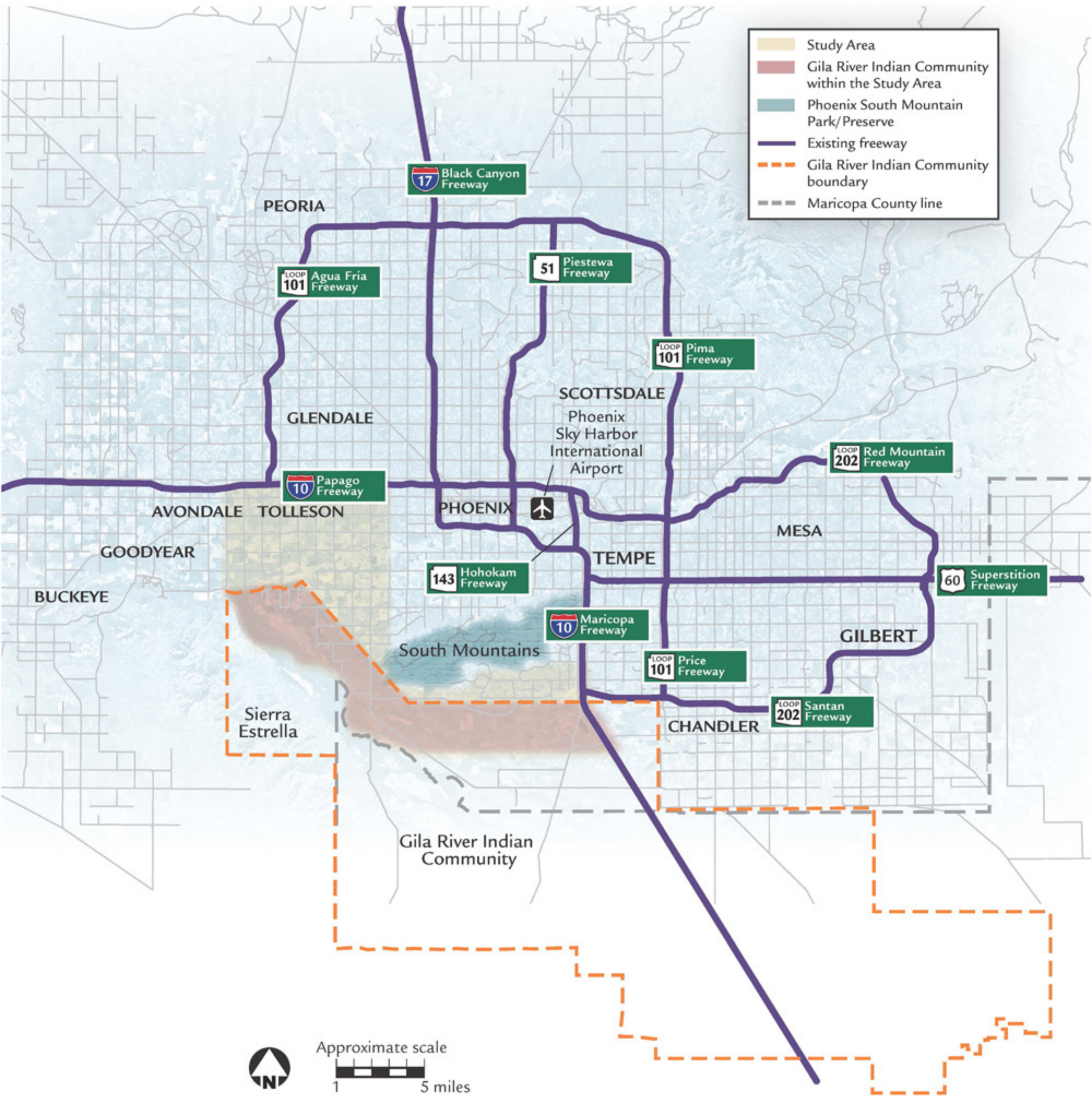


# Study Area and Project Location

The Study Area for the proposed freeway is in the southwestern portion of the Phoenix metropolitan area and is positioned where a gap exists in the regional transportation system's loop freeway network.



