



# 2040 Metropolitan Transportation Plan

Albuquerque / Bernalillo County Air Quality Control Board  
February 11, 2015



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# Albuquerque Metropolitan Planning Area:

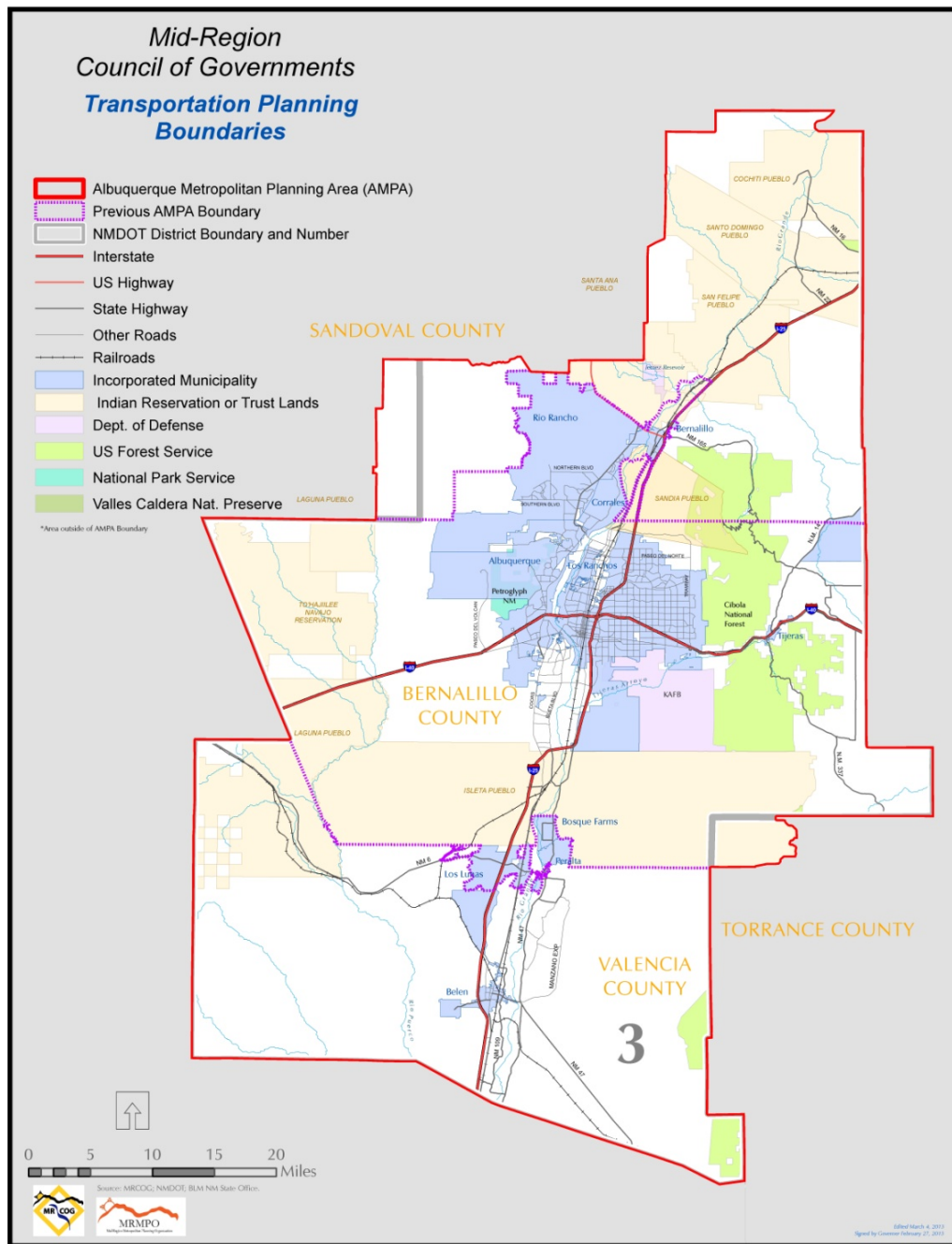
## Three counties

- Bernalillo County
- Valencia County
- Sandoval County

## Two urbanized areas:

- Albuquerque
- Los Lunas

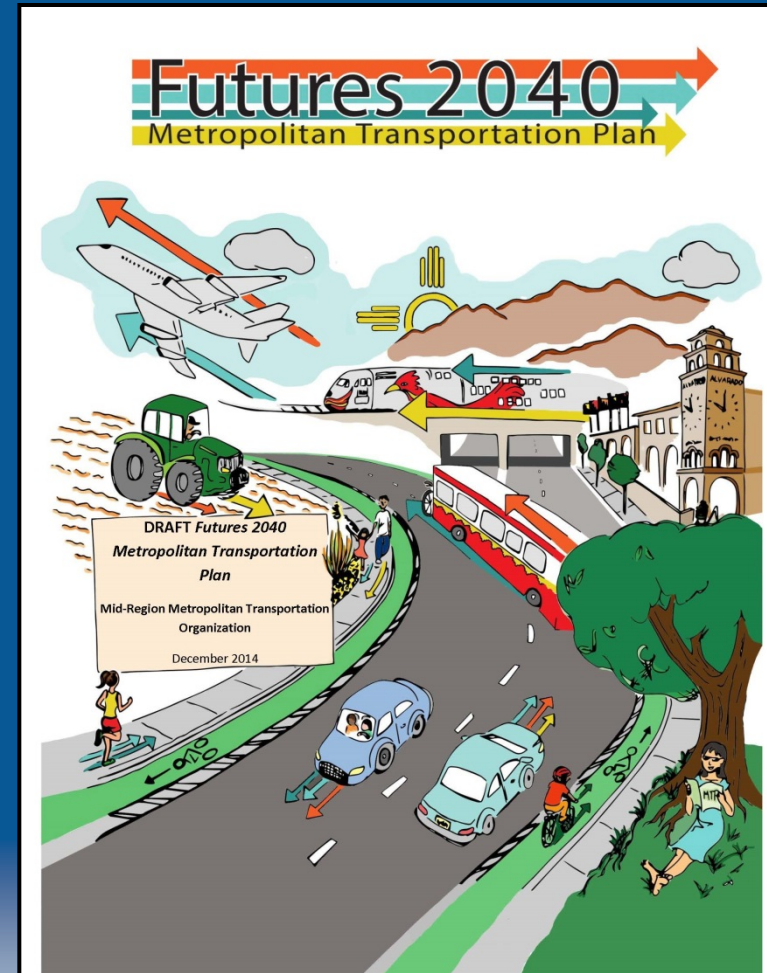
**Population (2012) = 879,401**



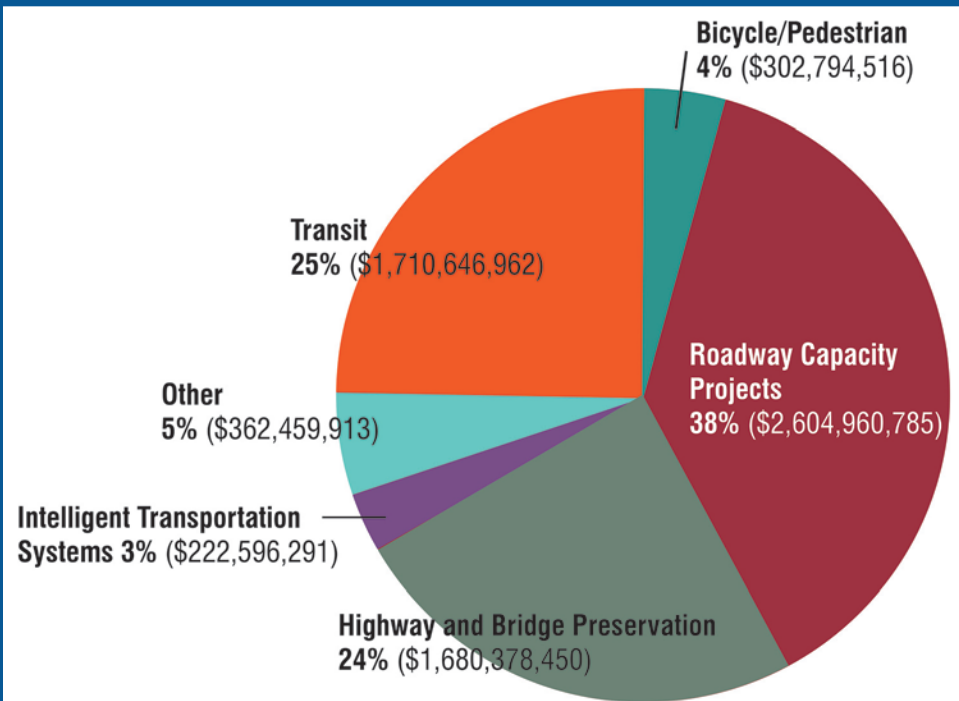
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# Metropolitan Transportation Plan

- ◆ Long-range (20+ years) transportation plan for the Albuquerque metro area
- ◆ Updated every 4 years (current update → April 2015)
- ◆ Projections of growth/development
- ◆ List of all anticipated transportation projects in the region



