

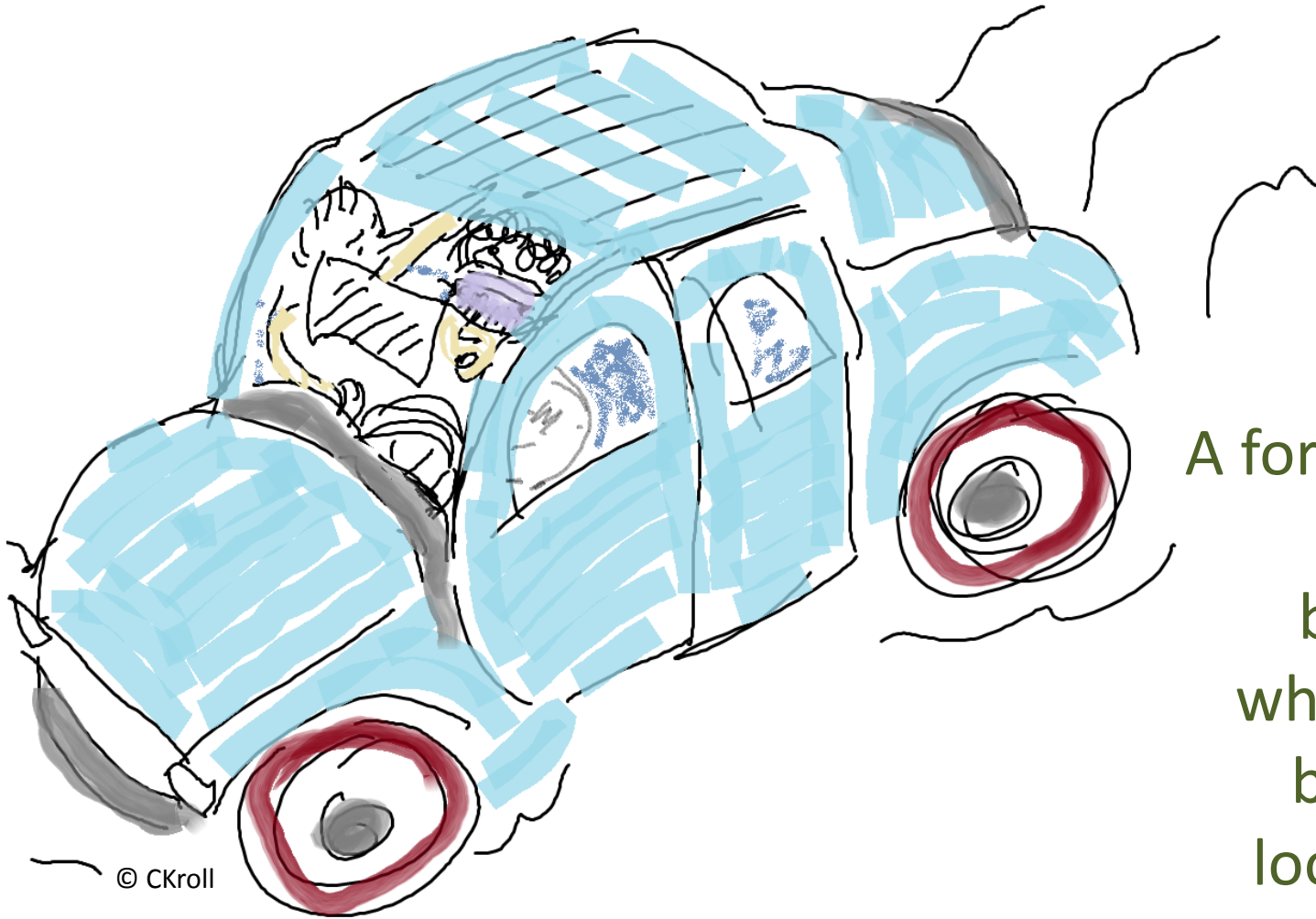
Introducing the Preliminary Regional Forecast for Plan Bay Area 2040

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Association of Bay Area Governments

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A forecast is like
driving
blindfolded,
while directed
by someone
looking in the
rear view mirror.

What is in the rear view mirror?

- Strong economic expansion
- Increased in-migration
- Longer history of
 - Booms followed by declines
 - Decade and a half of net outmigration

Goals in Doing the Forecast

- Realistic long term outlook, taking into account
 - Regional advantages and challenges
 - Policy considerations
- Integrated links between all elements of the forecast
 - Economic (employment, income, output)
 - Demographic (population, age and ethnic profile)
 - Housing market (households, housing units, commute patterns)

The Forecasting Approach

- Analytic tools
 - Pitkin-Myers demographic forecasting software
 - REMI economic forecasting software
- In-house analysis
 - Calibration of analytic tools
 - Alternative employment trend analysis
 - Household headship rate analysis
 - Income distribution analysis
- Technical Advisory Committee (interim meetings and review of results)
- Consultants and technical support
 - Stephen Levy, CCSCI
 - John Pitkin, AFI and Dowell Myers, USC
 - Chris Brown and other REMI technical staff

