Rail Stakeholders Group (CRSG) and include:

- Help to shape continued regional growth of population and employment throughout the region
- Promotes sustainability by reducing air pollutants and usage of natural resources
- Alternative to the increase in the cost of fuel and travel
- Availability of existing railroad corridors alignments in primary travel corridors
- Promotes cooperation between public and private entities

Stakeholders were asked to rank the identified benefits listed above at the final CRSG workshop. Among the individuals surveyed one-third indicated the greatest benefit for brining commuter rail into the region is to help shape continued regional growth of population and employment. The survey results indicate that sustainability is an important aspect to the benefits of commuter rail with 24% of respondents in support for this benefit. The chart below demonstrates the commuter rail benefits that were identified by the CRSG as being the most beneficial aspect of employing commuter rail in the MAG and Pinal Region.

Chart 1: Summary of Survey Results-Commuter Rail Benefits

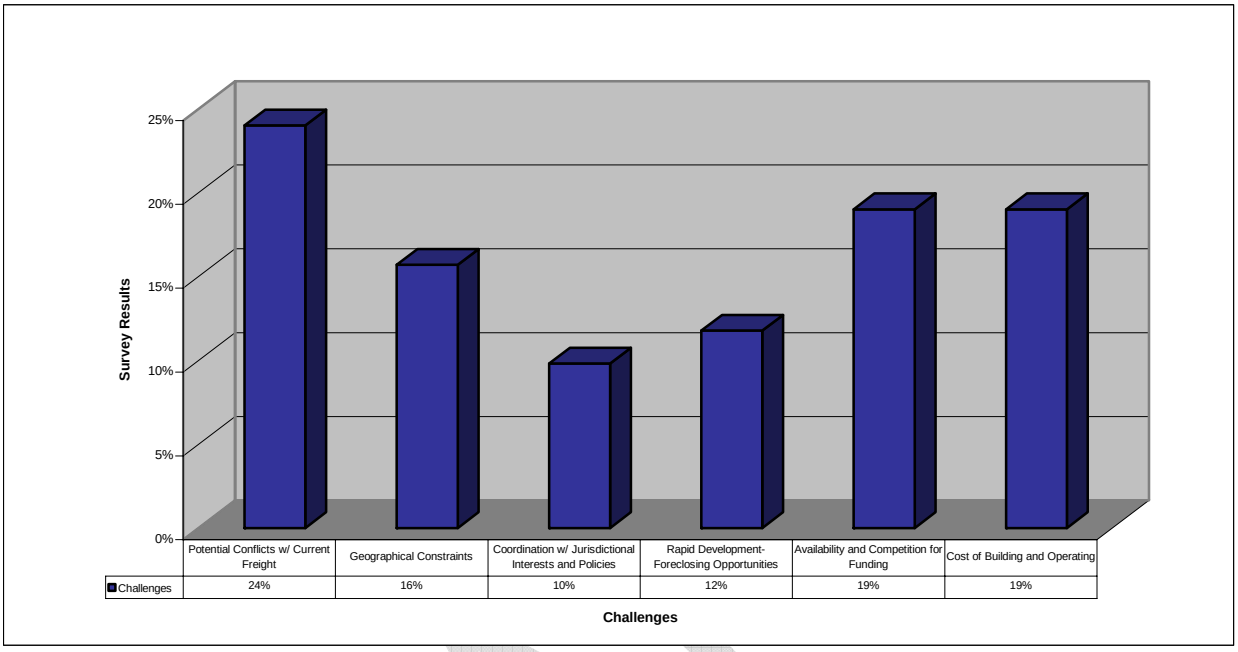


Question 2) Several challenges to bringing commuter rail to the region have been identified by the CRSG and include the following:

- Potential conflicts with current and planned freight railroad operations
- Physical and geographical constraints limiting locations of new alignments
- Coordination with jurisdictional interests and policies
- Rapid development of land uses foreclosing opportunities for alignments and stations
- Availability and competition for regional state and federal funding and resources
- Cost of building and operating a commuter rail system

The CRSG was asked to rank the challenges listed above. The following chart provides a summary of the results of identified challenges.

Chart 2: Summary of Survey Results- Commuter Rail Challenges

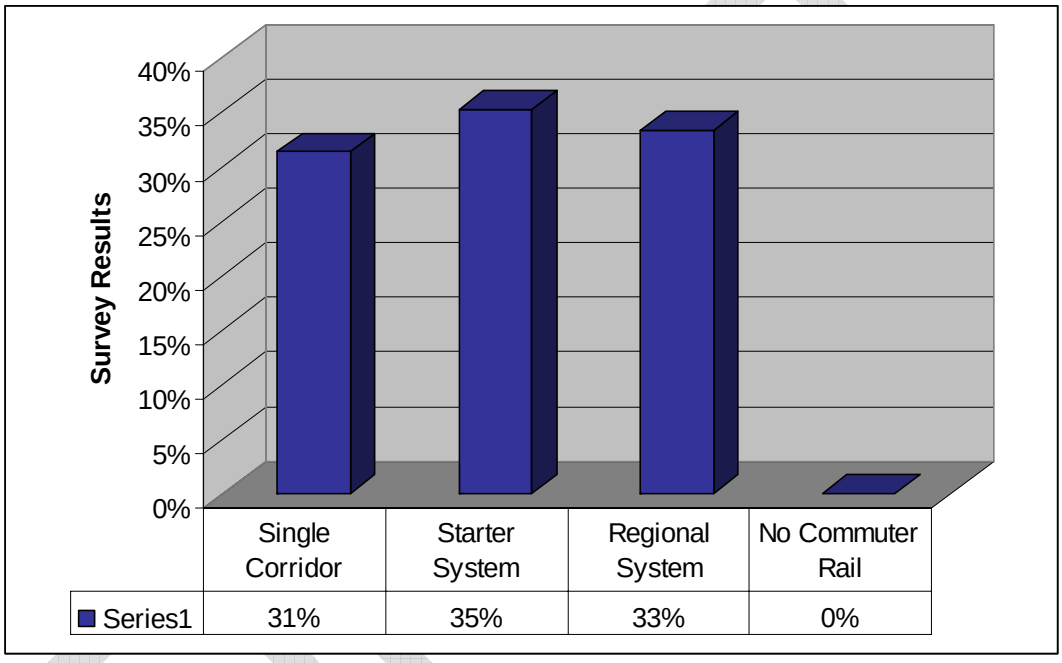


Question 3) During the development of the MAG Commuter Rail Strategic Plan three scenarios were developed and include:

- Single Corridor
- Starter System
- Regional System

The three commuter rail implementation scenarios, described above, were presented to the Stakeholders at the final CRSG workshop. The Stakeholders were asked to choose an implementation scenario that would best suit the region. The results indicate that there was no clear preference among the three scenarios with 31% in favor for a Single Corridor, 35% in favor for a Starter System and 33% in favor of a Regional System. The chart below demonstrates the CRSG survey results.

Chart 3: Commuter Rail Scenarios

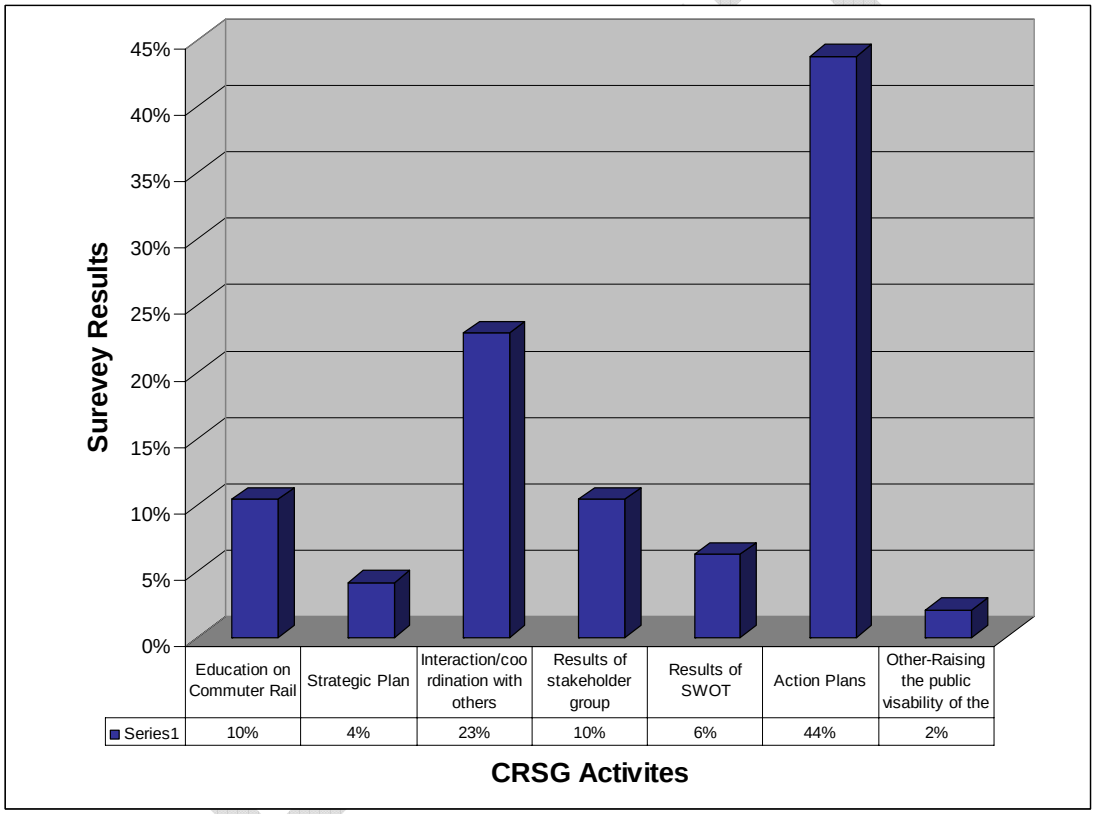


Question 4) Throughout the MAG Commuter Rail planning process several activities took place to gain stakeholder input and include:

- Education on Commuter Rail
- Developments of Strategic Plan
- Interaction/coordination with others from across the region
- Seeing results of the stakeholder group meetings
- Commuter Rail SWOT analysis
- Development of action plans

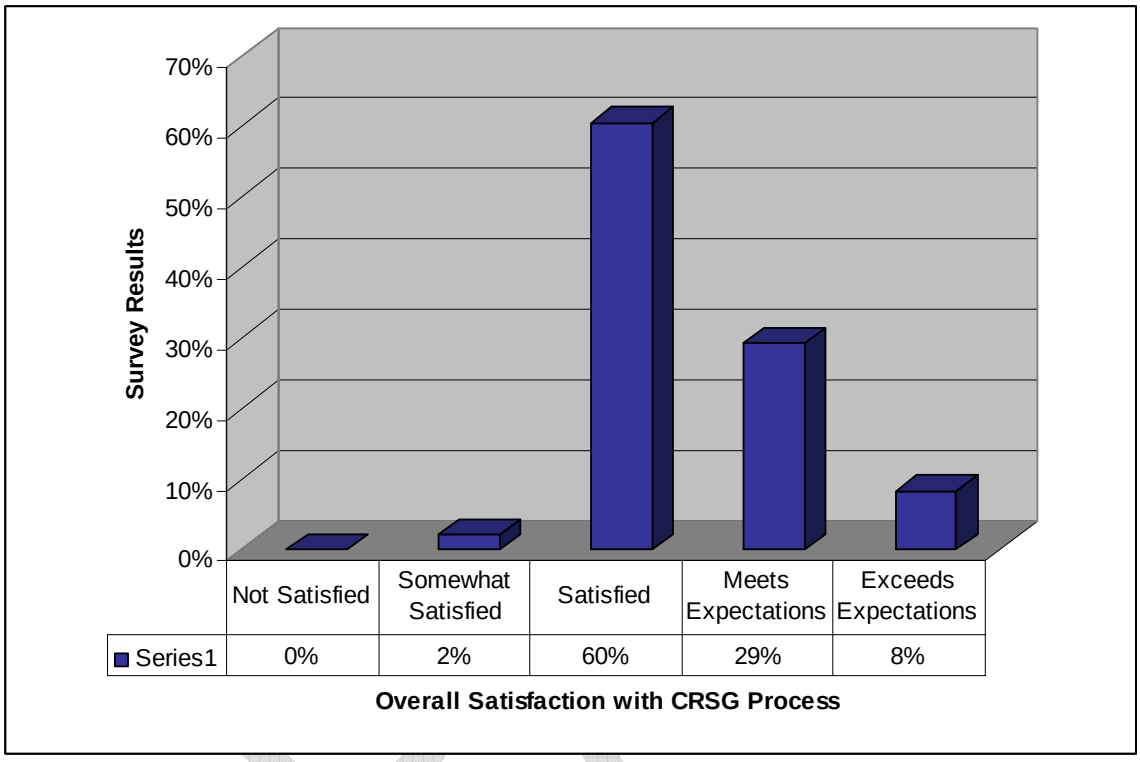
Stakeholders were asked to rank the activities mentioned above, to identify which activity is most valuable/least valuable to assist with gaining approval for implementation. The chart below demonstrates the most valuable activity. Development of action plans was considered to be the most valuable activity with 44% of the survey respondents in favor of this activity.

Chart 4: Most Valuable CRSG Activity



Question 5)
Stakeholders were asked to rate their overall satisfaction with the Commuter Rail Stakeholder Group Process. Chart 5 indicates that the majority, 60% of the survey respondents were satisfied with the CRSG planning process.

Chart 5: Overall Satisfaction with CRSG Process

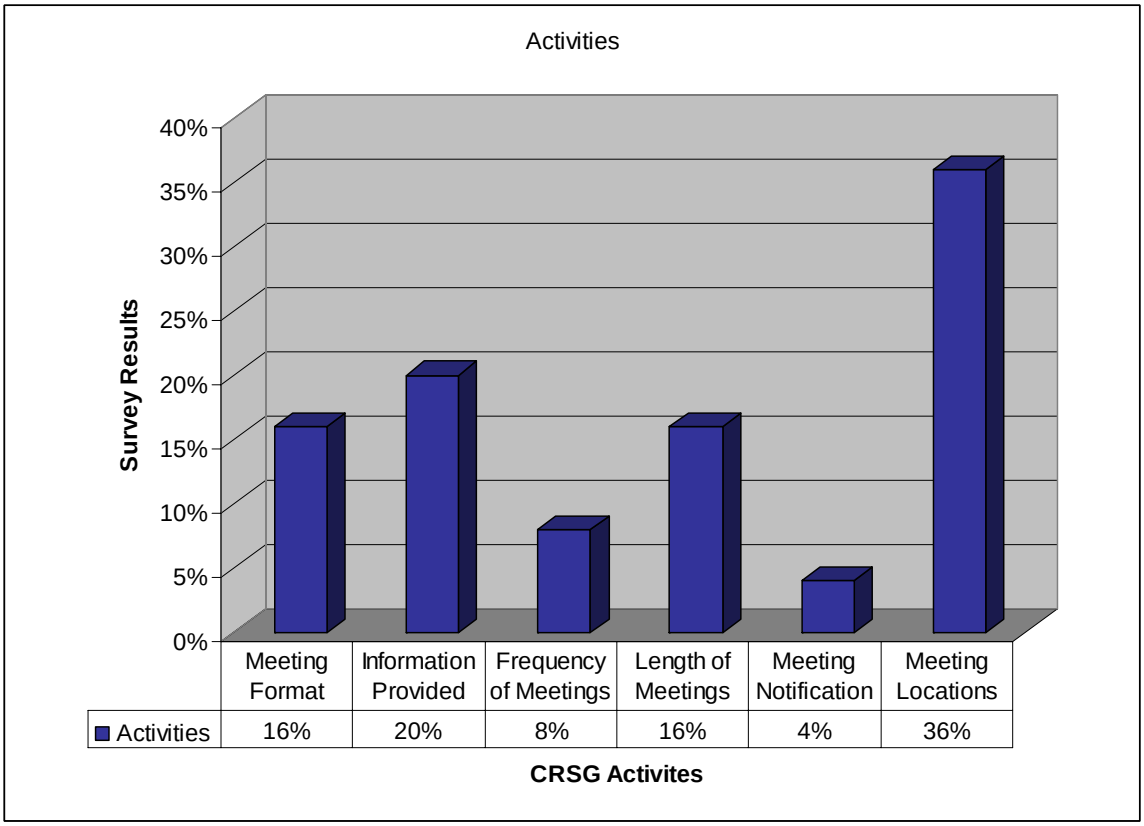


Question 6)
Throughout the planning process four CRSG meetings were held. Stakeholders were asked if they would make changes to the meeting format including the following categories:

- Meeting Format
- Frequency of Meetings
- Meeting Notifications
- Information Provided
- Length of Meetings
- Meeting Locations

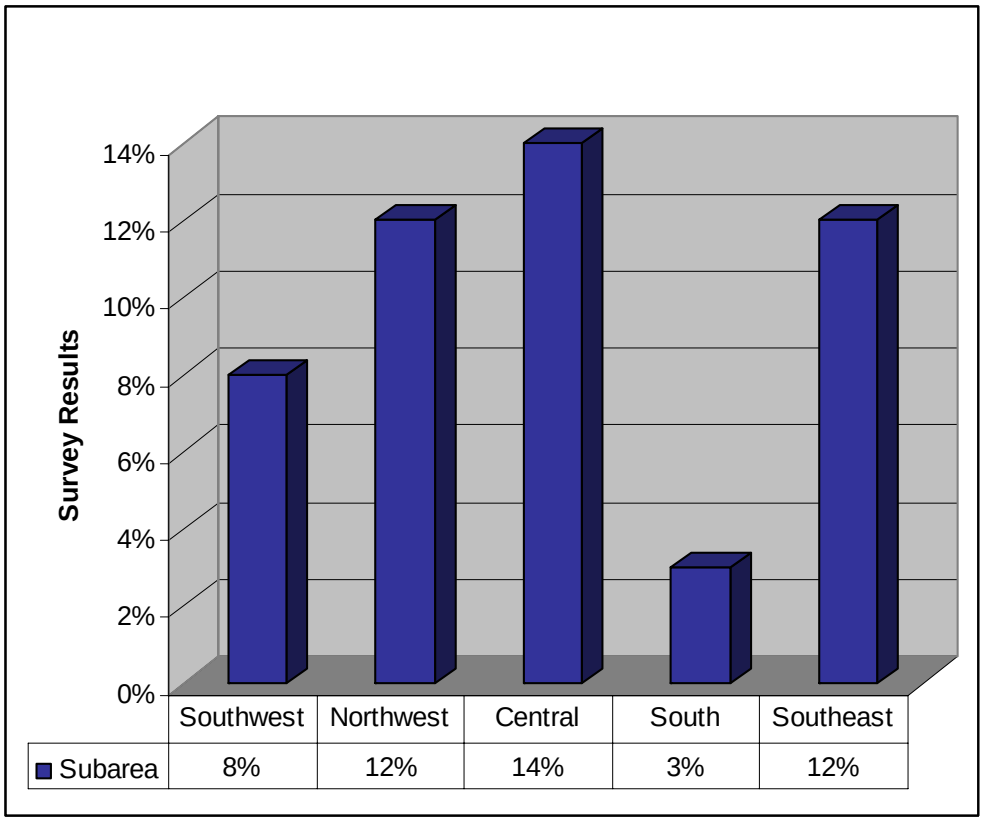
The majority of respondents, 36% indicated that they would change the meeting location. Several individuals commented that Downtown Phoenix was not an adequate location as there was no parking available and when parking was available it was expensive. 20% of the respondents surveyed suggested changes to the information provided to the stakeholders. More specifically, stakeholders requested that the power point presentation be handed out at the meetings, and to send handouts/pre-reads in advance of the meeting.
Another comment was to provide detailed information addressing RR coordination, funding and determination of corridors.

Chart 6: CRSG Activities



Question 7) Finally stakeholders were asked to identify the sub-area that they represent. All five sub areas appeared to be represented except for the south sub area as 3% of the survey respondents indicated that they represent the South subarea. Chart 7 displays the results for all five subareas.

Chart 7: Sub-Areas Represented



STRATEGIC PLAN DEVELOPMENT-

The results from all four CRSG workshops will be synthesized, as well as the working papers prepared throughout the process into a comprehensive plan document. These products will consist of:

- Final Commuter Rail Strategic Plan Document
- Commuter Rail Plan Executive Summary
- CD of all working papers
- Presentation to MAG Council for adoption

APPENDIX A-RESULTS OF SWOT ANALYSIS

The bullets below provide a list of Strengths, Weaknesses, Opportunities and Threats (SWOT) associated with commuter rail in Maricopa County and northern Pinal County. These opportunities and constraints were identified by the Commuter Rail Stakeholders Group (CRSG) at the second CRSG meeting held on June 28th. The CRSG comments are organized by sub-area and the high priority comments are identified in bolded text. Over 130 people were in attendance at the second CRSG meeting.

Strengths

Central Subarea

Facilitator: Maria Hyatt

- Primary employment base
- Strong economy
- Political interest and community interest
- Improved mobility, multimodal connectivity
- Reduced pollution
- Corridor activity centers (Williams gateway, Scotts. Airpark Capitol Complex, sports, arts)
- Sky Harbor accessibility (reduction in package needs)
- Land available for rail corridors
- Currently ahead of the need
- Creates economic opportunities
- Population growth creates strong need and alternatives discussion
- Mitigates pollution and saves energy (fuel)
- Promotes tourism
- Easy 'designated driver'
- I-10 East/West are effective corridors
- Identify north corridor for existing need
- Freeways can't keep up with growth
- Safer than autos

Facilitator: Brian Kearney

- As population grows to 4 million – need for rail grows – we will have sufficient density
- Geographic size – so large that we need alternatives beyond light rail for longer distances
- Environment – quality of life – can promote better urban design
- There is some existing infrastructure
- Economic benefits – stations have benefits like highway interchanges?
- More cost effective than highway expansion – better social benefits
- Expanded transit adds rush hour capacity
- Commuter rail lines have priority of right-of-way at grade crossings
- Creates a government authority to promote improvement of metro freight and passenger rail facilities and infrastructure – creates a channel through which to accomplish multiplier impact
- Railroads will respond to available money flow
- Multi-nodal community is suited to commuter rail across valley
- Concentrates development at nodal points
- Increases range of travel for tourists – more places, more attractive
- Helps create regional identity
- Major investment defines future transportation systems and creates economic development
- Reduce autos per family requirement

Facilitator: Peggy Rubach

- Activity into downtown area
- Travel options
- Less stress (traveling)
- More time for individuals
- Economic opportunities/expanded labor force to draw from
- Promotes community
- Travel capacity during peak hours
- Connect cities/promote regionalism
- Promotes tourism
- Reduce traffic accidents – safety
- Utilization of existing assets (railroad tracks)
- Efficient implementation

South Subarea

Facilitator: Charlea Huellmantel

- Speed, efficiency, safety, maintenance
- Congestion relief
- Environmental
- I-10 24-lane mitigation option
- Construction mitigation, build prior to I-10
- NEPA requirements for mitigation
- Reduce stress, fatigue for driver
- Convenient alternative to driving
- Travel safety, reduction in auto accidents
- Technology safe, limited interfaces with autos
- Corridor strengths – Tempe Kyrene
- I-10 capacity limited to handle future growth
- Residential connections – connect to improvement centers
- Make population growth in south
- Past line (ROW) exists today
- Native American (Gila) opportunities
- Regional cooperation
- Station opportunity at casino/connection to existing transit
- Chandler Branch
- Addresses future growth
- Improved productivity (personal)
- Can utilize travel time (time tax)
- Social benefit

Southeast Subarea

Facilitator: Craig Ringer

- Several existing rail corridors
- Ahead of development curve – available land
- Lots of people work in the Central Valley
- Corridor studies underway (freeway and electrical)
- Conceptual support for rail – like the idea
- Already impacted by freight rail traffic
- Demographic changes – aging population

- The higher the gas prices, the better rail looks
- Health benefits of reduced pollution. Breathing is easier in a rail car

Facilitator: Claudia Walters

- Strong immigration of individuals
- Job center corridors
- Relieves highway system
- Air quality improvement
- Legislative interest
- Creates greater sustainability for region
- Cost effective once in place
- Economic development
- Connecting two areas – Phoenix to Tucson
- Connects urban activities
- Helps clustering of business in areas
- Helps spread out residential
- Multi-modal
- Commuter rail removes stigma of bus rapid transit
- Critical infrastructure addition
- Effective in Southeast Valley
- Commuter rail to Tempe to Apache Junction
- West Valley important as well
- Freeway corridors and along existing tracks
- Productivity increases
- Reduction of "timetax"
- Grade separations for faster ease of congestion
- Great nodes of development

Facilitator: Mike Normand

- Moving large groups of people
- Bedroom communities (i.e. Johnson Ranch) moving those people to employment areas
- Access for Gilbert residents on existing rail corridor
- Right service to provide "longer distance" service
- Corridor as a potential route for utilities (SRP)/common resources (all utilities – gas, water, phone)
- Relieve freeway congestion
- Alternate choice for transportation
- Directed toward employment centers
- Relieves parking
- Air quality/energy issues putting pressure on our society to look for solutions
- Legislative interest is much higher now
- Will create retail/industrial development opportunities for small towns/economic development
- Successful models to follow in west
- No more "room" or "space" left (i.e. ground spare)
- Many existing rail corridors available
- Small town growth will be encouraged
- Growing community support

Facilitator: Maria Deeb

- Manage traffic – less car travel
- Relieve congestion on freeways
- Less pollution

- Other travel options
- Save time – can do other activities: email, read, etc.
- Save money
- Less road rage
- Better access to employment – competitive advantage for area
- Provides link to various means of transportation
- Future growth areas – early planning for station locations
- Alternative form of transportation as gas prices increase
- Population and density to manage commuter rail
- Creates transportation to affordable housing

Facilitator: Mack Lake

- Relieve congestion on alternative modes of transportation
- Speed
- Less congestion at destinations
- Reliability in travel time connectivity
- Reduces time tax – lost opportunity
- Promotes regional airport alternatives (WGA)
- Promotes nodal development: business, sports, resorts, activities; connects high density areas
- Air quality benefits
- Lower business costs
- Lowers individual travel costs
- Lessens investment in other forms of transportation

Facilitator: Dan Shreeve

- Minimizing roadway congestion
- Connecting economic centers
- Connecting education centers
- Connecting Pinal County to Maricopa County
- Potentially less environmental impacts
- Minimizing conflict with "GRIC"
- Increase property value (potentially)
- Could facilitate growth
- Potentially less dependent on fossil fuels
- Connectivity with future super-station vistas

Facilitator: Vic Linoff

- Reducing congestion
- Existing Infrastructure in southeast
- Defined geographic business areas
- Less freeways = less ROW purchase
- Access to regional airpark/Employment centers
- Moving tourist traffic
- Connecting to other transit needs
- Cost savings (economic, environmental, etc)
- Growing community support
- Mutual benefits

Southwest Subarea

Facilitator: Marie Lopez Rogers

- Reduce congestion
- Existing infrastructure in Southeast
- Is there enough ROW?
- Less pollutants, environmental impacts
- Define geographic business areas
- Less freeways = less ROW purchase
- Access to regional airport
- Moving tourist traffic
- Connectivity to other transit needs
- Land use planning connectivity
- Backbone
- Existing track (ROW)
- Ability to reduce traffic on I-10 to Palo Verde
- Reduce congestion
- Enhance employment centers
- Airports

Facilitator: Mario Sandamando

- Environmental friendly
- Removes strain on existing infrastructure
- Reduce congestion on freeways/arterials
- Improves public safety/quality of life
- Provides more options for commuters
- Long-term transportation solution
- Promotes economic development/commerce
- Tourism
- Computer rail is a regional partnership
- Compliments existing transit plans

Northwest Subarea

Facilitator: Kathy Rice

- Cliff Elkin's experience
- Demographics of existing freight usage is compatible to commuter rail
- Will connect old and new developed areas
- Raw land along the line
- Planned grade separation railroad crossings on Grand
- Growing population along the line
- Gas prices
- Present road congestion
- Another way in and out – very limited currently
- Favorable community climate
- BNSF owns 900 acres along line – Ops center, rail served business
- Will create competitive education opportunities
- Volume on current line is light
- Highway safeway – less freight, less congestion on freeways
- Qualifies for Federal Small Starts Program
- Public yearning for public transportation – transplants
- Modernize Arizona's image --> Welcome to the 21st Century
- Connectivity of valley, regions, light rail and other transit

- Grand Avenue land use planning
- Connects workforce to jobs
- Air quality will improve
- Congressional leaderswell placed for federal support money
- Create transportation centers
- Westmarc – leverage
- Connectivity to national system – Amtrak

Facilitator: Scott Chesney

- Rail exists/economic linkages
- Moving large amounts of people
- Creation of ED centers
- Transit-oriented development
- Linking economic nodes
- Improve air quality
- Serving underserved populations
- Reduce need for highway construction
- Preserve the desert
- Reduce heat island
- Streets/highways are safer
- Creates more spend-able income
- Higher level of service on existing roadways
- Increase home values in the corridor
- Overall reduction in gasoline consumption – possibility for alternate diesel fuel
- Access to airport
- Interconnectivity
- Increase quality of life – reduction in commute

Facilitator: Carl Swenson

- Enhances mobility
- More economical
- Reduces pollution
- Provides transportation choices
- Reduces congestion on roadways
- Improves travel safety
- Serves transit dependent community
- Ties communities together
- Increases densities along transit corridors
- Conserves resources
- Reduces commute times
- Opportunities for social interactions
- Important part of transportation and transit mix
- Can use existing corridors

Notes provided by attendee:

- Rail lines and ROW in place.
- Signal Pre-emption in place
- In many locations, grade separations are in place (especially Grand Avenue)
- Both lines (UP and BNSF) serve CBD destinations
- Other western states are doing major rail projects (UT, NM)
- Several major segments parallel regional highways and may reduce some peak hour congestion on:

  - I-10
  - US 60 Grand Avenue
  - SR 101 Agua Fria Freeway
  - SR 303L Estrella Freeway
  - US 60 Superstition Freeway
  - SR 202L San Tan Freeway
- This can directly connect the West Valley with ASU and ASU East.
- Rail line is adjacent to Sky Harbor Airport
- Extension of regional service to Tucson and Pinal County high growth areas is a possibility.
- Service can help revitalize and redevelop declining areas along older rail yards.
- Major rail segments are in areas underserved by regional bus system.