# 2040 MTP Projected Funding Levels

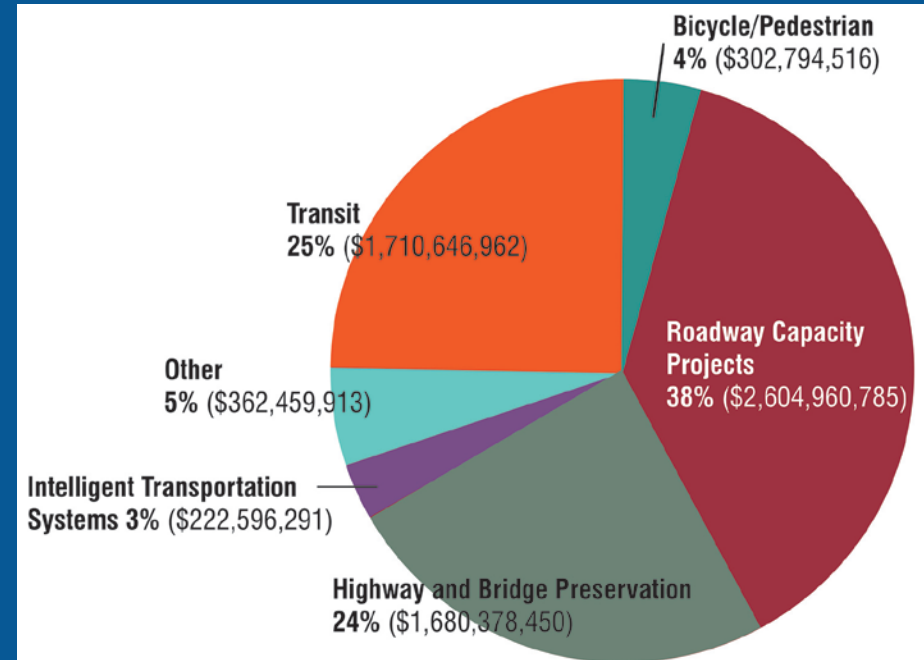
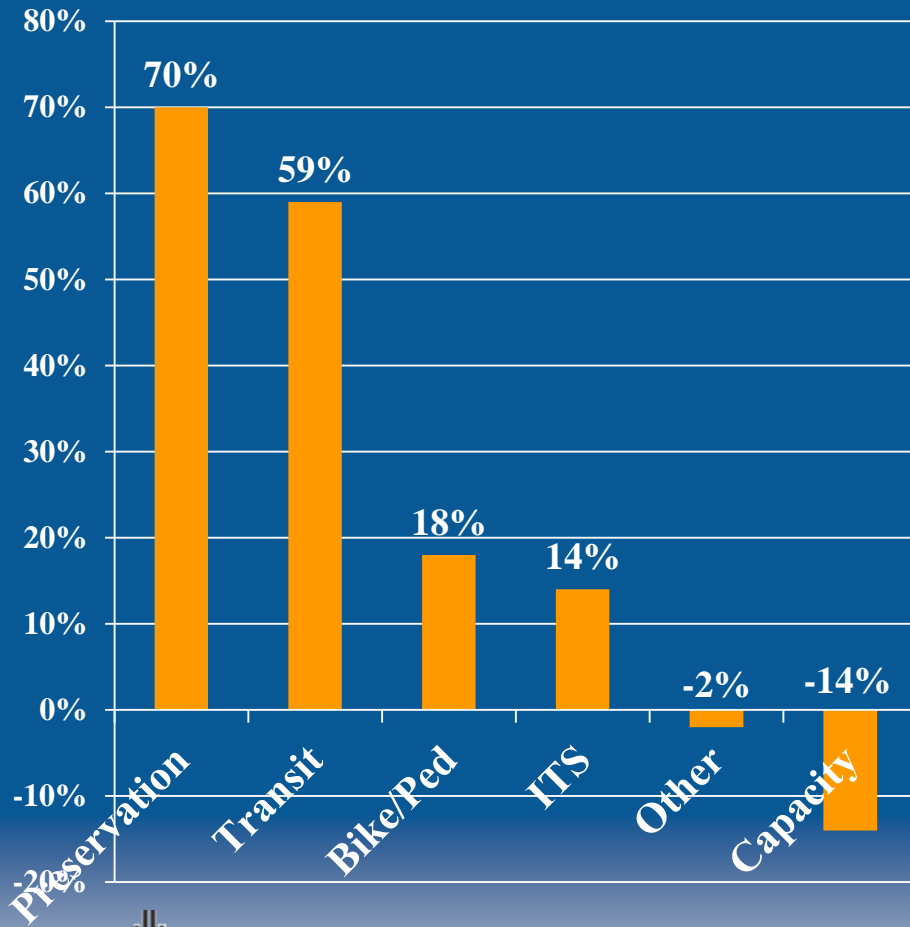


- ◆ \$6.9 billion in projects from 2012-2040
- ◆ Capacity expansion: *public* versus *private*
  - ◆ \$1.5 billion in public funds
  - ◆ \$1.1 billion in private funds



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# Projected Funding Levels Change Compared to Previous MTP



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# Funding Takeaways

- ◆ Changing priorities
  - ◆ Major emphasis on preservation and maintenance
  - ◆ Increase in funding for alternative modes
- ◆ Greater reliance on private funding for capacity expansion
- ◆ Some previously planned roadways are not expected to be funded in 2040 timeframe (they remain on the Long-Range Roadway System)





# 2040 Socioeconomic Forecast



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# What's New in the 2040 MTP?

- ◆ There are new regional projections
- ◆ There is a new land use model
- ◆ There is a new scenario planning process
- ◆ Introducing The Trend Forecast
- ◆ Introducing The Preferred Scenario

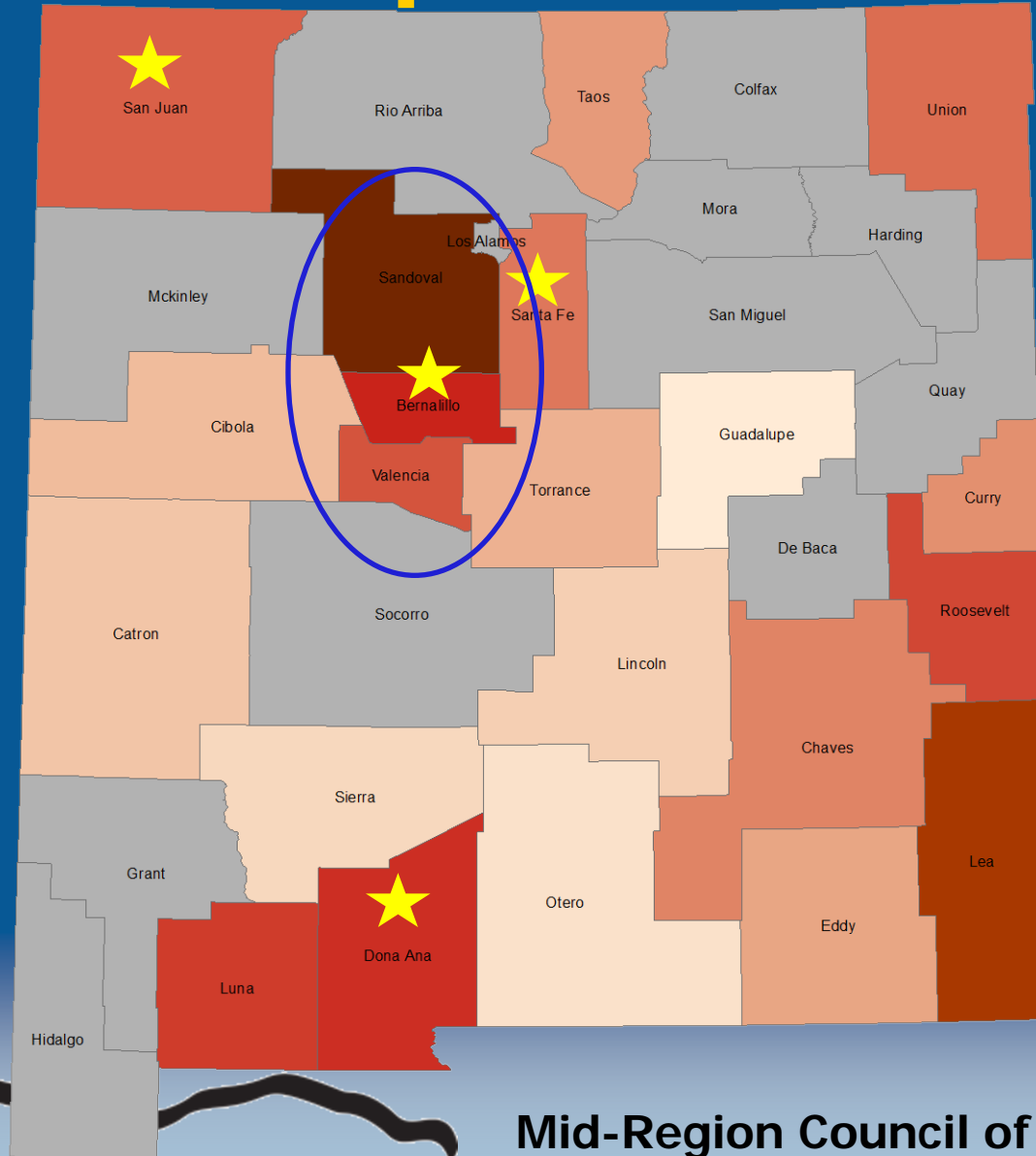


# Regional Projections



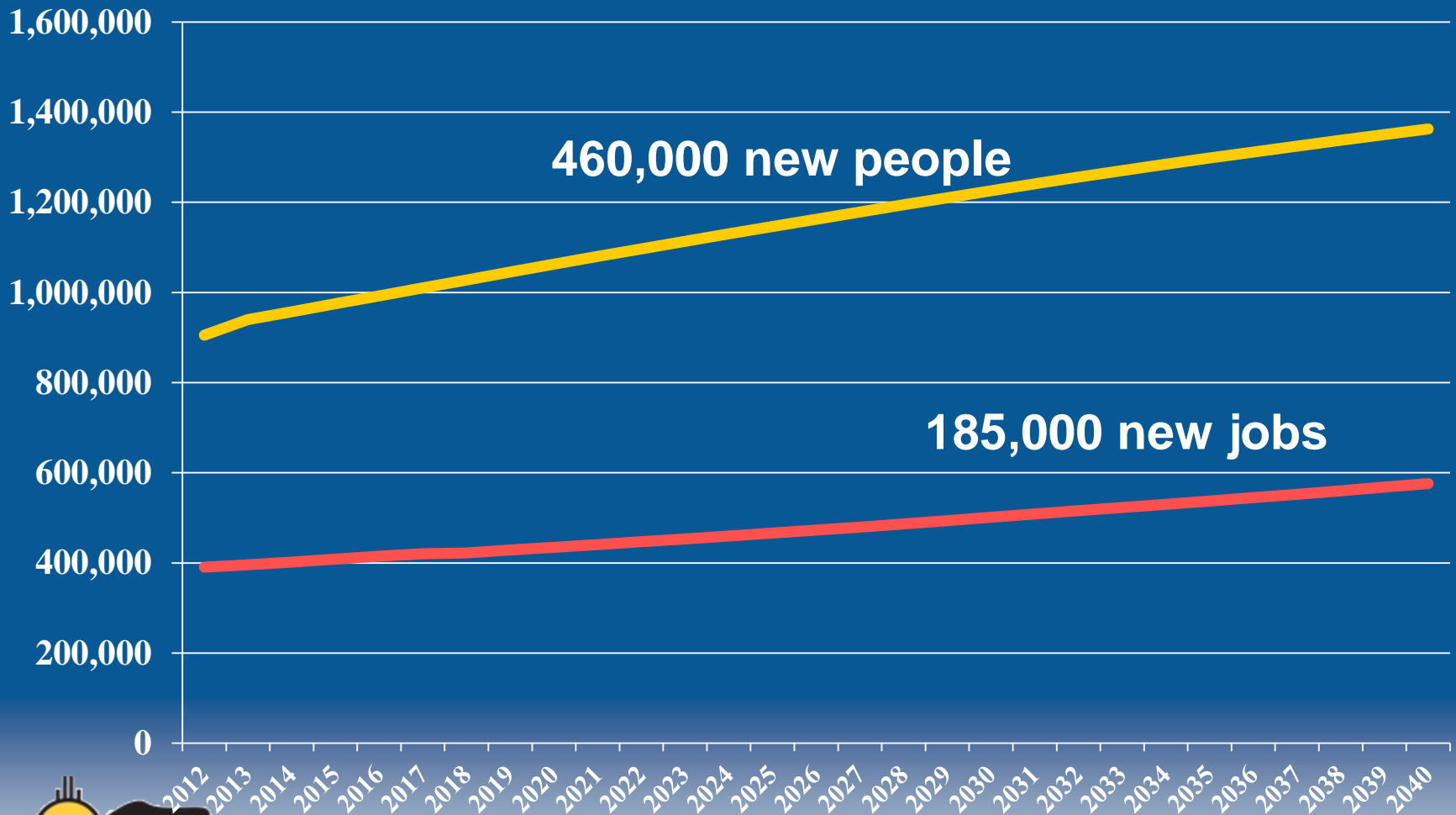
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# Statewide Population Projection