Elements of the Preliminary Forecast

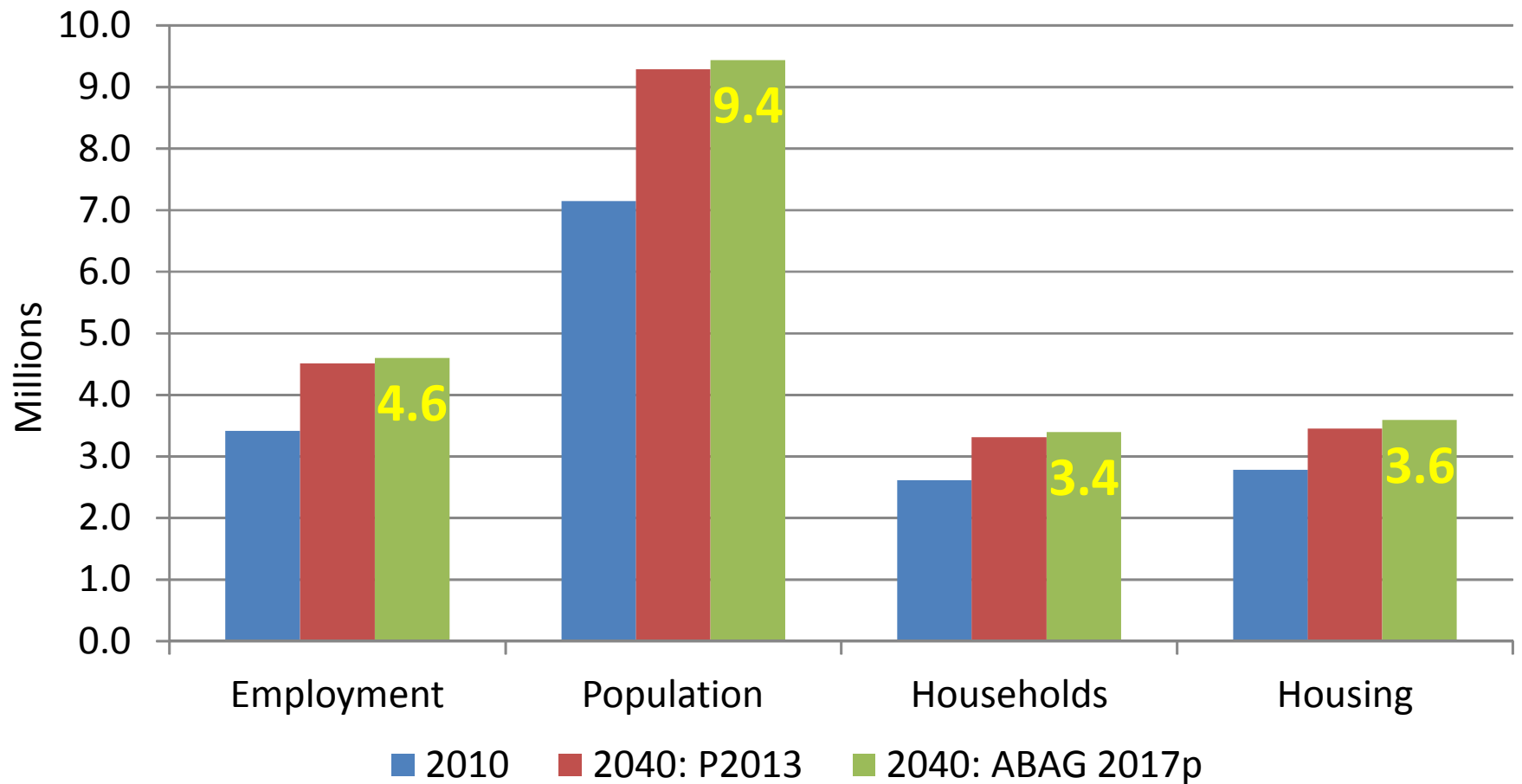
- Employment (ABAG from REMI, trend analysis)
- Population (Pitkin-Myers, ABAG from REMI)
- Households (ABAG headship rates)
- In-Commute (ABAG from REMI)
- Housing Units (ABAG based on vacancy assumptions)

REGIONAL; geographic distribution to come...

Key Assumptions

- Employment
 - US grows as projected by US Bureau of Labor Statistics, slowing after 2022 due to demographic factors
 - Rising costs due to competition for high skilled labor
- Population
 - Birth rates slow due to demographic change
 - Mortality rates slowing for seniors
 - Increase in rate of outmigration by seniors
- Households
 - Average household size depends on aging in place and delayed household formation by young adults
 - Housing policy begins to relieve some but not all of the region's constraints