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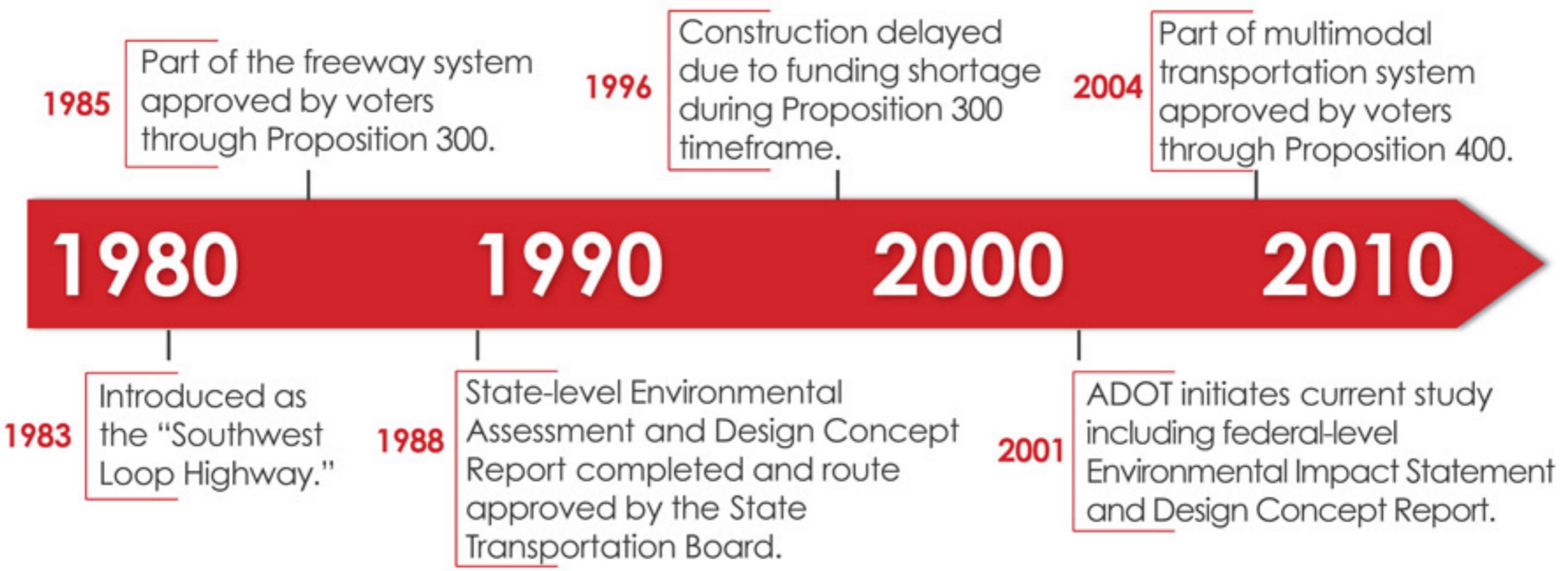