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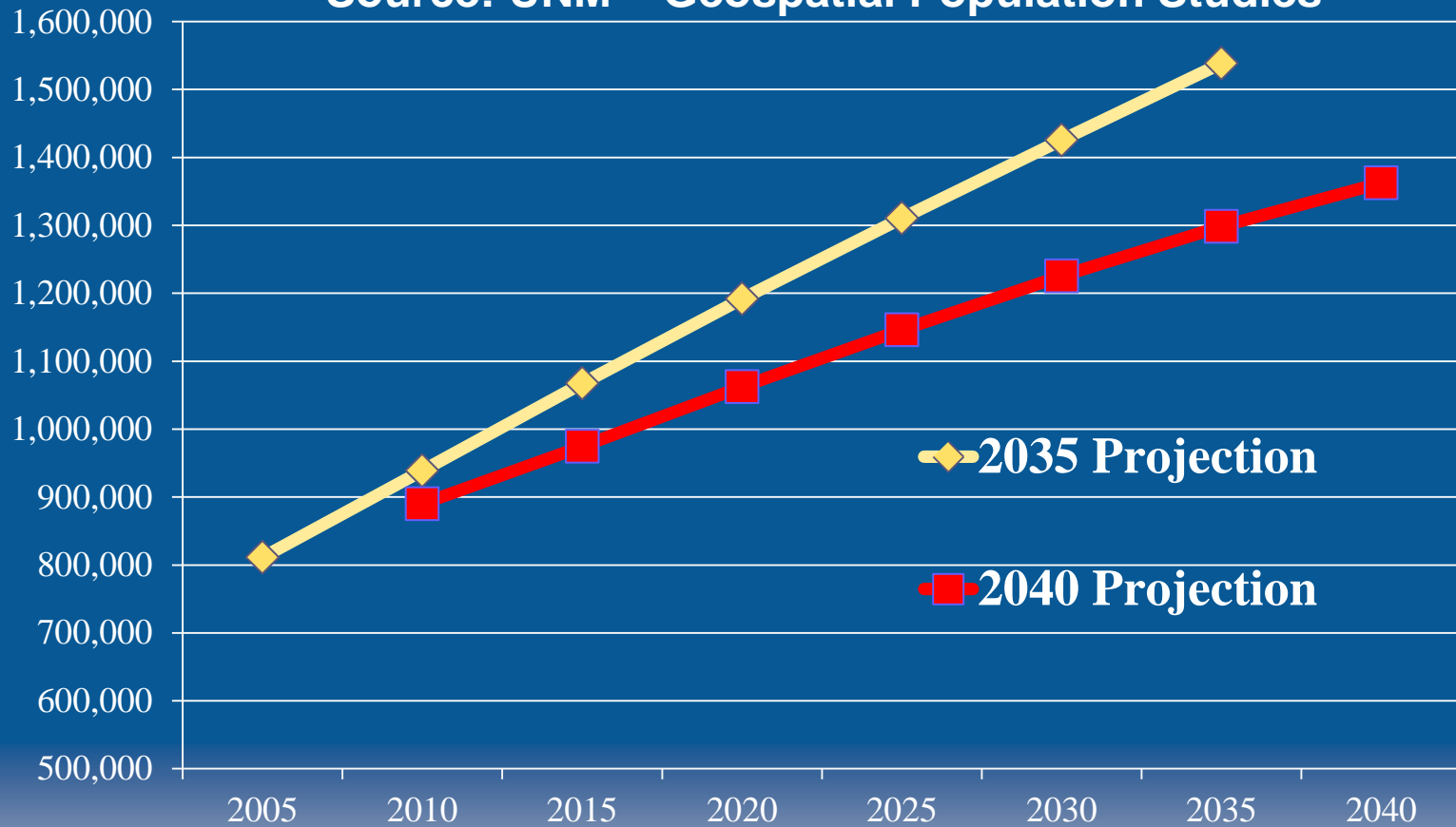
# 2040 Regional Forecast



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# Difference from 2035 MTP

**\*Source: UNM – Geospatial Population Studies**



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Define the “ceiling” →



Collect information →



Allocate the growth →



Refine Forecast →



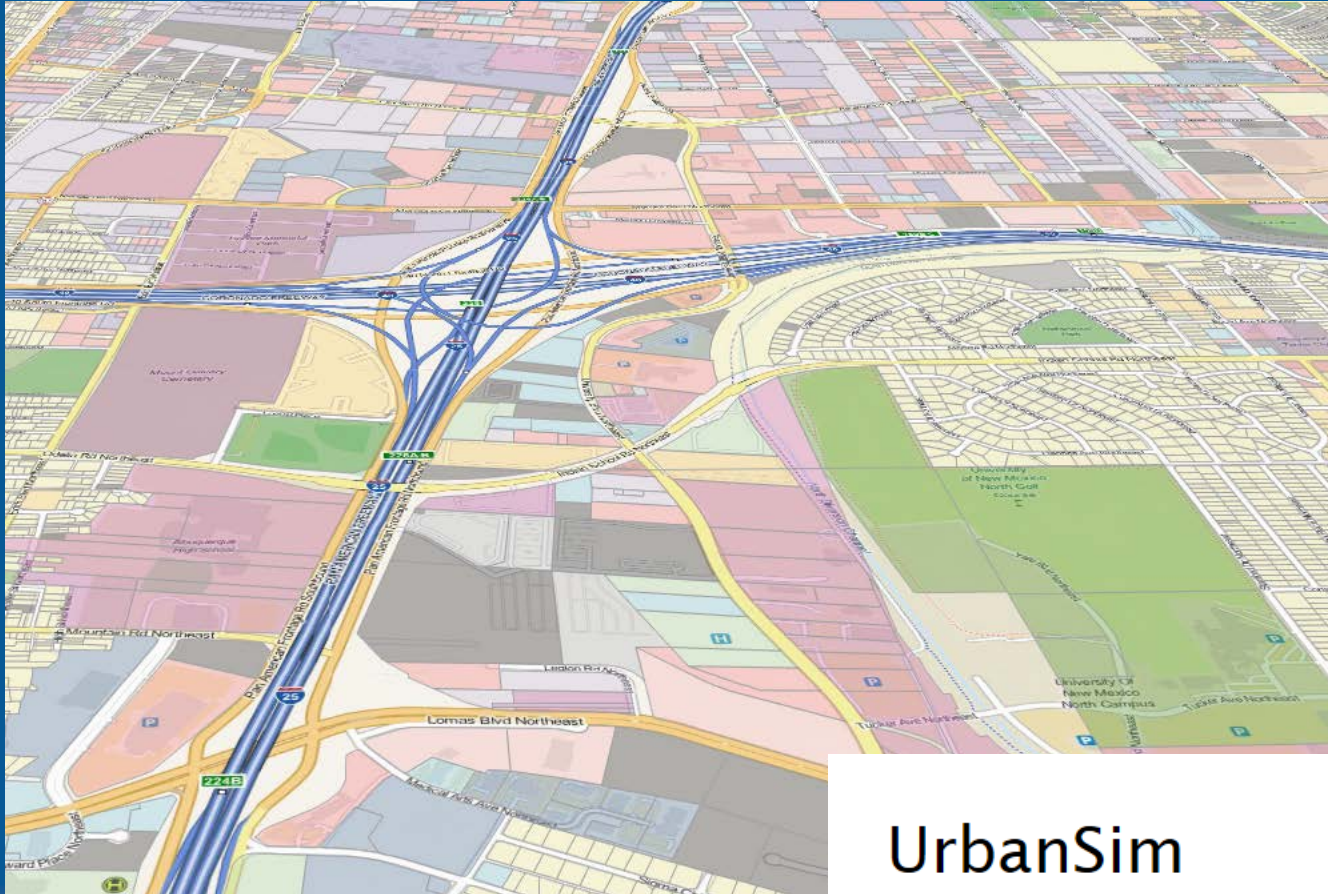
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# The Land Use Model



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# UrbanSim Land Use Model

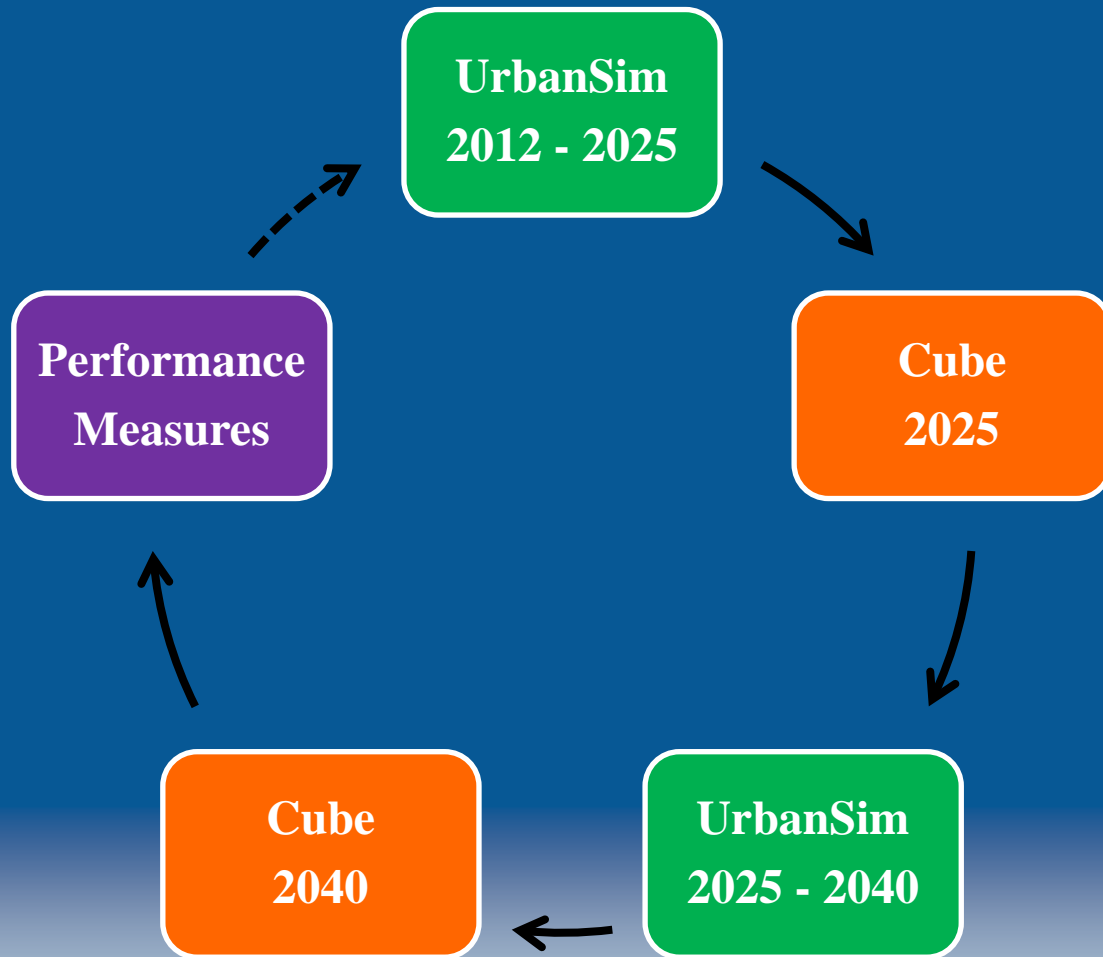


## UrbanSim

Use the state-of-the-art urban simulation system to deliver integrated, long-range forecasting for land use and transportation. Assess regional impacts of population and employment growth, infrastructure investments, and land use and transportation policy.