Weaknesses

Central Subarea

Facilitator: Maria Hyatt

- Can't go everywhere; won't serve entire valley
- Haven't really proven it's a solution
- Willingness to fund and operate
- Must be a regional solution with regional funding
- "NIMBY" – Historical problem (political will → land use)
- Grade crossing safety issues
- Train noise (PR issue)
- Lack of legislative support – must be long-term
- Political patience
- Valley growing faster than we can plan
- Constitutional limits on state trust land
- Lack of multiregional cooperation
- Take land off the tax roles
- No leverage or cooperation with railroads
- Freight corridors over capacity
- More community support than political? No high-profile champions
- No clear support from governor
- Perceived lack of interest from ADOT
- Doesn't provide greatest benefit to Central Subarea
- In slow economic times, transportation subsidy availability in question; can't really privatize
- Lack of private infrastructure opportunities

Facilitator: Brian Kearney

- Railroads indicate limited additional capacity of existing infrastructure
- Land use patterns may not fit perfectly
- Continued growth making more difficult to place stations
- Will people use it?
- Line locations and station locations – present uncertainty and possible sustainability for communities not directly served
- Limited number of existing rail corridors and cost to improve existing ….
- Possible economic impact of displacement when improved
- Environmental justice concerns may complicate issue
- User acceptance unknown
- Political acceptance unknown

- Environmental justice concerns may complicate issue
- Impact on traffic safety
- Requirement to add more grade separations
- Cost to build and operate – requires public subsidy
- No defined funding source yet
- May require lengthy negotiations with freight railroads

Facilitator: Peggy Rubach

- Who would run operation?
- Where is money coming from?
- Public support
- Who assumes liability
- Limited right-of-way
- Railroad organizations not interested
- Residents opposition to tracks near homes
- Current location of tracks
- Developing connectivity
- Crossings at grade
- Phasing of construction
- Potential perception problem
- Encourages sprawl
- Cost effective solution to current lack of infrastructure (transportation)
- Constructability
- Speed limitations/restrictions
- Cooperation of other agencies
- Use of existing rail that is at full capacity (freight)

South Subarea

Facilitator: Charles Huellmantel

- Buy-in/cooperation by UPRR
- Train frequency'
- Cost
- ROW availability
- Encourages urban sprawl
- Noise/vibration/traffic impacts

Southeast Subarea

Facilitator: Craig Ringer

- Densities to low to support rail
- Need for subsidies
- Polycentric employment centers
- "Rugged Individualism", I love my truck!
- To and from station logistics
- Difficulty of partnering with existing rail companies
- Availability/cost for additional ROW/stations
- Speed of development. Vanishing opportunities
- Lack of comprehensive multi-modal planning
- Do we have employers who will support
- Funding!!!

Facilitator: Claudia Walters

- Think it will solve all problems
- Overselling
- Costs!! – no funding source
- Access to right-of-way
- Pulls money
- Encourage sprawl
- Divide communities
- Creates winners/losers – those you have it/don't have it
- Divided community support
- Enough community support
- Legislative support
- May need to see before believing
- Ability to get rail/PPL to employment centers
- Lack of multi-jurisdiction planning
- No existing funding source
- Bringing Phoenix to Tucson and Florence/Pinal County to same table

Facilitator: Mike Normand

- Availability of space, (i.e. park-n-ride stations in congested areas
- Must be convenient
- Mis-match between modes of transit
- Does not go to heart of congestion
- Congestion on the rail lines
- Convert/combine restaurants to railroad stations
- Integrating many different interests/cities/towns to agree
- Government of a regional rail
- No one organization championing the cause
- Competition for available funds by many areas of transportation
- What is the fastest way to solve the congestion we have now?
- Lack of planned growth (developers are in control)
- No process to follow
- Upgrading infrastructure to support high-speed commuter rail
- Energy needed for commuter rail
- EPA funding threatened
- Right-of-way issues
- Buy-in from rail companies

Facilitator: Maria Deeb

- Cost – who is going to pay? Where will money come from?
- Set alignments – not exactly natural
- Only stops 2-4 miles
- ROW and new alignment cost and time
- Business impact
- Mechanical failures – System shutdown – DELAYS
- Security screening/concerns – terrorists
- Automobile delays/congestion
- Noise distractions
- Cost/benefit compared to other modes of transportation
- Public support – some want to see benefit

- Negative image of public transportation
- Negative issues of light rail
- Agency Coordination

Facilitator: Mack Lake

- Need to acquire right-of-way through developed areas
- Railroad crossings very expensive
- Partnering with existing railroads very difficult
- Railroad construction is very expensive
- Noisy
- Headway times, reliability of schedules
- Inflexibility
- Increased transportation planning
- Perceptions re: personal safety – terrorism, gangs, etc
- Number of passengers – economic viability
- Parochialism
- Time from idea to opening day

Facilitator: Dan Shreeve

- Unknown funding
- Uncertainty of availability with "right-of-way" through tribal lands
- Uncertainty of use of railroad "right-of-way"
- Are existing ROW located where they are needed
- Availability or use of existing railroad lines
- Environmental impact
- Uncertainty of ridership – "Can it support itself?"
- Spread out economic base – "Difficult to connect"
- Grade crossings
- Who manages? – state, county, new?
- Density – will Arizona densities sustain mass transit?
- People love their cars – will they use it?
- Public subsidies?

Facilitator: Vic Linoff

- Existing rail does not meet passenger standards
- ROW issues
- Safety issues
- Density issues
- NIMBY
- Who is going to pay?
- Legislative support
- Leadership

Southwest Subarea

Facilitator: Marie Lopez Rogers

- Existing rail may not be up to passenger standards
- Potential for ROW issues
- Safety issues
- Density issues
- NIMBY

- Who is going to pay?
- Legislative support?
- Leadership
- Sprawl
- Low baseline population
- Political resistance
- LOS issues
- Competition with populous areas
- Traffic congesting at crossings

Facilitator Mario Sandamando

- Money
  - None identified
  - Competition for Federal money
  - Cost-effectiveness
  - Total costs = capital vs. operations
  - Who pays?
- Unknowns
  - Will people use it?
  - Must change behavior and public perception
- Interconnectivity infrastructure is not in place
- Communication between railroad, region and state
- Disruptions
  - Local businesses
  - Homes
  - Freeway/arterial traffic
  - Freight
- Promotes sprawl
- New legislation needed
- Public noise
- Land
  - ROW, general plan compatibility

No commuter rail master plan in municipalities

Facilitator: Kathy Rice

- Funding uncertainty
- Arizona love our cars – mindset shift necessary
- Noise concerns
- Public perception
- Competing transportation project
- Lack of signalization along line – cost and safety
- Homeland security issues
- BNSF has full veto authority over line use
- Operations uncertainties – who owns and operates what?
- Timing – cannot build soon enough
- Second track needed
- ROW availability unknown along entire line
- Emergency vehicles delayed?
- Perceived value for/to northwest valley
- Competing communities for money, implementation
- Limited Vision → Arizona only

- Amtrak failures → perception
- How do I get my stuff there? Connected transit-wise on the other end?
- Safety issues – derailments
- Lack of community demand/support

Northwest Subarea

Facilitator: Scott Chesney

- Rail line may currently be at capacity
- Potential for increased crossing conflicts
- Increased noise to adjacent residents
- Need to construct stations and other facilities
- New funding source needed
- Lack of Board support
- Regional system gaps
- Lack of education
- Lack of operational resources
- More delays to vehicular traffic at crossings
- Feeder bus service may be lacking
- Undetermined potential for ridership

Facilitator: Carl Swenson

- Initial ridership
- Community acceptance
- Parking at stations
- Traffic congestion at grade crossings
- Infrastructure costs
- Right-of-way acquisition
- Equipment cost
- Noise Pollution
- Scheduling
- Added vehicular delay at at-grade crossings
- Funding
- Limited stations
- Partnership challenges with railroad companies

Notes provided by attendee:

- Resurgence of rail freight demand is competing for track time.
- Probably will require double tracking to support demand in the corridors.
- Cost of stations, crossing upgrades and other improvements will be high.
- No rail corridors exist in the Northeast Valley, leaving a system "gap" and the potential that residents of that area may not support funding for a system which will not directly benefit them.
- Currently known regional funding is committed through 2025.
- Regional bus system is inadequate to feed the rail stations in suburban locations.
- High number of at-grade crossings system wide. *

* Number of at-grade public crossings:

Buckeye to Phoenix (southwest corridor)	81
Phoenix to Wickenburg (northwest corridor)	132

Phoenix to Picacho (southeast and Pinal Co. corridor)	125
Picacho to Tucson Corridor	31
Total Phoenix to Tucson	156

Opportunities

Central Subarea

Facilitator: Maria Hyatt

- Ability to use commercial rail as a construction alternative (I-10 widening)
- Connectivity to central area bus and rail
- Connects people to affordable homes and jobs
- Economic development around stations/transit-oriented development
- Connects to Sky Harbor and Williams Gateway
- Positive environmental impacts
- Connections allow growth to arts/culture visitors
- Enhance role as "destination"
- Large scale joint development opportunity
- Congestion mitigation
- Justifies additional circulators
- Reuse/redevelop Union Station
- Innovative funding mechanisms
- We have opportunity to plan ahead
- Enhance viability of opportunity corridor
- Urban revitalization
- Can create a truly integrated regional system (ADOT/MAG/RPTA, etc)
- Aids in business locates (ED)
- Create a "big city" image

Facilitator: Brian Kearney

- Intensifies economic and social activity at nodes
- Wealth generating for served communities
- Improves Valley's competitive position for national and international position
- Becomes spine and improves effectiveness of all connecting transit systems
- Can serve corridors BRT cannot
- Increased opportunities to attract workers from whole region and for employees to have more work options
- Can increase population and economic density
- Opportunity for public-private partnership at station locations
- Better land use
- Improves urban design and pedestrian access – improved personal health
- Opportunity for increased social interaction

Facilitator: Peggy Rubach

- Connectivity
- Reduce congestion
- Use new leg to bring railroads on board (AP 220?)
- Develop/increase infill projects and stationeries
- Create partnership with freight

South Subarea

Facilitator: Charles Huellmantel

- Low utilization of existing freight
- Local state/federal political support
- Metro area
- Local expertise on commuter rail
- Urban lifestyle in demand
- Multi-nodal culture expansion
- Environmental mindset
- Job creation/economic impacts of system development
- Creation of destinations
- Transit oriented development
- Opportunity for connections in/out of Maricopa in extreme conditions
- Maricopa support of alternatives
- Track option for freight capacity
- Future connection SE/Tucson
- Encourage economic development
- Undeveloped land offers no business/residential impact/displacement
- Opportunity
- Solving regional mobility/connective challenges
- Environmental benefit by utilizing existing freight

Southeast Subarea

Facilitator: Craig Ringer

- Economic development corridor
- Improve air quality
- Educating public as to rail option
- Combined corridors
- Tourism opportunities
- Improved traffic flows
- Work with Native American opportunities
- Evacuation civil defense option

Facilitator: Claudia Walters

- Rail and highways together as state-wide tax
- Multi-modal capacity – all
- Multi-jurisdiction
- Get rid of “great state of Maricopa” concept and make “great State of Arizona”
- Link education corridors (universities)
- Greater group lobbying for funds (federal)
- Work on air quality issues as a state
- Enhance tourism
- Bring economic development and Jobs and housing to not fully developed areas along corridor
- Encourage infill
- Program/better planned growth
- Globally competitive
- Increase/enhance freight rail
- Improve cargo/freight rail/air transportation
- Connection for Sky Harbor to Williams Gateway

- Connect to port
- Allow for greater security
- PPP financing
- Use other financing options
- Incentive for business to encourage employers
- Connectivity!! Education, transportation air/sea/rail – regions
- Regional planning for regional success (Sun corridor partnership)

Facilitator: Mike Normand

- Locating in new planned corridors
- Any rail in corridors
- A plan developed for the open spaces we do have
- Establish corridor even if construction is decades away (line Santan freeway)
- Involve Indian communities and developers
- Improve grade separations
- Railroad crossing noise improvements especially in residential areas
- Use air space
- Arizona Corporation Commission/regional/state agencies to partner up (ADOT, MAG, etc)
- So many corridors available
- Public support through legislative officials
- Economic development groups to learn/get up to speed
- Business community tie in
- Multi-modal planning corridor

Facilitator: Maria Deeb

- Transit oriented development
- Re-development of inner cities (i.e., Phoenix, Tempe, Mesa)
- Bring life back into distressed areas (i.e., Phoenix, Tempe, Mesa)
- Link college campuses, airports (future passenger service) – connectivity
- Expansion of medical centers
- Minimize pollution
- Increase potential for Williams Gateway area
- New technology – implement other commuter rail systems
- To change transportation negative image
- Utilize existing infrastructure
- Apply for federal grants/state revenue
- Added mode of evacuation in event of an emergency
- Connectivity between sub-regions
- More options
- Less stress for riders
- Eliminate future planned freeway corridors

Facilitator: Mack Lake

- Existing corridors and right-of-ways
- Start with existing rail, irrigation, transportation, drainage corridors
- Partner with state land trust and other large landholders; re: corridors and alignments
- Public and private interests – opportunity to change people's paradigms
- Area can-do attitude – University development, etc
- Use of PPP with existing corridors, right-of-ways, and large landholders
- Increase trade and business growth
- Consider using "transit" district taxes to retire transit investment

- Create high tech – WIFI, etc
- Effective use of commute time
- Safety – text message, grooming etc, -- less accidents
- Cluster development and preserve open space

Facilitator: Dan Shreeve

- Plan early
- Stimulate growth
- Improving connectivity to Williams Gateway Airport
- Connectivity to the "light rail"
- Linking ASU's campus to Gateway
- Competitive advantage over other western states
- Opportunities for public and private ventures

Facilitator: Vic Linoff

- Rail to communities for planned growth
- Rail partnerships (Railroad companies, communities)
- Increased quality of life = economic
- Improved safety
- Utility corridors
- Public/private Opportunities (business)
- Alternate revenue for railroad

Southwest Subarea

Facilitator: Marie Lopez Rogers

- Get rail in early to design communities around rail
- Rail partnership (business, government, planning agency)
- Quality of life = economic competitiveness
- Improved safety
- Utility corridors
- Public/private partnership
- Alternate revenue opportunity for freight rail companies
- Clean slate to create a transit corridor (freight/commute)
- Extend study to Palo Verde area
- Yuma Port of Entry
- PM-10 preservation of funding
- Economic development
- Promote sustainability

Facilitator: Mario Sandamando

- Economic development
  - New events
  - New employment centers
  - Improve mobility = global competitor
- Public/private partnerships
- Creative transit planning
  - Incorporate rail into existing plans
  - Combine park and rides with commuter rail stations
  - Preserve historical, cultural, and environmental areas

- Revitalize neighborhoods
- Become designated federal transportation recipient
- Improve maintenance system/technology
- Educate public on alternative modes

Facilitator: Kathy Rice

- Relocating district center to northwest valley creates redevelopment opportunities for Phoenix, Gila, Surprise, etc
- Tourism
- Opportunity to build transit-oriented communities
- Access to educational institutions
- Classes on the cars
- BNSF is passenger-friendly; good on time performance
- Free trade zones, foreign trade zones
- Development likely to occur around stations
- Government is supportive of passenger rail
- Quality of life as valley, region, state grows
- Puts pressure on completion of other transportation projects
- Cleaner air
- Connectivity to arts, recreation, airport (Sky Harbor)
- Opportunity to develop something new – technology
- Learning from the best in world to implement best practices, technologies, marketing, etc.
- Access for elderly, disabled, youth, other non-drivers
- Urban planning versus suburban planning opportunities
- Regional planning opportunities
- Comprehensive transportation system for the state
- Military industry – connectivity among state bases, federal government, national defense tie-in
    - Use to make more bases more viable

Northwest Subarea

Facilitator: Scott Chesney

- Ability to plan as integrated corridors
- Need for new classification yards (may create trade opportunities
- Use of existing rail yards for redevelopment
- Homeland security
- Rail oriented tourism excursion rail
- Economic development
- New employment hubs
- Educational opportunities with new elected officials
- Provides connectivity; linking cultural and recreational activities
- Reverse commute to new employment centers
- Help to create sustainability using transit oriented development; linking future and existing education campuses
- Involvement of business community; public/private partners

Facilitator: Carl Swenson

- Business investments
- Transit-oriented development
- Inter-governmental cooperation
- Urban renewal
- Inter-governmental opportunities

- Higher density opportunities
- Federal and State funding
- Inter-modal connectivity
- Improved land use planning
- Improved air quality
- Source of emergency evacuation
- Increased work productivity
- Technology opportunities for passengers
- Increased pedestrian opportunities

Notes provided by attendee:

- Railroads need land for new Classification Yards in Surprise, Tonopah, and Eloy. ASLD properties at those locations could be part of a negotiation.
- Development of shared use agreements in adjacent states (NM, UT) may help break the ice.
- Railroads need ACC approval for new spur lines to serve industrial clients in El Mirage and other communities
- Passengers may transfer to LRT system in the urban core, providing needed rider-ship to justify expansion of that system.

Threats

Central Subarea

Facilitator: Maria Hyatt

- Lack of political will, funding commitment, inter-regional cooperation
- Railroads' increase in freight business
- Cost of building new corridors/rising R/W costs
- Potential economic slowdown
- Ineffective long-range planning
- Delay = escalating costs and more lost opportunities
- Encourages sprawl

Facilitator: Brian Kearney

- Impact on Rail industry and future freight uses/ economic/commerce??
- Railroads may prevent, delay, or raise price of system
- Legislative may prevent, delay, or raise price
- Federal regulations may prevent, delay, or raise price
- Communities may protest new building or operation
- Incompatibility with existing or future land uses
- Security concerns
- Continued increases in freight traffic
- Funding?
- Unions

Facilitator: Peggy Rubach

- Legislature
- Environmental issues and clearances
- Land acquisition from existing owners
- Sustaining rider-ship
- Cost benefit analysis
- People love their cars
- Hidden agendas from interest groups
- Fight over ownership of project (joint government ventures)
- Fear of increased taxes
- Homeland security
- Competition for limited federal funds

South Subarea

Facilitator: Charles Huellmantel

- Public perception/misperception
- Funding
- Habits
- Turf Battle
- Legislative implementation/regional competition
- Governing Structure

Southeast Subarea

Facilitator: Craig Ringer

- Politics
- Regional competition
- User apathy
- Railroads not motivated
- Pace of entitlements threatens ROW availability
- Need for many, many at grade and grade separated crossings
- Costs!!!
- Competition for ROW between freight and passenger

Facilitator: Claudia Walters

- No need for urgency
- Not going to get the rail companies to participate
- Freeway advocates opposition
- Taking funding from other sources
- No growth folks/ unrestrained growth folks
- History of rail companies being independent
- Trying to create partnership with rail companies when none have existed
- Legislative interest/political will
- Old thinking on the part of rail companies; citizens and elected positions
- Water issues
- Cost of fare may discourage rider-ship
- Ongoing maintenance costs/ operations
- Lack of subsidy
- Overcoming 1% factor
- Lack of public/business rider-ship

Facilitator: Mike Normand

- Railroads (freight)
- Timing → get ahead of the curve
- Comprehensive plan revisions
- Developers!!
- Not part of current funded regional transportation plan
- No money
- Lack of public awareness and support
- Federal money limited (i.e. light rail vs commercial rail)
- Availability of right-of-way competing for same funding
- Long range planning
- Building a consensus – in-fighting between cities
- Arizona State land trust (land devaluation due to infrastructure)
- Coordinating multi-regions
- ADOT/state land
- ADOT policies not focused on other modes of transportation

Facilitator: Maria Deeb

- Agency support and planning
- Slow process
- Existing zoning and development processes
- No funding source identified
- Poor planning

- Existing utilities
- Public perception
- Competition with freight lines (space)
- Location and frequency of freight
- Safety issues
- Maintenance issues

Facilitator: Mack Lake
- Anti-tax communities
- NIMBY opposition
- Organized opposition
- Road vs rail mentality
- Railroad could resist cooperation
- Costs $$$

Facilitator: Dan Shreeve
- Development incentives from other states and regions
- New roadway development
- Lack of roadway "ROW" where it's needed
- Funding
- Environmental concerns
- Support by the populous? – will people give up their cars?
- Telecommuting – does it reduce the need for travel?
- Tribal nation "Buy-in/support"
- Does development occur where anticipated?
- Security
- Market strength

Facilitator: Vic Linoff
- Maintaining rail line
- Competing stakeholders groups
- Safety
- Funding
- Jurisdictional conflicts
- Lack of cooperation from railroads

Southwest Subarea

Facilitator: Marie Lopez Rogers
- Maintains rail line
- Opposition from truckers, etc (competing stakeholder group)
- Safety
- Funding
- Jurisdictional conflicts
- Lack of cooperation from railroads
- Takings
- Proposition 207
- Speed of development
- Voters
- Funding Opportunities
- Political threats

- Public backlash over light rail
- Where do we fall in priority?
- Union Pacific
- Not promoting internal sustainability
- Prioritizations vs Regions (system)
- Cost

Facilitator: Mario Sandomando
- Political support
- New technology
- Sustainability
- Crime increase

Facilitator: Kathy Rice
- Public perception
- Don't take money away from freeway mentality
- MAG planning does not emphasize passenger rail
- "I don't want those people coming into our community"
- Too much competition for E.D. – can move people too easily
- Freight operations might be impacted
- Railroads can uncooperative
- Perception that it is subsidized and a money loser with no upside
- Not enough political wherewithal
- Phoenix – Tucson is sexier
- System isn't fully developed – self destructive set up for failure
- ROW encroachment

Northwest Subarea

Facilitator: Scott Chesney
- Political buy-in
- State legislature would have to be put on the ballot
- Environmental effects
- Buy-in from both railroads required
- Funding competition
- Federal transportation money goes away in 2009
- Lack of new money
- Adverse impacts to development community
- Public perception that density creates crime and blight
- Public trust in government

Facilitator: Carl Swenson
- Sustainable Funding
- Service/labor disruption
- Environmental mitigation
- Terrorist threat
- Expands growth area boundaries

Notes provided by attendee:
- LRT stakeholders may oppose commuter rail due to perceived competition for federal "new starts" funds and a "full funding grant agreement for the LRT system."

- Urban Core communities may perceive the service as continued suburban sprawl and loss of impetus for infill development. (They count on future suburban congestion as a tool to spur infill and redevelopment of the core.
- Need for not one, but two Class One Railways to agree for the system to work effectively.
- Parochialism throughout the region.
- Public perception that this is another expensive boondoggle, which no one will ride. (Full buses throughout the region will help dispel return of the "empty buses" argument of the Eighties)
- City of Glendale view of BNSF as a blighting influence in their city, and their uncertainty on whether whey would support heavy rail.
- Competition with other transportation modes for scarce resources.
- Potential diminishment of the federal role in transportation post SAFETEALU (The Highway Trust Fund will be broke by 2009); and/or devolution of the role from USDOT to the state

APPENDIX B-CRSG #4 MATERIALS AND PANEL NOTES

Commuter Rail Stakeholder Group Survey (Sample)

1. Several benefits of bringing commuter rail to the region have been identified by the Commuter Rail Stakeholder Group. Please rank the following identified benefits from 1 to 5, 1 being the least beneficial and 5 being the most beneficial:

_____ Continued regional growth of population and employment throughout the region.

_____ Promotes sustainability by reducing air pollutants and usage of natural resources.

_____ Increases in the cost of fuel and travel.

_____ Availability of existing railroad alignments in the primary travel corridors.

_____ Promotes cooperation between public and private entities.

☐ I do not believe there is a benefit to bringing commuter rail to the region.

Other:

_____

_____

2. Several challenges to bringing commuter rail to the region have been identified by the Commuter Rail Stakeholder Group. Please rank the following identified challenges from 1 to 6, 1 being the least challenging and 6 being the most challenging:

_____ Potential conflicts with current and planned freight railroad operations.

_____ Physical and geographic constraints limiting locations for new alignments.

_____ Coordination with jurisdictional interests and policies.

_____ Rapid development of land uses foreclosing opportunities for alignments and stations.

_____ Availability and competition for regional, state and federal funding and resources.

_____ Cost of building and operating a commuter rail system.

☐ I do not believe there are any challenges to bringing commuter rail to the region.

Other:

_____

_____

3. Do you think commuter rail should be brought to the region and if so, how should it be implemented?
   - ☐ Yes. We should get started with a single corridor.
   - ☐ Yes. We should create a starter service with two corridors.
   - ☐ Yes. We should create a full regional system.
   - ☐ No. Commuter rail should not be brought to the region.

4. Looking at the following stakeholder group activities and their value to you, please rank the following from 1 to 6, one being least valuable and 6 being the most valuable.

_____ Education on commuter rail

_____ Seeing ideas for the strategic plan

_____ Interaction/coordination with others from across the region

_____ Seeing results of the stakeholder group meetings

_____ Commuter rail SWOT analysis

_____ Development of action plans

Other:_____

_____

5. Please rate your overall satisfaction with the Commuter Rail Stakeholder Group process:

1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
Not Satisfied		Satisfied		Beyond my expectations

6. For future MAG stakeholder groups, would you suggest a change be made in any of the following categories? If you check any of the boxes below, please explain in the space provided.

☐ Meeting Format
☐ Frequency of Meetings
☐ Meeting Notifications
☐ Information Provided
☐ Length of Meetings
☐ Meeting Locations

_____

_____

7. Which sub-area do you best represent?

Southwest	Northwest	Central	South	Southeast
☐	☐	☐	☐	☐

Additional Comments:

_____

_____

MAG Commuter Rail Panel- Question and Answer Session

Panel Members:
Rick Pilgrim, URS
Jim Dickey, ADOT
Lonnie Blaydes, Lonnie Blaydes Consulting
Kevin Wallace, MAG
Roger Milroy, Gannett Fleming
Larry Miller, Gannett Fleming

Moderator: Megan Davis, Davis Consulting

What can you do to get this completed and moving forward?

The draft plan summarizing the issues and alternative discussed at these commuter rail meetings will be available for review by MAG staff after the first of the year and the regional council will eventually adopt this plan. The Strategic Plan will be a good process plan to have in place; funding for the specific projects will also need to be addressed in the future.

Why include a Chandler branch extension to Coolidge, Arizona rather than southeast? It would avoid potential Gila River Indian Community (GRIC) issues.

System performance and cost are issues to consider individually with each line. This is one way we suggest that Maricopa Association of Governments (MAG) looks at this. It is part of a developing concept and ideas plan.

What is the priority corridor if it is the Get Started Scenario? Or how will the first priority corridor be selected?

The key question is should the region invest in commuter rail? The Regional Council will have to decide. Do we need to identify priority corridor? It is hinged on opportunity and what the railroads will say about it.

What funding mechanism would best assure a sustainable long term system that can be added to over the years?

A regional system would offer a wide variety of options and cost effective solutions; commuter rail may not be eligible for current sources of the funding. The state may be looked to for a funding solution or to supply components of transportation needs. These may not be just localized or regional needs but also statewide. Ways to raise money for transportation needs are in discussion.

A broad spectrum of options may be available including federal, state, and local funding and public/private partnerships across the nation. There are benefits to be gained from private partners building railroads. Denver is now using a regional sales tax of one cent for their commuter rail funding and it was the success of their light rail that propelled them.

What discussions have we had with railroads and how do we get them engaged in the next steps?

There have been ongoing discussions with the railroads primarily through ADOT; it has to be a good business action for the railroads or they will not come to the table. Railroads must benefit from cash, business, or other opportunities; a commuter rail system needs to not disrupt and hopefully improve their operations. There continue to be ongoing discussions and coordination with the State speaking with the railroads.

What level of communication has taken place with Union Pacific Railroad and Burlington Northern Santa Fe Railway? Do you have some sense as to haw commuter rail has been received by railroad entities?

Initially Burlington Northern Santa Fe and Union Pacific did not respond to the idea of commuter rail in Arizona very well. There are possibly 200 businesses between Buckeye and Chandler along the UPRR. The initial reaction has been lack of interest. It is difficult to negotiate in a conceptual fashion with the railroads; hard to segment out pieces of the railroad; it is going to take more than localized interest. We need to negotiate more on statewide scale.

How likely are we to get money to do anything, and how likely is any money we do get to be spent on a system connecting Phoenix to Tucson?

The likelihood of funding depends on how loud you ask for it. There needs to be a plan in place. However with each additional piece to plan; more revenue will be required; priority must change. Federal money is a protracted process in competition with other projects. It is competing with light rail and other rail projects around the county and in our own community for funding.

Here is an opportunity to think outside the box with other systems to provide space for corridor for rail lines.

Other communities and systems have been talked to and eight rail studies have been done since the 1970's. If is it a high priority we will get the funding; if not we will not be able to do it.

There have been talks with the Governor to discuss transportation options; it is clear there is interest from elected leaders and the Governor and staff. The preferred alternative is the southeast corridor, that corridor will be a primary corridor to get started and be considered first.