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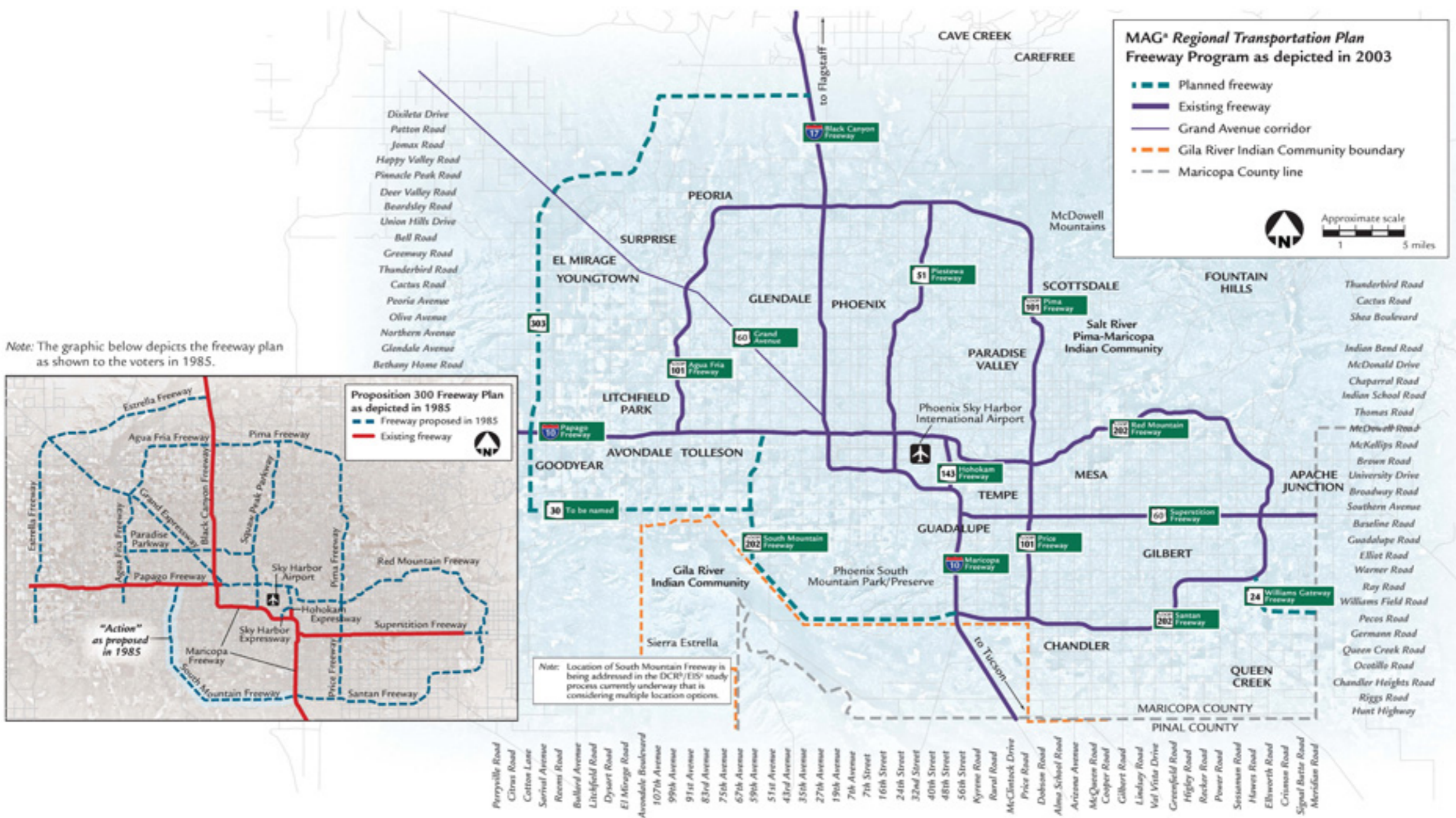


# Study History

The South Mountain Freeway is an integral part of the region's planned freeway system—a combination of loop or beltways and freeway connections to, from, and around the urban core. Here's a brief overview of the freeway's history:



The general location for the South Mountain Freeway has remained unchanged since 1985.



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# Traffic 101

## How is traffic analysis used in the Draft EIS?

Assessing current and future traffic volumes, traffic conditions, trip routes, congestion levels, and travel time provided the study team a basis to:

- define the transportation problem in the Study Area.
- evaluate all alternatives considered in terms of responsiveness to purpose and need criteria.
- compare the traffic operations of the alternatives.