# Integrated Modeling



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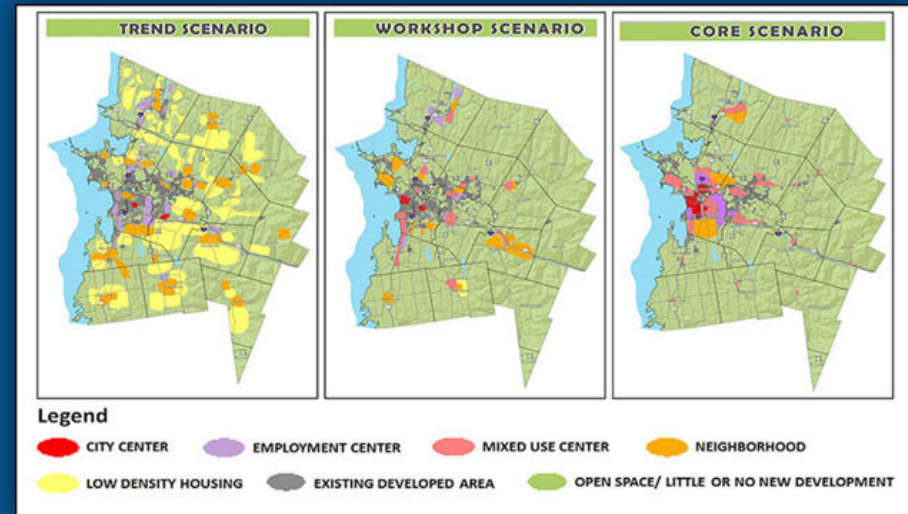
# Scenario Planning



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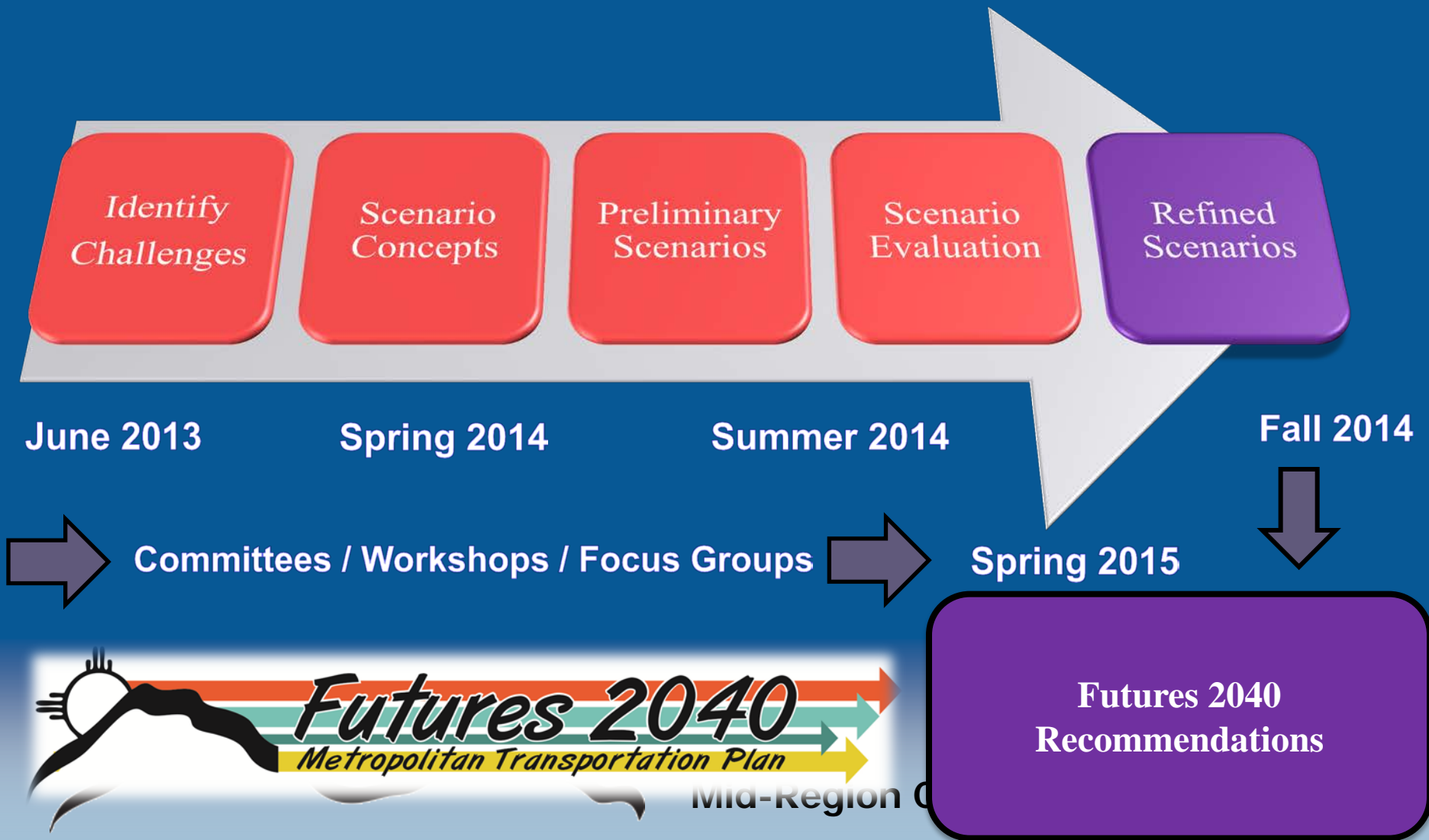
# Scenario Planning

- ◆ Analyze possible growth ‘futures’ for the region
- ◆ Integrate land use and transportation policy-making
- ◆ Understand costs and benefits of development patterns
  - ◆ Land consumption
  - ◆ Transportation conditions
  - ◆ Environmental impacts
  - ◆ Economic competitiveness



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# Scenario Planning Process



# Challenges



# MTP Scenarios

## Trend

Existing plans and policies



Historical development patterns



Separation of land uses



Fiscally constrained roadway and transit networks



## Preferred

Flexible zoning with increased focus on centers and corridors

Greater balance of jobs and housing

Promote mixed uses within key centers and transit nodes (options)

Fiscally constrained roadway and expanded transit in key locations



# Preferred

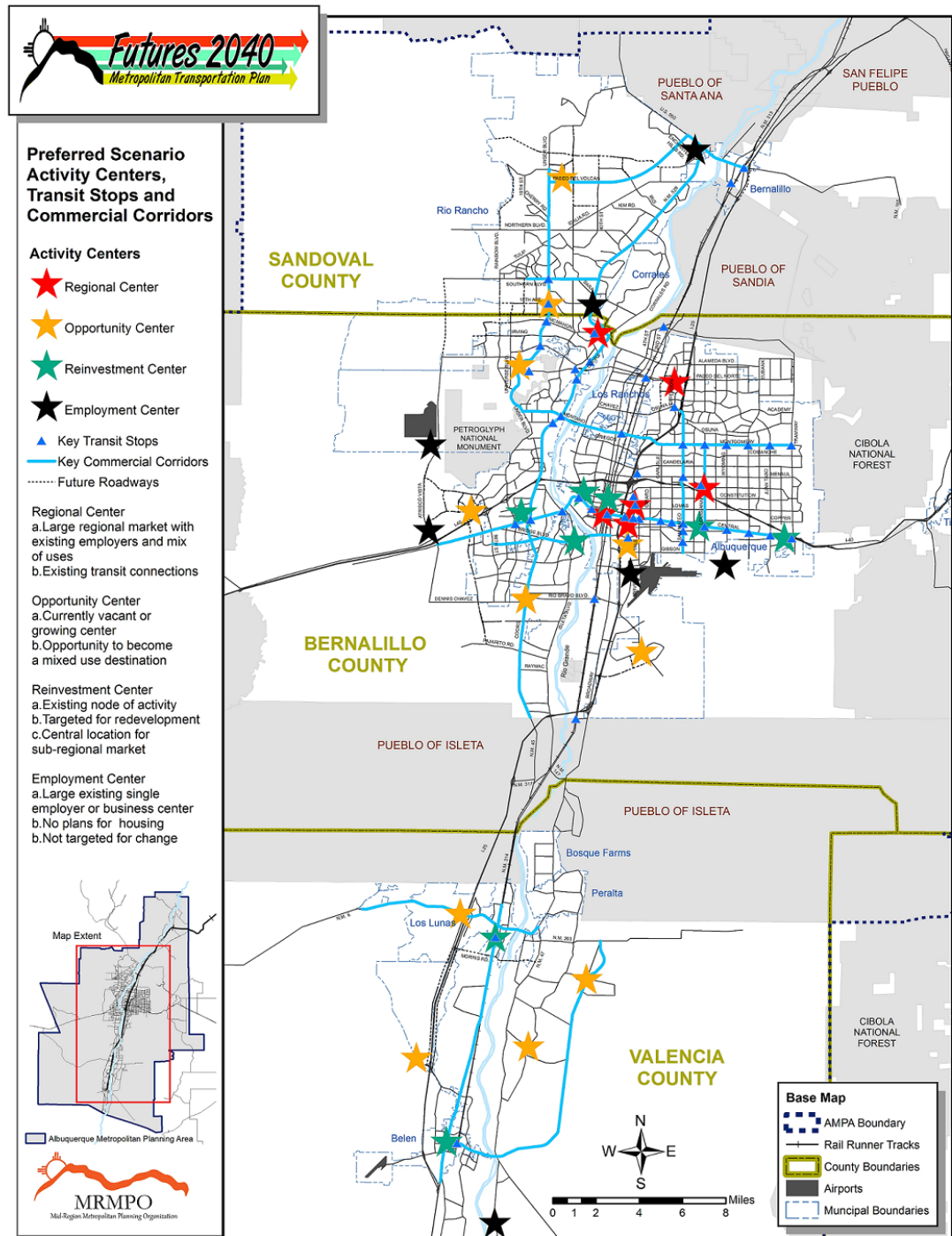
## ◆ Increase attractiveness:

- ◆ Activity Centers
- ◆ Transit Nodes

## ◆ Infrastructure differences:

- ◆ Same roadway network
- ◆ Built-out transit network

## ◆ Self-identified by land use policy making jurisdictions



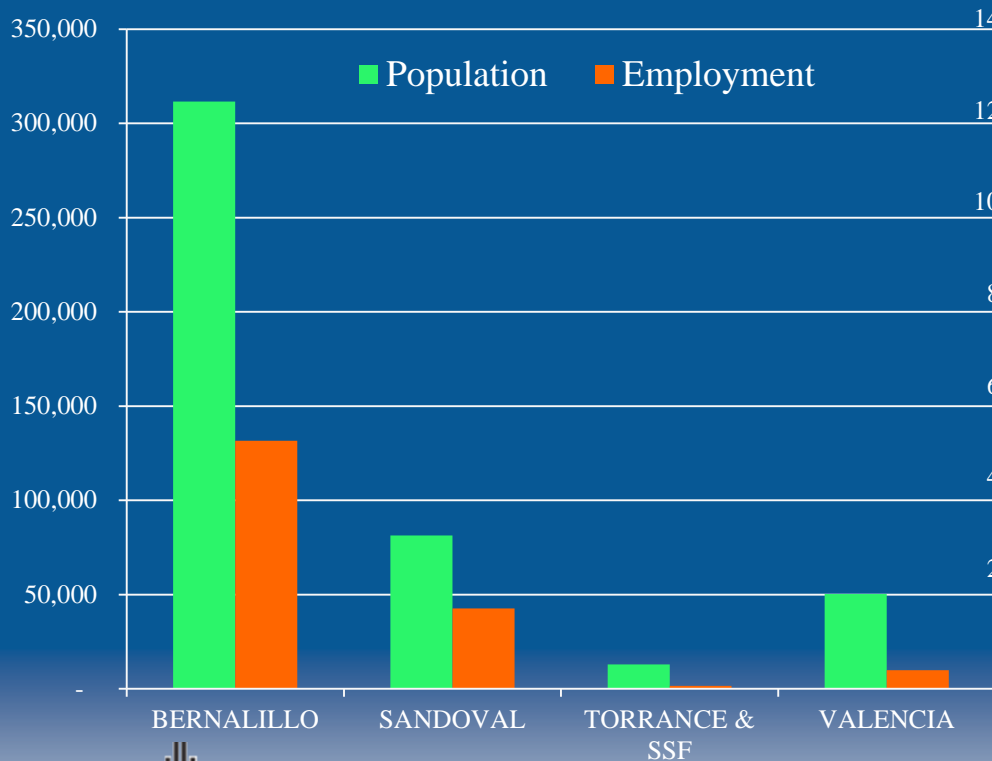
# The Trend Forecast



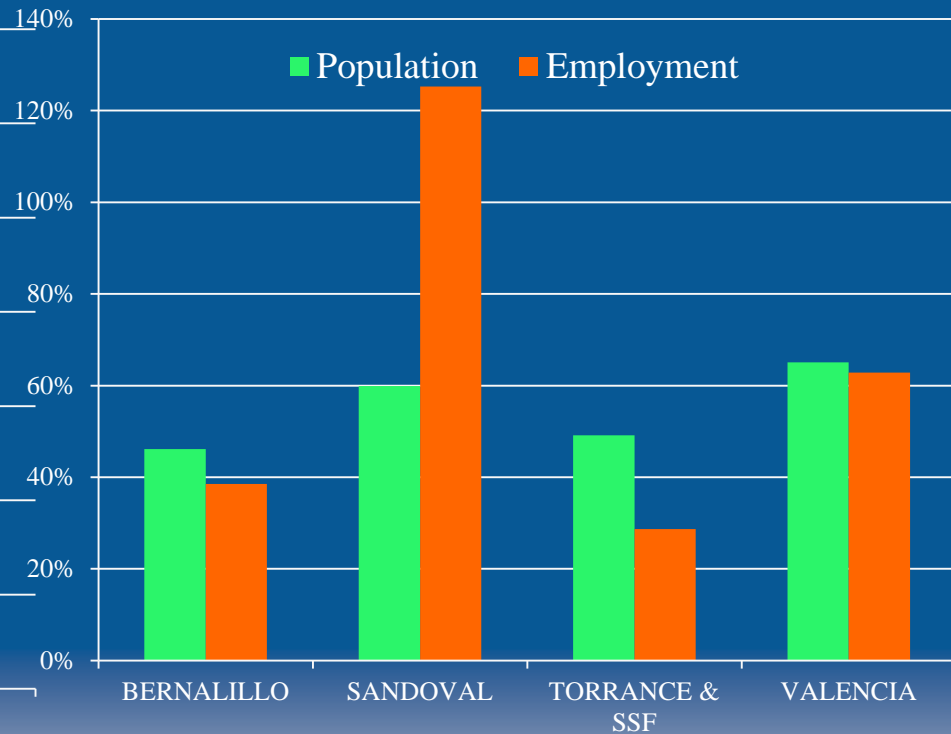
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# County Growth, 2012 - 2040

## Absolute Growth

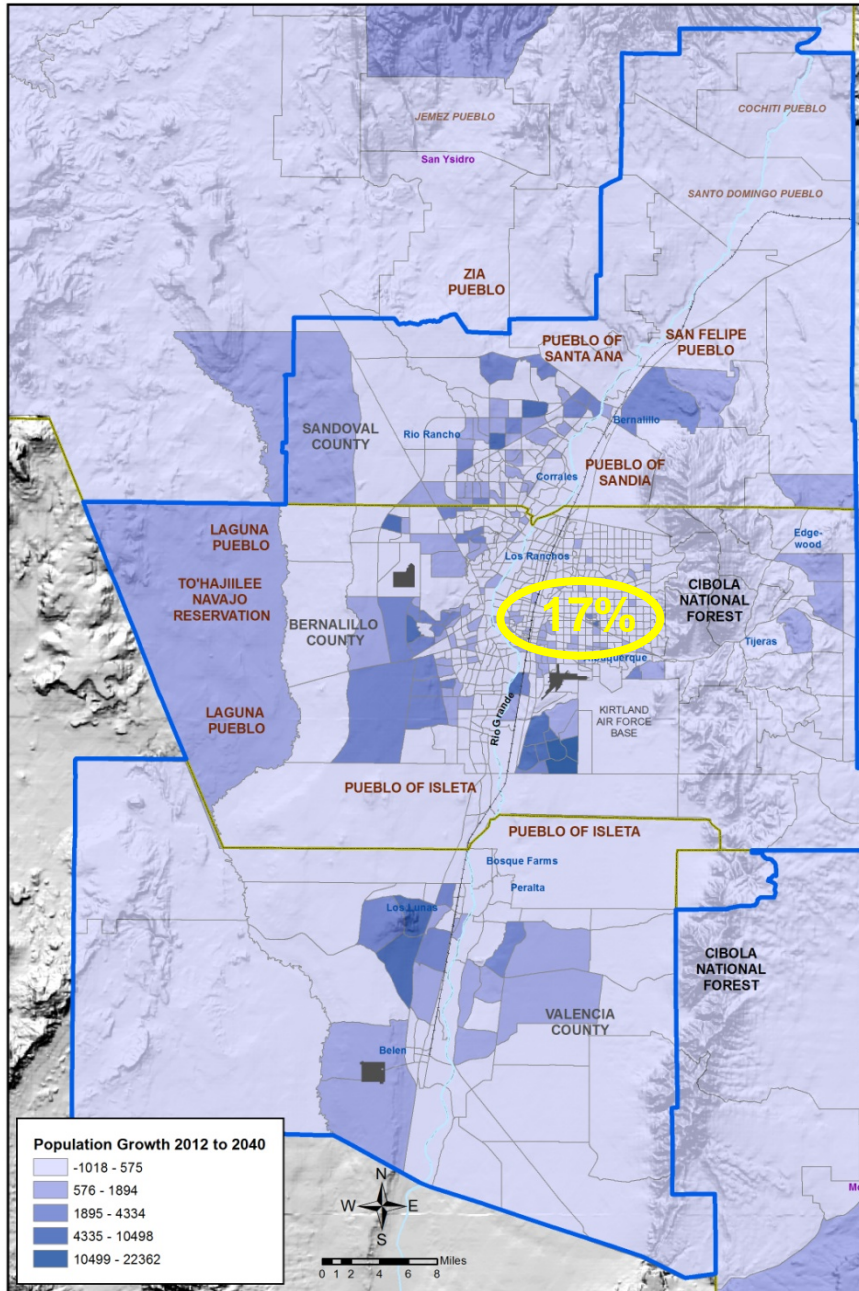


## Percentage Growth

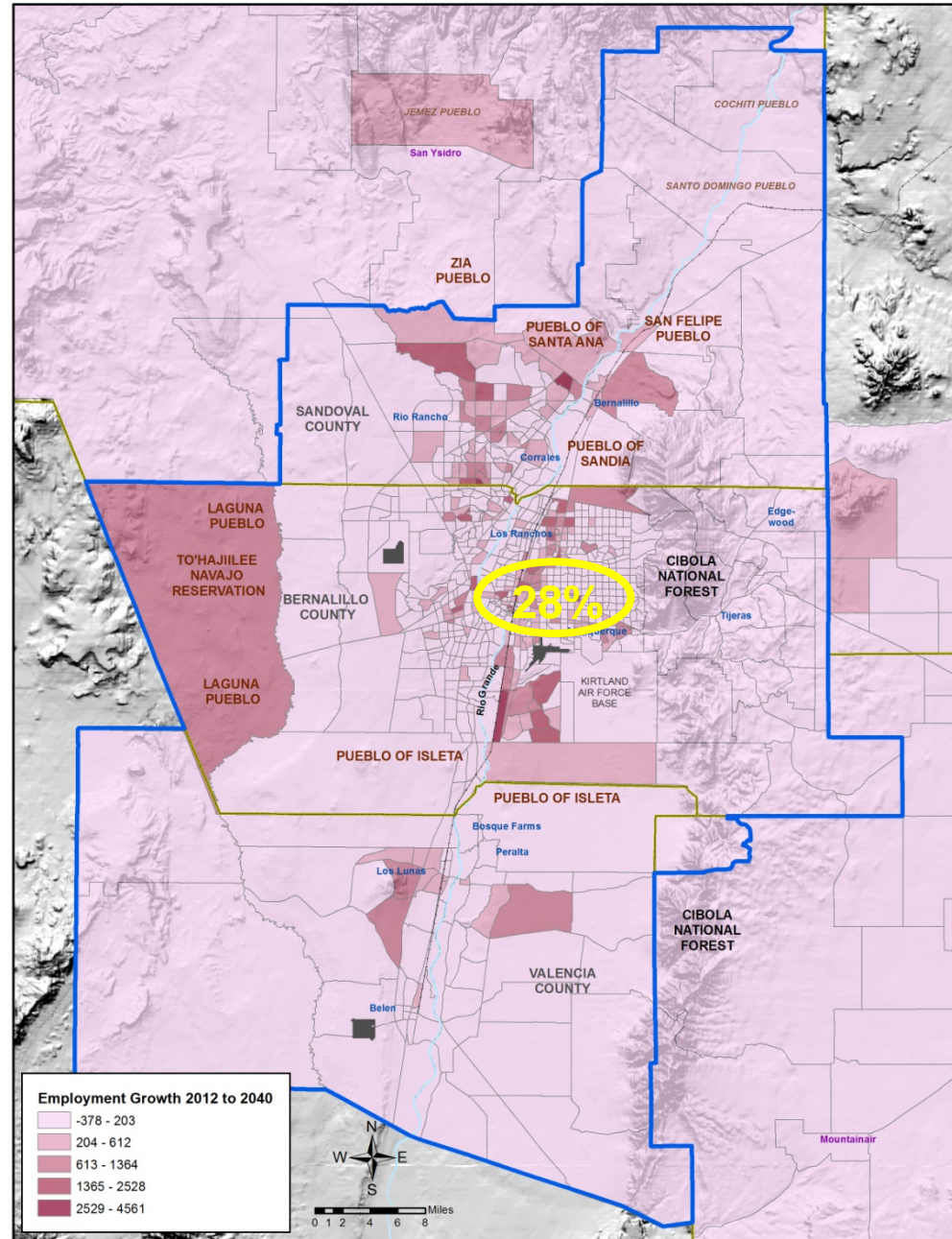


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# Population Growth, 2012 - 2040