Having a champion is critical to move this forward; who will be our champion?

It may not be one single champion; rather it will take a group of people or agencies and looking toward other cities. It is often a coalition; it takes mote than a single voice; we need to have a collective voice; multiple champions including political people and package all the options together.

What happened after this meeting? What are the next steps?

A draft plan will be put together between now and the first of the year. It will be early next year when plan is in front of regional council. This is the next step in this process. This is the cookbook on how to do commuter rail.

Can you make today's presentation and board contents available to attendees of today's meeting?

All of the materials presented at toady's meeting will be posted on the MAG web site. The draft plan will be e-mailed out to all of today's meeting attendees and any comments are welcome. Also, handouts of the display boards are available.

Unanswered Questions Provided from Audience:

How much will it cost and who will pay for it?

The cost of commuter rail is dependent on the implementation scenario selected such as Get Started, Starter System, or Regional System. When considering peer systems, the cost for implementing commuter rail can range from $8 million to $20 million per mile depending on type of system and facilities.

How do we coordinate light rail and commuter rail?

To coordinate light rail and commuter rail, existing local plans and studies would be reviewed to identify opportunities to enhance both systems and provide joint stations when feasible.

How long does train stay at a passenger stop and will it block major intersections?

The train would stop between one and two minutes, which would be enough time to board. The commuter rail stations would be designed to ensure that the train would not block adjacent intersections.

Are there current connecting transportation options-buses, light rail-to the commuter rail corridors? If not, are these considered in the corridor selection?

There are several public transportation systems currently in place in the region. An important element to the implementation of commuter rail is to ensure that there are connections between the corridors and that these connections facilitate the movement of riders between systems no matter which transit technology is being operated. The commuter rail system will be planned to connect with existing transportation systems and measures will be put in place to ensure a seamless system.

What are we talking about in creating new jobs/numbers in implementing and operating?

Number of jobs is difficult to estimate at this stage in the planning process. This estimate will need to be addressed in future plans and studies and will be dependent upon what implementation scenario is chosen such as Get Started, Starter System, or Regional System.

What sources of funding have been looked into for this project? Can it be funded using sources from investment or within the state?

There are several funding mechanisms that have been reviewed for this project. Proposition 400 authorized the continuation of the existing half-cent sales tax for transportation in the region. This action provides a 20-year extension of the half cent sales tax through calendar year 2025 to implement projects and programs identified in the MAG RTP. Proposition 400 was enabled by House Bill 2292 and House Bill 2456. House Bill 2456 addresses the allocation of revenues from the collection of sales tax monies from January 1, 2006, to December 31, 2025, among the eligible transportation modes. A 33% share of this net revenue is distributed to public transportation fund for capital construction, maintenance and operation of public transportation services, and capital cost and utility relocation costs associates with a light rail public transit system.

The Commuter Rail Strategic Plan could be a reason for possible adjustments and expansion of the RTP, as well as part of future updates. Any changes to the RTP would be subject to the requirements of House Bill 2456 . New funds such as a sale tax extension or expansion would most likely be required for regional commuter rail projects because all funds through 2025 have been planned for dedicated use on other transit projects.

In a nutshell, what will we get out of this project that we didn't have out of the High Capacity Transit Study?

The MAG High Capacity Transit study is a physical plan that presents a network of new transit services designed to meet travel demand in the MAG region. By comparison the MAG Commuter Rail Strategic Plan is policy oriented and provides a framework on how to implement commuter rail in the MAG region and northern Pinal County. The MAG Commuter Rail Strategic Plan will focus on three areas, to provide a: framework of goals, objectives and action items to implement commuter rail, series of implementation steps for commuter rail investment and, consensus agreement of large and diverse stakeholders group.

Why was Palo Verde not a destination for the system?

Palo Verde Nuclear Generating Station is identified as a potential extension on the UP Yuma line within the HCT. Depending upon further study, an extension could be included in the overall plan.

In public private partnerships, can you talk about shared risk and the use of performance measures?

Railroads are not willing to share risk associated with problems that may arise within their rights-of-way. Recent experience between freight railroad companies and passenger transit services has led to specific provisions in operating agreements related to liability and public safety. In most instances, the railroad companies are requiring indemnification on the part of the transit service provider related to any accidents or other events that occur within the railroad rights-of-way. Specific legislation has been required in New Mexico, Colorado, Minnesota and Virginia to provide the indemnification of the railroad companies. Similar provisions are likely to be required in Arizona for commuter rail operations shared with freight railroad operations.

The plan looks at the peak use times. That implies work-related travel. Can we accommodate what riders bring with them? I'm thinking brief cases, laptops (with WiFi connection), wheel chairs, bicycles, etc?

Commuter rail trains are adequately designed to meet the needs of passengers including brief cases, laptops, luggage etc. The station platforms will be handicap accessible to assist entry onto the trains. Several commuter rail systems accommodate bicycles; however this will depend on a policy statement from the governing agency. Other onboard accommodations may include overhead luggage racks, digital message boards, WIFI and standard AC power outlets so that passengers can power their own electronic devices such as laptops.

If Union Pacific or Burlington Northern Santa Fe doesn't want to participate with the State in commuter rail, what is plan B?

If the railroads do not want to participate other alternative modes of transportation would have to be assessed, such as Bus Rapid Transit (BRT) and Light Rail Transit (LRT) along freeway corridors.

The cost of commuter rail system could be huge, but the benefits to land values are tremendous. Has an arrangement where by the value increases are captured to help pay for the commuter rail been considered?

Arrangements where by the value increases are captured to help pay for the system have not been considered at this level of study, but along with development of the physical railroad plan we would encourage appropriate land use planning to leverage investments. Transit oriented development would be an important element and a purview for each community land use plan, not the regional plan.

Within peer group: What are funding sources? Are they specific and are they all sales tax base?

A comparison of commuter rail funding for eight peer systems was conducted. The majority of the funding sources are dedicated local sales tax, however some systems such as the Rail Runner in New Mexico was funded by the State of New Mexico general funds.

How do you determine is a new corridor will or will not increase population/development growth rather than relieve congestion?

Commuter rail can provide a substantial reduction in vehicle miles traveled (VMT), thus helping to relieve congestion. In addition commuter rail can help to concentrate development around stations where the market will allow for it. Models are used to estimate population and traffic to understand the impacts commuter rail may have. The data that is used for the model is based on comprehensive plans, providing a connection between local governments and the model.

How will this plan impact the study underway by Valley Metro for I-10 West high capacity transit?

An important element to the implementation of commuter rail is to ensure that there are connections between systems no matter which transit technology is being operated. The commuter rail system will be planned to connect with existing and planned transportation systems and measures will be put in place to ensure a seamless system.

Are there any estimates of operating cost based on each level of the models? Regional Transportation Plan (RTP) funds have been mentioned, but with current Arizona Department of Transportation (ADOT) estimates being below what were projected, are there any alternate plans for funding?

Development of detailed physical plans, operating pans and associated costs will be generated in the next phase of the project if authorized by the MAG Regional Council. Funding plans would also be developed at that time.

APPENDIX C-MEETING ATTENDEES

Full Name	ORG	TITLE	Attended 6/28	Attended 9/12	Attended 10/30
Ron Aames	City of Peoria	Councilmember, Palo Verde District	Y	Y	Y
John Anderson	Arizona Transit Association	Executive Director	Y	Y	
F. Rockne Arnett	Citizens Transportation Oversight Committee	Chair	Y		
Paul Berumen	Arizona State University Office of Public Affairs	Director for Local Government Relations	Y	Y	
Brent D. Billingsley	City of Maricopa	Transportation Manager	Y		Y
Stuart Boggs	Valley Metro/RPTA	Manager of Transit Planning	Y	Y	Y
George Bosworth	Urban Land Institute Arizona	Executive Director			Y
Frank Cavalier	City of Goodyear	Vice Mayor		Y	
Scott R. Chesney AICP	City of Surprise	Planning and Community Development Director	Y		
Charlie Deaton	Mesa Chamber of Commerce	President and CEO	Y		
Pat Dennis	City of El Mirage	Intergovernmental Relations Representative		Y	Y
Jim Dickey	Arizona Department of Transportation	Director, Public Transportation Division	Y	Y	Y
Matt Dudley	City of Glendale	Transit Planner	Y	Y	
Cliff Elkins	City of Surprise	Former Councilmember, District 1	Y	Y	Y
Marcia Ellis	City of Litchfield Park	Councilmember			Y
Eric W. Emmert	Tempe Chamber of Commerce	Transportation Committee Chair		Y	
Steven E Frate	City of Glendale	Councilmember, Sahuaro District	Y	Y	Y
Scott Friedson	Arizona Department of Transportation				Y
Sharolyn Hohman	Southwest Valley Chamber of Commerce	President and CEO	Y	Y	Y
Don Homan	Town of Buckeye		Y		
Maria Hyatt	City of Phoenix		Y		Y
Terry Max Johnson	City of Glendale	Deputy Transportation Director		Y	
Brian Kearney	Downtown Phoenix Partnership	Chief Executive Officer	Y		
Carol Ketcherside	Valley Metro RPTA	Deputy Executive Director of Planning	Y	Y	Y
Donald P Keuth	Phoenix Community Alliance	President and CEO	Y		Y
Kathy Langdon	Gilbert Chamber of Commerce	President and CEO	Y		

Full Name	ORG	TITLE	Attended 6/28	Attended 9/12	Attended 10/30
Brian Lehman	Arizona Corporation Commission	Rail Programs Manager		Y	
Michelle Lehman	City of Surprise	Intergovernmental Relations Director	Y	Y	Y
Carlo Leone	City of Peoria	Councilmember, Pine District			Y
David Lewis	Northwest Valley Chamber of Commerce	President and CEO	Y	Y	
William Lindley	Arizona Rail Passenger Association	Treasurer and Webmaster	Y	Y	Y
Daniel Lundberg	City of Surprise	Director, Community Initiatives			Y
Alisa Lyons	Valley Partnership	Vice President, Governmental Affairs		Y	
Ken-Ichi Maruyama	Town of Gilbert	Management Assistant	Y	Y	Y
Catherine A. Mayorga	Tempe Chamber of Commerce	Vice President Public Affairs		Y	Y
Mary Ann Miller	Tempe Chamber of Commerce	President and CEO		Y	
Mike Normand	City of Chandler	Transportation Services & Planning Manager	Y		Y
Randy Overmyer	City of Surprise	Community and Economic Development Department	Y	Y	Y
Stephanie Prybyl	Town of Gilbert	Intergovernmental Relations Coordinator	Y		
David Raber	Arizona Corporation Commission	Director Safety Division		Y	
Paul Rasmussen	Arizona Department of Environmental Quality	Director of Policy, Planning and Operations		Y	Y
Tom Remes	City of Phoenix	Intergovernmental Liaison	Y		Y
Don Rinehart	Glendale Chamber of Commerce	President/CEO		Y	
Tracey Rivas	City Of Phoenix	Aviation Department	Y	Y	
Randy Roberts	City Of Peoria	Transit Department	Y		
Peggy Rubach	Maricopa County Department of Transportation	Bicycle/Multimodal Planner	Y	Y	Y
Mario Saldamando	City of Goodyear	Management Assistant to the City Manager	Y		Y
Jess Segovia	City of Avondale	Transit Administrator	Y	Y	
Tom Smith	Pinal Partnership	Executive Director	Y		
Jay R. Smyth PhD, PRP	Southwest Rail Corridor Coalition	Coordinator	Y	Y	Y
Woody Thomas		Former Mayor of Litchfield Park		Y	Y
Chuck Ullman	Sun City West Property Owners & Residents Association	President		Y	
Mike Williams	Williams Gateway Airport		Y		
Robert Yabes	City of Tempe	Principal Planner	Y		

Full Name	ORG	TITLE	Attended 6/28	Attended 9/12	Attended 10/30
Mark Young	Town of Queen Creek	Management Assistant		Y	Y
Dianne Kresich	Arizona Dept of Transportation				Y
Don Veidt	Southwest Rail Corridor Coalition	Retired	Y		
Mark McLaren	HDR, Inc.		Y	Y	
Sam Morse	Western Architect		Y		
Robert Maki	City of Surprise	Engineering Department	Y	Y	
Don Noble	Town of Queen Creek	Interim Public Works Manager	Y		Y
Michael Celaya	City of Surprise		Y	Y	Y
Alton Bruce	City of Coolidge	Growth Management Director	Y		Y
Jamal Rahimi	City of Peoria	City Traffic Engineer	Y	Y	Y
Michele Pino	Land Advisors Organization	Business Development and Client Relations Specialist	Y		
Kathy Rice	City of Surprise	Assitant City Manager	Y	Y	Y
Jan See	City of Surprise	City Planner	Y	Y	
Brent Stoddard	City of Glendale	Legislative Coordinator	Y		Y
Chuck Russell	SRP		Y		
Jyme Sue McLaren	City of Tempe	Department of Public Works Manager	Y	Y	Y
Todd Cooley			Y		
Todd Kennedy	City of Apache Junction	Assitant Planner	Y		Y
Ariel Ohler			Y		
Mark Thompson	Arizona Advocacy Group, LLC		Y	Y	Y
Darrell Truitt	EPS Group, Inc.	Public Works Department	Y		
Linda Wegener			Y		
Ken Buchanan	Pinal County	Assistant County Manager for Development Services	Y	Y	
Bob Ware	Peoria Chamber of Commerce		Y		
Craig Ringer	Central Arizona Association of Governments	Deputy Director/EDD Director	Y		
Jeanne Blackman	APS	Community Development Manager	Y	Y	Y
Stephanie Wilson	City of Surprise	Community Development	Y	Y	
Keith Watkins	JF Companies	Vice President	Y		
Mack Lake			Y		
Jennifer Whalley	East Valley Partnership	Director of Programs & Operations	Y	Y	
Dave Gobelle	PB		Y		
Reed Caldwell			Y		
John Mitchell			Y		
David Golder	City of Surprise		Y	Y	Y
Jamie Hogue	State Land Department	Deputy State Land Commissioner	Y		

Full Name	ORG	TITLE	Attended 6/28	Attended 9/12	Attended 10/30
Pat Gilbert	Marc Center		Y		
Marie Lopez Rogers	City of Avondale; MAG	Mayor	Y		Y
Pat Dennis			Y		
Shane Kiesow	City of Apache Junction		Y		
Ethan Rauch			Y		
Vic Linoff			Y		Y
Ray Brown	City of Phoenix		Y		
Dale Despain			Y		
John Gale	Maricopa County		Y	Y	Y
Luis Heredia	Union Pacific		Y	Y	
Julie Howard	City of Mesa		Y	Y	Y
Amy Johnson			Y		
Bruce Hallsted			Y		Y
Darrell Wilson	CMX LLC.	Sr. Executive Vice President	Y	Y	
Kevin Attebery	City of Goodyear		Y		
Dan Shreeve	Land Advisors Organization		Y		
Mike James	City of Mesa		Y		
Dan Cassano			Y		
Hugh Hallman	City of Tempe	Mayor	Y		
Charles Huellmantel	Huellmantel & Affiliates		Y	Y	Y
Mike DiDomnico	City of Tempe	DRC	Y	Y	
Lisa Estrada	City of Peoria	Intergovernmental Affairs Coordinator	Y	Y	Y
Megan Griego	City of Surprise		Y	Y	Y
Ken Driggs			Y		Y
David Bell			Y	Y	
Vanessa MacDonald	City of Tempe	Development Review Commission	Y	Y	
Scott Switzer			Y		
Stacie Muller			Y		
Sean Banda	Town of Buckeye		Y	Y	Y
Jeff Martin			Y		
Becky Rutledge	Arizona Transit Association		Y	Y	
Andy Smith	Pinal County Department of Public Works	Transportation Planner	Y	Y	Y
Dave McGrew			Y		
Stacie Harrison	HDR, Inc.		Y		
Jeff Cooley			Y		
Kathryn Pett			Y		
Kevin Collins	HDR, Inc.		Y		
Eric Emmert			Y		Y
Robert Mulvihill			Y		
Gene Holmerud	Coalition of Arizona Bicyclists		Y	Y	Y
Bobby Bryant	Town of Buckeye	Mayor	Y		
Carl Swenson	City Of Peoria	Deputy City Manager	Y	Y	Y
Dale Hardy	City of Phoenix		Y		Y
Claudia Walters			Y		

Full Name	ORG	TITLE	Attended 6/28	Attended 9/12	Attended 10/30
Jordan Feld	City of Phoenix		Y		
Sam Wheeler	ASU		Y	Y	
Giao Pham	City of Apache Junction		Y		
Janet Zuber			Y		
Ian Satter	Sonoran Institute		Y	Y	Y
Carson Brown			Y		Y
Maria Deeb	City of Mesa	Transportation Department	Y	Y	Y
Jim Winterton			Y		
Dolores Shoecraft	Arizona State University		Y		
Mitchell Foy			Y		
Christian Stumpf			Y		
Amanda Nelson	City of Tempe		Y		
Wulf Grote	Valley Metro Rail	Director of Project Development	Y	Y	Y
Heather Garbarino	Arizona Planning Association	Senior Planner, Arizona Department of Commerce		Y	Y
Kristina Fretwell	Greater Phoenix Chamber of Commerce	Public Affairs Manager			Y
Jessica Blazina	City of Glendale			Y	
Cathy Colbath	City of Glendale			Y	
Feliciano Vera				Y	
Mark Melnychenko	City of Phoenix	Public Transit Department		Y	
Scott Miller	HDR/S.R. Beard & Associates			Y	
Joe LaRue	Sun Health			Y	
Jim Rumpeltes	City of Surprise	City Manager		Y	
Jamsheed Mehta	City of Glendale			Y	
Doc Sullivan	City of Surprise	Councilman		Y	
Chris Salas	City of Maricopa			Y	
Shana Ellis	City of Tempe			Y	
Michelle Green	Arizona State Land Department			Y	
Amber Wakeman	City of Tempe			Y	
John Hagen	City of Surprise	Economic Development Director		Y	Y
Frank Hutcheson	Arizona Rail Passengers Association			Y	Y
Dawn Coomer	City of Tempe	Light Rail Transit Department		Y	Y
Shelley Vasquez	City of Goodyear			Y	
Jim Mathien	METRO				Y
Eric Johnson	City of Phoenix				Y
Nathan Pryor	MAG				Y
Albert Santana	City of Phoenix, City Manager's Office				Y
Barbara Guenther	Arizona State Senate				Y
Ryan DeMenna	Arizona Sstate Senate				Y
Kellee Kelly	City of Maricopa				Y
Michele Tucker	BNSF				Y

Full Name	ORG	TITLE	Attended 6/28	Attended 9/12	Attended 10/30
Cheryl Toy	City of Phoenix, Aviation Department				Y
Megan Schmitz	City of Phoenix				Y
Michelle Rill	Greater Phoenix Chamber of Commerce				Y
Gabe Rushing	Greater Phoenix Chamber of Commerce				Y
Maureen Decindes	MAG				Y
Marc Sorensen	HDR				Y
Terry Phemister	HDR/S.R. Beard & Associates				Y
Don Klocke	Downtown Phoenix Partnership				Y
Brian Townsend	Arizona State Senate				Y
Tom Simplot	Phoenix City Council	Councilman			Y
Eileen Yazzie	MAG				Y
Vladimir Livshits	MAG				Y
John Farry	METRO				Y
Julie Rees	Triadvocates				Y
Clancy Jayne	Clancy Jayne Consulting				Y
Mike Cartsonis	City of Litchfield Park	Planner			Y
Bill Leister	CAAG				Y
Ernest Rubi	MCDOT				Y
Monique de los Rios-Urban	MAG				Y
Paul Davenport	Associated Press				Y
Jane Morris	City of Phoenix Aviation Department	Deputy Aviation Director			Y

Maricopa Association of Governments
Commuter Rail Strategic Plan

Working Paper #2
Commuter Rail Implementation Framework

Final
November, 2007

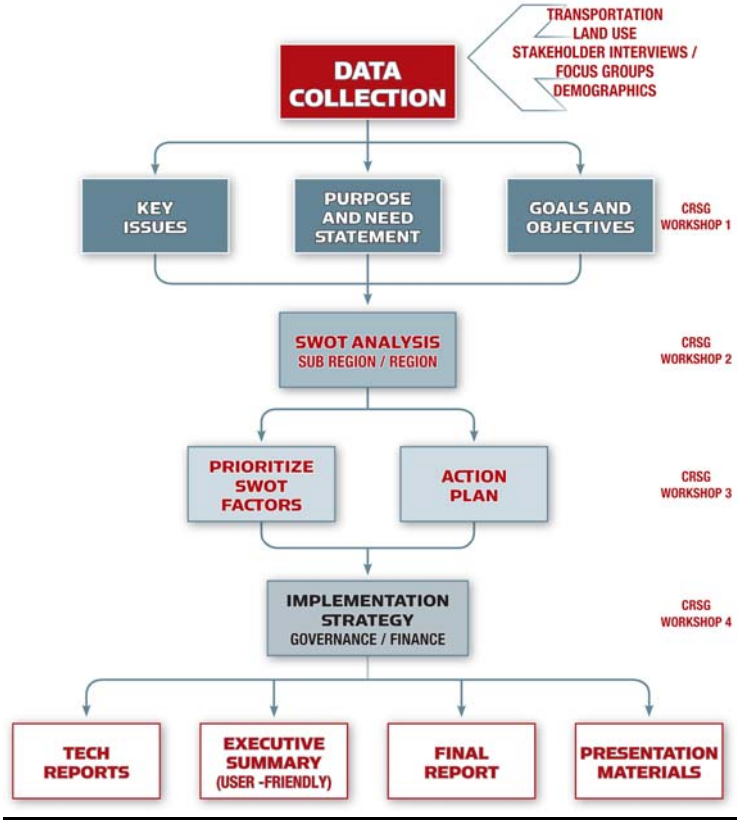
Introduction

This working paper presents an outline of three commuter rail implementation scenarios for consideration in the Maricopa County and northern Pinal County study area. The implementation scenarios were developed to present a range of possible options for the region to move forward with a commuter rail program to help serve travel demands in the congested corridors around the region.

Overview of the Planning Process

The planning process for the MAG Commuter Rail Strategic Plan began in February 2007 and will be completed by February 2008. Several individuals have contributed to the development of the plan and include Maricopa Association of Governments (MAG) the Commuter Rail Stakeholders Group (CRSG), staff representatives from Arizona Department of Transportation (ADOT), METRO, and Regional Public Transportation Authority (RPTA); members of the consultant team. The CRSG consists of public and private agencies and entities with an interest in transit and those involved in past transit studies. The CRSG meet a total of four times throughout the planning process and helped to identify opportunities and threats of commuter rail and developed action plans to identify strategies to implement commuter rail in the region. Figure 1 illustrates the commuter rail strategic planning process.

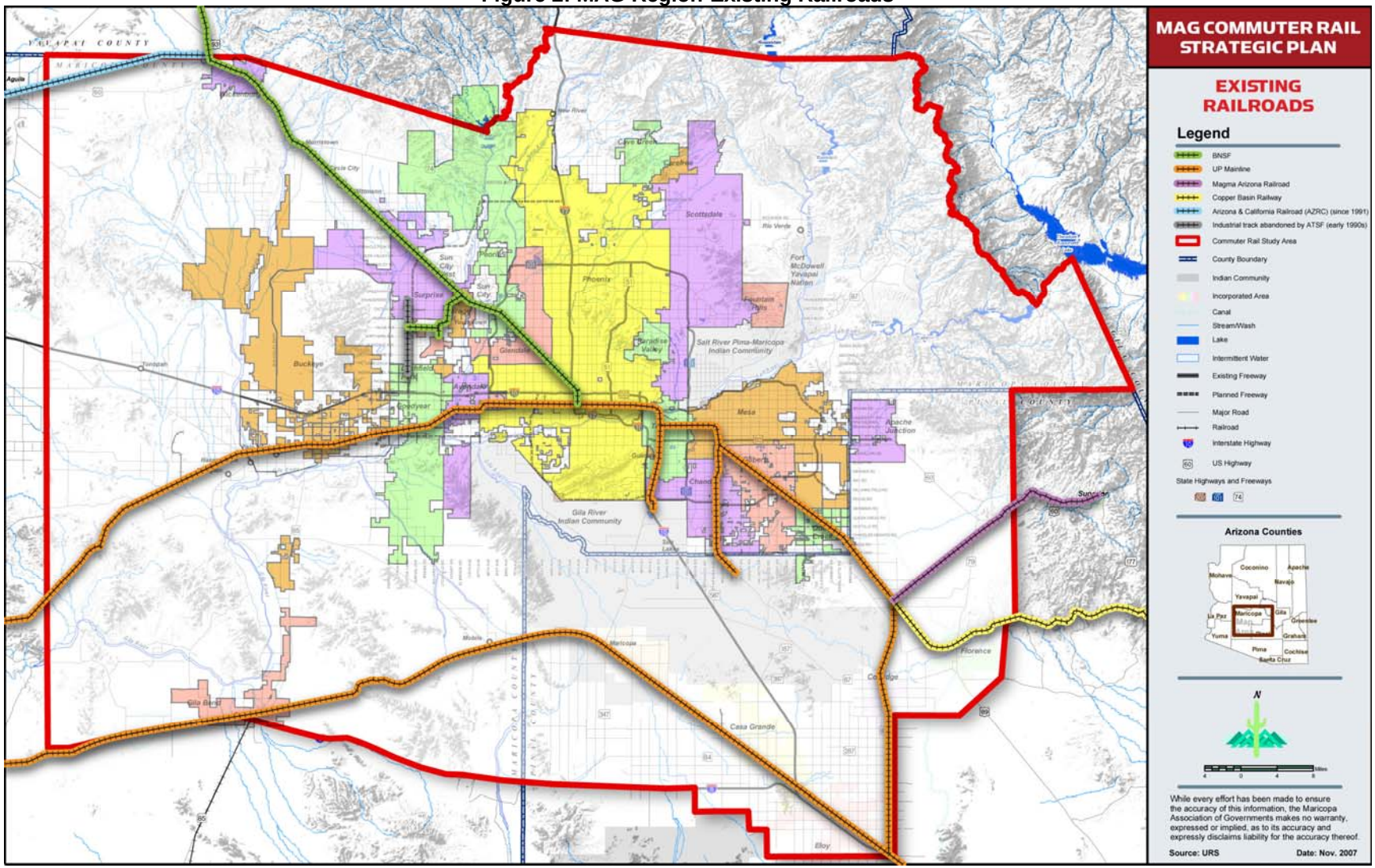
Figure 1: Planning Process



Study Area

The MAG region consists of Maricopa County and northern Pinal County. Currently, three operational railroads exist in the MAG region. These railroads include the Burlington Northern and Santa Fe Railway (BNSF), the Union Pacific Railroad (UP), and the Arizona and California Railroad (ARZC). As of 2003, the BNSF maintained approximately 70 miles of active track in the MAG region, the UP maintained a total of approximately 180 miles of active track, and the ARZC maintained a total of about 27 miles of active track.

Figure 2: MAG Region-Existing Railroads



Implementation Scenarios

Continued urban growth in the outlying areas of Maricopa County and nearby Pinal County will dramatically increase travel demands throughout the region. Maricopa and northern Pinal County are projected to more than double in population from the 2005 base population of 3,855,000 to a total population of 7.0 million people in 2030, which reflects an increase of 82%.

Recent increases in fuel prices have resulted in substantial increase in transit ridership. Transit trips for the MAG region are expected to grow from just over 110,000 person trips per day to nearly 217,000 person trips in 2030. With the combination of high fuel prices and rapid growth, interest in providing travel alternatives to the automobile has also grown. The potential development of a commuter rail system would offer an alternative for travel in congested corridors within the region.

Three commuter rail implementation scenarios were developed using examples from other commuter rail systems in the United States. The scenarios range from Get Started in a single corridor, to a Starter System in more than one corridor, to a full Regional System with multiple rail lines in operation.

Get Started Scenario

The Get Started scenario would focus on implementing commuter rail in a single congested corridor. The single corridor would provide a local commuter-oriented service and would have several benefits including: less complex coordination with freight railroad companies, potential low cost of entry, and a more simple approach to governance, administration, and funding. Due to the peak period focus and lower volume of trains in a single corridor compared to a regional system, the Get Started scenario may be more feasible to the railroad companies because there could be lower train volumes throughout the day and the railroad would benefit from the improved facilities and/or new revenues.

An example of a system with a single corridor is the NorthStar Commuter Rail in Minneapolis. The line is currently expected to be completed in 2009, and will use existing track and right-of-way owned by BNSF Railway, which is significantly cheaper than building a new rail corridor. This 40 mile system extends from downtown Minneapolis to Big Lake. The NorthStar system is experiencing implementation costs of approximately $307 million or roughly $8 million per mile. Another example of single corridor system is the Trinity Railway Express. This system extends 43 miles connecting Dallas and Fort Worth and started operations in 1998. The implementation cost for this system are $260 million which, covered vehicles (used/rehabbed locomotives & bi-levels), track and signal upgrades, expansion of the maintenance facility, and six stations (1997). Average weekday ridership for 2007 was about 8,600 passenger trips.