## What traffic analysis tools were used?

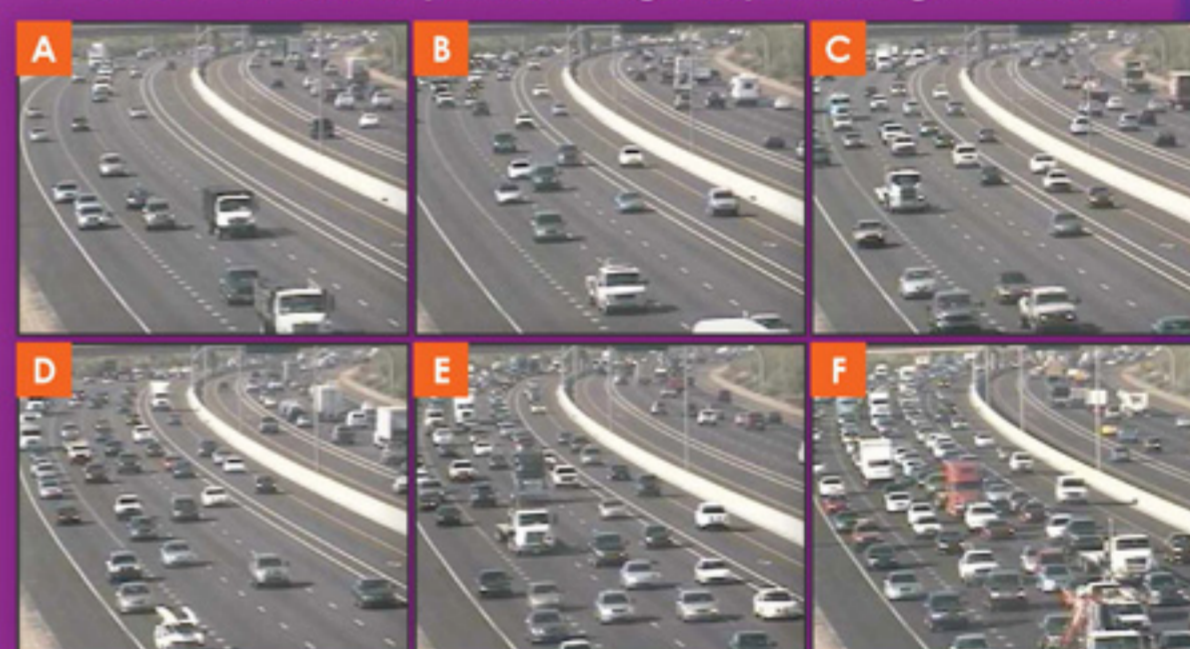
The traffic projections used in the traffic analysis are from the MAG regional travel model, as certified by FWA and reviewed by the Environmental Protection Agency for air quality conformity. Traffic analysts employed accepted state-of-the-practice methods and tools to evaluate current and future conditions.

- Existing and future traffic volume projections
- Trip distribution
- Level of service (LOS) analysis
- Existing and projected travel time and congestion analysis
- Trip origins and destinations



## What is level of service (LOS)?

LOS is a report card-style method for comparing highway quality of service. Six letters, "A" through "F," are used to grade traffic conditions. "A" is the best condition, representing free-flow travel and "F" is the worst, representing stop-and-go travel.



## How is traffic measured?

Regional travel is generally reported in **vehicle miles traveled** because this measurement combines the total number of vehicles and the length of the trip. This method provides a true measure of the total travel occurring in a large area.

The traffic on a road segment is generally reported as **average daily traffic**. Daily traffic gives an overall measurement for comparing different road segments in a region.

**Peak traffic** is generally reported as vehicles per hour. The LOS rating is based on traffic conditions during the peak hour or rush hour.

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# CHAPTER 1



# Purpose and Need Defined

## How is purpose and need considered in the EIS process?

An early step in preparing an EIS is to determine whether there is a **purpose and need** for the proposed project.



If the lead agency concludes there is **NO NEED**, an **EIS would not** be prepared.

If the lead agency concludes there is **A NEED**, the **EIS process would** continue with an evaluation of a range of reasonable alternatives in the Study Area.

## What is the purpose and need for the South Mountain Transportation Corridor?

### There is a clear purpose and need

for a major transportation facility within the Study Area.

The need is supported by:

- **socioeconomic factors.**
- **regional transportation demand.**
- **existing and projected transportation system capacity deficiencies.**