Snapshot of the New Projections in Context

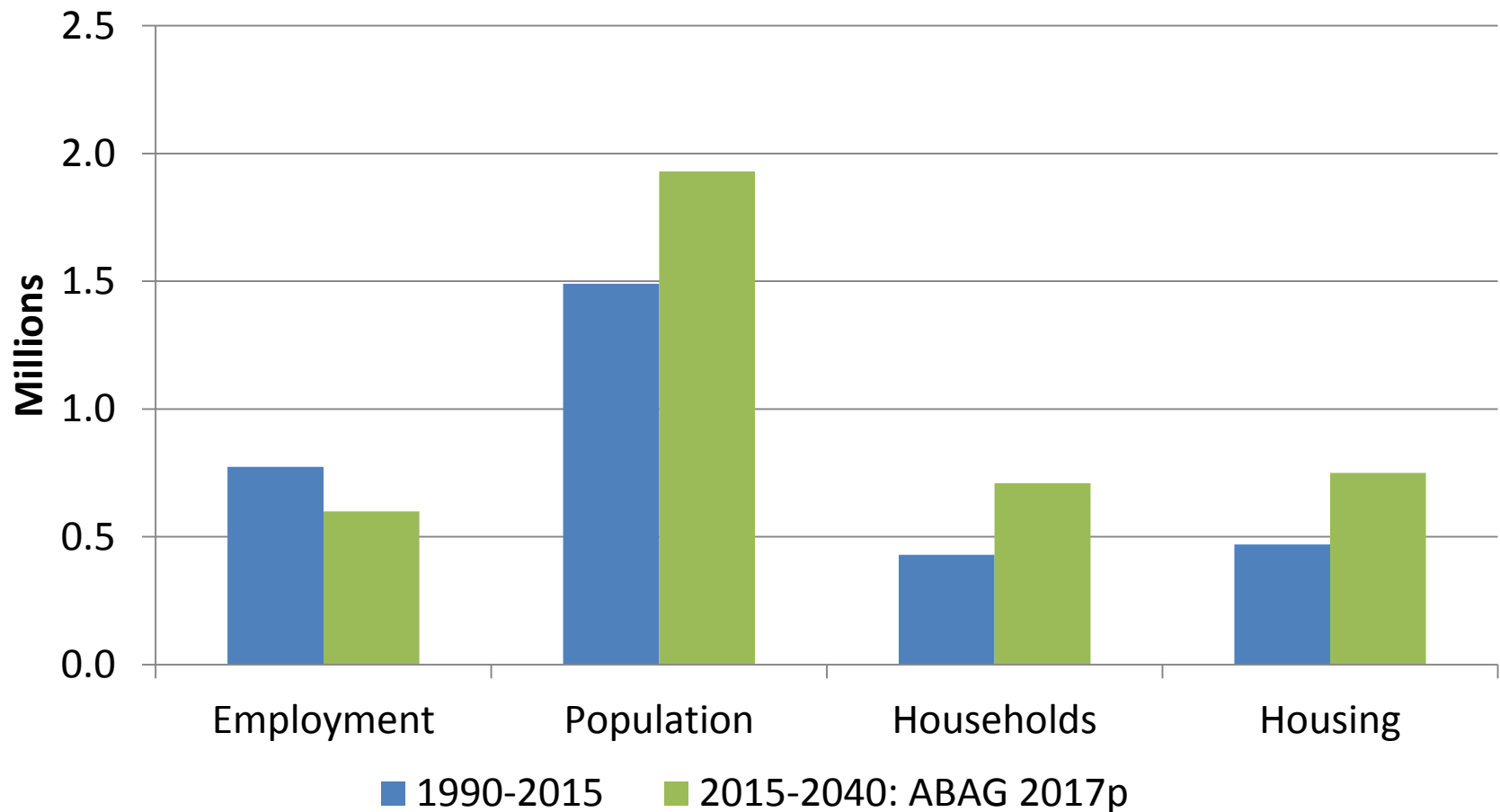


Source: ABAG from California Department of Finance, California Employment Development Department, US Bureau of the Census, Plan Bay Area 2013, and in-house analysis.

Q: Why do Economists provide estimates of future growth to the nearest tenth of a percent?

A: To prove they have a sense of humor.

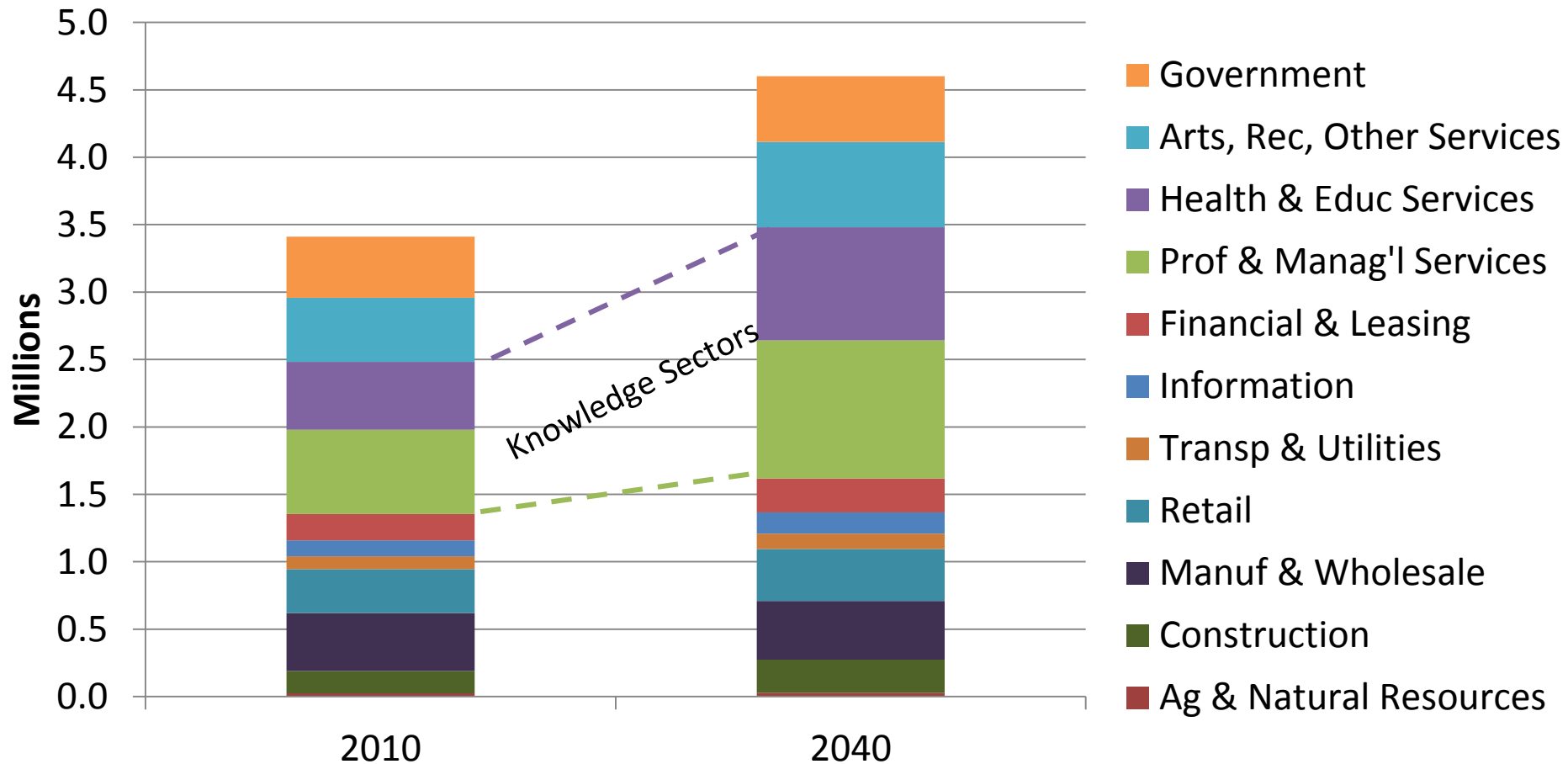
New Projections: Comparative Increment of Change, 1990 to 2015 and 2015-2040