Figure 3: NorthStar System Map, Minneapolis Minnesota

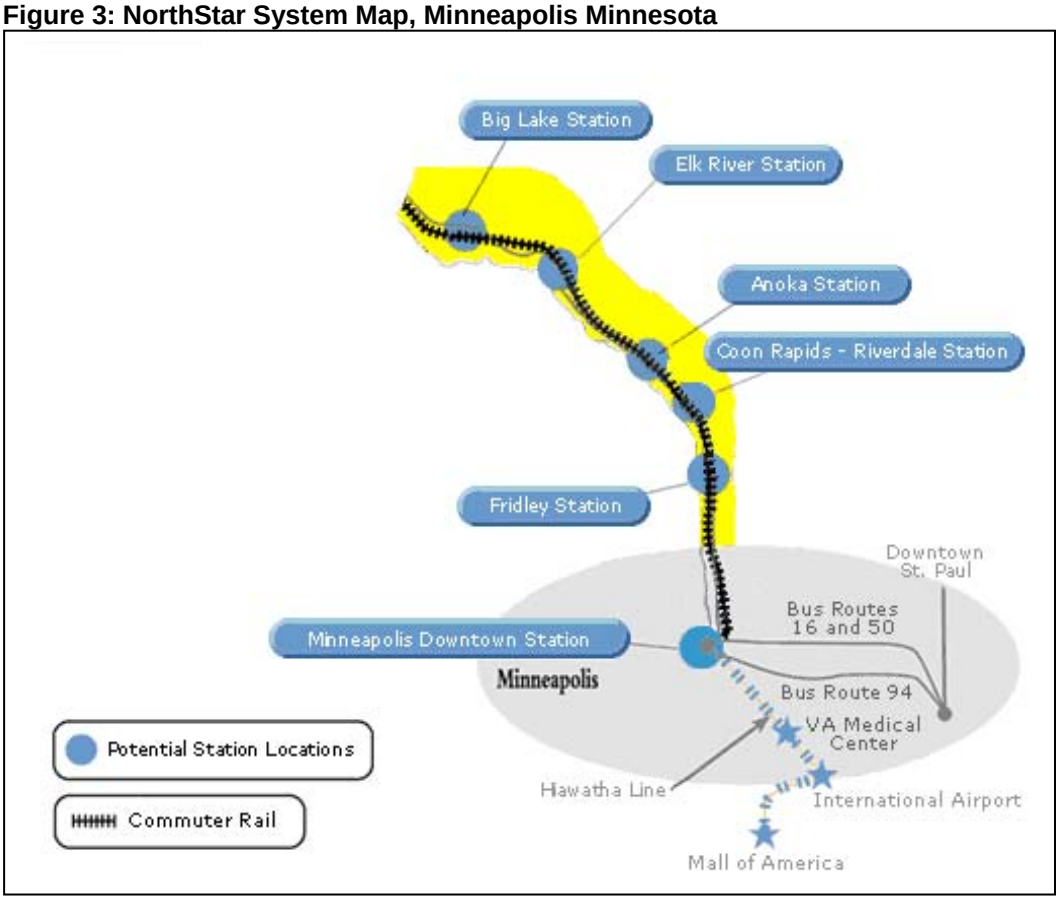
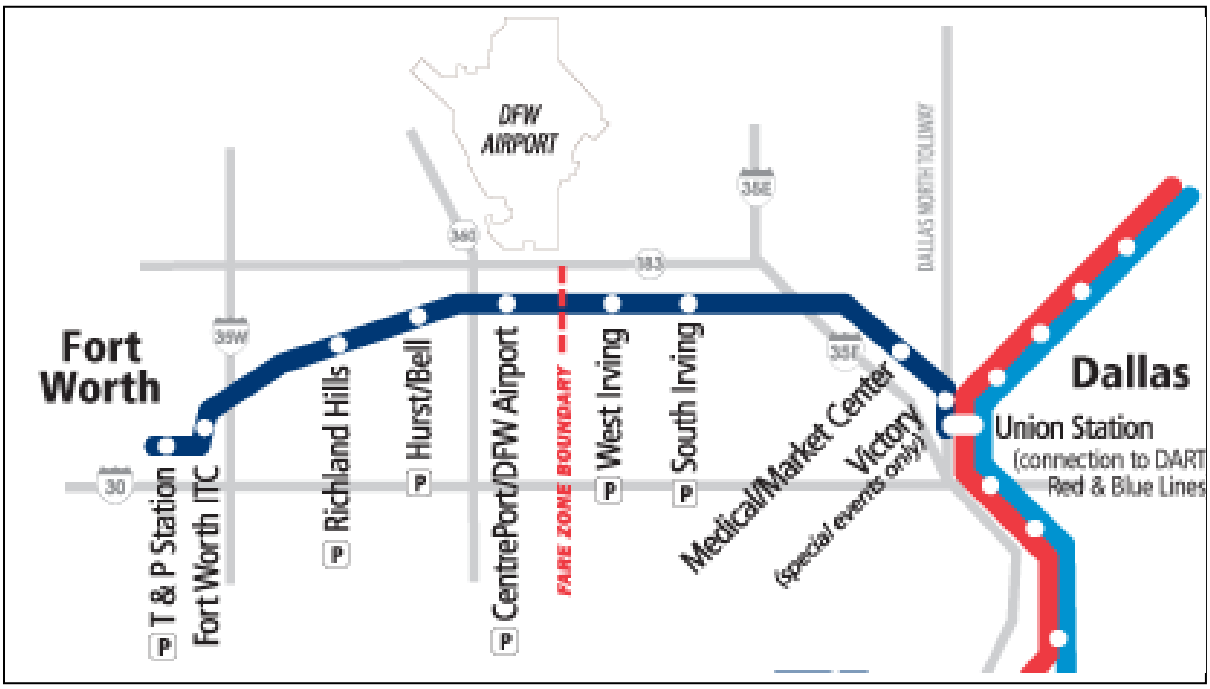


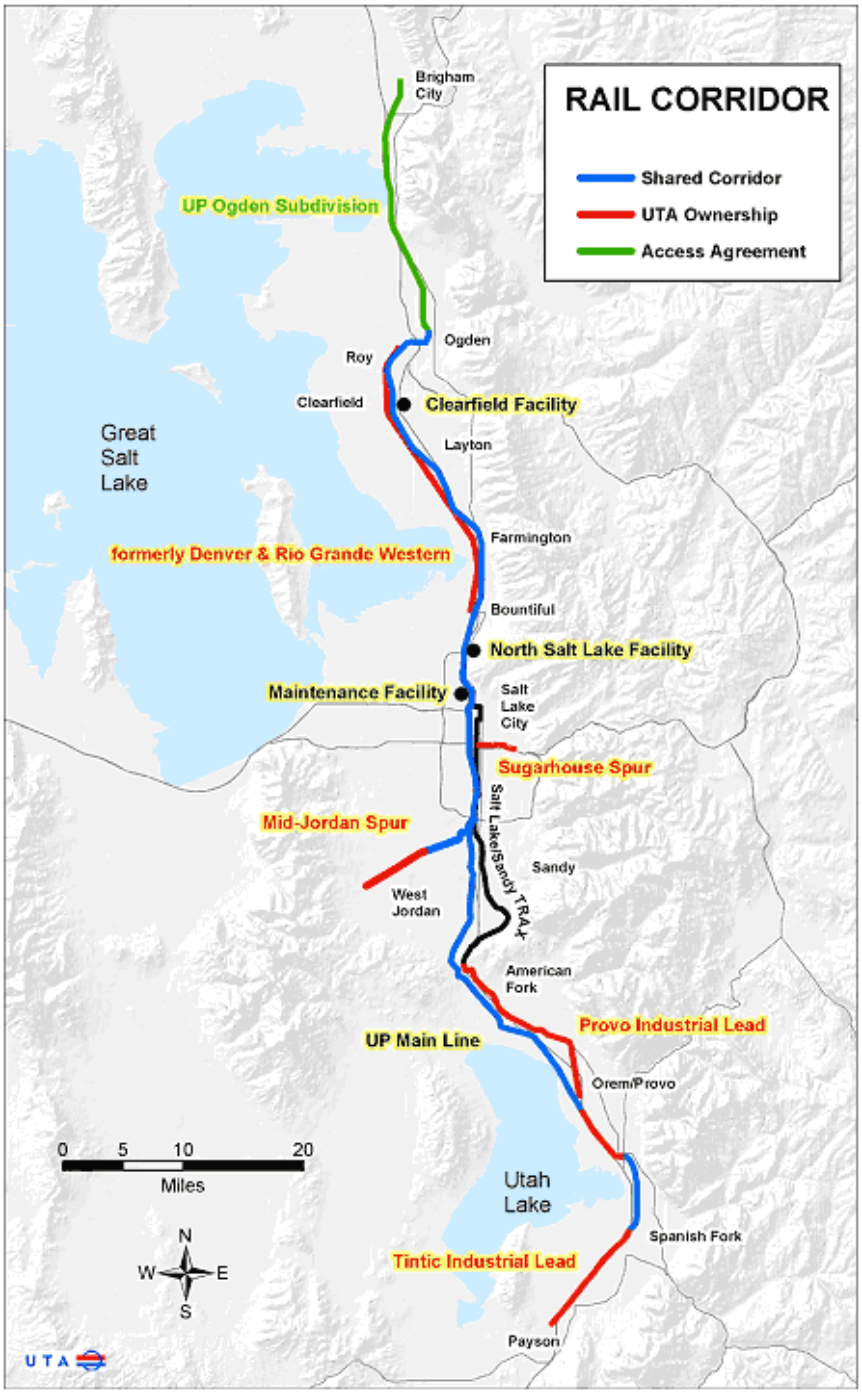
Figure 4: Trinity Railway Express (TRE) System Map



Starter System

The Starter System would include multiple corridors and could focus on more than one congested corridor and possibly serve outlying Maricopa County and Pinal County. The Starter System scenario benefits would include: relatively low cost of entry and the possibility to upgrade the system over time. This scenario could focus on shared or single tracks initially to minimize cost. As ridership increases the system could be upgraded to address increasing demand by adding trains and additional track. This scenario may have a more complex approach to governance, administration and funding with multiple jurisdictions participating compared to the Starter System which would be focused on a single corridor.

Figure 5: Salt Lake City Commuter Rail System



Examples of Starter Systems would include Salt Lake City Commuter Rail, which is under construction for 45 miles from Ogden/ Pleasant View with start of operations in April 2008 and a second line of 80 miles to Provo. The implementation costs for Salt Lake City to Ogden are $410 million.

Another example is the Virginia Railway Express (VRE) commuter rail service that connects the Northern Virginia area with Washington, DC. The VRE operates on two lines consisting of, the Fredericksburg line, which starts from Fredericksburg, Virginia, and the Manassas

line, which starts from Broad Run Airport in Bristow, Virginia. The implementation costs for this system are $10 to $20 million per mile for double track way (1992). Average weekday ridership in 2007 was about 14,100.

Figure 6: Virginia Railway Express (VRE) System Map

Regional System Scenario

The Regional System scenario would focus on implementing commuter rail on multiple corridors simultaneously and serve more of the region. This scenario would provide the region with several social and environmental benefits including improving transportation mobility, promoting sustainability, and helping to shape regional growth. However due to a complex system with multiple corridors extending throughout the region, this scenario would require separate facilities from freight rail, would be more costly, and would be the most complex of the three scenarios in regards to governance, administration, and funding.

Examples of Regional Systems include the Metrolink commuter rail which serves southern California and includes seven lines, 54 stations and serves 40,000 passengers. The implementation costs for Metrolink was $10-$20 million per mile in 1985 for leased or purchased right of way.

Another example of a regional system is Denver FasTracks transit expansion program. This regional system includes five new rail corridors of which four will be commuter rail. The implementation cost for Denver FasTracks is projected to be approximately $20 million per mile.

Figure 7: Los Angeles Metrolink System Map

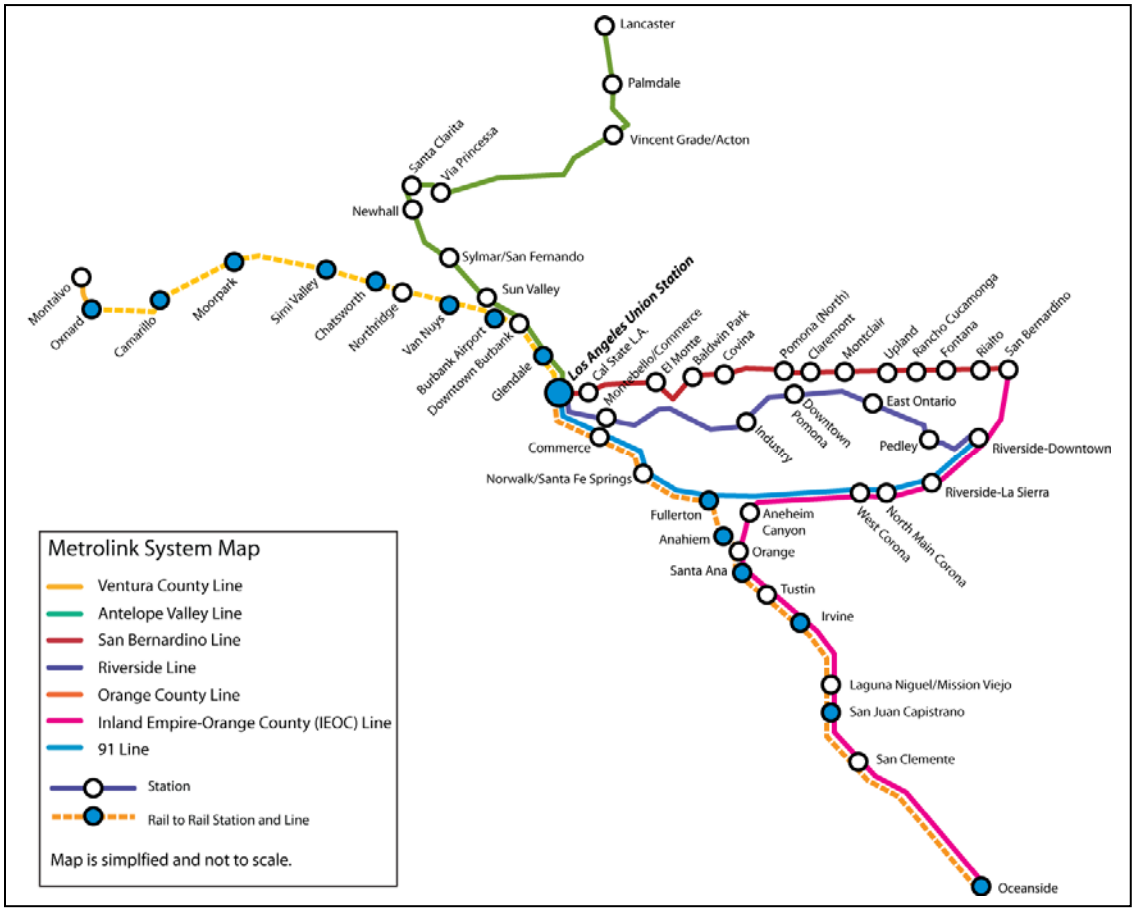
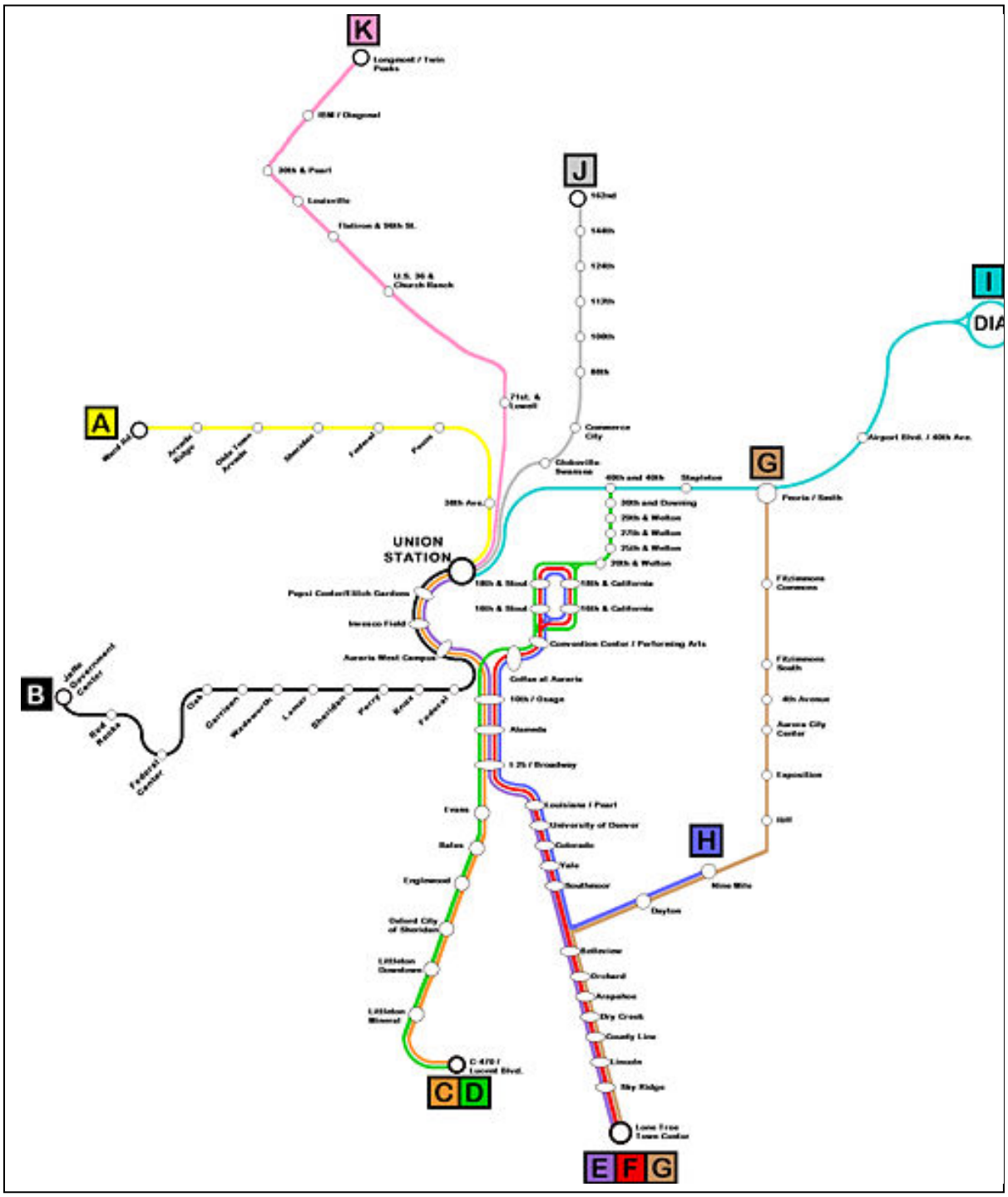


Figure 8: Denver FasTracks System Map



CRSG Review Process

The three scenarios were organized for review by the CRSG to provide a range of options for consideration. Table 1 summarizes the scenarios along with similar examples from peer cities.

Table 1: Commuter Rail Implementation Scenarios

Scenarios	Definition	Examples
1) Get Started (one corridor)	▪ Single Corridor ▪ Less complex railroad Coordination ▪ Lowest cost of entry ▪ More simple approach to Governance/Administration/Funding	▪ NorthStar Commuter Rail ▪ Trinity Railway Express *Summary-* Northstar is experiencing implementation costs of $307 million or about $8 million per mile (2007) Trinity Railway Express Implementation costs of $70M or $10M/mile (1995-1996) included vehicles, 3 stations, track and signal upgrade and a maintenance facility. Implementation cost of $190M or $7.9M/ mile included vehicles, track and signal upgrades, expansion of maintenance facility and six stations. (1997-2001) (1984)
2) Starter System (multiple corridors)	▪ Multiple Corridors ▪ Lower cost of entry. ▪ Upgrade System Over Time ▪ Moderate level of Governance/Administration/ Funding if multiple jurisdictions participating	▪ Salt Lake City Commuter Rail ▪ The Virginia Railway Express (VRE) *Summary-* Implementation costs for Salt Lake City to Ogden line of $410 million or $10 million per mile (2007) Implementation costs for VRE $10-$20 per mile for double track right of way (1992)
3) Regional System (entire system)	▪ Multiple corridors ▪ System operation would be more costly ▪ Complex in regards to Governance/Administration/ Funding.	▪ Metrolink-Southern California Commuter Rail ▪ Denver FasTracks transit expansion program *Summary-* Implementation costs for Metrolink $10-$20 million per mile for leased or purchased right of way (1992) Implementation costs for Denver FasTracks will be about $20 million per mile (2005)

Source: URS, 2007

Conceptual Operating and Cost Characteristics

To help define the three scenarios further, conceptual operating and cost characteristics were identified and are explained in Table 2 below. The conceptual operating characteristics would range from five trains per peak period in peak direction along a single corridor for the Get Starter scenario to 20-minute service in each peak period in peak direction along three or more corridors for the Regional System scenario.

Ridership capacity is based on the capacity for a bi-level rail car and estimates riders per day. Daily ridership capacity could range from 10,100 riders per day in one corridor for the Get Started scenario to 47,000 riders per corridor and about 141,000 total daily riders for the Regional System scenario.

Potential annual vehicle miles of travel saved per year were also estimated to provide a level of impact that a commuter rail system may have on the region. Vehicle-miles of travel (VMT) saved per year could range from 60 to 65 million VMT saved per year for the Get Started scenario to about 800 to 900 million VMT saved per year for the Regional System implementation scenario.

Conceptual capital costs were also estimated for the three scenarios and could range from $50 million to $400 million for moderate facilities to $1 billion to $2 billion for moderate to substantial facilities. Using results from other systems, operating cost subsidy's would typically range from 50% to 65% of operating cost for the Get Started scenario to less than 50% of operating costs and additional capacity at low incremental cost for the Regional System scenario. A more detailed operating and cost characteristics that identify the investments in capital development, requirements for operating and maintenance costs, and more precise ridership estimates will need to be developed in future studies.

Table 2: Implementation Scenario Conceptual Operating and Cost Characteristics

Scenario	Operations	Daily Ridership Capacity (1)	Potential Annual VMT Saved	Conceptual Capital Costs	Operating Cost Subsidy
1) Get Started	Single Corridor with Minimum Service: ▪ 5 trains per peak period in peak direction ▪ 1 reverse commute trip each peak period ▪ 1 mid-day trip ▪ 1 evening trip ▪ 4-car trains	10,100 riders per day in one Corridor	Savings of 60 to 65 million vehicle-miles of travel saved per year.	Minimum Facilities: ▪ $50 M to $400 M ▪ Operating lease for railroad right-of-way	Typically 50 to 65% of operating cost
2) Starter Service	Two Corridors with Minimum Service: ▪ 5 trains per peak period in peak direction ▪ 1 reverse commute trip each peak period ▪ 1 mid-day trip ▪ 1 evening trip ▪ 4-car trains	10,100 riders per day per Corridor; 20,200 total daily riders	Savings of 125 to 130 million vehicle-miles of travel per year.	Moderate Facilities: ▪ $400 M to $800 M ▪ Limited purchase of some railroad right-of-way	Typically 50 to 65% of operating cost; will decline with more trains/ ridership
3) Regional System	Three Corridors with Moderate Service: ▪ 20-minute service in each peak period in peak direction; ▪ 40-minute reverse commute each peak period; ▪ Hourly service mid-day and weekends ▪ 5-car trains	47,000 riders per Corridor; 141,000 total daily riders	Savings of 800 to 900 million vehicle-miles of travel per year.	▪ Moderate to substantial facilities with double track ▪ $1 billion- $2 billion ▪ Could include purchase of railroad right-of-way	Typically less than 50% of operating costs; additional capacity at low incremental cost

Notes-(1) Ridership capacity is number of seats per typical bi-level rail car.
URS; 2007

Project Goals and Objectives

During the development of the MAG Commuter Rail Strategic Plan, Commuter Rail Stakeholders and the project management team, comprised of staff representatives from ADOT, METRO, and RPTA, developed goals and objectives for the project.

The following goals served as guiding principles for the MAG Commuter Rail Strategic Plan.

Goal 1- Employ Commuter Rail to Shape Regional Growth

- Objective 1: Reinforce multi-centered development
- Objective 2: Stimulate economic development
- Objective 3: Spur development in Urban Centers

Goal 2-Improve Transportation Mobility Opportunities by Implementing Commuter Rail

- Objective 1: Provide multimodal travel options in congested travel corridors
- Objective 2: Provide peak period alternative mode to help minimize future vehicular congestion
- Objective 3: Serve regional trips, as well as trips between and within major activity centers
- Objective 4: Maintain or improve travel times within existing and planned activity centers

Goal 3-Provide a Seamless and Cost Effective Commuter Rail Option

- Objective 1: Utilize existing land and railroad right-of-way
- Objective 2: Utilize available as well as new funding sources
- Objective 3: Minimize capital and operating costs
- Objective 4: Plan integrated corridors

Goal 4-Promote Sustainability through the Implementation of Commuter Rail

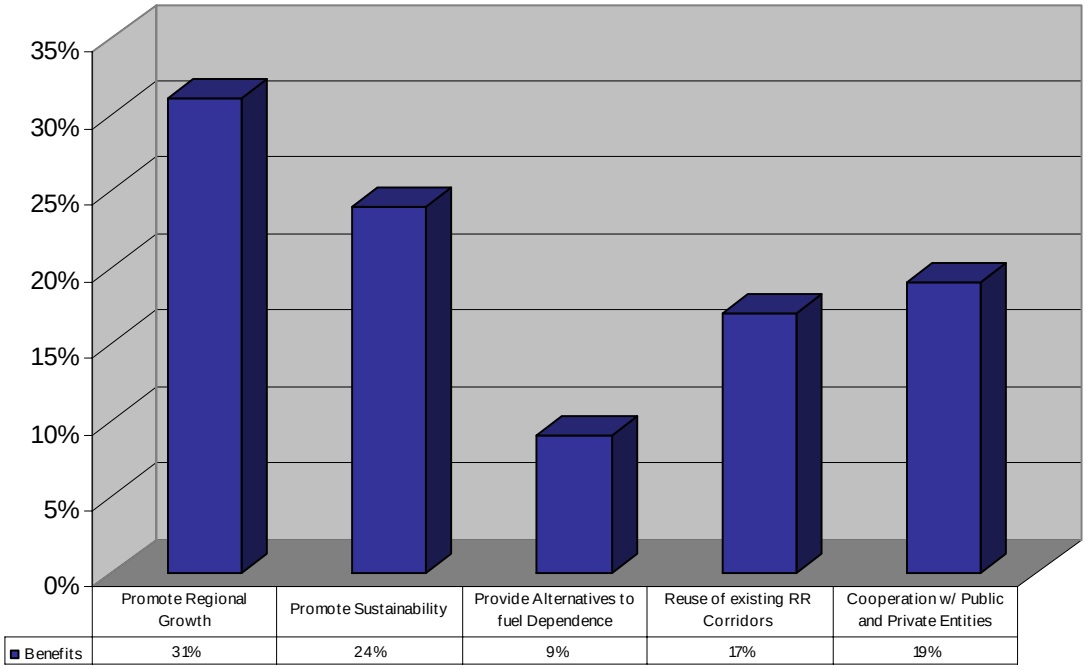
- Objective 1: Maintain or improve regional air quality
- Objective 2: Develop transportation projects that help focus developments near activity centers
- Objective 3: Provide a dependable long-term transportation solution in critical corridors

Goal 5-Increase Public/Private Cooperation to Implement Commuter Rail

- Objective 1: Foster public/private partnerships
- Objective 2: Educate and inform the public
- Objective 3: Provide public and private sector funding options
- Objective 4: Develop local and regional support for commuter rail

The CRSG were asked to rank the identified commuter rail goals/benefits listed above at the final CRSG workshop. Among the individuals surveyed, approximately one third indicated the greatest benefit for brining commuter rail in to the region would be to help shape continued regional growth of population and employment. The survey results indicate that sustainability is an important aspect to the benefits of commuter rail with 24% of respondents in support for this benefit. Figure 9 below demonstrates the commuter rail benefits that were identified by the CRSG as being the most beneficial aspect of employing commuter rail in the Maricopa and Pinal Region.

Figure 9: Summary of Survey Results
Commuter Rail Benefits



The three commuter rail implementation scenarios were evaluated against the Commuter Rail Program Goals and Objectives that were developed by the Commuter Rail Stakeholders Group to provide comparisons and guidance concerning acceptable implementation steps. The first scenario, Get Started, would help to shape growth locally in one corridor and would offer improved mobility options. This scenario would require the least investment of the three scenarios; however a seamless commuter rail option for larger trips throughout the region would not be achieved. Public/private cooperation with one railroad would be increased and some focused opportunities for joint development in the corridor would arise.

The second scenario, Starter System, would moderately help to shape growth locally and would improve mobility options during peak periods in two corridors with mobility improvement at a regional level. This scenario would require significant investment

but would offer through-routing of trains and connections to other transportation modes. The Starter System would provide significant reductions in vehicles miles traveled and associated savings of energy and air pollutant emissions. Public/private cooperation would be required with two railroads and would offer some opportunities for joint development in corridors.

The Regional System scenario would have the most significant results in helping shape growth at a regional level and would provide significant congestion relief by improving overall mobility options throughout the region. This scenario would offer connections to other transportation modes in many different locations but would require substantial investment. Savings of energy and air pollutant emissions would help promote sustainability at a regional level. Public/private cooperation would be required with multiple railroads and would offer many opportunities for joint development of projects.

Table 3 provides a comparison of the three commuter rail scenarios and the identified MAG commuter rail goals.