# Employment Growth, 2012 - 2040



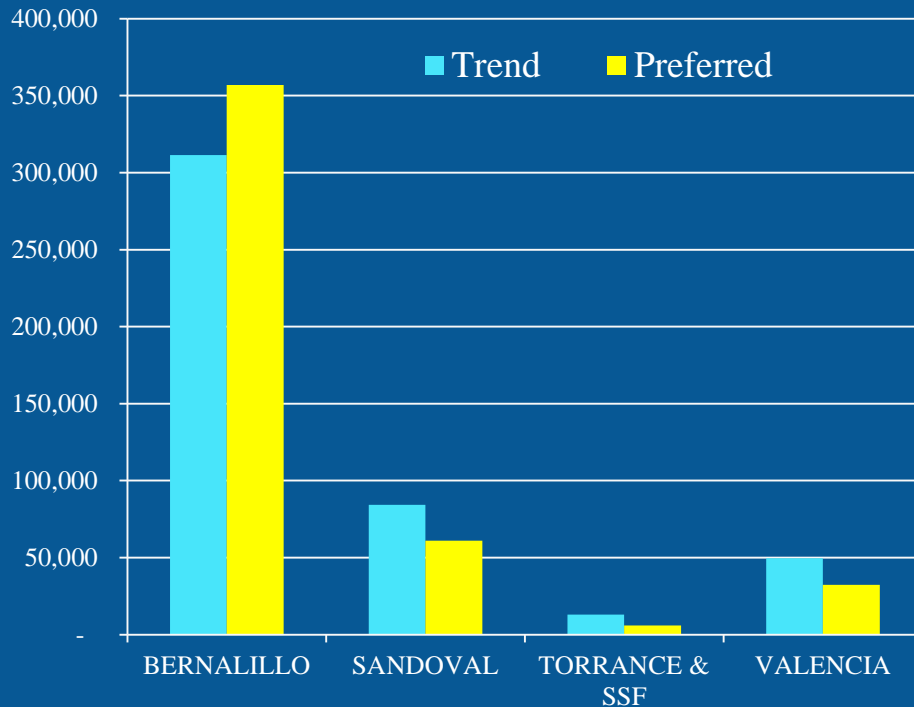
# The Preferred Forecast



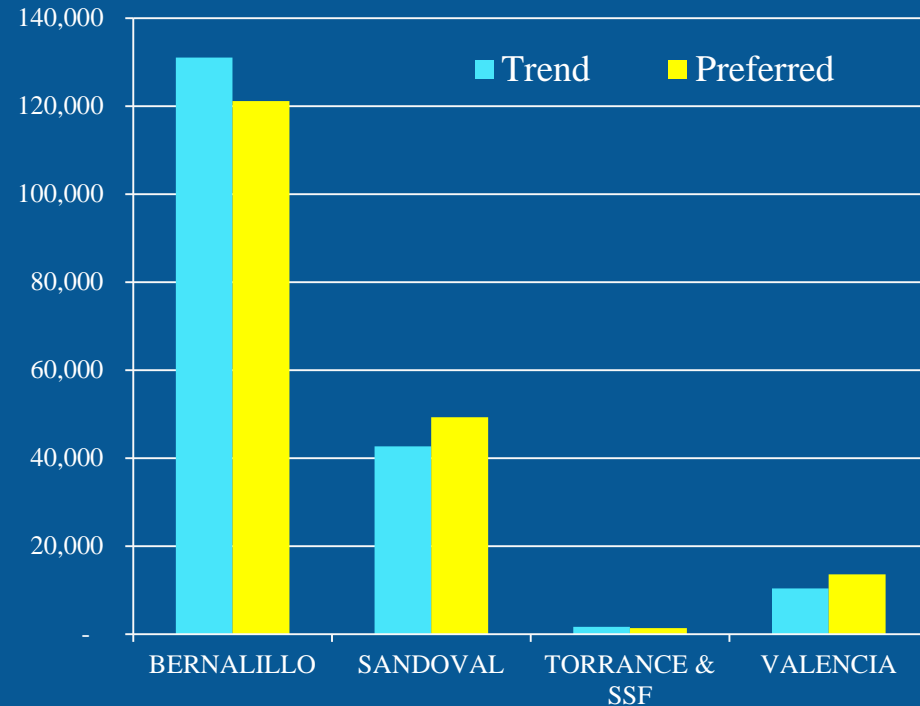
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# County Differences

## Population



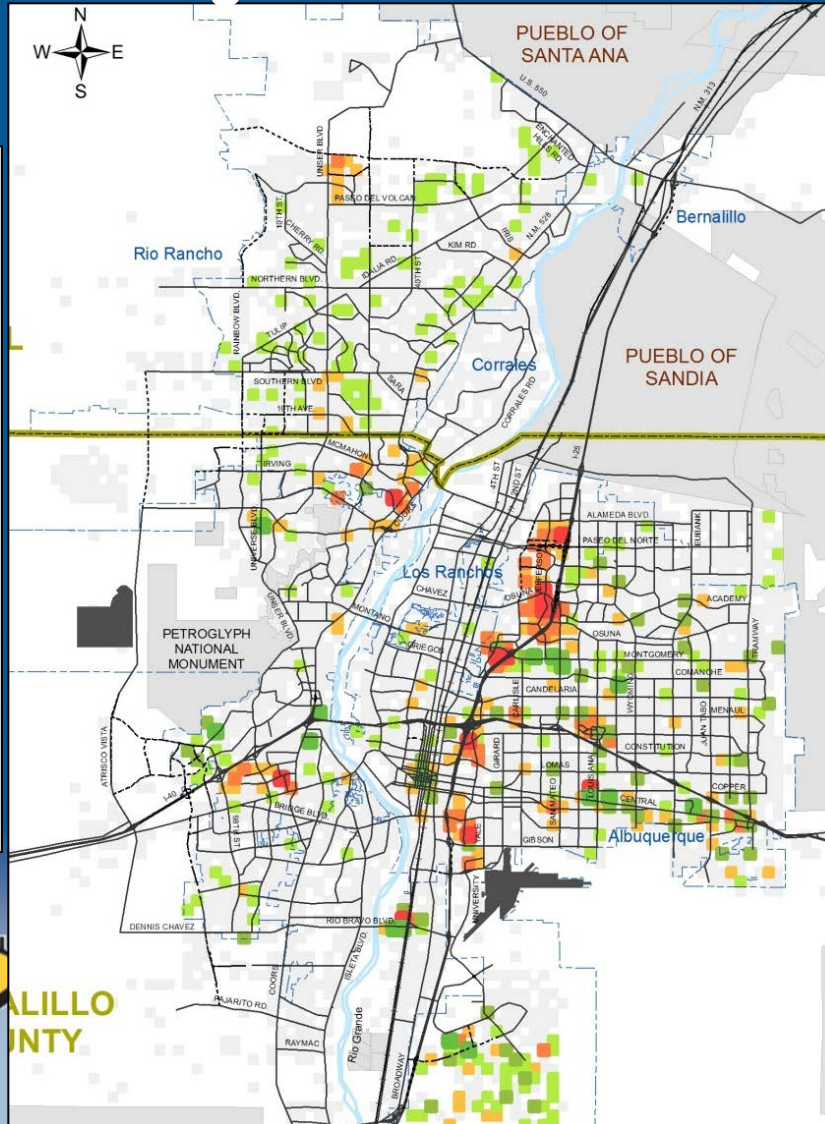
## Employment



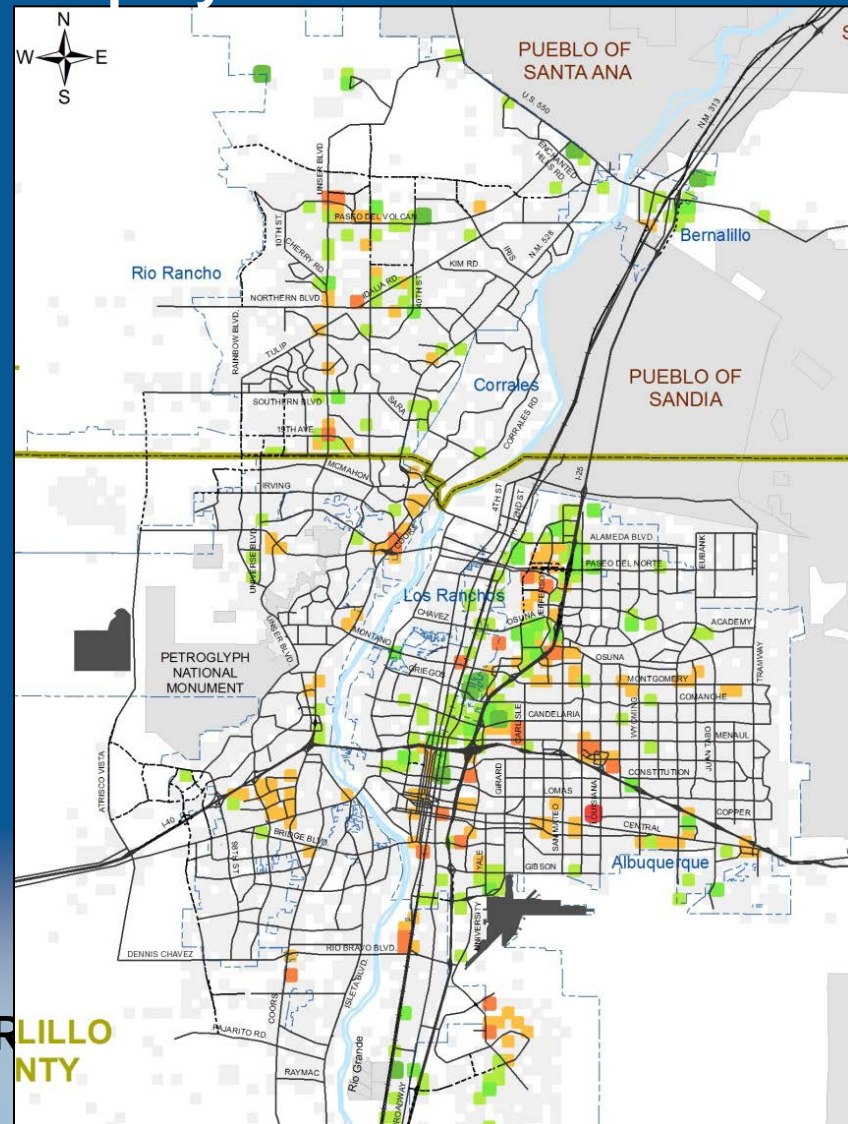
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# Small Area Differences