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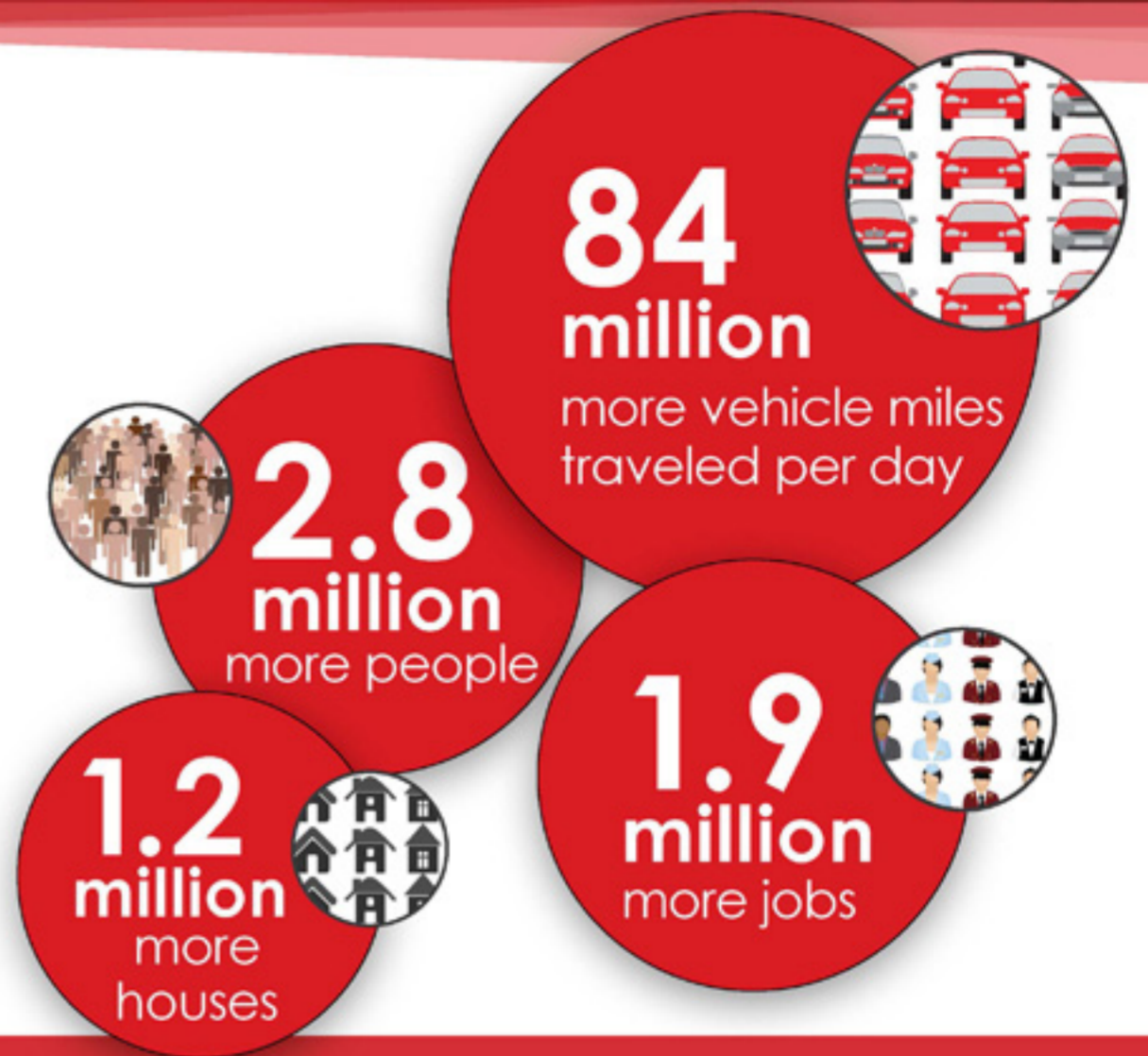
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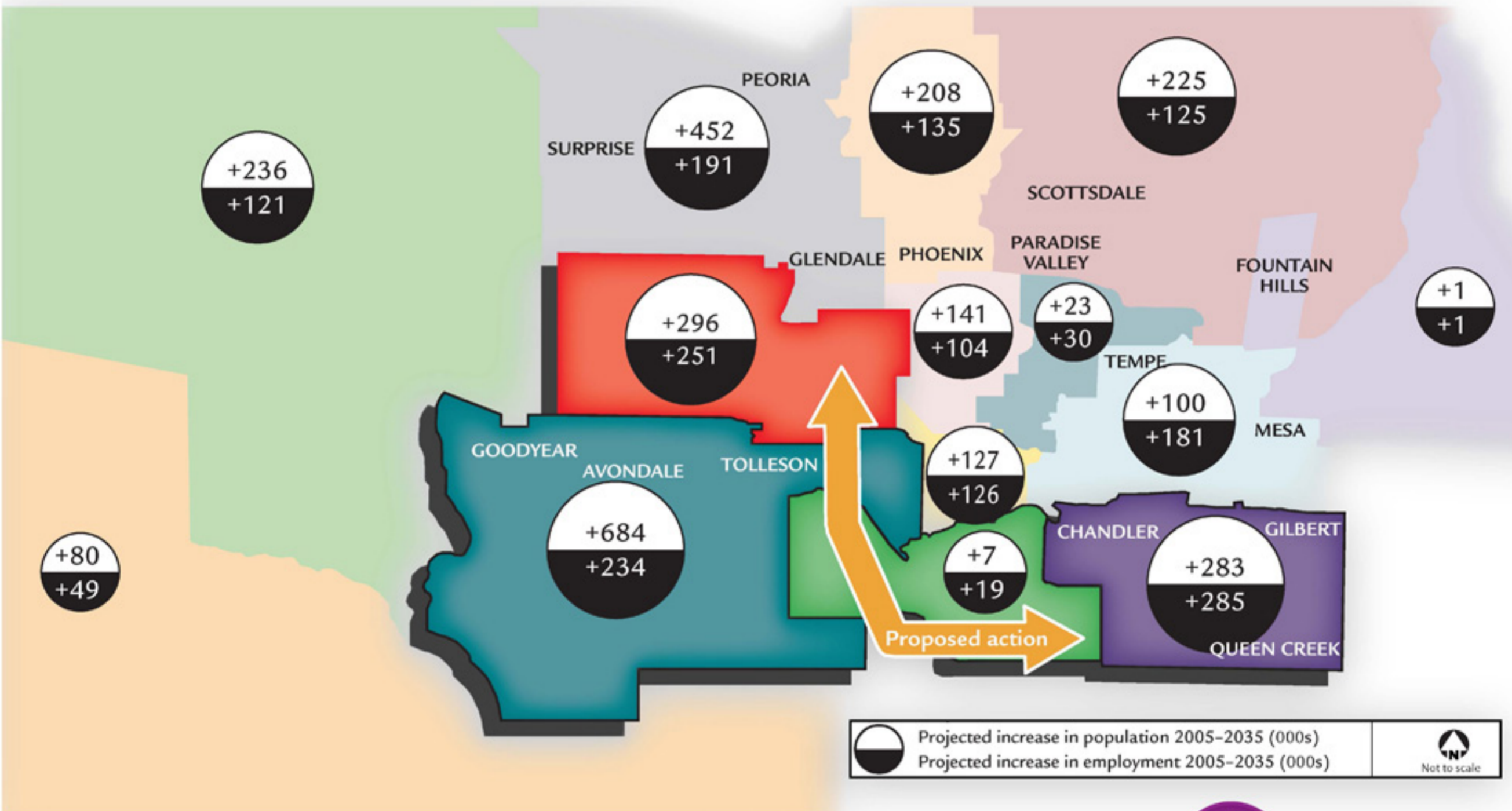