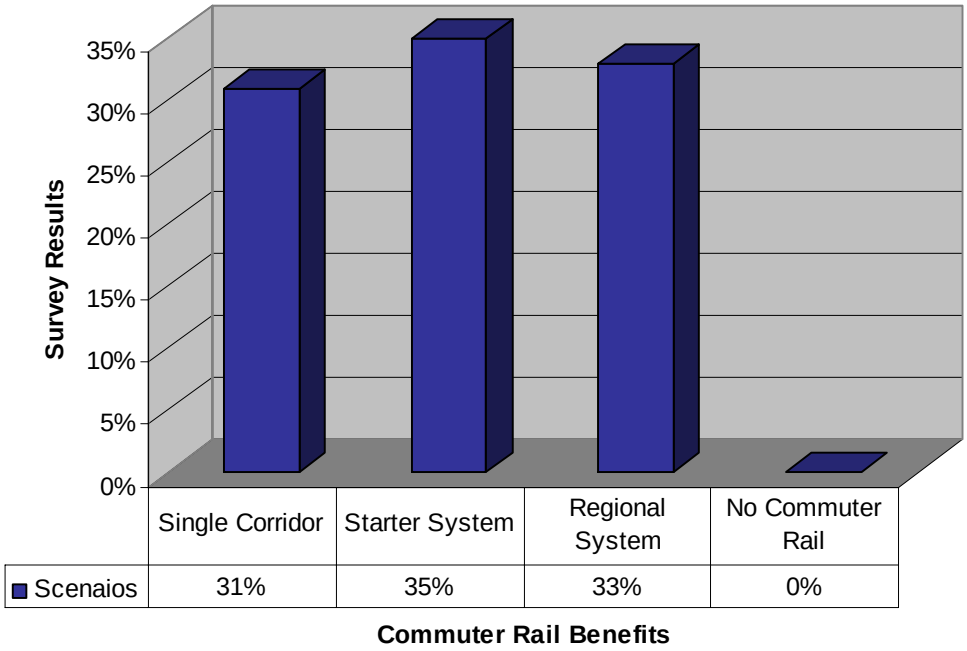
Table 3: Example Scenarios Evaluated Against MAG Commuter Rail Goals

Scenario	Goals				
	Employ Commuter Rail to shape regional growth	**Improve Transportation Mobility Opportunities by Implementing Commuter Rail**	**Provide a seamless and cost effective commuter rail option**	**Promote Sustainability through the implementation of commuter rail**	**Increase Public/Private cooperation to implement commuter rail**
1) Get Started	Limited; would help to shape growth locally in one corridor.	Would improve mobility options during peak periods in single corridor.	Requires least investment for single corridor, however a seamless commuter rail option would not be achieved; connections to other modes would be offered.	Provides some reduction in Vehicle Miles Traveled (VMT) indicating savings of energy and air pollutant emissions.	Would increase public/private cooperation with one railroad and would offer limited opportunities for joint development in corridor.
2) System Starter	Moderate; would help to shape growth locally within two corridors and would help provide increased access to central areas.	Would improve mobility options during peak periods in two corridors with some improvement at regional level.	Requires significant investment but offers through-routing of trains; connections to other modes would be offered.	Provides significant reduction in VMT and associated savings of energy and air pollutant emissions to promote sustainability in corridors..	Would require agreements with two railroads to increase public/private cooperation and would offer some opportunities for joint development in corridors.
3) Regional System	Significant; would help to shape growth at a regional level within multiple corridors and would help provide increased access to more development in central areas.	Would improve mobility options during peak periods and throughout the day and evening in multiple corridors for significant congestion relief at regional level.	Would provide the most seamless system offering connections to other modes in many locations; requires substantial investment.	Provides substantial reductions in VMT and associated savings of energy and air pollutant emissions to promote sustainability at regional level	Would require agreements with railroads, may require public participation in railroad operations to increase public/private cooperation and would offer many opportunities for joint development of projects.

URS; October, 2007

The three commuter rail implementation scenarios, described above, were presented to the Stakeholders at the final CRSG workshop. The Stakeholders were asked to choose an implementation scenario that would best suit the region. The results indicate that there were subtle differences between the three scenarios with 31% in favor for a Single Corridor, 35% in favor for a Starter System and 33% in favor of a Regional System. Figure 10 illustrates the CRSG survey results.

Figure 10: Summary of CRSG Survey Results-Implementation Scenarios



Source: CRSG, 2007

Maricopa Association of Governments
Commuter Rail Strategic Plan

Working Paper #3
MAG Commuter Rail
Railroad Coordination, Governance, and Funding

Final

January, 2007

Table of Contents

List of Figures

List of Tables

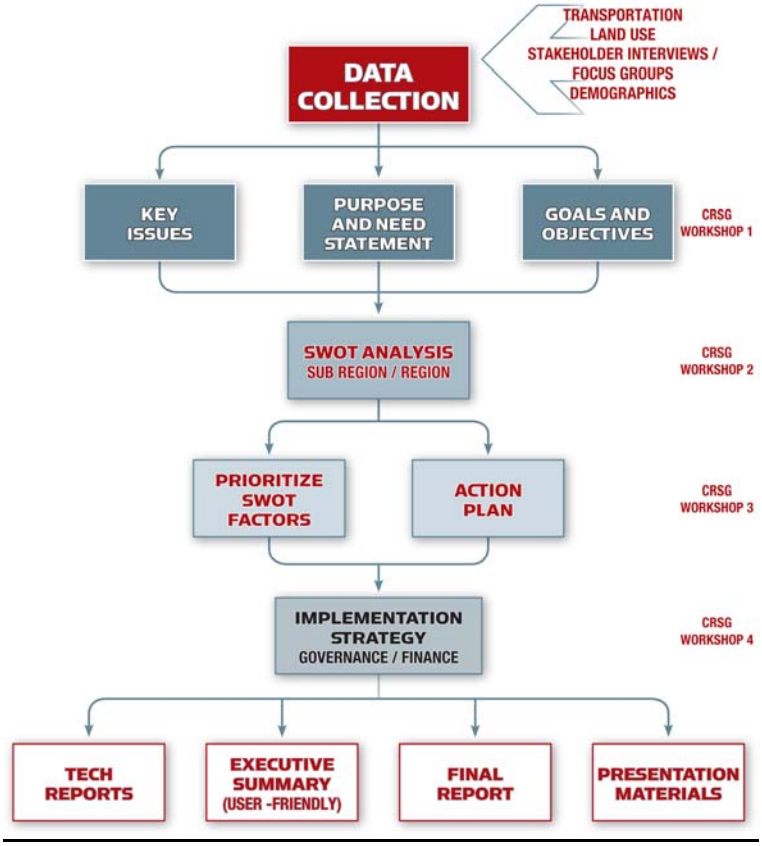
1.0 Introduction

The Maricopa Associations of Governments (MAG) has been actively exploring potential options for enhancing the longer-term economic vitality of the county and the mobility and well-being of its citizens. MAG further recognizes that commuter rail corridors may potentially serve a critical function in addressing future travel needs in the region. There are several challenges involved with implementing commuter rail in the region including: Railroad Coordination, Governance, and Funding. This working paper identifies strategies to address theses challenges.

1.1 Overview of the Planning Process

The planning process for the MAG Commuter Rail Strategic Plan began in February 2007 and will be completed by February 2008. Several individuals have contributed to the development of the plan and include Maricopa Association of Governments (MAG) the Commuter Rail Stakeholders Group (CRSG), staff representatives from Arizona Department of Transportation (ADOT), METRO, and Regional Public Transportation Authority (RPTA); members of the consultant team. The CRSG consists of public and private agencies and entities with an interest in transit and those involved in past transit studies. The CRSG meet a total of four times throughout the planning process and helped to identify opportunities and threats of commuter rail and developed action plans to identify strategies to implement commuter rail in the region. Figure 1 illustrates the commuter rail strategic planning process.

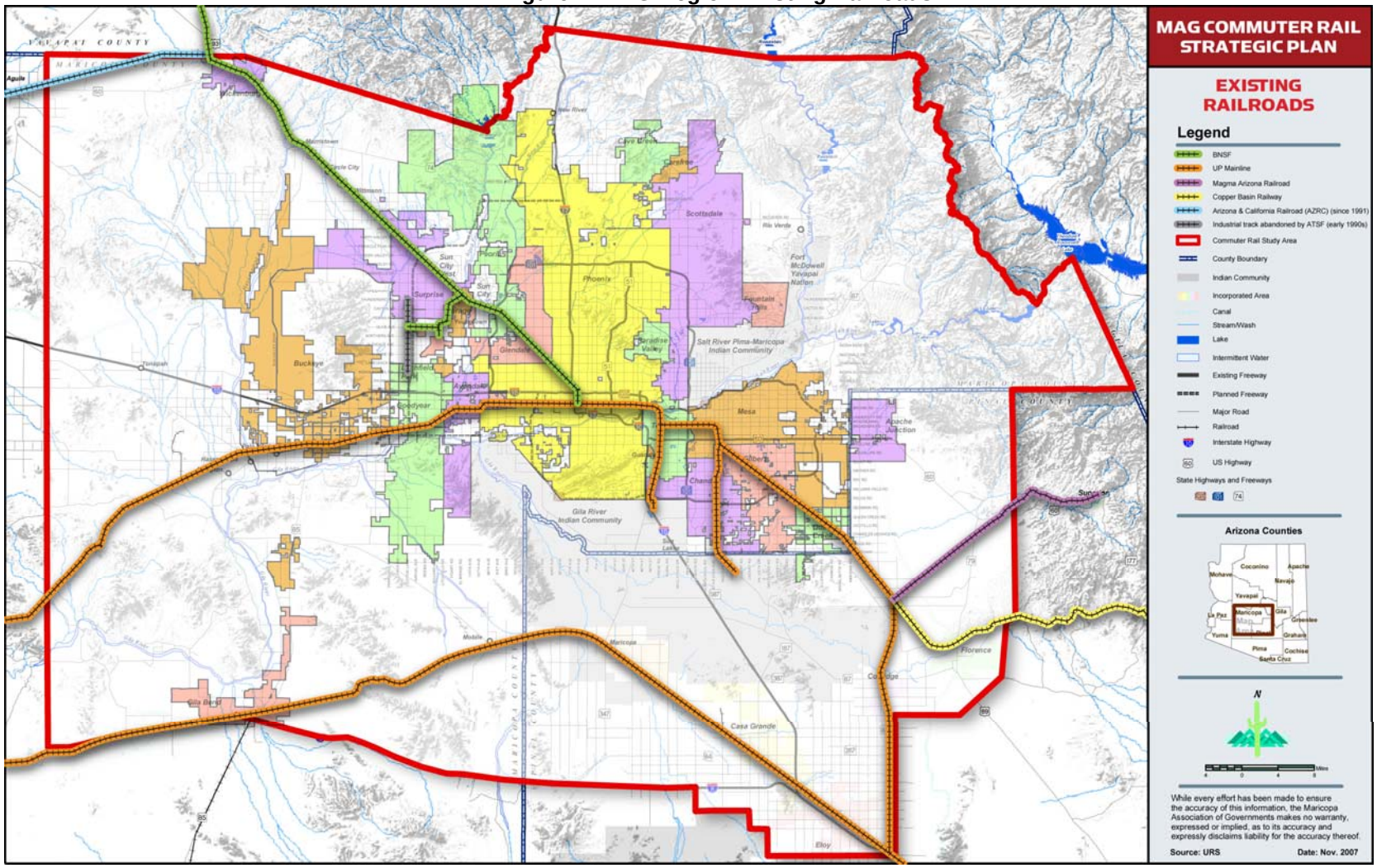
Figure 1: Planning Process



1.2 Study Area

The MAG region consists of Maricopa County and northern Pinal County. Currently, three operational railroads exist in the MAG region. These railroads include the Burlington Northern and Santa Fe Railway (BNSF), the Union Pacific Railroad (UP), and the Arizona and California Railroad (ARZC). As of 2003, the BNSF maintained approximately 70 miles of active track in the MAG region, while the UP maintained a total of approximately 180 miles of active track, and the ARZC maintained a total of about 27 miles of active track.

Figure 2: MAG Region-Existing Railroads



1.3 Organization of This Report

Three critical elements including: Railroad Coordination, Governance, and Funding are required to implement commuter rail. This working paper discusses each of these areas and the challenges involved with implementing commuter rail in the region. To begin with, the report discusses railroad coordination and provides strategies on how to negotiate with the railroad companies that own the corridors to either obtain access or to purchase the corridor. This section also discusses the railroad access agreements that will be needed and the differences between Sale Agreements and Capacity Agreements.

Governance is another critical element for the implementation of commuter rail in the region. The second element of this report provides discussions on governance models from other regions and then reviews existing and possible governance structures for the Maricopa/Pinal region.

Funding is the last topic discussed in this working paper. This section identifies local, regional and federal funding mechanisms, funding mechanisms used by existing systems, and possible funding options for governments at local, state, and federal levels.

2.0 Railroad Coordination

Passenger Rail Authorities (PRA), similar to what would be needed in Arizona, seeking to implement passenger rail service on existing railroad corridors must come to an agreement with the railroad that owns the rail corridor for access to or purchase of the corridor.

Light rail service that is planned in an active rail corridor is typically implemented on separate tracks constructed in the rail corridor with a minimum specified distance between the centerline of the freight and light rail tracks (typically 25-40 feet). Light rail systems share the corridor, not the track.

Commuter rail service normally utilizes vehicles that can safely operate on the same tracks and during the same time frames as freight. Therefore, commuter rail systems normally share track. Commuter service is the likely service mode that is being examined in the MAG Commuter Rail Strategic Plan Study for Phoenix area corridors, so a beneficial first step in railroad coordination efforts is an examination and understanding of commuter rail access agreements.

2.1 Railroad Access Agreements

Railroad access agreements between a PRA and a railroad fall into two broad categories: *Sale Agreements* and *Capacity Rights Agreements*. Sale Agreements involve outright sale of the corridor to the PRA. Capacity Agreements involve sale by the railroad to the PRA of a right to run a specified number of passenger trains, or commit the railroad to providing a specific window for commuter rail service.

This capacity right can be expressed as a real estate interest such as a lease or easement, or be expressed as a contractual, or license right. All railroad access agreements are lengthy documents covering hundreds of issues. Many provisions are similar to those found in any purchase agreement, e.g., deed form, title, closing conditions, etc. Issues especially noteworthy in railroad Sale Agreements and Capacity Rights Agreements, together with a brief exploration of the provisions in these agreements are outlined below.

2.1.1 Sale or Capacity Right?

The first step in negotiations with a railroad is to agree on what type of agreement is possible. A PRA and the railroad will likely enter into Sale Agreements only when the rail line involved is a light or moderate density (density refers to the number of trains operating on the corridor) branch line or a light density secondary main line that does not figure prominently in the railroad's current or future operations.

A branch line is a line that "branches" off a main line and serves only local freight customers on the line. Branch lines typically have no major rail yards. No through or overhead freight traffic moves on a branch line. Some branch lines have a very high level of traffic, based on the customers located on the line, or serve very important rail freight sites such as coal mines, coal fired power utilities, automotive plants, quarries, etc. Many branch lines are leased to a railroad short line and the short line railroad handles the local distribution of rail freight to customers located on the branch line under a contract with the main line railroad. There are hundreds of short line railroads in the United States.

Main lines are the rail lines that handle a much greater volume of traffic, with both local freight service and overhead freight service utilizing the line. Major rail yards are located on main lines and main lines may be considered the Interstate Highways of a railroad's rail freight network. Where, mostly through mergers or other consolidations, roughly parallel lines or routes are available, one route may be referred to as a secondary main line. Secondary main lines handle a reduced volume of traffic, may be maintained to a lower operational standard and serve to provide alternative or relief routings to the nearby main line. Main lines are engineered and maintained to a higher standard than branch or secondary mains.

Because of the critical nature and strategic importance of main lines, railroads zealously protect the control and capacity utilization of these critical assets, and never sell the corridor to a PRA. Branch lines may be sold to a PRA, depending on the individual requirements and needs of the PRA and the railroad. A railroad will not likely sell a branch line if a major rail facility or customer (e.g. coal mine) is located on the line. A secondary main line may also be sold, provided the line is not likely to increase dramatically in importance for the railroad in the future.

Sale Agreements

Compensation

The amount a corridor will sell for is a product of many factors, and is established by negotiation between the parties. FTA has acknowledged in the past that rail corridor value is often established by extended negotiation and real estate appraisals based on land values are not the sole determative of the corridor value. A rail corridor scheduled for abandonment with no apparent public use may sell for a few thousand dollars per mile, or remain vacant for years. A similar corridor identified as a future passenger rail line may sell for millions of dollars per mile. Part or all of the compensation agreed to by the parties is often the expense the railroad must incur to free up the line for sale. This often includes new rail yard acquisition and construction, new or rebuilt rail connections to other rail lines, or even new or rebuilt bypass routes. Compensation discussions are typically held in the strictest confidence by all parties.

Level of Service

The level of planned passenger rail service, i.e., the number of trains that may operate during a given period of time, is usually a critical factor in the decision to purchase a rail line, rather than receive the right to operate a specified number of trains. With the purchase of the line, a PRA usually receives much more latitude to schedule and operate as many trains as the rail infrastructure can handle. With a purchase the PRA becomes the owner of the line and of course is therefore able to exercise much more control of the asset.

Rail Freight Rights

One aspect of ownership that normally does not transfer to the PRA is the rail freight rights. The railroad will normally retain the right and obligation to serve rail freight customers on the corridor. The right and obligation to provide freight service is regulated by the Surface Transportation Board (STB), formerly the Interstate Commerce Commission (ICC). This retained right is usually styled a "common carrier easement", and gives the railroad a real estate, contractual, and regulatory right and obligation to continue providing rail freight service. This common carrier obligation could transfer to the PRA, but few, if any, public entities want o be burdened with the obligations and regulatory entanglements of freight rail

responsibilities. The common carrier responsibilities may however, be transferred at closing, or soon thereafter to a short line railroad.

Capacity Improvements

Unless no local customers are located on the rail line to be sold and no overhead rail traffic moves on the line, the railroad always has the continuing need to provide freight rail service. In these circumstances, before agreeing to the sale, the railroad will insure, through the sale agreement, that the PRA is obligated to either design and construct specified track and signal improvements to increase capacity (such as double tracking or building additional passing sidings) or the PRA guarantees specified freight service standards (such as limited passenger windows,). In rare instances when the level of freight service is minimal and is not projected to ever significantly increase, the railroad may agree to a specified night time freight window. The railroad and PRA can also agree to both specified improvements and freight service standards. The amount of capacity of improvements and standards depend on: (1) the existing condition of the track and signal system; (2) the current and anticipated future level of freight service; and (3) the initial and future level of passenger service. In a sale agreement, however, the PRA does have more control over the capacity improvements that are necessary. The capacity improvements are also normally designed and built by the PRA, most typically by contractors working for the PRA. The PRA is expected to bear the full cost of all capacity improvements. It is important to remember that sale agreements typically only occur when the level of freight service is low or minimal.

Indemnification and Insurance

The railroads insist that, as a result of the sale and initiation of rail service, no additional risk or liability exposure is assumed by the railroad, even if the railroad is the negligent party. The railroad position is that there was no passenger rail liability exposure before service started, and there should be no exposure to the railroad in the future. In addition to strict liability provisions, multi $100 million dollar insurances coverages are required to be carried by the PRA, naming the railroad as an additional insured and covering the indemnity language in the agreement. Both major western carriers usually insist on at least a $200 million policy. These large Insurance limits are required even in states with much lower governmental immunity and governmental tax cap provisions. In some recent access agreements State law has had to be changed to allow these liability, indemnification and insurance provisions to be enforceable. The indemnification and insurance issues have always been critical for the railroads, but in light of recent accidents and liability exposure, these issues are even more important. For a small commuter rail start up operation, insurance costs can therefore be a sizable (over 25%) component of the cost of operations.

Maintenance and Dispatch

The sale agreement may provide that maintenance responsibility for the corridor also transfers to the PRA. If maintenance does transfer, standards or requirements for track condition (including minimum FRA classification) that must be met by the PRA are negotiated. Once passenger rail operations begin, the minimum track conditions for passenger service will normally be more than sufficient for freight operations, but service will not likely start immediately, and passenger service may not operate on the entire length of the rail corridor purchased. After passenger service is operating, the railroad's contribution for maintenance is usually a small percentage of the overall maintenance cost.

If maintenance remains with the railroad, then the standards the railroads must meet are included, along with the compensation the PRA must pay the railroad for the work done.

Because maintenance standards are higher for passenger service, the PRA bears a very high percentage of the maintenance cost.

Dispatch of the line is often handled separately from maintenance, and, more often than maintenance, may remain with the railroad. In either case, dispatch protocol (what train has priority) is negotiated, as well as compensation for dispatch services is negotiated.

Environmental Conditions

As with any transfer of property, the condition of the property and responsibility for environmental clean-up is a critical issue in the purchase of railroad property. Rail corridors and rail yards have typically been in heavy, nineteenth century industrial use for 100 years or longer. This rail use predates most all environmental monitoring and other current practices that mitigate impact to the environment. Just as in liability issues, railroads seek to avoid as much responsibility as possible for environment clean-up after a sale to a PRA. As part of the sale agreement the railroads and PRA usually agree to a due diligence period prior to closing on a rail line sale and the PRA may conduct a Phase I and often Phase II environmental assessments. Because a rail corridor is long, narrow and often difficult to gain easy access to, environmental assessments can be challenging. The sale agreement often just allows the PRA to not consummate the transaction if severe environmental conditions are encountered. Rail yards, because of the intensity of industrial activity, may be an especially environmentally sensitive area, and much attention is given these areas in the purchase of railroad property. It may be possible to negotiate agreements with the railroads, the PRA, and the applicable environmental monitoring agency to limit environmental clean up requirements if the corridor continues to stay in only railroad use.

The PRA must obtain any environmental clearance necessary to construct and operate the passenger service. Noise and vibration issues are frequently raised, and with the recent FRA regulations on train whistles and quite zones, implementation of quite zones become the responsibility of the PRA.

Train Operation

In sale agreements, the selling railroad does not contract to operate the passenger trains. The PRA normally issues a Request for Proposals (RFP) for a third party to operate and maintain the trains.

Capacity Rights Agreements

Compensation

Because the PRA is not acquiring the line, but rather is only acquiring the right to operate a specified number of trains, the compensation discussions with the railroad are actually much more complicated than in a Sale Agreement. Determining an appropriate “value” to assign to the right to operate the first, second, third, etc. round trip passenger rail train is difficult at best. The reference here to the cost for the “right” to operate a train is separate from the actual operating cost (fuel, engineers, conductors, etc.) to run the train. A PRA usually asserts that much of the compensation that flows to the railroad is associated with the publicly funded infrastructure improvements (track, signals, etc) that are required to operate passenger rail service. These infrastructure improvements are of course also utilized by the railroad in its operations. Although a significant part of the compensation to the railroad is the value of the track and signal improvements, railroads frequently contend, with

justification, that the improvements, albeit useful, would not be necessary but for the introduction of passenger rail service.

Level of Passenger Service

The level of planned passenger rail service in a Capacity Rights Agreement is much more scrutinized by the railroad than in a Sale Agreement. Recall, Capacity Rights Agreements usually occur on rail lines that handle significant or important rail freight service. The number of trains operating and the time of days those trains operate is the determining factor in the track and signal improvements necessary to implement passenger service. Typically the railroad is not content to surrender the corridor to exclusive passenger service during the peak rush hour period. The planned passenger schedule is combined with the existing level and timing of freight use to test the capacity of the existing infrastructure to handle all the trains, with the peak period obviously being the crucial period. To this initial service, reasonable expansion of both freight and passenger service if further added to determine what additional facilities will be necessary in the foreseeable future. It is this expanded service level and track capacity that railroads insist the PRA fund and build at the outset.

These factors compel all parties to devote much time, money and resources into clearly identifying the level of anticipated passenger and freight service likely or possible on the corridor, and designing improvements to handle that level of service. Railroad capacity modeling is a technique frequently used by PRAs and the railroads to help determine the appropriate track and signal improvements. This issue, together with the capacity improvements necessary to support the service, are the battleground of most capacity right access negotiations.

Capacity Improvements

This issue is closely linked to the previous issue. Based on the level of passenger and freight use, track, signal and other improvements are negotiated and agreed upon. More so than in a Sale Agreement, the capacity improvements the railroad requires in a rights agreement are critical. This is because a sale only occurs when the freight use of the line is at a low level (either because the line is in a light or moderate density branch line or is a secondary main line) and is being utilized at much less than capacity. When the PRA is acquiring rights to operate a specified number of trains, the rail line has significant use already and the improvements necessary to operate the trains are therefore of utmost importance.

Railroads are extremely cautious about allowing passenger service to commence without all the facility improvements agreed to as necessary to handle increased passenger and freight volumes completed. Three factors lead the railroads to take this position. First, assuming the existing rail infrastructure could accommodate some initial level of freight and passenger service, if the railroad allows service to begin and freight needs increase, the railroad understandably does not want to be in the position of having to fund itself the cost of the additional capacity needed- capacity that was previously available, but was consumed by the introduction of passenger service. Second, if the existing infrastructure needs expansion and/or improvement prior to the start of passenger service, and those improvements are made, the least costly capacity improvements will naturally be constructed first. If freight needs subsequently increase, the railroad does not want to be in the position of building the more costly second round of capacity improvements at the railroad's expense. Third, railroads do not accept a RPA's agreement or pledge to fund future improvements if needed, or to limit its request for passenger service to only the initial service levels. Experience has shown that, once service is introduced and is successful, the public has an

insatiable desire for more commuter rail service. Any PRA has a difficult task in absolutely committing future governing bodies to expend funds. After all, those funds may need voter approval (e.g., bonds, new taxes) or outside approval (e.g., Federal FTA funds). From the railroad perspective, all improvements for the foreseeable future, if not in place, must at least be funded and irrevocably committed to be built.

Because the railroad still owns the line, most capacity improvements will be designed and constructed by the railroad, or by contractors working for the railroad. In most instances, existing railroad labor agreements require that railroad employees actually construct the improvements that tie into an existing railroad facility. Normally the agreement with the railroad contains cost estimates for all the capacity improvements, with the PRA responsible for any increases over the estimate.

Indemnification and Insurance

Regardless of the type of access agreement, railroads insist on the same provisions on insurance and indemnification.

Environmental Conditions

In capacity right agreements, the PRA does not take on all the risk of the environmental condition of the property. The railroad will insist, however, that any environmental clean up required as part of the construction of the capacity improvements be the financial responsibility of the PRA. Again, the railroad position is that “but for’ the passenger project, the clean up would not be undertaken.

The PRA must typically also obtain any environmental clearance for the capacity improvements necessary for the additional passenger service.

Maintenance and Dispatch

If the PRA purchases capacity rights, then the railroad will continue to maintain and dispatch the rail line. The standard of maintenance required for the speed and ride quality necessary for good passenger rail service is higher than that required for freight service. Accordingly, the agreement wilt detail the standard of maintenance required and set the cost paid for maintenance, or establish the method, or formula for allocating ongoing maintenance costs, Because the railroad use of the rail line is still significant, these allocation formulas more evenly split maintenance costs than in sale agreements, where railroad use is less significant.

The agreement will also establish the process to be followed for identifying future capital projects. These future capital projects include capacity improvements requested by either the railroad or PRA, as well as capital maintenance projects such as major tie replacement and rail relay programs. The allocation formula or method of allocating these capital replacement costs is weighted to emphasize the more demanding operating requirements of passenger rail systems.

Dispatch of the line will remain with the railroad. Dispatch protocol (what train has priority) is negotiated, as well as compensation for dispatch services is negotiated.

Train Operation

In Sale Agreements, the selling railroad does not contract to operate the passenger trains. In Capacity Rights Agreements, the PRA may elect to contract with the owning railroad to provide train and engine crews for operation of the passenger rail service. Sometimes the

owning railroad may insist that its crews operate any passenger trains that move on the railroad. If the railroad does provide crews, the agreement will detail the service needs of the passenger operations and establish the compensation for the PRA to pay the railroad for the train operations. Maintenance of the equipment is handled by a third party contractor procured by the PRA.

2.2 Commuter Rail Proposals

The UP's and BNSF's standard response to inquires about passenger rail service, in the Phoenix area or elsewhere, is that any proposal that satisfies the railroad's core business needs and improves the railroad will be considered seriously. Those core business needs are defined as: safety; protection of current freight rail customers; protection for through or overhead rail movements; protection against any and all increase in liability exposure; and guaranteed protection for capacity improvements for future freight rail business expansion.

Both railroads are, generally, aware of the desire of Phoenix area officials to utilize existing rail infrastructure for commuter rail service. The number of trains, origin and destination of trains, station locations, and other details are not known to any degree of specificity. Railroads always assume there ultimately will be a desire for a relatively high level of bidirectional passenger service, thus curtailing the railroad's current ability to operate the existing freight service. Railroad officials typically believe that the existing rail infrastructure could not support any meaningful level of rail passenger service and would therefore require upgrading at the expense of the PRA.

2.3 Next Steps

In the immediate future, it is recommended that the Phoenix area commuter rail advocates focus rail coordination efforts in three general areas: (1) unify all the individual rail efforts, so the region can speak with one voice to the railroads; (2) identify the likely passenger train service needs and the continuing freight service needs on the corridors and develop the infrastructure requirements to serve those needs; and (3) prioritize those corridors that appear to be most likely to combine good ridership, reasonable capital costs, and low to moderate impact on the railroads. The prioritization process would be very similar to the process used in the MAG High Capacity Transit Study, 2003, where identified corridors were evaluated using a measure of ridership and project cost effectiveness. The Benefit Cost analysis, like the cost effectiveness calculation, reflects the relationship between ridership and costs. However, the results of the Benefit Cost are in inverse relation to those of the cost effectiveness calculation. The Benefit Cost figures are designed to act as a check against the cost effectiveness ratings received by each of the potential corridors and to assist in recommendations for phasing and prioritization. It is important to recognize that the key additional factor at work in the Benefit Cost analysis is the level of roadway congestion forecast for the competing arterial or freeway segment.