## Housing



## Employment





# Accessibility Differences

Measures	Preferred - Trend
Developed Acres	-20,374
Households in Activity Centers	31,786
Households near Key Transit Nodes	10,663
Jobs in Activity Centers	19,031
Jobs near Key Transit Nodes	9,850



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# Futures 2040 MTP

- ◆ Trend Scenario will be adopted as the official 2040 MTP socioeconomic forecast
- ◆ Preferred Scenario will be also adopted and serve as a regional target
- ◆ Implementation is up to the local jurisdictions



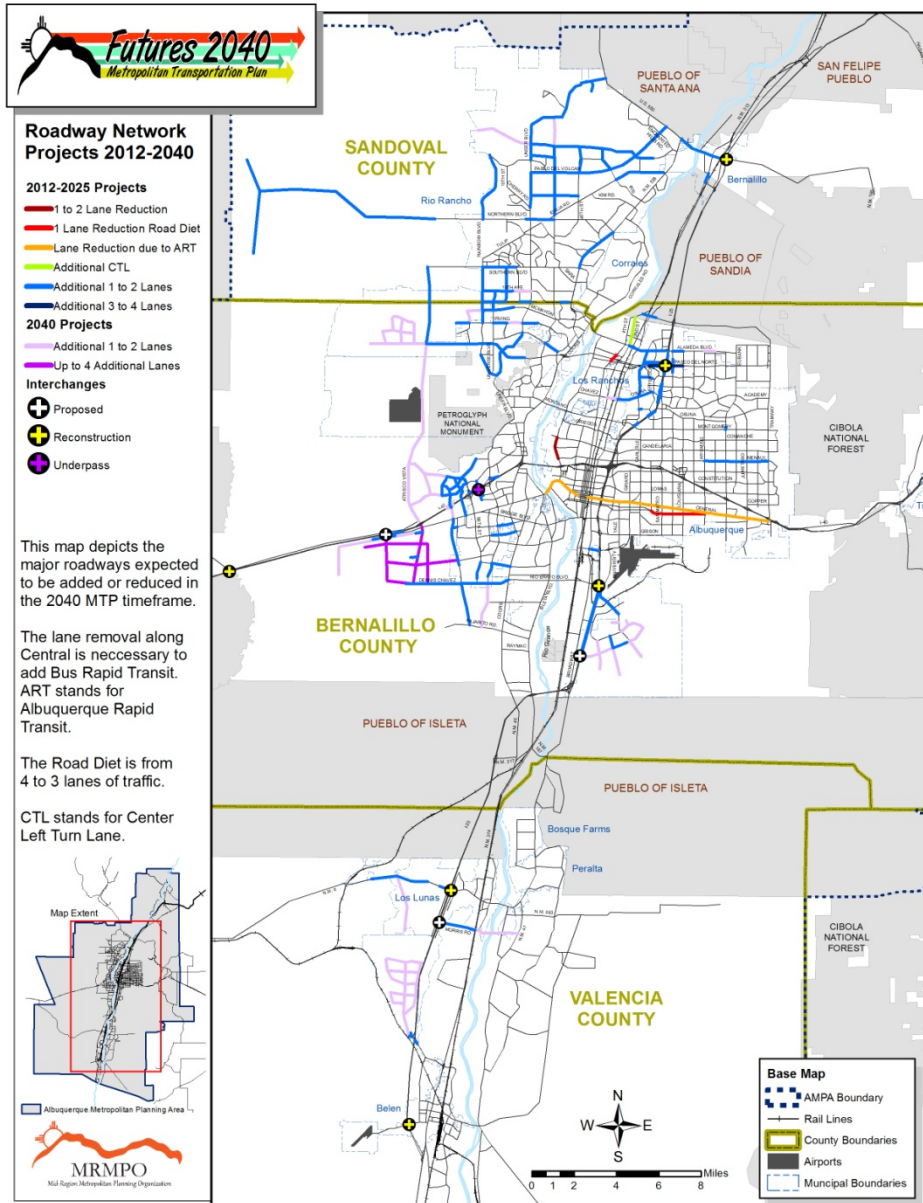


# 2040 Travel Demand, Air Quality, and Roadway Projects



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# Roadway Capacity Projects



## Network expansion

- Rio Rancho and NW Albuquerque
- SW metro area and Mesa del Sol
- Journal Center

## Widening projects

- Atrisco Vista (with extension from Paseo del Norte to Southern Blvd)
- Unser Blvd → 4 lanes
- I-25 widening and enhancements

## Interstates and major facilities

- 9 new/reconstructed interchanges
- Paseo del Volcan interchange ROW
- Morris Rd river crossing – Valencia County

This map of Albuquerque, New Mexico, illustrates the city's layout and its relationship with the surrounding environment. The Rio Grande flows through the center of the city, with the Albuquerque International Sunport located on its northern bank. Major roads, including I-40, I-25, and the Santa Fe Trail, are clearly marked. The map also shows the city's expansion into the surrounding areas, with labels for Sandoval County, Bernalillo County, and the Pecos River. Key landmarks such as the Albuquerque International Sunport, the Albuquerque Convention Center, and the Albuquerque Museum are highlighted. The map is a detailed representation of the city's infrastructure and geography, providing a comprehensive overview of the area.

- Consider inputs in “modeling environment”
- Consider impacts of growth on existing infrastructure
- Comparison for future scenarios

- Consider inputs in “modeling environment”
- Consider impacts of growth on existing infrastructure
- Comparison for future scenarios

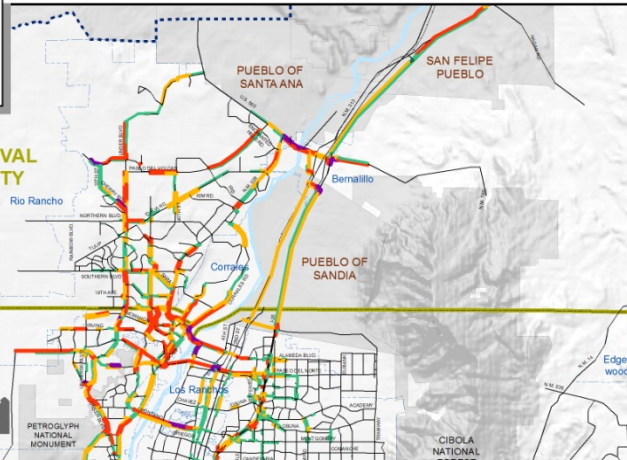
# 2040 Trend No-Build, Congestion Levels



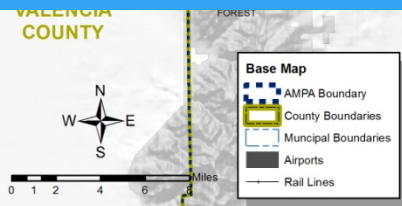
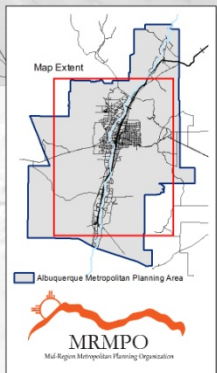
2040 Trend  
No-Build  
Volume to  
Capacity V/C  
Conditions for the  
PM Peak Hour

— Acceptable  
— Approaching Capacity  
— Over Capacity  
— Severely Congested 1  
— Severely Congested 2

SANDOVAL COUNTY



BERNALILLO COUNTY



## First step:

- Consider impacts of growth on existing infrastructure
- See what happens if we don't build anything!

**2040 Trend No Build, *difference from 2012 Base Year:***

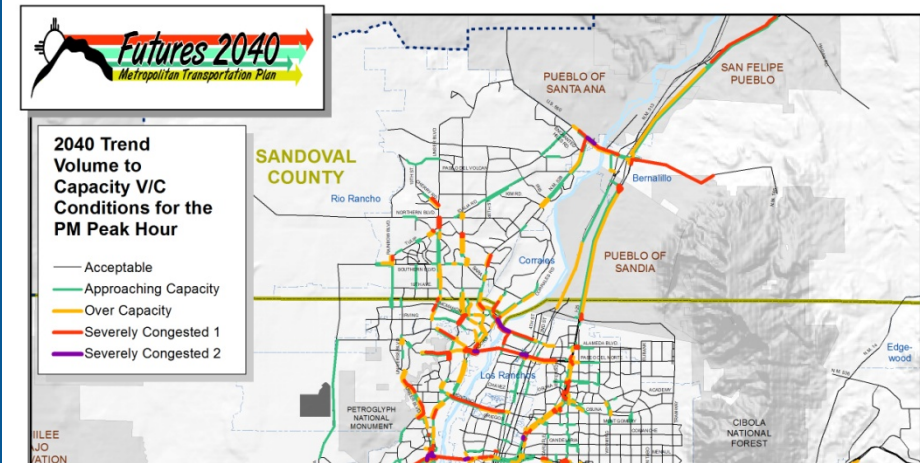
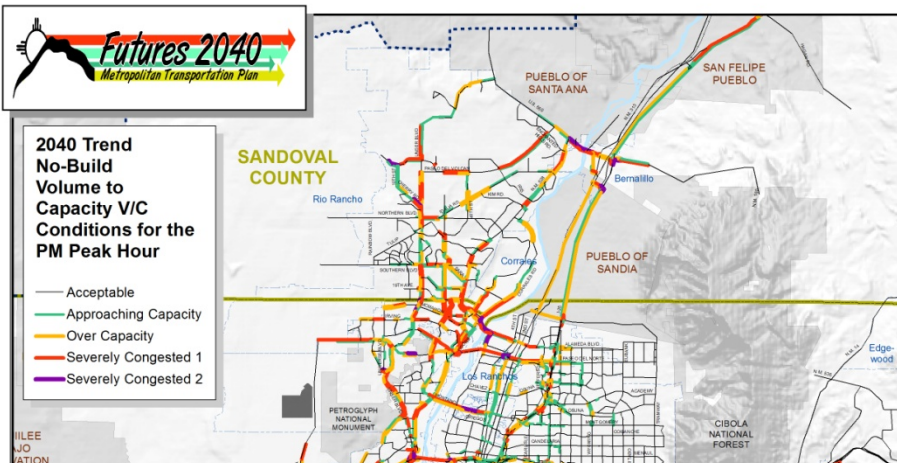
- PM Pk Hr VMT = **56.7%**
- PM Pk Hr VHT = **270.8%**
- PM Pk Hr VHD = **873.8%**

**PM Pk Hr Average Speed = 15.4 vs 36.4 (-58%)**

# 2040 Trend No-Build

## Congestion and Preliminary AQ Analysis

# 2040 Trend Build



**2040 Trend, difference from 2040 Trend No Build:**

PM Pk Hr VMT = **0.8%**

PM Pk Hr VHT = **-26%**

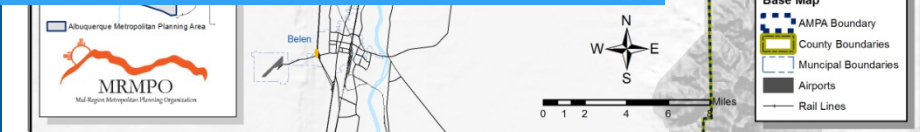
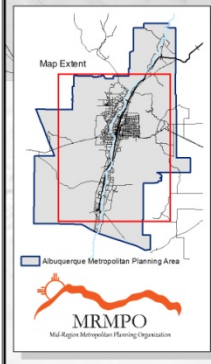
PM Pk Hr VHD = **-39%**