Source: ABAG from California Department of Finance, California Employment Development Department, US Bureau of the Census, Plan Bay Area 2013, and in-house analysis.

Shifts in Employment Sectors

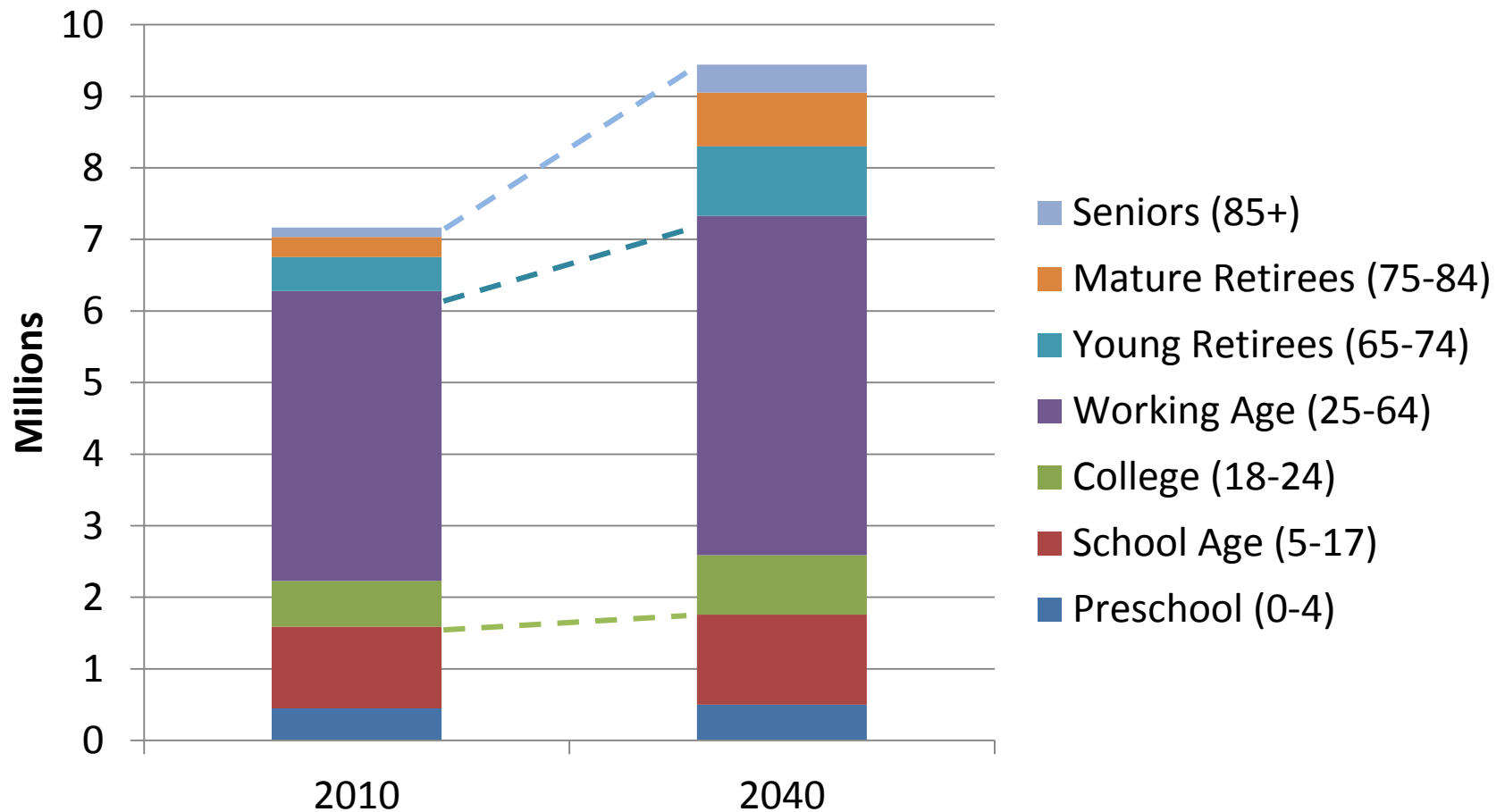
ABAG 2017p



Source: ABAG from California Employment Development Department, US Bureau of the Census, Plan Bay Area 2013, and in-house analysis.