# Need Based on Socioeconomic Factors

What is the projected growth in Maricopa County over the next 25 years?



Almost 50 percent of the projected population and employment growth in Maricopa County is expected to occur in areas that would be immediately served by the proposed freeway.

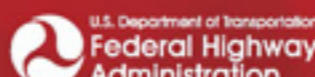


## Economic downturn and growth

Because the need for the proposed freeway is predicated in part on projected growth, one might conclude the recession will reduce that need. An economic downturn associated with a given recession is, however, generally considered a short-term phenomenon with respect to the longer-term planning horizon established for the proposed action. Socioeconomic indicators have steadily and consistently increased in the region since the early 1900s. It is anticipated this growth will continue over the next 25 years.

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# CHAPTER 1



# Traffic and Congestion

## How will travel change without the proposed South Mountain Freeway?

The region will suffer even greater congestion, travel delays and limited options for moving people and goods safely through the Phoenix metropolitan region compared to current conditions.

### Met demand



**CONCLUSION:** Even with improvements planned in the RTP (excluding the proposed action), the region's transportation system would not be able to keep up with the increased travel demand.

### Travel time to downtown



**CONCLUSION:** When considered in the context of hundreds of thousands of trips per day, over the course of more than 25 years, total time lost because of increased congestion — plus related personal and financial costs — would be substantial.

### Miles of I-10 with 3+ hours of congestion



**CONCLUSION:** Conditions on the region's freeways would substantially worsen by 2035, with much of the system congested in the morning and evening for more than two hours. During the evening in 2035, the congestion would occur in both directions of travel, not just departing downtown Phoenix.

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