Unify Efforts

In interacting with the railroads most regions suffer from a lack of focus and common understanding or agreement on needs, goals, and methods to achieve the desired outcome. At the minimum, a railroad is asked to respond to multiple entities or groups on any given issue, questions or suggestion. Often the railroad is responding to multiple individuals from the same organization, from high level policy makers to technical staff. Most successful projects and certainly the best agreements, are negotiated with the public represented by a

core group empowered to negotiate on behalf of the project. Coordination should be addressed at both the higher policy and elected official level and the staff level.

Identify Corridor Capacity Improvements

Negotiation of an agreement with any railroad requires that the improvements necessary for passenger and freight be identified. A key element will of course be the number of passenger trains needed to address the anticipated ridership requirements on the corridor. Early estimation of these service levels, combined with the demonstrated local freight requirements, are necessary to determine generally the capacity improvements necessary. This issue may be an early threshold factor that identifies any fatal flaw in utilization of the corridor, such as the physical constraints in a corridor or high or critical levels of rail freight usage.

There are several areas local jurisdictions can consider when coordinating with capacity improvements including:

- Adjustments to land uses at station areas
- Adjustments at sensitive areas
- Coordination of grade crossing protection
- Preservation of freight access to commercial/industrial users
- Right-of-way preservation to reserve areas for stations, facilities, and alignment

Prioritization

Selecting a corridor or corridors to first implement commuter rail service is important to gain focus. Most successful projects either have only one corridor in play to start with, or when forced to choose, identify a corridor that combines three key elements: ridership, cost, and the ability to actually implement. The first two factors (ridership and cost) are typical in any transit project. The MAG High Capacity Transit Study outlined capital and operating and management costs in great detail. Ridership forecasts can be updated by MAG for current projections. The last factor, ability to implement, focuses on the likely impact to the railroad and the real world chances of obtaining a railroad access agreement. Many communities fixate on only the best transit option (ridership & cost) and ignore this third leg of the implementation stool. Although focusing on the best transit solution is understandable, the practical result is an impasse with an intractable railroad. In the final analysis, consideration of the railroad's position is absolutely critical and necessary in any commuter rail project, and the earlier those concerns are identified, acknowledged, and addressed the greater the likelihood and ease of success in obtaining a railroad access agreement. In order to negotiate an access agreement, the railroads will require the regional/local agencies to demonstrate the viability of the project through several features such as:

- Regional/local political agreement on commuter rail service
- Designations of funding for implementation
- Action toward resolution of legal issues including possible new legislations

The overall objective is to establish a comprehensive regional transportation system that is truly multimodal. Integration of different transit and roadway elements must improve travel time and efficiency to relieve congestion. Commuter rail would fulfill one role in the overall system and would ne integrated with other modes through studies, plans, and projects.

3.0 Governance

One of the recurring challenges or issues that must be resolved to implement commuter rail in the MAG region and northern Pinal County is the question of who will be the responsible party in advancing the concept beyond the Strategic Plan phase. A critical element is the administration of the system when the corridor passes through several jurisdictions.

It was clear in the responses from the stakeholders who participated in the Workshops that the commuter rail network should be completely coordinated with local and regional transportation systems. A "seamless" system that addresses the growth patterns that extend beyond the Maricopa County boundaries, thus serving the emerging regional trip patterns, is the goal.

3.1 Examples from Other Regions

There are several new commuter rail systems currently in operation or being considered across the country. From these networks there is a wealth of information and experience on which to draw for the analysis of possible governance structures. Table 1 provides an overview of the existing governance models that are in use in the New York, Boston, and Chicago commuter systems and now includes California, Florida, Washington, Virginia, Texas and New Mexico examples. The more mature systems are significantly larger in size than the newer ones, primarily because they have built ridership as the region has grown around them. Each has been a catalyst for successful service in corridors or in the region. Ridership has followed, growing steadily as the train became a preferred commuter option for new residents.

In many of these locations, commuter rail has been added after the regional urban form and transportation network has been established. This has required close coordination among regional and local jurisdictions, the railroads, private businesses, and residents in order to be successful. Regional agencies such as the Metropolitan Planning Organization (MPO) or the transit agency have often taken the lead in initiating this coordination.

Table 1: Existing Governance Models

SYSTEM	AGENCY	GOVERNANCE	TRACK MILES LENGTH	ANNUAL PASSENGERS
Anchorage	Alaska Railroad Corporation	State	46	96,000
Baltimore	Maryland Transit Admin	State	471	6.7 m.
Boston	MBTA	State	648	39.9 m.
Chicago	Northern Illinois Regional Commuter	Region	1144	67.7 m.
Chicago	Northern Indiana Commuter Transit District	Region	130	3.5 m.
Dallas	DART	Transit Agency	20	1.3 m.
Dallas	Fort Worth Transit Authority	Transit Agency	22	823,000
Hartford	Conn. Dept. of Trans.	State	106	399,000
Los Angeles	SCRRA	Single Purpose Agency	631	9.7 m.
Miami	Tri-Tail	Single Purpose Agency (JT Powers)	104	2.8 m.
New York	Metro-North	Region	802	72.3 m.
New York	Long Island RR	Region	701	96.2 m
New Jersey	NJT	State	1016	68.7 m.
Philadelphia	Penn DOT	State	144	235,000
Philadelphia	SEPTA	Regional Transit Agency	695	30.2 m.
San Diego	NCTD	Local Transit Agency	83	1.4 m.
San Francisco	JT Powers Board	Single Purpose Agency (JT Powers)	136	6.7 m.
Seattle	Sound Transit	Regional Transit Agency	146	955,000
Stockton	Altamont Commuter Exp.	Single Purpose	90	616,000
Washington D.C.	Virginia RR Express	State	190	3.4 m.

Source: Gannett Fleming, Sept 2007

3.2 Potential Governance Structures

The new / proposed systems have many different governance structures, just as do the established systems. The conclusion is that there is no one appropriate structure for governing a commuter rail system. Based on the decisions regarding governance, made in the most recent commuter rail projects, a set of responsibilities for the agency that manages the system has been developed. These responsibilities, set out in Table 2, illustrate the close working relationship with existing transit operators and the cities served by the network (for land use planning at stations).

Table 2:Typical Responsibilities of Commuter Rail Authority

• Provide a seamless transportation service;
• Coordinate with other transit providers regarding schedules, public information and integrated fare systems;
• Participate in priority setting in RTP process;
• Raise funds from a variety of sources including: fares, local/state/federal transit programs, private developers, etc.;
• Facilitate growth of the network and provide Transit options in off-peak periods;
• Develop long-range plans for system development;
• Coordinate with the private freight railways;
• Manage operations (often through contracts with private operators);
• Build ridership by encouraging development at stations.

Source: Gannett Fleming, Sept 2007

Generally, the institutional arrangements 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.

3.3 Existing Governance Structures

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, and the new Valley Metro Rail organization currently building the light rail project. In summary the institutional framework for transit consists of the following:

- **State of Arizona, Department of Transportation (ADOT):** The Transit Division has responsibility for planning major intercity rail initiatives and distributing federal funds to rural transit providers.
- **Maricopa Association of Governments (MAG):** The Regional Council is comprised of representatives from 25 incorporated cities and towns within Maricopa County and has responsibility for the Regional Transportation Plan (RTP) that would have to be amended to include commuter rail. MAG is the designated Metropolitan Planning Organization for the region to serve as the principal planning agency for region programming transportation funds.
- **Regional Public Transportation Authority/Valley Metro:** This organization was created in 1986 to manage transit investments on a regional basis. With the

approval of Prop 400, Valley Metro has increased the bus fleet and the service area substantially, including bus service to areas outside Maricopa County.

- **Valley Metro Rail (METRO):** This agency is charged with the design, construction and operation of rail transit services within the County. METRO is currently completing the first phase of the light rail project and planning for future extensions.
- **City Transit Systems:** Phoenix, Tempe, Scottsdale, Glendale and Mesa have local bus systems that are managed by City staff.
- **Pinal County:** This County is separate from the MAG region and has major influence on travel demand-based on population growth. Pinal County is currently developing their own transit plans and has actively participated in the development of the Commuter Rail Strategic Plan.
- **Joint Powers Agency-** A combination of two or more of the above entities to jointly plan, construct, operate and maintain a commuter rail service.

3.4 Possible Governance Structures

The options for an appropriate institutional structure for regional commuter rail, based on both the national experience and the local situation, are summarized below.
Raisin

- **ADOT:** possibly in conjunction with a state-sponsored high-speed rail connection between Tucson and Phoenix; and positioning for passenger rail service between Arizona and adjoining states, such as California and Nevada.
- **MAG:** expanding the charter of this agency to include the operation of commuter rail. This expansion would likely require a change in state law and the creation of an operational division of MAG.
- **A new Regional Commuter Rail Agency:** involving membership from both Maricopa and Pinal counties, focused on commuter rail; most likely would require participation.
- **Valley Metro:** expanding the mandate of this agency to include commuter rail with Board representation from Pinal County for example.
- **Valley Metro Rail:** building on the existing staff resources that are focused on rail services, METRO could expand the Board to include representation from cities on the corridors.
- **City Partnerships:** in order to move quickly in one corridor the Cities in the corridor could work together (through a joint powers agreement) to start a commuter rail line.

Defining appropriate governance structures would depend upon opportunities that arise for cooperation and use of railroad right-of-way. This could be for one commuter rail project or a series of projects. Each agency would have to participate in the process to define the appropriate structure.

4.0 Funding

The initial step to develop a funding implementation strategy is to gauge possible or probable funding options for governments at local, state, and federal levels. The policy positions of the involved agencies and possible implementation responsibilities should be thoroughly considered, as should those of other local entities included in the project area. Ultimately, the critical financial issue at the local level is the annual requirement for local funds to meet capital, operating, and maintenance costs.

The critical decisions that will determine the MAG Commuter Rail Strategic Plan's funding implementation strategy include:

- Government / Agency Roles and Responsibilities
- Definition of System Plan
  - Facilities
  - Operations
  - Phasing
- Funding
  - Federal
  - State
  - Local
- Public Commitment
- Railroad Coordination

4.1 Proposition 400 Enabling Legislation

Local transportation funding mechanisms can include any tax or fee presently authorized for local use (e.g., sales tax, property tax, service fees, fines and forfeitures, etc.). In practice, only the sales tax is employed as an exclusive transportation funding vehicle, such as the existing Maricopa County's half-cent sales tax program authorized by Proposition 400.

Proposition 400 was enabled by House Bill 2292 and House Bill 2456. These two pieces of legislation were enacted to guide the process leading up to the Proposition 400 election and establish the features of the half-cent tax sales extension. In addition to establishing guidelines for the MAG Regional Transportation Plan (RTP), such as evaluating the impact of growth on transportation systems and the use of a performance-based planning approach, House Bill 2292 identifies key features required in the final Plan, including a twenty-year planning horizon, allocation of funds between highways and transit, and priorities for expenditures.

4.1.1 Revenue Distribution and Firewalls

House Bill 2456 addresses the allocation of revenues from the collection of sales tax monies from January 1, 2006 to December 31, 2025, among the eligible transportation modes. In accordance with the legislation, the net revenues collected are distributed as follows:

- 56.2 percent to the regional area road fund for freeways and other routes in the State Highway System, including capital expense and maintenance.

- 10.5 percent to the regional area road fund for major arterial street and intersection improvements, including capital expense and implementation studies.

- 33.3 percent to the public transportation fund for capital construction, maintenance and operation of public transportation classifications, and capital costs and utility relocation costs associated with a light rail public transit system.

The legislation creates three "firewalls", which prohibit the transfer of half-cent funding allocations from one transportation mode to another. These firewall divisions correspond to the categories established for the distribution of revenues and include:

- Freeways and highways (including sub-accounts for capital and maintenance).

- Arterial streets.

- Public transportation (with sub-accounts for capital, maintenance and operations, and light rail).

4.1.2 Life Cycle Programs

The legislation required that the agencies implementing the regional freeway, arterial, and transit programs are to adopt a budget process ensuring that the estimated cost of the program of improvements does not exceed the total amount of revenues available. These "life cycle programs" are the management tools used by the implementing agencies to ensure that transportation program costs and revenues are in balance, and that project schedules can be met. Responsibilities for maintaining these programs are as follows:

- Freeway/Highway Life Cycle Program: Arizona Department of Transportation (ADOT)

- Arterial Life Cycle Program: MAG

- Transit Life Cycle Program: Regional Public Transportation Authority.

The life cycle programs develop a schedule of projects through the life of the half-cent sales tax, monitor progress on project implementation, and balance annual and total program costs with estimated revenues. The MAG Annual Report draws heavily on life cycle program data and other life-cycle progress documentation in order to assemble the Annual Report.

The Transit Life Cycle Program is maintained by the Regional Public Transportation Authority (RPTA) and implements transit projects in the MAG RTP. The Program meets the requirements of state legislation calling on the RPTA to conduct a budget process that

ensures the estimated cost of the Regional Public Transportation System does not exceed the total amount of revenues expected to be available. This includes expenses such as bus purchases and operating costs, passenger facilities, maintenance facilities, park-and-ride lot construction, light rail construction and other transit projects.

Although the RPTA maintains responsibility for the distribution of half-cent funds for light rail projects, Valley Metro Rail, Inc. (METRO), a public nonprofit corporation, was created to form a partnership among the cities of Phoenix, Tempe, Mesa and Glendale to implement the light rail transit starter system. The cities of Chandler and Peoria joined METRO in 2007. METRO is responsible for overseeing the design, construction and operation of the light rail starter segment, as well as future corridor extensions to the system.

4.1.3 RTP Enhancements and Material Changes

House Bill 2456 requires that any change in the RTP and the projects funded that affect the MAG Transportation Improvement Program, including priorities, be approved by the MAG Regional Council. Requests for changes to projects funded in the RTP that would materially increase costs are also required to be submitted to the MAG Regional Council for approval. If a local authority requests an enhancement to a project funded in the RTP, the local authority is required to pay all costs associated with the enhancement.

4.2 Regional Revenues for Transportation

The major funding source for the RTP is the half-cent sales tax for transportation that was approved through Proposition 400 as described in Section 2.0. In addition to the half-cent sales tax, other RTP sources are available which are primarily from State and Federal agencies. These revenue sources are described in this section, as well as their applicability and availability for funding of transit.

4.2.1 Half-Cent Sales Tax (Maricopa County Transportation Excise Tax):

On November 2, 2004, the voters of Maricopa County passed Proposition 400, which authorized the continuation of the existing half-cent sales tax for transportation in the region (also known as the Maricopa County Transportation Excise Tax). This action provides a 20-year extension of the half-cent sales tax through calendar year 2025 to implement projects and programs identified in the MAG RTP. The results of the Proposition 400 vote in Maricopa County dedicated approximately one-third of the half-cent sales tax at the regional level to mass transit. The current MAG RTP reflects this significant increase in transportation funding, with expanded transit plans and programs. The revenues collected from the half-cent sales tax extension are deposited into the Regional Area Road Fund (RARF), and allocated between freeway/highway and arterial street projects; and into the Public Transportation Fund (PTF) for public transit programs and projects. As described in Section 2.1, 56.2 percent of all sales tax collections are distributed to freeways and highways through the RARF; 10.5 percent are distributed to arterial street improvements through the RARF; and 33.3 percent are distributed to transit through the PTF. The use of PTF monies must be separately accounted for based on allocations to: (1) light rail transit, (2) capital costs for other transit, and (3) operation and maintenance costs for other transit.

The Commuter Rail Strategic Plan would be a reason for possible adjustment and expansion of the RTP, as well as part of future updates. Any changes to the RTP would be subject to the requirements of House Bill 2456 as described in the Bill at Section 2.3 RTP

Enhancements and Material Changes. New funds such as a sales tax extension or expansion would be required for regional commuter rail projects because all funds through 2025 have been planned for dedicated use on other transit projects.

As described in the MAG Draft 2007 Annual Report on the status of the implementation of Proposition 400 (MAG, 2007), future half-cent revenues for the period Fiscal Year (FY) 2008 through FY 2026 are forecasted to total $14.4 billion. Of the $14.4 billion total included in the current forecast, $8.1 billion will be allocated to freeway/highway projects; $1.5 billion to arterial street improvements; and $4.8 billion to transit projects and programs. ADOT will update the half-cent forecasts in the latter part of calendar 2007, taking into account recent slowing in revenue growth as appropriate.

4.2.2 Arizona Highway Users Revenue Fund (HURF)

The Arizona Department of Transportation is funded through two primary sources including the Highway Users Revenue Fund (HURF) and Federal transportation funds. The HURF is an allocation and programming accounting framework funded with motor fuel excise taxes, truck weigh-distance fees, vehicle registration fees and taxes, and other miscellaneous charges and fees. These funds represent the primary source of revenues available to the ADOT for highway construction and improvements and other expenses. HURF funds are allocated through a number of statewide, regional, and local programs. The MAG Region receives annual funding from ADOT in the form of ADOT 15 percent funds, which are allocated from the HURF. In addition, a 37 percent share of ADOT Discretionary Funds is targeted to the MAG Region. According to the Arizona constitution, HURF funds can only be used on highways and streets, therefore HURF funds cannot presently be used for transit purposes.

4.2.3 MAG Area Federal Transportation Funds

MAG fully complies with the requirements of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) as a metropolitan planning organization. SAFETEA-LU authorizes the Federal surface transportation programs for highways, highway safety, and transit for the 5-year period 2005-2009.

Funding authorized by SAFETEA-LU includes both formula and grant monies to be used at the discretion of states and metropolitan planning organizations, and earmarked funds for particular projects. SAFETEA-LU did not include a specific earmark for commuter rail in Maricopa County. Beyond earmarked funds, there are formula funds for highways, transit, and "flexible funds" which can be spent on a variety of transportation-related projects, including public roads and sidewalks, transit capital projects, and transportation enhancements, which encompass a broad range of environmentally related activities. Much of the funds available through the programs were anticipated by state and local transportation departments, and are likely to be committed to other projects. However, a number of states received more funding than was expected in their Transportation Improvement Plans and Long-Range Transportation Plans, so that uncommitted funds may be available from the SAFETEA-LU allocations. Since the passage of the Intermodal Surface Transportation Efficiency Act of 1991, the US Department of Transportation has permitted wide state discretion in assigning portions of "conventional" highway funds to the flexible funding pool, thus widening the funds potentially available for transit projects.

As described in the MAG Draft 2007 Annual Report on the status of the implementation of Proposition 400 (MAG, 2007), actual receipts from Federal sources totaled $55 million in FY 2006 and $73 million in FY 2007. The forecasted revenues for the period FY 2008 through FY 2026 total $5.5 billion.

Federal funds described in the following sections are anticipated for use on transit projects through 2025 as described in the RTP and the Transportation Improvement Program. Use of these funds for purposes of commuter rail could jeopardize funding for future light rail transit and bus projects.

Federal Transit (5307) Funds

These Federal transit formula grants are available to large urban areas to fund bus purchases and other transit capital projects. Purchases made under this program must include a 20 percent local match. This funding source is expected to generate $1.5 billion for transit development in the MAG Region from FY 2008 through FY 2026.

Federal Transit (5309) Funds

Transit 5309 funds are available through discretionary grants from the FTA and applications are on a competitive basis. They include grants for bus transit development and "new starts" of light rail transit and other high capacity systems. Bus transit development requires a 20 percent local match, while new starts are expected to require a 50 percent local match. These funds are granted at the discretion of the FTA, following a very thorough evaluation process. Over the planning horizon, it is estimated that $1.6 billion in 5309 funds for bus and rail transit projects will be made available to the MAG Region from the FTA, during FY 2008 through FY 2026. The total does not include the $587 million in 5309 funds for the 20-mile light rail starter segment, which has already been committed to the region. A new provision in the Section 5309 program known as "Small Starts" allows for streamlined criteria and funding process. In order to quality for Small Starts, total projects costs must not exceed $250 million with a maximum of $75 million requested from FTA under the program.

Federal Highway (MAG STP) Funds

MAG Surface Transportation Funds (STP) are the most flexible Federal transportation funds and may be used for highways, transit or streets. During the period from FY 2008 through FY 2026, it is estimated that $936 million will be available from STP funds. In addition to this amount, approximately $34 million per year has been allocated through FY 2015 to retire debt related to the Proposition 300 program.

Federal Highway (MAG CMAQ) Funds

MAG Congestion Mitigation and Air Quality (CMAQ) funds are available for projects that improve air quality in areas that do not meet clean air standards ("non-attainment" areas). Projects may include a wide variety of highway, transit and alternate mode projects that contribute to improved air quality. While they are allocated to the State, Arizona's funds have been dedicated entirely to the MAG Region, due to the high congestion levels and major air quality issues in the region. MAG CMAQ funds are projected to generate $1.1 billion from FY 2008 through FY 2026.

4.3 Statewide Transportation Acceleration Needs (STAN) Account

The STAN account is a new State program providing a new vehicle for directed funding of key transportation improvements. In its first year (FY 2007), $307 million was transferred to the STAN account from the State general fund. In FY 2008, $62 million was transferred to the STAN account from the State Highway Fund. Current legislation includes a new STAN subaccount: Roads of Regional Significance Congestion Mitigation (RRSCM).

STAN monies may only be used for (1) material and labor, (2) acquisition of rights-of-way for highway needs, (3) design and other engineering services, and (4) other directly related costs approved by the State Transportation Board for projects on the State Highway System. The STAN account would not be considered as a source of revenue for future commuter rail except in conjunction with highway improvements that may be directly related to the project (s).

4.4 Comparison of Commuter Rail Funding for Existing Systems

This Section provides an overview of transit funding as it is applied to commuter rail services in five separate state examples. It is important to note that in these examples, commuter rail may be one of several transit services provided by a particular operating authority and other sources of federal and state funding may contribute that are not outlined in these examples. For the purposes of this Commuter Rail Strategic Planning effort, it is important to consider both the future operating authorities for commuter rail as well as the dedicated funding source.

Dedicated funding is described by the FTA as a specific revenue source such as a sales or gas tax specifically for transit use and not subject to appropriations. According to data that is reported to the FTA, 23 of the 25 largest transit agencies in the United States have dedicated funding sources coming from multiple sources (GAO, 2006). Nationwide, dedicated local transit revenues are generated through a variety of sources, the most common being sales tax revenues. This is in contrast to overall state funding (not described in these examples) sources which typically include the general fund, gas taxes, and other sources. Table 3 provides an overview comparison of dedicated local transit funding and commuter rail facilities in five states.

Table 3: Sample Comparison of Commuter Rail Facilities and Dedicated Local Transit Funding

State/County	Operating Authority	Commuter Rail Facility	Dedicated Local Transit Funding (inclusive of all transit services provided by operating authority)
Colorado, Denver	Regional Transportation District (RTD)	FasTracks	Dedicated Regional Sales Tax; Federal Funding; Private Contributions
Utah: Weber, Davis, and Salt Lake	Utah Transit Authority	FrontRunner	Dedicated Local Sales Tax
Texas: Tarrant and Dallas	The Fort Worth Transportation Authority (The T)/Dallas Area Rapid Transit	Trinity Railway Express	Dedicated Local Sales Tax
California: San Diego	San Diego Metropolitan Transit System	The San Diego Coast Express Rail (COASTER)	Dedicated Local Sales Tax
New Mexico: Valencia, Bernalillo, and Sandoval	Rail Runner Express	Rail Runner	None (funded by the State of New Mexico)
Minnesota: Anoka, Benton, Hennepin, and Sherburne	Minnesota Department of Transportation (MnDOT) and the Northstar Corridor Development Authority	Northstar	Various dedicated funding for counties in Minnesota. Only 17% of Northstar construction costs from local governments/transit agencies.
Arizona: Maricopa and Pinal	Maricopa Association of Governments could be the lead agency similar to the structure in New Mexico	None	Dedicated Local Sales Tax

Source: URS, 2007

4.4.1 Denver FasTracks

Overview

Denver FasTracks expansion program is a public transportation plan for the Denver-Aurora and Boulder Metropolitan Areas. The regional system includes five new rail corridors of which four will be commuter rail. The plan calls for the build-out of the system by 2017 and includes 119 miles of rail transit. The project was funded through a combination of federal funding sources, private contributions, and a region wide sales tax. The region wide sales tax increase of 0.4 percent (4 pennies on every $10) was approved by Denver metro voters in 2004.

Applicability
Federal appropriations, private contributions, and a region-wide sales tax increase are all potential funding sources for future commuter rail service in Maricopa and northern Pinal Counties.

4.4.2 Utah: FrontRunner

Overview
The Utah FrontRunner is a 44 mile commuter rail system with eight stations that will operate between Salt Lake City and Pleasant View, Utah. The line is projected to open in April, 2008. The project was funded through a combination of local, state, and federal funding sources, including revenues from a dedicated local sales tax. The federal portion is provided through the Section 5309 New Starts program. The majority of the commuter rail line will operate on exclusive right-of-way with 38 miles of new track built and operated by UTA. Six miles of track from Ogden to Pleasant View is shared with Union Pacific. Future plans for expansion of this commuter rail line include an additional 45 miles of track and eight stations from Salt Lake City south to Provo. Operations for this future extension are expected to begin in 2012.

Applicability
Dedicated sales tax revenues are a likely funding source for potential future commuter rail service in Arizona. Both shared use of railroad track and purchase of railroad right-of-way are options for future commuter rail service in Maricopa and northern Pinal counties.

4.4.3 Texas: The Trinity Railway Express

The Trinity Railway Express (TRE) is a commuter rail service that is provided jointly by the Fort Worth Transportation Authority (the T) and Dallas Area Rapid Transit (DART). These two transit agencies are jointly funded through a combination of sales tax revenues generated in Tarrant and Dallas counties. The TRE currently operates along a 34-mile route with nine stations between Fort Worth and Dallas, Texas. The T is locally funded through half cent sales tax revenues that were approved in 1984. DART's local funding is generated through a one-cent sales tax revenue approved in 1983. Overall sales tax in the State of Texas is currently capped at eight and one-quarter percent. Initial planning and construction of the TRE was through a combination of local sales tax revenues from counties, CMAQ Funds, and use of the railroad corridor. The ex-Rock Island line that is currently used by the TRE was part of a joint purchase agreement by the cities of Dallas and Fort Worth in 1983 for $34 million. The Burlington Northern Santa Fe Railway and Union Pacific have rights to operate freight trains on the line with track maintenance provided under contract by BNSF Railway. Ridership on the TRE exceeds two million per year.

Applicability
Dedicated sales tax revenues are a similar funding source for potential future commuter rail service in Arizona. Both shared use of railroad track and purchase of railroad right-of-way are options for future commuter rail service in Maricopa and northern Pinal counties.

4.4.4 California: The San Diego Coast Express Rail (COASTER)

The San Diego Coast Express Rail, or COASTER is a regional commuter rail service that is administrated by the San Diego Northern Railway, a subsidiary of the North County Transit District. The COASTER operates service in the central and northern coastal region of San Diego County, California with eight station stops. Revenue service began in February 1995 with money for right-of-way acquisition and construction costs generated through TransNet, or Proposition A, the half cent sales tax in San Diego County for transportation projects. Dedicated transit funding is currently one-third of all revenues generated through TransNet. The original tracks for COASTER were purchased by the San Diego Northern Railway from the Atchison, Topeka and Santa Fe Railway in 1984.

Applicability
Dedicated sales tax revenues are a similar funding source for potential future commuter rail service in Arizona. Both shared use of railroad track and purchase of railroad right-of-way are options for future commuter rail service in Maricopa and northern Pinal counties.

4.4.5 New Mexico: Rail Runner Express

The New Mexico Rail Runner Express is a 50 mile commuter rail system with 5 stations operating between Belen and Sandoval, New Mexico. A Phase I, three-station segment was opened in July 2006 with the entire initial segment opened in February 2007. The project was funded through a single source with $400 million of state funds allocated as part of a $1.6 billion transportation package passed by the New Mexico State Legislature in August 2003. There is currently no local dedicated source of revenue for the Rail Runner Express service.

Applicability
Allocation of state funds for commuter rail in Maricopa and northern Pinal counties should be considered as a potential future funding source. Traffic congestion and limitations on mobility options in this area are statewide issues of concern. State funding of commuter rail for the Phoenix metropolitan area could be part of an overall future plan for mobility that combines considerations of the movement of both people and goods through this critical corridor.

4.4.6 Minneapolis, Minnesota: Northstar

Phase I of the Northstar Commuter Rail is a 40-mile service on existing rail tracks with six stations from Big Lake to downtown Minneapolis, Minnesota that is planned for start of revenue operation in 2009. The Northstar Corridor is an 82-mile transportation corridor that

runs along Highway 10 from the St. Cloud/Rice area to downtown Minneapolis. Although initial service is planned in the Phase I 40 mile initial segment, there are currently considerations to extend the line to the full corridor in the future. The total construction cost for Phase I is estimated to be $320 million. The costs are shared through a share of 17 percent local, 33 percent state, and 50 percent federal funds. The federal funds were awarded as part of the Section 5309 New Starts program.

Applicability

As discussed in relation to the New Mexico Rail Runner Express, a higher share of state funds should be considered as part of the financial strategy for future commuter rail in Maricopa and northern Pinal counties. In addition, Northstar is currently seeking funding through private interests for this rail corridor which should also be considered as part of an overall strategy to find alternatives to use of the congested highway corridors in Arizona.

4.5 Alternative Funding Options for regional Commuter Rail

This technical memorandum provides a review of potential funding options for the project, including both existing federal and state programs as well as new and innovative public and private approaches in use or under consideration in Arizona and other states.

Early identification and assembly of involved project sponsors is a critical factor in evaluating funding options for the Commuter Rail Plan project. Early discussion with key Congressional, State, and local legislators and officials would also be helpful to gain support for the project.