Age Distribution of Bay Area Population

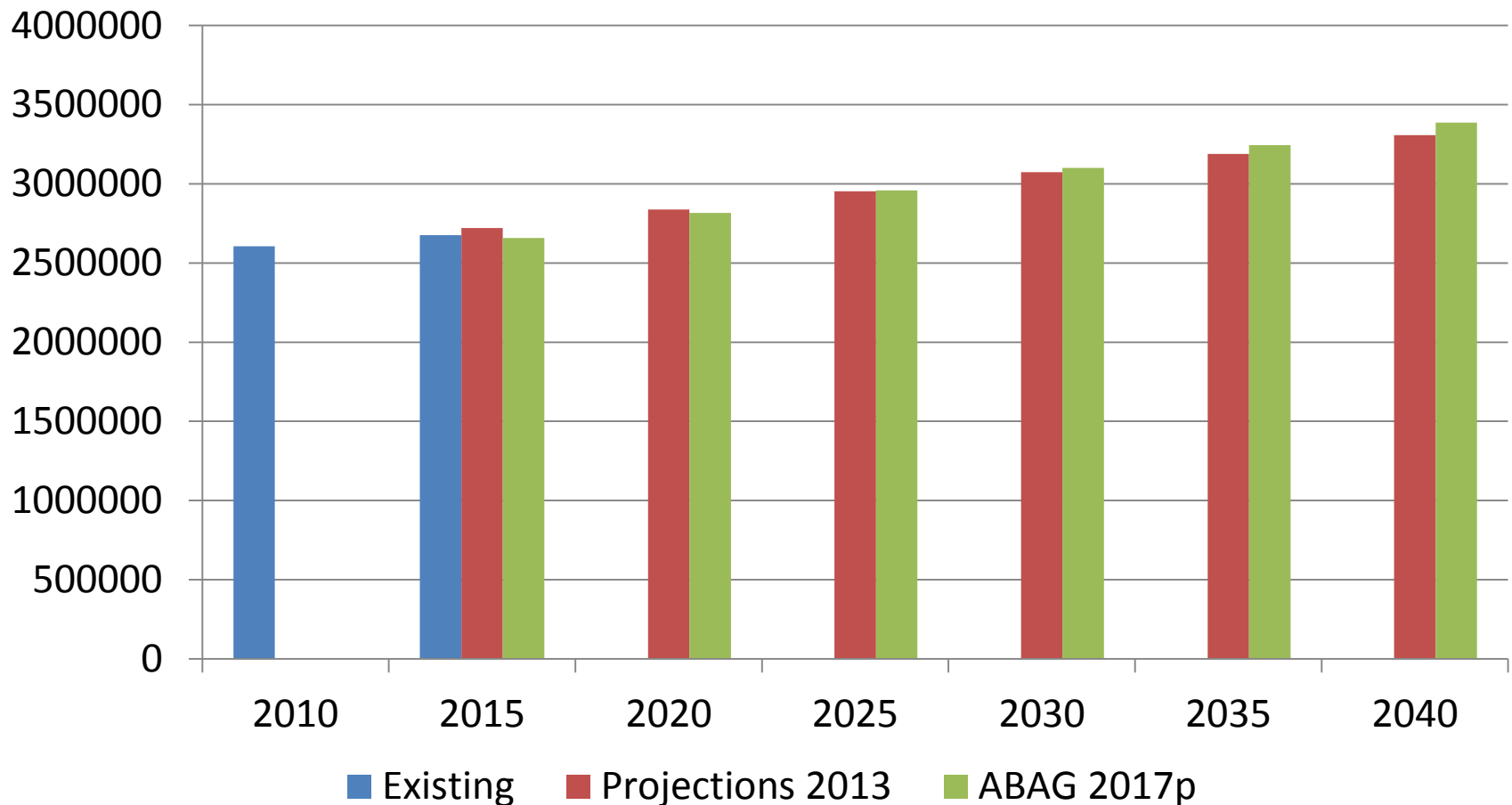
ABAG 2017p



Source: ABAG from California Department of Finance, US Bureau of the Census, and in-house analysis.