**PM Pk Hr Average Speed = 21.1 vs 15.4 (37%)**

CO = **-1.7%**

NOx = **-5.1%**

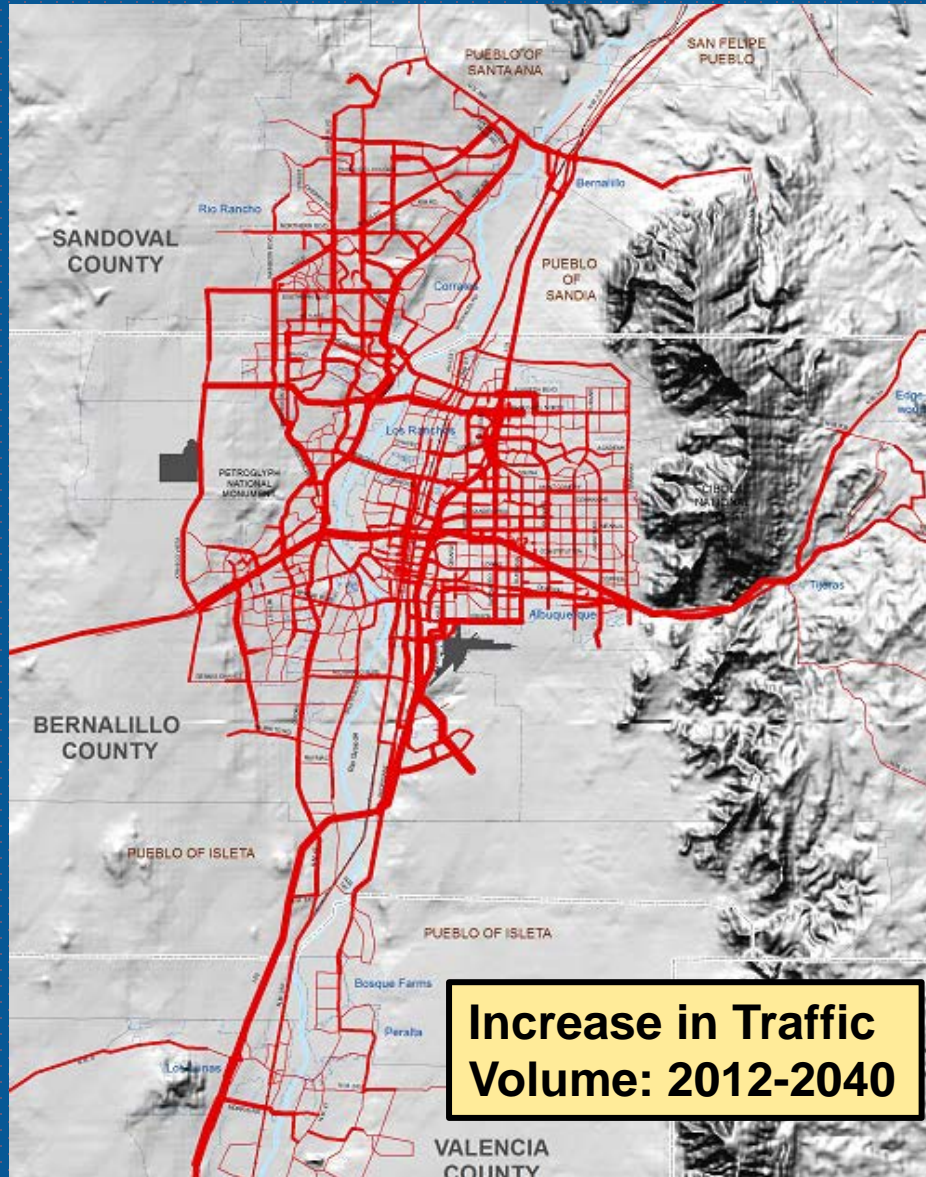
VOC = **-9.1%**



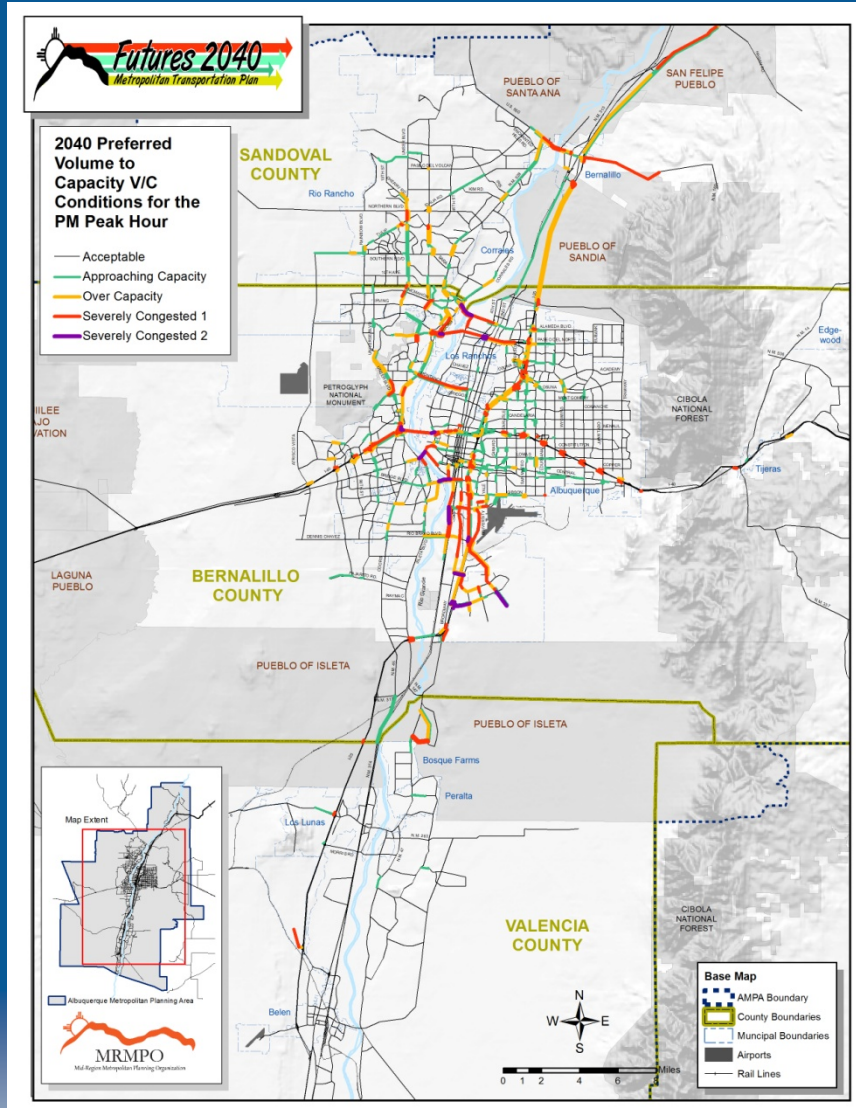
# Summary Roadway Statistics

## Trend Scenario v. 2012

- Hours Traveled **↑173%**
- Miles Traveled **↑58%**
- River Crossing Trips **↑44%**
- Average Speeds **↓42%**



# 2040 Preferred, Congestion and Preliminary AQ Analysis



**2040 Preferred, difference from 2040 Trend No Build:**

PM Pk Hr VMT = **-6.4%**

PM Pk Hr VHT = **-45%**

PM Pk Hr VHD = **-64%**

**Average Speed = 26.3 vs 15.4 (70.8%)**

CO = **-13.1%**

NO<sub>x</sub> = **-17.2%**

VOC = **-22.9%**

**2040 Preferred, difference from 2040 Trend:**

PM Pk Hr VMT = **-7%**

PM Pk Hr VHT = **-25%**

PM Pk Hr VHD = **-41%**

**Average Speed = 26.3 vs 21.1 (24.6%)**

CO = **-11.7%**

NO<sub>x</sub> = **-12.8%**

VOC = **-15.1%**

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**2016-2011 TIP Capacity Projects, Modeling Analyses:**

CAPACITY						DELTA: Build - No Build		
2020 SE, 2015 Network						January		
Woodward Widening, 2nd to Broadway						Bernco		
						CO	NoX	VOC
No Build	VTM	53,502.0				9.474	1.621	0.189
	VHT	1,729.0						
	VHD	554.0						
	Speed	30.9						
Build	VTM	53,676.0	174.0	0.33%		9.15	1.518	0.19
	VHT	1,678.0	-51	-3.04%				
	VHD	495.0	-59	-10.65%				
	Speed	32.0	1.0	3.37%				

July

CO NoX VOC

**PM Peak Hour Volume Shift WITH PROJECT**

- 650 - -250 Volume Decrease w/Project
- 249 - -50
- neutral
- 51 - 250 Volume Increase w/Project
- 251 - 1219



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# Project Evaluation Examples:

2016-2011 TIP Capacity Projects, Modeling Analyses:							
ROW	2030 SE, 2025 Network				DELTA: Build - No Build		
Los Lunas Corridor (ROW)		Inch/Crossing		VoLL	January		
		delta	%		CO	NoX	VOC
No Build	VMT	134,557.0			64.606	20.874	-0.04
	VHT	4,833.0					
	VHD	2,367.0					
	Speed	27.8					
					July		
Build	VMT	135,421.0	864	0.64%	57.458	20.682	-0.039
	VHT	4,520.0	-313	-6.92%			
	VHD	2,099.0	-268	-11.32%			
	Speed	30.0	2.1	7.61%			

**PM Peak Hour Volume Shift WITH PROJECT**

- 650 - -250 Volume Decrease w/Project
- 249 - -50
- neutral
- 51 - 250 Volume Increase w/Project
- 251 - 1219

# Project Evaluation Examples:

## 2016-2011 TIP Capacity Projects, Modeling Analyses:

ART - Central Ave Capacity Reduction

2040 SE, 2040 Network

Lane Reduction on Central Ave, Sunset Dr to Tramway Blvd

CoA

			delta	%
No ART	VMT	472,956.0		
	VHT	24,407.0		
	VHD	13,715.0		
	Speed	19.4		
Build ART	VMT	473,090.0	134.0	0.03%
	VHT	23,384.00	-1023	-4.37%
	VHD	12,803.00	-912	-6.65%
	Speed	20.2	0.9	4.40%



### PM Peak Hour Volume Shift WITH PROJECT

- 690 - -250 Volume Decrease w/Project
- 249 - -50
- neutral
- 51 - 250 Volume Increase w/Project
- 251 - 476

# Thank you

**Dave Pennella**

Transportation Program Manager  
dpennella@mrcog-nm.gov

**Nathan Masek, AICP**

Senior Planner  
nmasek@mrcog-nm.gov

**Kendra Watkins**

Socioeconomic Program  
Manager  
kwatkins@mrcog-nm.gov



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