ADOT should also continue to play an important part in rail implementation throughout the process, both because of its expertise and interest in innovative transit strategies and because of the possibility of state funding for both capital, and operations and maintenance. As a major employer in Maricopa County and Pinal County, the State will also gain the benefits of a multimodal transportation system. The State can also play a crucial role in preserving railroad rights-of-way, which may be threatened with abandonment or sale.

Like many other state DOTs around the nation, ADOT could express interest in acquiring lines from private railroad companies such as BSNF and UPRR as ‘vital state intermodal corridors’, but funds for this acquisition would need to be identified and negotiated as well as feasibility of using such lines in conjunction with railroads. Local funds may assist in using underutilized freight lines for passenger purposes.

It will be necessary for local funding options to take into account prior funding commitments of capital and "O&M" (operating and maintenance) costs for both the “start-up” and the "full build" for all future projects. This would include a detailed evaluation of potential ridership.

For example, if the State of Arizona enacted a policy to fund two-thirds of the deficit remaining after fares and federal operating assistance were deducted for costs, this would leave one-third for local support. The State would also need to determine how much of O&M costs would be provided for transit systems.

4.5.1 The Concept of Public Value Capture

Current Federal, state and local funds that have traditionally been used for transportation projects in Maricopa County have been dedicated to the implementation of the 20 year transit program identified in the RTP and future defined through the Transportation Improvement Program. Due to the considerable cost involved in implementing a regional commuter rail system, the region will need to look at other funding mechanisms such as value capture. Primary considerations for public value capture are described in the following paragraphs.

Transit-oriented development increases property values. Building near a transit stop is not only good for the transit system; it is good for property owners and interested developers. Residential and commercial projects near transit typically appreciate in value more rapidly than other projects. As demand for scarce properties near transit stops increases, this trend will continue.

Development near transit stops increases tax revenues. As the value of property near transit appreciates, property taxes collected by local governments also increase. In fact, some cities take advantage of this by using tax increment financing to help fund area capital improvements.

Transit-oriented development provides retail opportunities and increases sales tax revenues. Pedestrian activity around transit stops can support retail activity. Not only does this improve the viability of small businesses, but it also translates into increased sales tax revenues for local governments.

Transit-oriented development provides local special purpose development organizations (redevelopment agencies, economic development groups, etc.) with an opportunity to directly participate in the ongoing price appreciation of properties affected by station development. Joint development, special connection fees, cost sharing agreements and other mechanisms available to local governments can provide direct non-tax revenues to local governments.

Transit-oriented development can help revitalize downtown and neighborhood areas. By attracting new development, transit can be a catalyst for revitalizing deteriorating and economically blighted areas. Transit-oriented development by itself is unlikely to cause the turnaround of an area bypassed by the local market, but used in concert with other economic development tools, transit-oriented development can provide a catalytic effect promoting new life in previously bypassed sections of the community.

Value Capture mechanisms are used to indirectly capture some of the economic benefits derived by the private sector from the development and operation of a transit corridor. Value capture techniques include:

Benefits Assessment Districts - assessment charges imposed on property owners in a designated area, based on the specific benefits to those properties, as generated by the transit facilities. An example of this technique is Portland, Oregon's Transit Revitalization Investment District (TRID). The TRID model is able to calculate job creation, housing development and income results for each district. The revenues above a certain amount from property taxes, business license fees, system development charges and other

revenues within the boundaries of a TRID district are used to pay for bonds that fund transit improvements, subsidize operating costs and other public benefits such as housing within the TRID district. The revenue sources and amounts from each can vary from TRID district to district. TRID has been used by Portland, Oregon to fund their streetcar system.

Tax Increment Financing - incremental property tax receipts (above a pre-determined base) which can be attributed to infrastructure improvements, such as transit facilities. These incremental receipts will typically be captured through a redevelopment agency (which could dedicate some of its own tax increment funds for transit facilities in a designated redevelopment area), or through the establishment of infrastructure financing districts.

Development Exactions - additional requirements placed on the developer during the discretionary approval process to assist in funding improvements.

Density Bonuses - permitted increases in density at transit sites in order to create additional value on those properties. A development agency could then capture some of this incremental value by negotiating for additional financial support by the property owner or by placing other requirements on the developer of the site.

Development Impact Fees - established fees places on new development which has been shown to have a direct relationship (nexus) to the impact of that development on local infrastructure, including the transportation system. These revenues could be used to fund station or park & ride development costs of a rail transit facility that serves the development.

4.5.2 Summary of Other Potential Revenue Sources

Other potential revenue sources for commuter rail include:

- **Use of HURF Funds**: This would require a change in the Arizona Constitution to allow use of these funds for transit projects. Gas taxes, which are included in the HURF fund in Arizona, are used to completely fund transit systems in other states such as Rhode Island, South Carolina, and Tennessee.

- **Dedicated Property Taxes**: Dedicated property taxes are a consideration for funding of future commuter rail to balance the need for mobility choices in an area that will continue to experience high levels of congestion on the roadways.

- **Public Private Partnerships**: Public-private partnerships refer to the contractual agreements that are formed between a public agency and private sector entity that can allow for greater private sector participation in the delivery of transportation projects. These types of partnerships are increasingly becoming part of the overall considerations for future funding of the highway and transit systems in the United States. SAFETEA-LU has authorized the US Secretary of Transportation to establish a Public-Private Partnership pilot program.

FHWA has outlined some of the key benefits in using public-private partnerships to deliver transportation projects including:

- Expedited completion compared to conventional project delivery methods;
- Project cost savings;
- Improved quality and system performance from the use of innovative materials and management techniques;
- Substitution of private resources and personnel for constrained public resources; and,
- Access to new sources of private capital.

Using the aforementioned principles, it is recommended that the MAG Commuter Rail project sponsors begin assembly of one or more funding strategies that encompass the potential funding sources described in this working paper. Initial efforts should focus on broad, high revenue yield approaches including, but not limited to: federal earmarking, fuel taxes, user fees, local development-based mechanisms, and public private partnerships.

Maricopa Association of Governments
Commuter Rail Strategic Plan

Working Paper #4
MAG Commuter Rail
Concept System Plan and Implementation

Final
January 29, 2008

Table of Contents

List of Tables

List of Figures

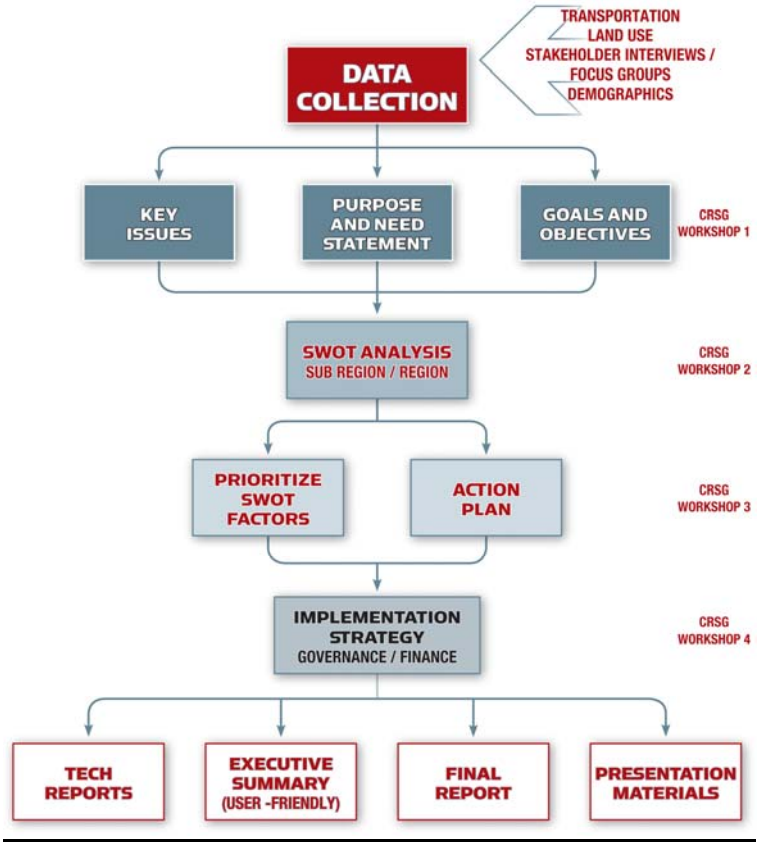
Introduction

The Maricopa Associations of Governments (MAG) has been actively exploring potential options for enhancing the longer-term economic vitality of the county and the mobility and well-being of its citizens. MAG further recognizes that commuter rail corridors may potentially serve a critical function in addressing future travel needs in the region. This working paper presents a Commuter Rail Concept System Plan which is needed to illustrate the scope and the context for commuter rail in the Maricopa County and northern Pinal County region.

Overview of the Planning Process

The planning process for the MAG Commuter Rail Strategic Plan began in February 2007 and will be completed by February 2008. Several individuals have contributed to the development of the plan and include Maricopa Association of Governments (MAG) the Commuter Rail Stakeholders Group (CRSG), staff representatives from Arizona Department of Transportation (ADOT), METRO, and Regional Public Transportation Authority (RPTA); members of the consultant team. The CRSG consists of public and private agencies and entities with an interest in transit and those involved in past transit studies. The CRSG meet a total of four times throughout the planning process and helped to identify opportunities and threats of commuter rail and developed action plans to identify strategies to implement commuter rail in the region. Figure 1 illustrates the commuter rail strategic planning process.

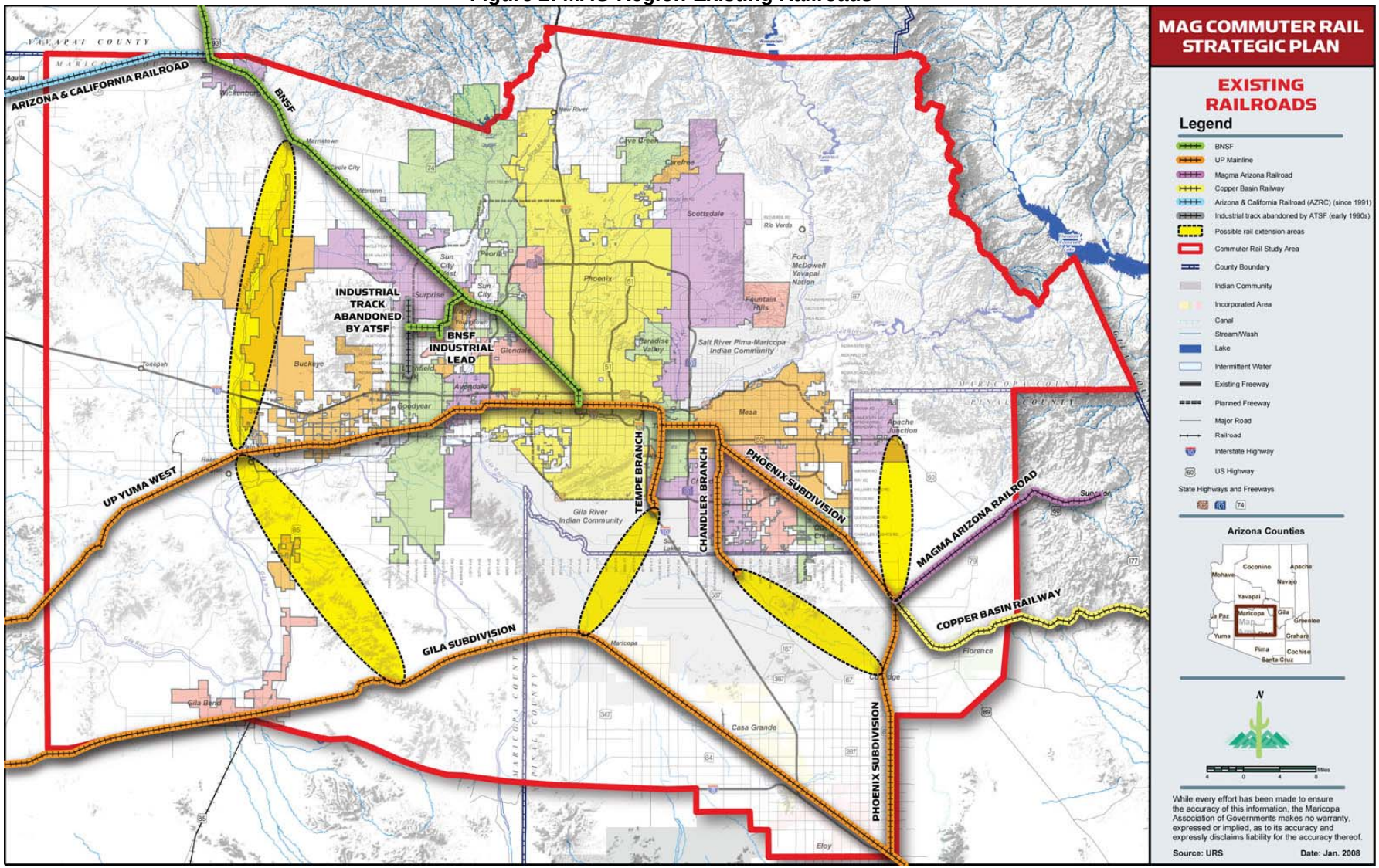
Figure 1: Planning Process



Study Area

The MAG region consists of Maricopa County and northern Pinal County. Currently, three operational railroads exist in the MAG region. These railroads include the Burlington Northern and Santa Fe Railway (BNSF), the Union Pacific Railroad (UP), and the Arizona and California Railroad (ARZC). As of 2003, the BNSF maintained approximately 70 miles of active track in the MAG region, the UP maintained a total of approximately 180 miles of active track, and the ARZC maintained a total of about 27 miles of active track.

Figure 2: MAG Region-Existing Railroads



Organization of This Report

Three critical elements will help to illustrate the scope and the context for commuter rail in the Maricopa and northern Pinal County. The three elements consist of: Description of Conceptual Corridor, Conceptual Corridor Travel Conditions, and Corridor Community and Land Use relationships are outlined in this working paper.

The report begins with the conceptual corridor description which provides information on the five existing freight railroad corridors and outlines future extensions/new alignments within the study area. Ease of implementation and requirements for implementing commuter rail in the region are discussed.

To determine conceptual corridor travel conditions, parallel highway congestion (peak hour/peak direction in 2006) was assessed and compared to the conceptual commuter rail operation (peak hour/peak direction) for all five existing freight corridors.

To better understand community acceptance a review of local general plans for jurisdictions along existing railroad corridors was conducted and an assessment of major activity centers and regional thoroughfares were also identified.

The last section of this working paper identifies ten steps/guiding principles for implementing commuter rail in Maricopa County and northern Pinal County based on input from the CRSG.

Description of Conceptual Corridors

The Concept System Plan is oriented around the five freight rail lines that are currently in place in the study area. The system plan is based on the recommendations from the High Capacity Transit Study, (MAG, 2003) and the alignments that were subsequently incorporated into the 2030 RTP vision plan for commuter rail. These corridors are:

- BNSF-Grand Avenue
- UP Mainline-Southeast
- UP Mainline-Chandler Branch
- UP Mainline-Tempe Industrial Lead
- UP Mainline-Yuma/West

BNSF-Grand Avenue

The BNSF alignment currently has a single-track, non-signalized (dark-territory) line along Grand Avenue from Wickenburg to Phoenix. BNSF has a consistent right-of-way of 100 feet along Grand Avenue. The width profile transitions from 75 feet to 100 feet beyond Grand Avenue. There are numerous passing tracks, sidings, switching leads and yards along the 54 mile route. A total of fifty-two grade crossings are located in the corridor between Surprise and Downtown Phoenix. The local freight service along this line is currently eight to ten trains per day.

Implementing commuter rail in this corridor would require joint operation with the BNSF mainline which is a single line corridor and currently operating near capacity. BNSF has stated that there is limited right-of-way in the Grand Avenue corridor for both the required new second mainline track as well as a third parallel switching lead track. There is ample right-of-way for a new, second main track. However, significant right-of-way acquisition in certain areas along Grand Avenue corridor between Phoenix and Surprise would be necessary in order to build these sections of a third parallel switching lead next to the new second mainline track, which would require negotiations between the transit agency, the railroad and adjacent property owners (*BNSF Railway Principles and Criteria for Passenger Rail Service, 2007*).

As mentioned above there are several complex at-grade crossings and several crossings are located next to six-legged street intersections. These grade crossings have the potential to complicate automobile movements and create safety concerns. Another complication for implementing commuter rail on the BNSF-Grand Avenue line is the major BNSF yard located at 19th Avenue, south of I-10. BNSF has presented the idea of relocating their yard facilities to a location west of their current intermodal facility in El Mirage.

Instead of operating jointly with the BNSF, there is the possibility that the freight rail mainline operations could be moved out of the central area to the northwest. The City of Surprise recently approved a General Plan amendment for a parcel of BNSF owned property near the US-60 and Dove Valley Road. The approval provides an opportunity for BNSF to proceed with a future classification yard at that location. By relocating the main storage yard out of downtown Phoenix, the frequency of freight train traffic on the rail line could be substantially reduced. Only deliveries to local businesses would need to use the rail line. These deliveries could be scheduled for non-peak periods thus providing operating windows during peak periods for commuter rail service. In this case the regional transportation agencies or ADOT may need to lease or purchase the rail line from BNSF to run the commuter service.

UP Main / Southeast

The UP Main/ Southeast line is a single track line that provides service to the Phoenix area through a subdivision of the mainline that runs between California and Texas along I-8. The subdivision enters the Northern Pinal/Phoenix area from the southeast and continues across the metropolitan area to the West Valley, eventually tying back to the UP mainline just east of US 95 at Welton Junction. From this primary subdivision line two other secondary branches extend into Chandler and into south Tempe.

The UP subdivision from the mainline to Phoenix is being considered by ADOT as one of the preferred routes for high speed train service between Phoenix and Tucson. ADOT has completed phase one of the *High Speed Passenger Rail Strategic Plan* (ADOT, 2007) that validates conclusions of previous studies and outlines an alternative that will be considered for implementation. Key features of that alternative include:

- Upgraded trackway is needed to be competitive with automobile travel; speeds above 79 MPH would be needed. This is because the driving time between Phoenix and Tucson is about two hours and the train would be supported by passengers if this travel time could be shorter on the train.
- A new track dedicated to passenger rail would be needed from Picacho to Tucson.
- It is likely that a second track would be needed in the Phoenix Subdivision from Phoenix to Picacho to support the service. Adjustments to rail-related industrial services would be needed.
- Preliminary planning identified eight station locations including downtown Phoenix and downtown Tucson.

For the Commuter Rail Strategic Plan, the UP Main/Southeast corridor would extend 32 miles from Downtown Phoenix to Ellsworth Road. The possible build-out extension would include an additional 42 miles to Eloy/Picacho resulting in a corridor length totaling 74 miles. The corridor right-of way is generally 100 feet wide. The main track is signaled with an Automatic Block System (ABS), and a dispatcher controls train movements. There are numerous passing tracks, sidings, switching leads and yards along the 74 mile route. A total of 158 grade crossings are located in the corridor between Phoenix to Picacho. The local freight service along this line is currently eight to ten trains per day.

Implementing commuter rail in this corridor would require joint operation with UPRR for the entire length of the line and will most likely require double track, especially if the inter-city rail service to Tucson is implemented. A number of sidings would need to be adjusted and improvements at the numerous at-grade crossings would be required to accommodate the increased frequency of commuter rail service. The corridor right-of-way is generally 100 feet wide. The main track is signaled with an Automatic Block Signal System (ABS) and a dispatcher controls train movements (DTC).

This corridor would offer direct service for East Valley and Northern Pinal County commuters to the central portion of the region. Access to Phoenix, Mesa Gateway Airport, and Sky Harbor International Airport, as well as the downtowns of Gilbert, Mesa, Tempe and Phoenix would be provided. This corridor would offer an alternative travel mode for commuters that use US-60 and SR-101 to I-10, providing relief during peak periods.

UP Main / Chandler Branch

The UP Main/ Chandler Branch extends 15 miles from Downtown Phoenix to Mesa/Gilbert before turning south to run just east of Arizona Avenue. The total length of the route would be 28 miles. The UP line is single track with a total of 10 sidings. Similar to the UP/Southeast, the corridor right-of-way is generally 100 feet wide. The main track is signaled with an Automatic Block Signal System (ABS) and a dispatcher controls train movements (DTC). The Union Pacific line is single track with a total of 10 sidings and 27 grade crossings. The local freight service along this line is currently two trains per day.

Implementing commuter rail in this corridor would require 15 miles of joint operation with UPRR Phoenix subdivision line from Mesa/Gilbert to downtown Phoenix. In addition, improvements at numerous at-grade crossings would be required to accommodate increased train frequency. Congestion relief for travel along Loop 101 and US 60 would be available on this branch.

UP Main / Tempe Branch

The UP system in the MAG region also includes the Tempe Branch, which is a single track industrial lead from the Phoenix subdivision line. The Tempe Industrial Branch diverges from the main track at Tempe and continues south to West Chandler, a distance of approximately eight miles. This branch is operated in non-signalized dark territory with a maximum speed of 20 mph. There are a total of 25 grade crossings along the eight mile line. The local fright service along this line includes two trains per day.

Implementing commuter rail in this corridor would require eight miles of joint operations with the UPRR Phoenix subdivision line. A study is currently under development by METRO for transit improvements in South Tempe that could include a major improvement along the Tempe Branch. In addition improvements at at-grade crossings would be required each mile of track. This branch would provide a north/south alternative mode to I-10.

UP Yuma / West

The UP Yuma/West extends 31 miles from Downtown Phoenix to Buckeye. The corridor right-of-way is generally 100 feet wide. The main track is signaled with an Automatic Block Signal System (ABS) and a dispatcher controls train movements (DTC) for a portion of the line. The Union Pacific line is single track with a total of 89 grade crossings. The local freight service is limited along this line with service of one train per day.

Implementing commuter rail in this corridor would require joint operations with the UPRR mainline but freight service may be scheduled at times other than the peak periods. Because of the limited freight service, a single-track line may be possible and track upgrades would be required to improve the rail corridor. In addition, at grade crossings would need to be improved along the entire alignment to ensure safe operations. Depending upon future demands to the west including development in the Hassayampa Valley or to serve employment at the Palo Verde power plant, this line could be extended. This line would serve as an alternative mode to West I-10.

Potential Extensions / New Alignments

The rapid growth of Maricopa and northern Pinal counties has led to planning efforts in outlying areas that are currently defining required infrastructure to support future developments. Stakeholders in the strategic planning process helped to identify future corridors where passenger rail service could be part of a multimodal approach to serving travel demands. The critical consideration is to identify these corridors so that rights-of-way can be preserved in advance of new development.

Corridors where potential extensions of existing rail lines and new alignments in developing areas are possible are summarized in the following section.

Hassayampa Valley – This area is west of Buckeye and the White Tank mountains and is being planned as a future development that would support almost one million people. Planning concepts have preserved a multimodal transportation corridor that could accommodate passenger rail facilities that would connect from the north at the BNSF mainline south through the area to the UP/Yuma line or further south into the Hidden Valley planning area. Continued planning efforts should preserve right-of-way for a rail line in this area.

Hidden Valley – This area is west of Buckeye extending between I-10 and I-8. A comprehensive planning project is defining the development pattern along with transportation corridors. A multimodal corridor has been defined that could accommodate passenger rail facilities that would connect with the UP/Yuma line and possibly to an intercity line that would follow the UP Gila Subdivision mainline along I-8. Continued planning efforts should preserve right-of-way for a rail line in this area.

UP/Tempe Branch Extension – The Tempe Branch line could be extended to the town of Maricopa in Pinal County alongside SR-347. Maricopa and communities in the vicinity are rapidly growing because of the lifestyle and the affordable housing. However many of the residents work in the Phoenix metropolitan area and therefore commute daily north along SR-347 or I-10. The Tempe branch currently ends north of the I-10 freeway in the vicinity of 56th Street and the Gila River Indian Community (GRIC) boundary such that any extension would need to cross the freeway. The new alignment would require close coordination with and approval by the GRIC.

UP/Chandler Branch Extension – Similar to the Tempe Branch Extension, this line could continue south and east from the current end of line near Hunt Highway and SR-87. An abandoned rail bed runs along SR-87 to the southeast on GRIC lands to join the UP/Main Phoenix subdivision line just north of Coolidge. This extension would be used to serve the northeast portion of Pinal County with connections into the Phoenix area for employment and other types of commute trips. The extension would require close coordination with and approval by the GRIC.

North/South Highway in Pinal County - A proposed highway in the far eastern portion of the region is currently under study and is referred to as the North-South Freeway in Pinal County. The corridor extends from US 60 about two to four miles east of the Maricopa County line southward to near Florence and then continues southward to intersect I-10 at a point about two or three miles east of the SR 87 interchange in Eloy. No route number has been assigned. The highway would serve developing State of Arizona lands. This corridor

could serve multimodal travel in the future and as such continued planning efforts should preserve right-of-way for passenger rail facilities along the final alignment.

Table 1 provides a summary of the conceptual corridor descriptions for all five freight rail lines that are currently in place in the study area as well as each of the extensions. Possible extensions were illustrated previously in Figure 2.

Table 1: Conceptual Corridor Description

Corridor/Line	Limits	One-Way Miles (1)	Buildout Extension (1)	Ease of Implementation
BNSF – Grand Avenue	Downtown Phoenix to Loop 303	26	To Wickenburg (add 28 miles; total 54 miles)	• Requires joint operation with BNSF mainline • Complex at-grade crossings (6 approach legs) each mile • Numerous at-grade crossings to be improved • Multiple industrial users along length • Major BNSF yard on 19th Ave/South of I-10
UP Main/Southeast	Downtown Phoenix to Ellsworth Road	32	To Eloy/Picacho (add 42 miles; total 74 miles)	• May be implemented as part of intercity passenger rail service between Phoenix and Tucson under study by ADOT. • Requires joint operation with UPRR for entire length; most likely will need double track • Numerous at-grade crossings to be improved
UP Main/Chandler Branch	Downtown Phoenix to Queen Creek Road	28	NA	• Requires 15 miles joint operations with UPRR mainline • Numerous at-grade crossings to be improved
UP Main/Tempe Branch	Downtown Phoenix to Chandler Boulevard	17	NA	• Requires 8 miles joint operations with UPRR mainline • Corridor under study by METRO for transit improvement • Numerous at-grade crossings to be improved
UP Yuma/West	Downtown Phoenix to Buckeye	31	NA	• Limited railroad service • Numerous at-grade crossings to be improved.
Potential Extensions/New Alignments				
Hassayampa Valley	Connection between BNSF and	20 to 30 miles	Connect to BNSF, UP/Yuma and Hidden	• New multimodal transportation corridor

Corridor/Line	Limits	One-Way Miles (1)	Buildout Extension (1)	Ease of Implementation
	UP/Yuma west of White Tank mountains		Valley Corridor	• Preserve right-of-way
Hidden Valley	West of Estrella and Rainbow Valley between I-10 and I-8	20 to 30 miles	Connect to UP/Yuma, I-8 intercity rail and Hassayampa Corridor	• New multimodal transportation corridor • Preserve right-of-way
UP/Tempe Branch Extension	Extend from I-10 south along Maricopa Road to Town of Maricopa	15 to 20 miles	Extension through GRIC	• Requires close cooperation with and approval by GRIC
UP/Chandler Branch Extension	Extend from Hunt Highway southeast to Coolidge	20 to 25 miles	Extension through GRIC	• Requires close cooperation with and approval by GRIC
North/South Highway in Pinal County	New alignment	25 to 35 miles	Serves developing state lands areas	• New multimodal transportation corridor • Preserve right-of-way

(1) As described in the MAG High Capacity Transit Study; 2005 URS; October 5, 2007

Travel Conditions in Conceptual Corridors

Commuter rail service has the potential to carry substantial volumes of commuters during peak periods over longer distances and with reliable travel times. These features are important to provide relief to congested travel corridors. Parallel highway congestion (peak hour/peak direction in 2006) was assessed and compared to the conceptual commuter rail operation (peak hour/peak direction) for all five existing freight corridors. The auto volume on parallel highways in the five freight corridors currently ranges from 2,700 cars on route US 60 (parallel to BNSF-Grand Avenue) to 11,000 cars on I-10 West (parallel to UP Yuma/West.

In 2006 the auto volume resulted in level of service (LOS) ranging from LOS E-capacity and LOS F-failure. Roadway segment level of service (LOS) is a widely used measure of traveler convenience that employs letter grades from A to F to illustrate varying ranges of highway traffic density. The letter grade A indicates very low delay and F indicates very large delay. The LOS estimation method is described for many types of transportation facilities in Transportation Research Board Special Report 209, also called the " Highway Capacity Manual" (TRB 2000). Highway level of service takes into account not only auto congestion but also the effects of heavy vehicles, the width of lanes, the width of shoulders, and the level of influence that vertical grades have on travel.

The travel time for parallel highways in 2006 ranged from about 52 minutes, on I-10 East parallel to UP Main/Tempe Branch to about 65 minutes for US 60/Grand Ave parallel to BNSF-Grand Avenue. The implementation of commuter rail within the five freight corridors would save travel time and remove automobiles from the highway system ultimately helping to relieve peak period congestion and helping to improve air quality for the region.

Commuter rail trains would primarily run during peak periods of each work day. Trains would start services from outlying areas and run inbound to serve the central employment areas around downtown Phoenix, Sky Harbor Airport and central Tempe/ASU. One or more reverse-commute trips could be employed as well. The evening peak period would offer similar service levels. Depending upon demands, mid-day and evening trips could be added.