Projected Trend in Households

ABAG 2017p



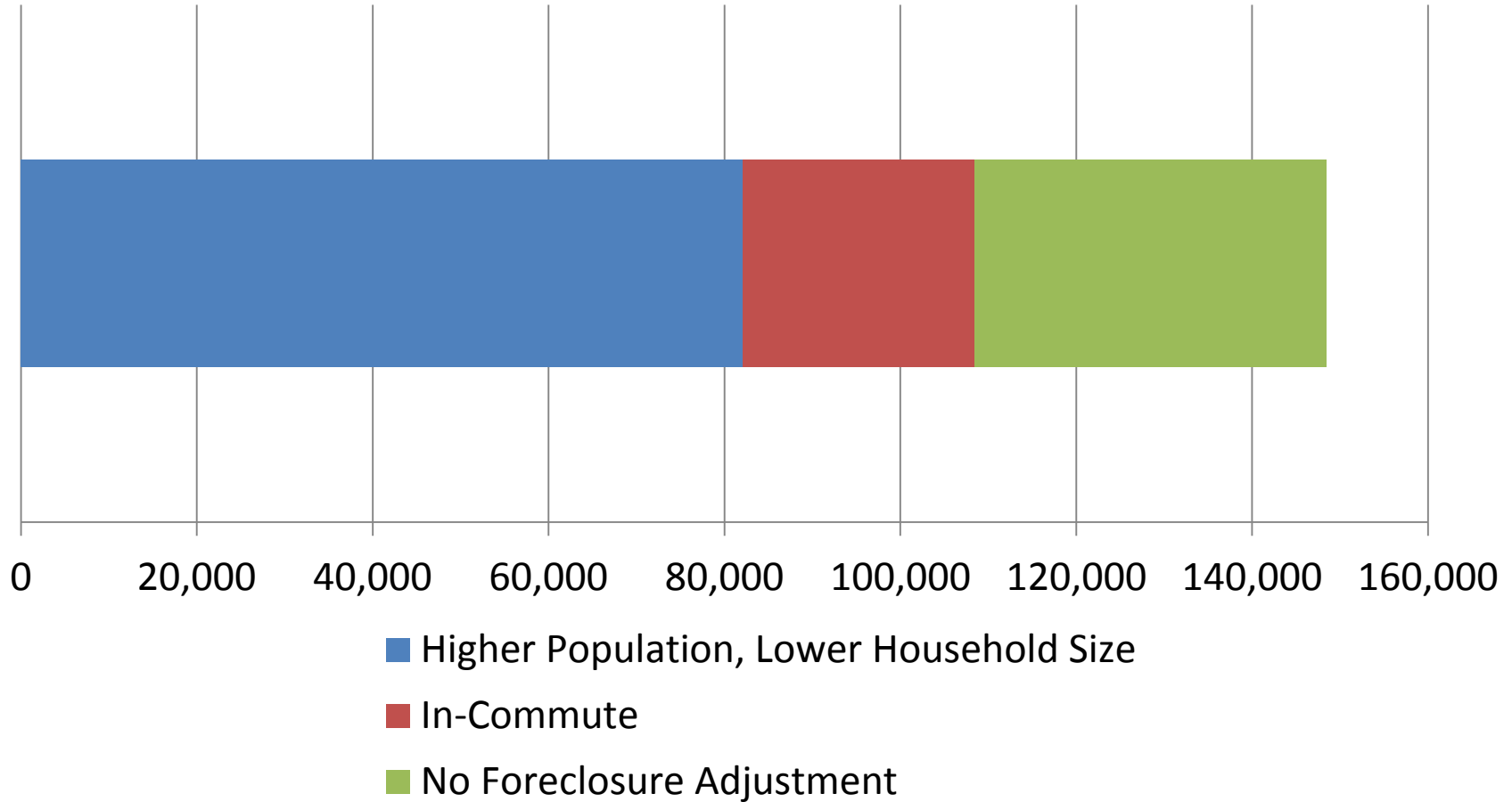
Source: ABAG from California Department of Finance, *Projections 2013*, and in-house analysis.

In-Commute Change and Regional Housing Control Total

Element	Modeling Output	In-Commute Analysis	Totals
In-Commute Change 2010-2040		33,000	
Households	3,387,000	25,000	3,412,000
Regional Housing Control Total			3,592,000
Increase in Housing Units			808,000

Source: ABAG analysis.

What Accounts for the Larger Housing Unit Difference?