The potential ridership capacity would be about 2,000 riders during a peak hour for corridors when assuming four trains per hour, with trains of five cars each. If the ridership of 2,000 is realized, then the adjacent highway system would experience a reduction in auto congestion equivalent to one highway lane. This reduction in auto travel would have a positive impact on saving energy and improving air quality and would help to meet other goals such as sustainability.

Table 2: Conceptual Corridor Travel Conditions

Corridor/Line	Limits	Parallel Highway Congestion (Peak Hour/ Peak Direction in 2006)				Commuter Rail Operation (Peak Hour/ Peak Direction)		
		Route	Auto Volume	Level of Service	Auto Travel Time (1)	Commuter Rail Travel Time (1)	Peak Hour Potential Riders (2)	Highway Lanes Replaced
BNSF – Grand Avenue	Downtown Phoenix to Loop 303	US 60/ Grand Ave	2,700	LOS F	65 mins	45 mins	2,000	1.5
UP Main/Southeast	Downtown Phoenix to Ellsworth Road	US 60/ Loop 202 I-10 East	8,400	LOS E/F	55 mins	50 mins	2,000	1.0
UP Main/Chandler Branch	Downtown Phoenix to Queen Creek Road	US 60/ I-10 East	7,100	LOS F	55 mins	45 mins	2,000	1.0
UP Main/Tempe Branch	Downtown Phoenix to Chandler Boulevard	I-10 East	7,100	LOS F	52 mins	40 mins	2,000	1.0
UP Yuma/West	Downtown Phoenix to Buckeye	I-10 West	11,000	LOS F	60 mins	45 mins	2,000	1.0

(1) Travel time for typical 25 mile commute trip; train trip times from MAG HCT; 2003
(2) Four trains per hour; trains of five cars each
URS: October 5, 2007

Description of Community and Land Use Relationships in Corridors

The five freight corridors have the potential to link major activity centers throughout the region. The existing railroad corridors also intersect or parallel several major regional thoroughfares, and travel through numerous jurisdictions in the study area. This section outlines key land use relationships that would be enhanced with commuter rail linkages. Table 3 identifies major activity centers and regional thoroughfares in close proximity to the existing freight lines. The table also summarizes local community support.

Proximity to Major Activity Centers

Several major activity centers are located along existing freight corridors in Maricopa and Pinal Counties. Examples of major activity centers include uses such as stadiums/arenas, convention centers, university campuses, and large downtowns (which may also function as major activity centers). Activity centers vary greatly in size and offer a wide variety of uses. Activity centers are used everyday as people shop, work, or seek entertainment. Table 3 lists major activity centers potentially served by existing corridor. Several of the identified activity centers would be served by multiple corridors such as downtown Phoenix and ASU downtown Center.

Proximity to Regional Thoroughfares

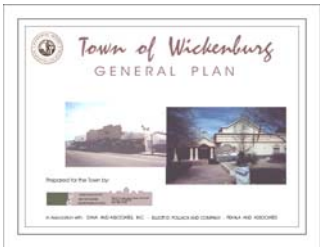
The existing freight lines run parallel to or bisect several regional thoroughfares in Maricopa and Pinal Counties. These regional thoroughfares include: I-10, Loop 101, Loop 202, Loop 303 and SR-60 in addition to the LRT Starter Line. This interwoven relationship will increase regional connections and allow for a more integrated transportation system that once in place could help to determine appropriate station locations. Refer to Table 3 for more detail on regional thoroughfares that are in close proximity to the existing freight lines.

Local Comprehensive Plans

To assess potential community acceptance, compliance with local comprehensive general plans was reviewed. Given the expected increase in population over the next several decades, jurisdictions in the study area have clearly taken a proactive approach to planning for commuter rail and other alternative transportation modes. General plans for communities along the existing freight lines were found to generally be in support of commuter rail serving their jurisdiction. To better understand the level of community acceptance, reviews of comprehensive plans for jurisdictions in close proximity to the rail corridor was assessed and are summarized below. In addition, Table 3 includes a brief summary of the local community support

City of Wickenburg

The Wickenburg General Plan is the City's vision and long range plan for how the community would like to see Wickenburg evolve over time. It sets the framework for rational decision making and was adopted by Town Council on August 4, 2003.



The City of Wickenburg General Plan considers multi modal options including commuter rail. According to the general plan, City Planning and transit providers plan to explore commuter rail

as a midterm action step.

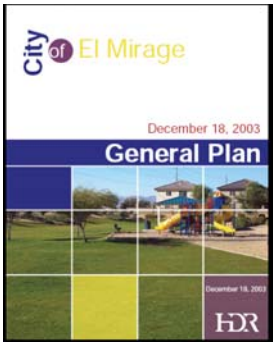
City of Surprise

According to the City of Surprise General Plan the city is at a crossroads; it is a community in transition. The city is experiencing tremendous physical growth and demographic change. As Surprise races into the 21st Century, effective management of growth and determining the community's future direction is of critical importance. Long Range Planning is achieved by following the city's General Plan, which is a blueprint for future development and its impact on future growth and quality of life.

The City of Surprise General Plan has indicated within the community development section of the General Plan that commuter rail transit should be encouraged in the BNSF corridor between Surprise and Downtown Phoenix to minimize congestion and support economic development.

City of El Mirage

The 2003 General Plan for El Mirage provides a vision for the community that states "Today El Mirage is a dynamic and culturally-diverse city with residents that work together to address the challenge of the future. We have parks for our residents, good schools for our children, affordable housing, and good regional access. As we move towards the future we know El Mirage will be a lively place"

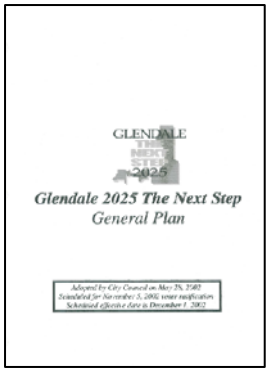


The City of El Mirage General Plan provides support for commuter rail throughout the document referencing the MAG High Capacity Transit Plan. Within the Land Use Section of the general plan, Grand Avenue is identified as offering unique infill opportunities largely related to the MAG High Capacity Transit Plan which identifies a commuter rail stop in El Mirage.

A variety of land uses including medium-density residential development, mixed-use transit-oriented development and regional commercial is planned for the area north of Thunderbird Road and east of Grand Avenue. This is a new development area that offers tremendous potential for the City to take advantage of regional access that could support retail uses, a potential commuter rail station supporting residential and commercial uses, and vacant land that could provide additional residential development to support Grand and Thunderbird Avenue retail. Specifically, a transit oriented development is recommended for the area immediately surrounding the planned commuter rail stop along Grand Avenue.

City of Glendale

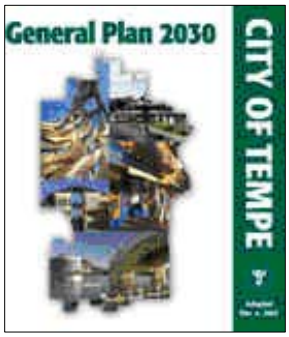
The 2002 General Plan for the City of Glendale, Arizona provides general support for commuter rail. The plan states that the City is maturing, yet the community is embarking on exciting plns for continuing growth that will establish its prominence in Arizona and the Western United States.



General support for commuter rail can be found in the Circulation element of the General Plan. This element includes two goals that address support for transit including: Support alternative modes of travel and Ensure regional connectivity. The plan states that Glendale will foster options to automobile travel by seeking to

expand the range of service levels of its transit system. The plan also indicates that the Glendale transportation system will be effectively connected to the regional transportation system by working with adjacent jurisdictions and MAG to ensure synchronized transportation links and supporting the completion of regional facilities.

City of Tempe

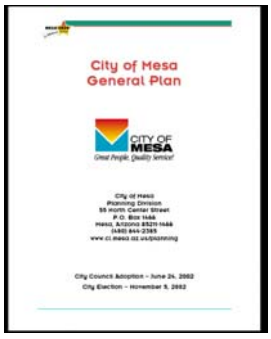


The goal of the City of Tempe General Plan is to provide the framework for development in Tempe that not only honors where Tempe has been, but looks to the future to improve the quality of life for all those who live, learn, work and play within the city's boundaries.

The City of Tempe General Plan discusses commuter rail within the Transportation element of the General Plan. The plan references the (MAG) *High Capacity Transit Study* in 2002 and mentioned that a north/south major investment study is being conducted jointly by the cities of Tempe and Scottsdale to determine transit options linking Scottsdale, Phoenix and Tempe. The City of Chandler also initiated a major investment study looking at high capacity transit connections from Chandler to downtown Tempe and the Central Phoenix/East Valley Light Rail Transit project.

Plans for transit improvements in Tempe included the design and construction of a downtown Transit Center, additional transfer facilities where needed and continued planning and implementation of light rail, commuter rail and bus rapid transit. A goal of the Transit Element is to coordinate Tempe's Transit Plan with the overall Tempe Transportation Plan to support increased ridership. An listed objective to help achieve this goal is to study the viability of commuter rail along the Union Pacific corridor.

City of Mesa



The City of Mesa General Plan provides a vision and guide to the community's citizens, businesses, and officials as the community grows and develops in the future. The vision of this General Plan is to provide for a prosperous and economically balanced community, to address the need for future housing and employment opportunities, and to support Mesa as a sustainable community in the 21st century.

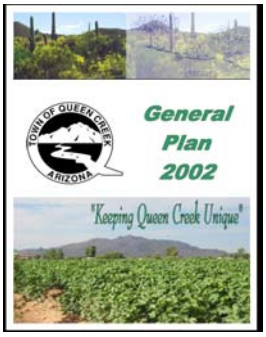
The City of Mesa General Plan supports commuter rail and other alternative modes of travel. The General Plan indicates that the City will strive to resolve problems created by traffic congestion. This vision includes alternatives to automobile transportation providing a wide variety of bus, light rail, bicycle, commuter rail, and air travel opportunities.

Town of Gilbert

The Town of Gilbert General Plan was adopted in 2001 and provides a vision and direction for the community. The General Plan indicates that the Town is in support of commuter rail, stating that commuter and/or light rail may become feasible in the future. Two future rail transit station sites were identified—one west of Gilbert Road in the Heritage District, and one south of Williams Field Road in the Gateway Character Area. Land has been acquired

for a park-and-ride lot in the Heritage District downtown area. This land could serve as a future downtown rail transit station site.

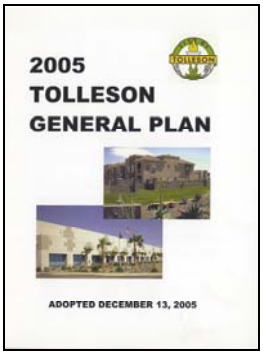
Town of Queen Creek



The Queen Creek General Plan was adopted in October 1996 The Plan indicates that the community vision is to provide a quality rural living environment with a focus on continuous improvement of the social, environmental, economic, cultural, physical, and aesthetic factors of Queen Creek. The unique character of Queen Creek will be preserved and enhanced by providing a well organized and orderly development pattern in accordance with Queen Creek's General Plan, while allowing the range of land uses and lifestyle consistent with the rural character, attempting to keep that which is desired by residents of the community. Following this course of action will truly implement the vision of "Keeping Queen Creek Unique."

The General Plan provides support of commuter rail throughout the document. The Plan states that the Town will encourage use of transit and other modes of circulation that support a variety of land uses. The Town will encourage use of creative solutions to the Union Pacific Railroad Line that exists in the community so that commuter rail stops are made available to residents in the community at large.

City of Tolleson



The Tolleson General Plan was adopted in December 2005. The Plan indicates that the General Plan is an expression of the community's preferred future. The General Plan is a long-range planning tool for establishing and reaffirming the goals and development policies of the community.

The Tolleson General Plan provides support for alternative transportation systems including commuter rail and references the MAG High Capacity Transit Plan. The Union Pacific-Southern Pacific Railroad currently offers freight service to Tolleson Business via its railway line in the City's south area. The Plan acknowledges the potential of existing railroad corridors for possible use as commuter rail.

The General Plan also provides a Growth Areas Element, which identifies areas that are particularly suitable for planned multimodal transportation and infrastructure expansion and improvements. Among these identified growth areas is the 99th Avenue Corridor Growth Area. With multiple access opportunities from I-10, 99th Avenue, Van Buren Street, and UPPR, the growth area is well suitable for multimodal development.

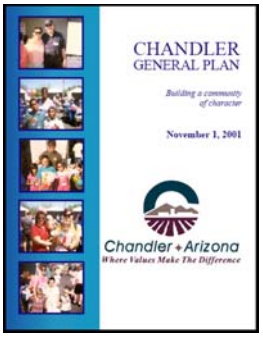
City of Avondale

The purpose of the 2002 Avondale General Plan is to provide guidance to City decision-makers to help them achieve the relationships between land use, transportation, quality of life, the environment, and economic prosperity desired by Avondale residents and businesses.

The City of Avondale's General Plan provides strong support for commuter rail. One of the goals provided in the plan is to enhance

opportunities for non-vehicular travel. An objective listed to help achieve this goal is to provide mass transit opportunities for Avondale residents and business by pursuing funding to convert the existing rail line into a commuter rail system. Another objective identified a possible transit center location at Dysart and Buckeye roads.

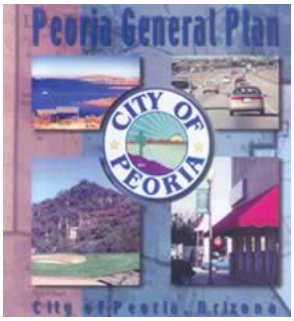
City of Chandler



The General Plan for the City of Chandler was adopted in November , 2001. Opportunities for mobility are addressed in the Circulation Element of the General Plan. This includes public transit routes and stations; and pedestrian facilities and other facilities that provide mobility options for Chandler residents, businesses and visitors.

The City of Chandler General Plan provides general support of commuter rail. There are several goals listed in the plan, two of the goals address transit. The first goal is to develop an integrated city wide transportation system that facilitates the use of alternative modes of travel. A listed objective to achieve this goal is the identification of corridors where transit can be integrated most effectively. Another identified goal is the coordination between adjoining communities and to explore the development of a regional high capacity transit system.

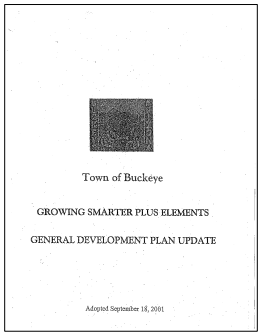
City of Peoria



The Peoria General Plan strives to build a synchronous vision of the City's future from the visions of a diverse population. It integrates the aspirations of the City's residents, businesses and officials into a strategy for managing change. The General Plan is the primary tool for guiding the future development of the City. It provides a framework for making decisions by describing long-term goals for the City's future as well as policies to guide day-to-day decisions.

The City of Peoria General Plan provides general support for public transit within the Circulation element. The Plan includes a goal to provide multimodal transportation system that will serve the community and region. Policies to support this goal included coordination efforts in transit with ADOT, MCDOT and Valley Metro to ensure timely provision of required transportation improvements and coordination with RPTA to develop passenger transit and Park and Ride facilities at selected locations in commuter corridors.

Town of Buckeye

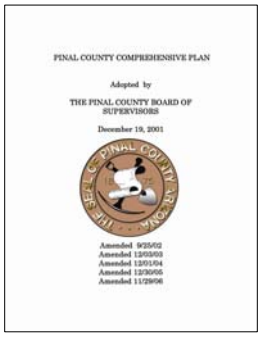


The Town of Buckeye 2001 General Plan supports careful municipal growth, blending areas with distinct rural identity and agricultural heritage that characterizes it unique, neighborly style. Citizens foresee a balance of business, jobs, housing, culture, recreation and education. The variety of land uses will be located strategically so as to maintain natural space in multiple use parks and trails with an array of activities or themes.

The General Plan for the Town of Buckeye generally supports public transportation. One goal included in the plan is to contribute to sense of place and quality of life by establishing connections among neighborhoods and adjacent areas. Another goal is to maintain Buckeye's advantage as a regional Eye of Growth and promote

transportation.

Pinal County


PINAL COUNTY COMPREHENSIVE PLAN

Adopted by

THE PINAL COUNTY BOARD OF SUPERVISORS

December 19, 2001

Amended 9/25/02
Amended 12/03/03
Amended 12/01/04
Amended 12/20/05
Amended 11/29/06

The Pinal County General Plan, 2001 strives to create strong and vibrant communities within Pinal County by encouraging orderly development. By accommodating new growth in areas that can sustain additional development, the plan endeavors to conserve scarce resources and to build communities based on well-protected environmental resources and to build a strong diversified economy. The plan's elements reflect the character of the County's population, while the goals, policies and implementation tools guide future land use and transportation decisions.

The General Plan for Pinal County supports alternative modes of transportation within the Transportation element. The General Plan states that continued efforts should be taken to encourage alternative modes of transportation and provides several goals and objectives that promote public transit. Table 3 lists major activity centers, regional thoroughfares and the review of local general plans for all five existing railroad corridors.

Town of Youngtown

The Town of Youngtown does not currently have a General Plan in place.

Table 3: Corridor Community and Land Use Descriptions

Corridor/Line	Limits	One-Way Miles	Major Activity Centers	Regional Thoroughfares	Community Acceptance
BNSF – Grand Avenue	Downtown Phoenix to Loop 303	26	• Downtown Phoenix (transfer to LRT) • ASU Downtown Center • State Capitol • State Fairgrounds • Downtown Glendale • Concentra Medical Hospital • Boswell Memorial hospital • El Mirage Village Square • Sun Health Del E Webb Memorial Hospital • Grand Canyon College • Phoenix Community College	• I-10 West • Hwy 17 • Loop 303	***Support*** **City of Wikenburg**- General Plan supports use of BNSF for commuter rail **City of Surprise-**General Plan supports use of BNSF for commuter rail **City of El Mirage-** General Plan supports use of BNSF for commuter rail **City of Glendale-**General Plan supports multimodal options (lists light rail and bus but not commuter rail **City of Peoria-**General Plan provides support for public transportation ***No General Plan*** **Youngtown-** Does not have General Plan
UP Main/ Chandler Branch	Downtown Phoenix to Queen Creek Road	28	• Downtown Phoenix (transfer to LRT) • Chase Ballpark • America west Arena • Civic Plaza Convention Center • ASU Downtown Campus • St. Joseph's Hospital and Medical Center • Phoenix Sky Harbor International Airport • Pueblo Grande Museum • Carraro Cactus Gardens • Papago Park • Phoenix Stadium • Rio Salado Park • Downtown Tempe (transfer to LRT) • ASU Main Campus • Sun Devil Stadium	• SR-51 • I-10 West • Loop 202 • LRT Starter Line	**City of Tempe-**General Plan supports commuter rail along existing corridors and new alignments from Scottsdale to Tempe and form Chandler to Tempe. **City of Mesa-**General Plan generally supports commuter rail

Corridor/Line	Limits	One-Way Miles	Major Activity Centers	Regional Thoroughfares	Community Acceptance
			• Wells Fargo Arena • Packard Stadium • Arizona State College • Tri-City Mall • Fiesta Mall • Downtown Chandler		
UP Main/ Southeast	Downtown Phoenix to Ellsworth Road	32	• Chase Ballpark • US Airways Arena • Civic Plaza Convention Center • ASU Downtown Campus • St. Joseph's Hospital and Medical Center • Pueblo Grande Museum • Carraro Cactus Gardens • Papago Park • Phoenix Stadium • Rio Salado Park • Downtown Tempe (transfer to LRT) • ASU Main Campus • Sun Devil Stadium • Wells Fargo Arena • Packard Stadium • Arizona State College • Tri-City Mall • Fiesta Mall • Phoenix Mesa Gateway Airport	• SR-51 • I-10 West • Loop 101 • US 60 • Loop 202 • LRT Starter Line	**City of Tempe-** General Plan supports commuter rail along existing corridors **Town of Gilbert**-General Plan supports commuter rail and a station along UP Southeast **Town of Queen Creek-**General Plan supports commuter rail on UP through town center

Corridor/Line	Limits	One-Way Miles	Major Activity Centers	Regional Thoroughfares	Community Acceptance
UP Yuma/ West	Downtown Phoenix to Buckeye	31	• Downtown Phoenix (transfer to LRT • ASU Downtown • State Capitol • Tolleson • Westridge mall • Banner Estrella Medical Center • Litchfield Airport, Goodyear airport • Avondale • Buckeye	Hwy 17 Loop 303	**City of Tolleson-** General Plan generally supports transit **City of Avondale-**General Plan supports commuter rail and wants to pursue funding to convert existing rail line into commuter rail system **City of Goodyear-**General Plan supports commuter rail. City's policy is to continue to work with START committee to identify and implement Union Pacific/Southern Pacific RR tracks as commuter rail **Town of Buckeye-** The General Plan generally supports public transportation
UP Main/ Tempe Branch	Downtown Phoenix to Chandler Boulevard	17	• Downtown Phoenix (transfer to LRT) • Civic Plaza Convention Center • ASU Downtown Campus • St. Joseph's Hospital and Medical Center • Phoenix Sky Harbor International Airport • Pueblo Grande Museum • Carraro Cactus Gardens • Papago Park • Phoenix Stadium • Rio Salado Park • Downtown Tempe (transfer to LRT) • ASU Main Campus • Gammage Auditorium • Tempe St. Luke's Hospital • Chandler Mall	• SR-51 • I-10 West • Loop 101 • US 60 Loop 202 • LRT Starter Line	**City of Tempe-** General Plan supports commuter rail along existing corridors **City of Chandler-**General Plan generally supports high capacity transit networks
Extensions			• City of Casa Grande • City of Coolidge • City of Eloy • City of Apache Junction		**Pinal County-** General Plan supports alternative modes of transit

Commuter Rail Implementation Steps

Developing a commuter rail system will provide an alternative transportation mode to meet travel demands resulting from expected growth in Maricopa County and northern Pinal County. Over the next 25 years, Maricopa County and Pinal County are projected to more than double in population over the 2005 base population (3,855,000), with an anticipated total of 7.0 million people in 2030, reflecting an increase of 82%. This anticipated growth will put additional strain on an already congested transportation system, cause additional air quality concerns, and further challenge transportation funding sources of the region.

The Commuter Rail Stakeholders Group (CRSG) has determined that implementing a regional commuter rail system would significantly help to improve transportation in the region as population and congestion continue to grow. A strategic planning process utilized by the CRSG developed a series of goals, objectives and actions that were then used to define the following steps for implementing commuter rail in Maricopa County and northern Pinal County.

Table 4: Steps for Implementation of Commuter Rail

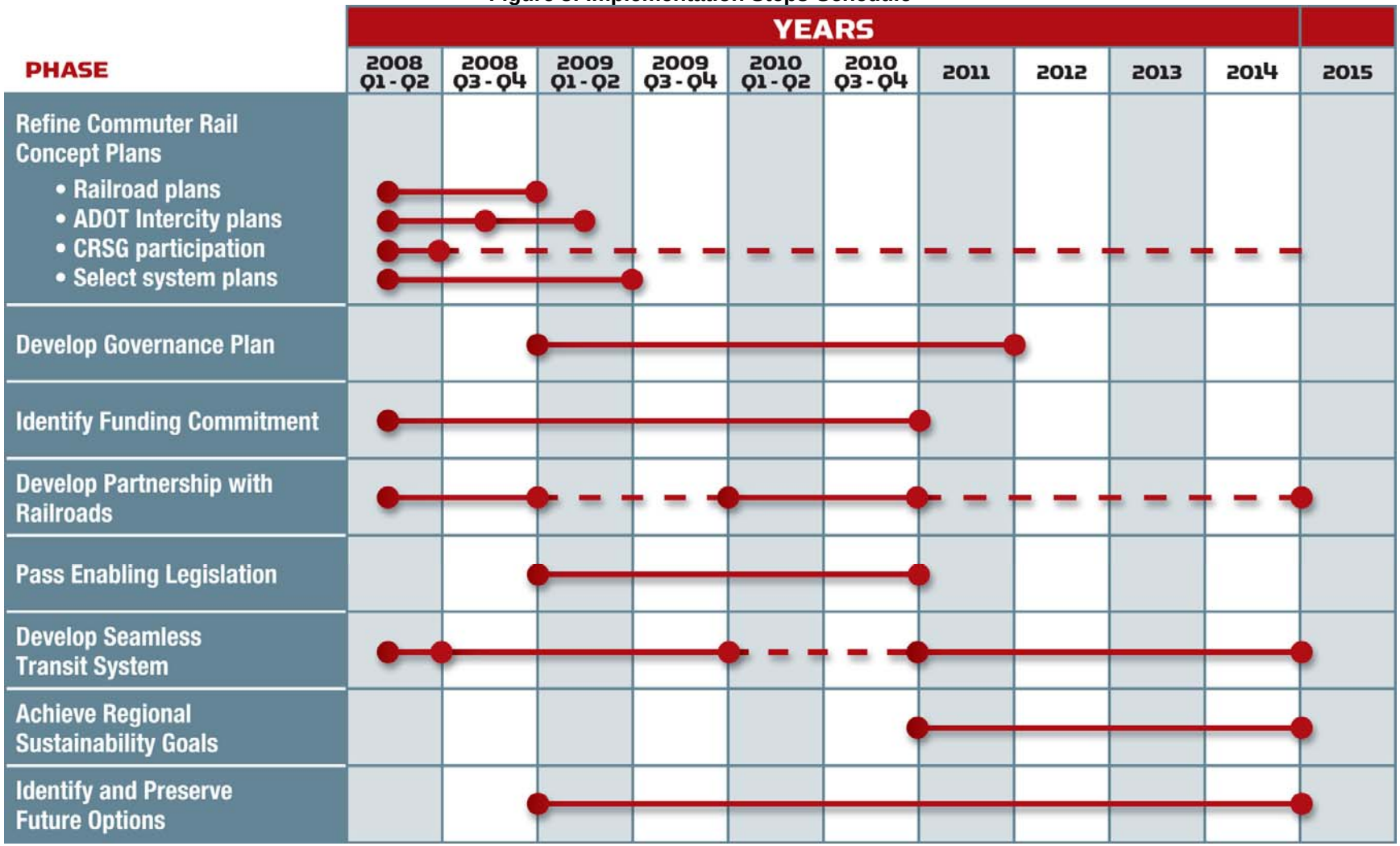
Item	Responsible Party	Partners	Timeframe
1) Refine Commuter Rail Concept Plans – This work would update locations, railroad coordination requirements, costs and benefits in Maricopa and Pinal County. • This work should be closely coordinated with plans of the freight railroads for improved facilities. • Coordinate with plans by ADOT for intercity passenger service between Phoenix and Tucson. • Develop on-going participation process for the Commuter Rail Stakeholders Group. • Select preferred system concept.	MAG CAAG	Railroads METRO ADOT RPTA	2008-2009
2) Develop Governance Plan - The partners involved in developing a governance structure will be determined by the geographic scope of the service being implemented. Service within Maricopa County would involve MAG, RPTA, METRO, and ADOT. Service extended into Pinal County would involve CAAG, and intercity service to Tucson would involve PAG in the process. . The agencies would maintain their current responsibilities and funding for their current programs but would be	MAG RPTA METRO CAAG ADOT	Maricopa County Pinal County PIMA County (Phoenix-Tucson service) Local Jurisdictions	2009-2011

Item	Responsible Party	Partners	Timeframe
jointly charged with implementation of commuter rail in the region. The transportation agencies should agree to implement and administer the commuter rail system by a one of a variety of means including: ▪ A new Passenger Rail Authority (PRA); or ▪ Designate one of the four agencies as the Passenger Rail Authority; or ▪ Establish a new Joint Powers Authority (JPA) with a provision for representation appropriate to the corridor or system to be implemented.			
3) Identify Funding Source Commitment - Define new revenue streams that would be dedicated to development and ongoing operation of the commuter rail system. An assured funding commitment will be required to negotiate for trackage rights or right-of-way from the railroads. At the same time it is important to recognize the strong preference to avoid disrupting current programmed projects and funding among the agencies.	PRA or JPA	MAG ADOT Legislature	2008-2010
4) Develop Partnerships with Railroads - Develop a public/ private Memorandum of Understanding followed by detailed agreements with freight railroad companies to define funding and to implement commuter rail facilities and services that will mutually benefit the public and private sector interests.	PRA or JPA	BNSF UP Rail Authority Elected officials Tribal Communities	2009-2011
5) Pass Enabling Legislation - Work to pass enabling legislation relative to liability and indemnification to facilitate Commuter Rail operations in freight rail corridors similar to legislation recently passed in Minnesota, Virginia, New Mexico, and Colorado.	PRA or JPA	RPTA METRO ADOT	2010-2011

Item	Responsible Party	Partners	Timeframe
6) Develop Seamless Transit System - Coordinate joint planning and operations to develop a seamless system of transit services throughout the Maricopa/northern Pinal region.	PRA or JPA	RPTA METRO ADOT Existing Transit Providers County Governments Tribal Communities Railroads Major Landowners Business Community	2010-2015
7) Achieve Regional Sustainability Goals - Develop the commuter rail system to reinforce and achieve regional sustainability goals and plans relative to energy and the environment. This will include attention to environmental requirements, land use plans and opportunities, and joint project development.	PRA or JPA	MAG CAAG ADOT Railroad Maricopa County Pinal County Local Jurisdictions	2010-2015
8) Identify and Preserve Future Options - Use planning studies to identify and preserve rights-of-way in developing and underdeveloped areas for multimodal transportation corridors to include roadway and rail transit.	PRA or JPA	MAG CAAG ADOT Railroad Maricopa County Pinal County Local Jurisdictions	2010-2015

A conceptual timeline was developed to provide the order of implementation steps and demonstrate which steps could occur simultaneously. The timeframe for each commuter rail implementation step is depicted in Figure 3

Figure 3: Implementation Steps-Schedule



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