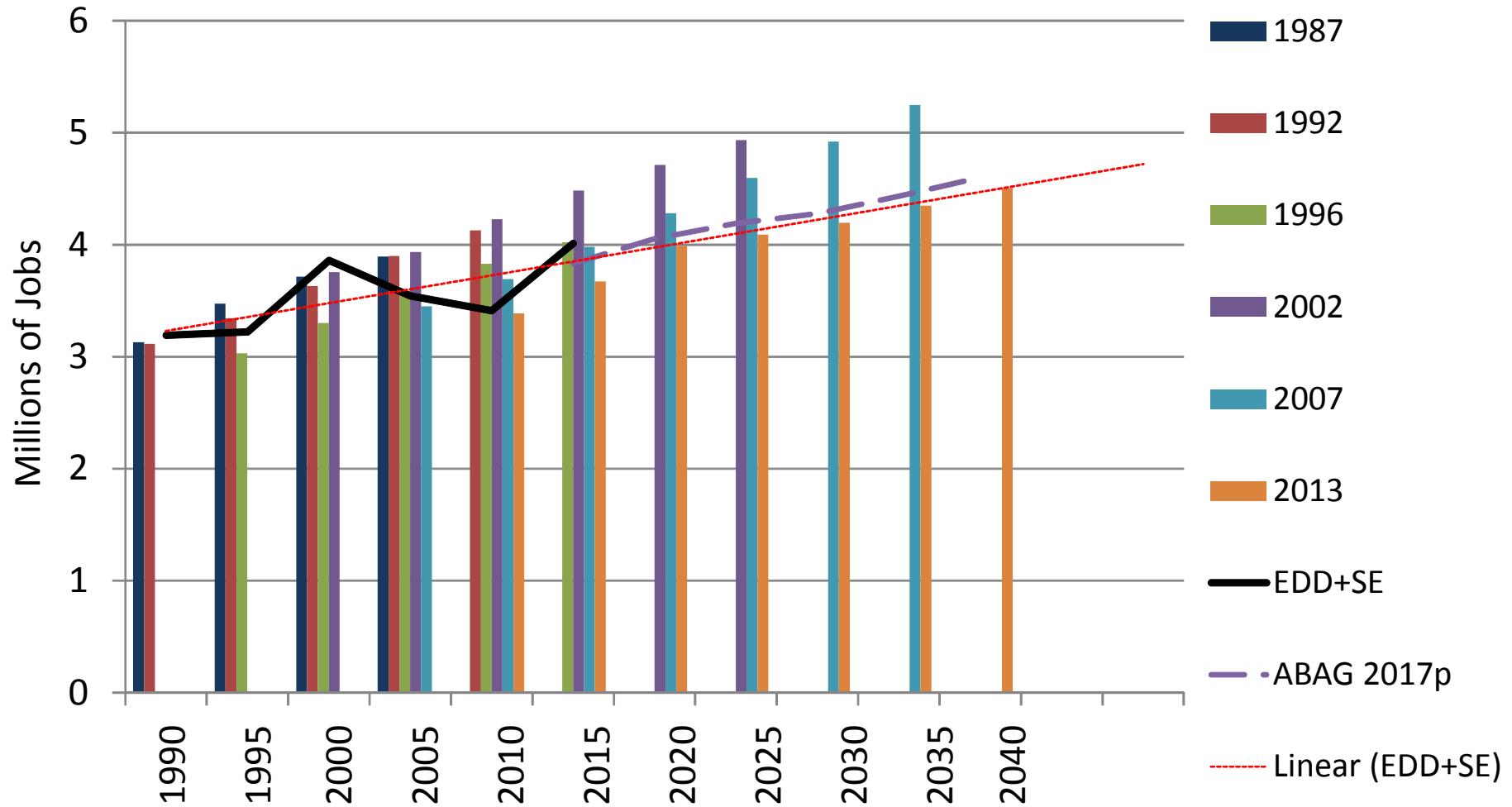


Source: ABAG analysis.

Projections in Historic Context

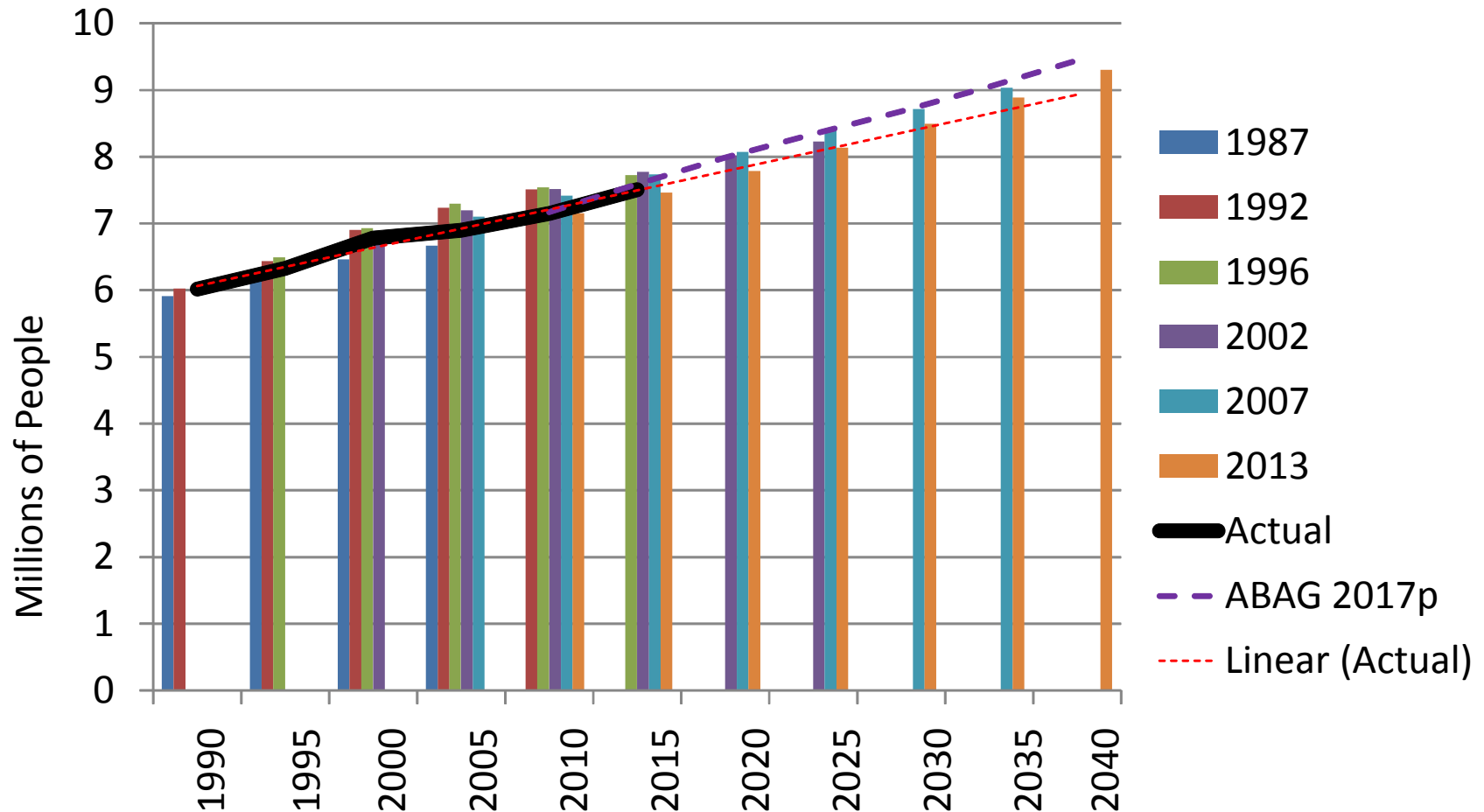
An economist is an expert who will know tomorrow why the things she predicted yesterday didn't happen today.

Past and Future Employment Projections



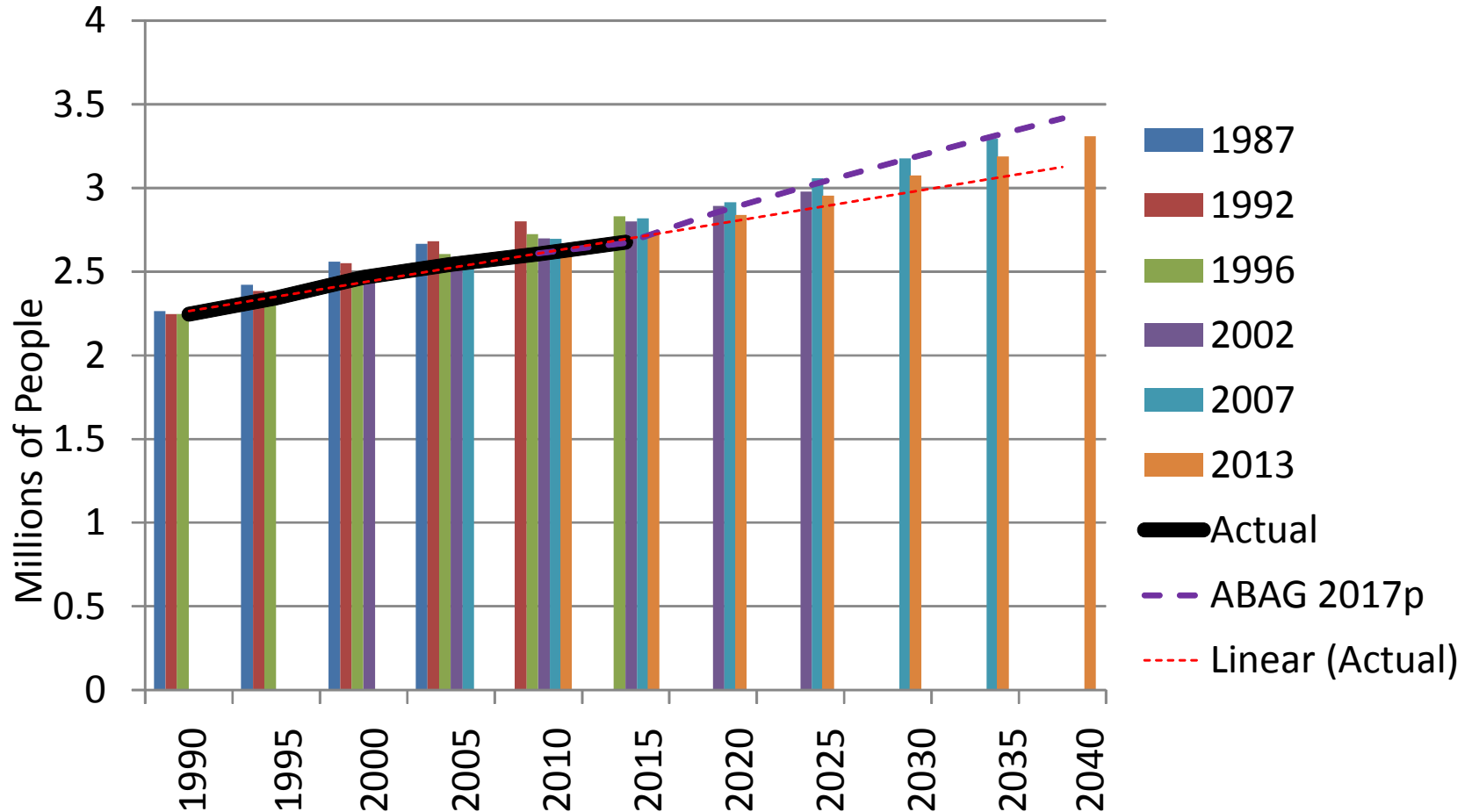
Source: ABAG from earlier Projections series and California Employment Development Department.

Past Future Population Projections



Source: ABAG from earlier Projections series and California Department of Finance.

Past Future Household Projections



Source: ABAG from earlier Projections series.

Some Final Points

- Population growth exceeds employment growth trends because of demographics
- Household growth exceeds population growth trends because of current deficits
- ABAG 2017p uses best practices to combine likely trends with policies built on aspirations for a more sustainable development
- A good projection needs frequent revision
- The exact numbers are less important than the policy discussion that will be built around those numbers.