TAHOE REGIONAL PLANNING AGENCY

TRPA Model Working Group

Tahoe Regional Planning Agency

May 26, 2020

Agenda

• Introductions	1:00-1:15
• Base Year Model Summary	1:15-1:35
• Draft RTP Regional Forecast	1:35-2:20
• Next Steps	2:20-2:30

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Model Base Year – In-Region VMT Summary

- Represents a typical early/late summer weekday (school in session)
- Total in-Region VMT: 1.4 million
- 57% of in-region VMT from local trips & 40% from entry/exit trips
- Average trip length - 14.1 miles

Trip Category	Trips (#)	% of Trips	VMT in Tahoe Region	% of VMT in Tahoe Region	Average Trip Length (mi)
In-Region Local	170,087	77.3%	802,888	57.4%	4.7
In-Region Entry/Exit	48,610	22.1%	563,600	40.3%	11.6
In-Region Thru	1,241	0.6%	32,336	2.3%	26.1
Total	219,938	100.0%	1,398,823	100.0%	14.1

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Model Base Year – Total VMT Summary

- 3.1 million total VMT (including portions of trips outside of region)
- 55% of total VMT outside of region, 45% in-region
- Average total trip length: 26 miles

	# of Trips	Avg In-Region Trip Length	In-Region VMT	Avg Out-Region Trip Length	Out-Region VMT	Avg Full Trip Length	Total VMT
Entry/Exit Trips	48,610	12	563,600	34	1,656,041	46	2,219,641
In-Region Local Trips	170,087	5	802,888	0	0	5	802,888
Thru Trips	1,241	26	32,336	44	54,888	70	87,224
Total	219,938	14	1,398,823	26	1,710,929	40	3,109,753

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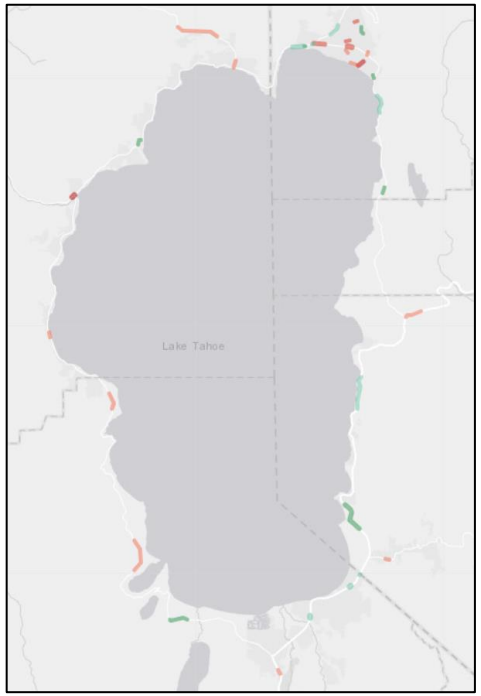
Model Validation

- Static Validation
  - Met requirements (RMSE, Correlation Coefficient, % links within deviation)
- Dynamic Validation
  - Transit, Housing & Recreation
  - Demonstrated sensitivity
- https://trpa-agency.github.io/travel_demand_model

Table 4 Observed Link Count vs. Daily Volume

	Link Id	Count Volume	Model Volume	Model/Count	Model Devation	Max Deviation	Within Deviation	Count Source
2	1815	3355	3273	0.98	0.02	0.44	Yes	DOT Count
3	2515	24906	30883	1.24	0.24	0.26	Yes	DOT Count
4	4003	14763	13782	0.93	0.07	0.26	Yes	DOT Count
5	4436	25423	27373	1.08	0.08	0.26	Yes	DOT Count



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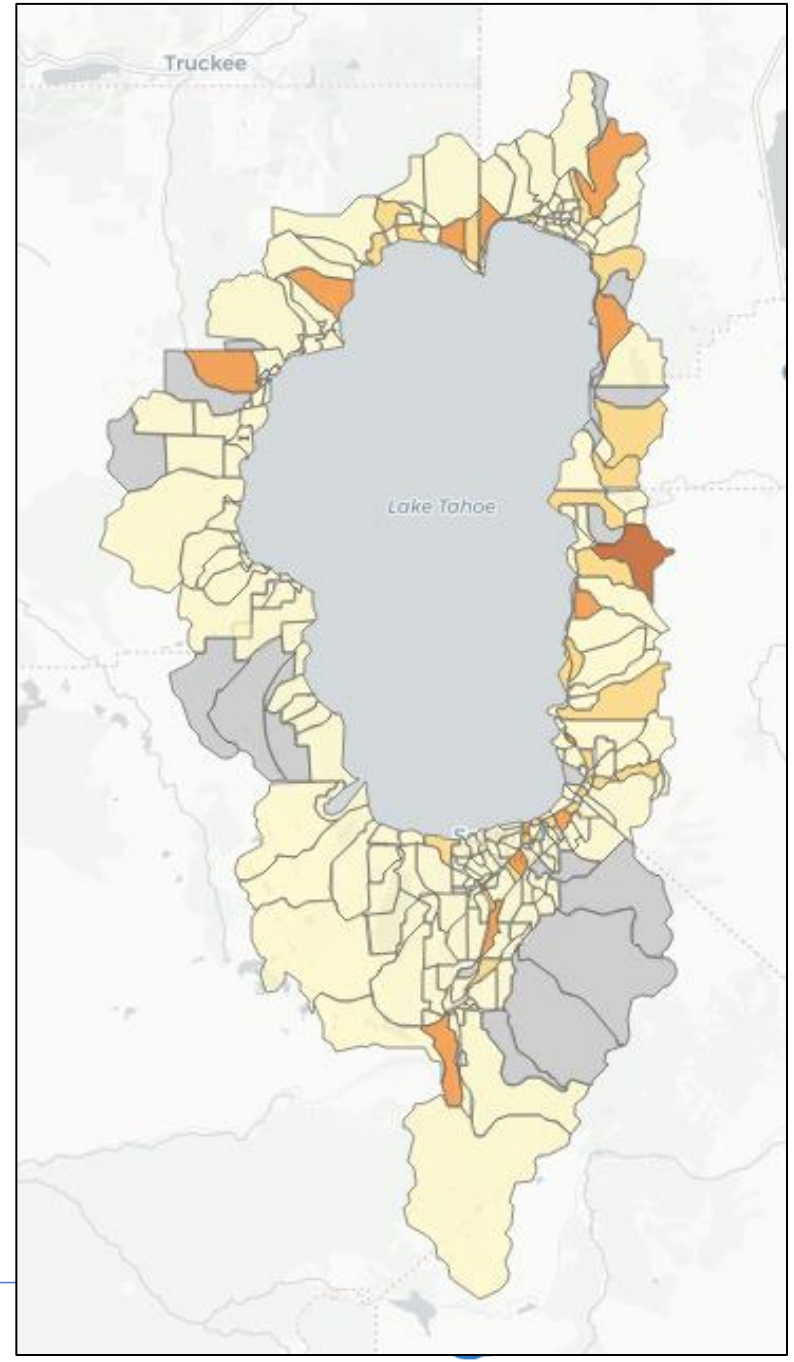
Base Year Model Application

- Roadway Volumes
- VMT by Area
- Travel Party Characteristics
- RTP Forecast



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2020 Regional Transportation Plan: Draft Regional Forecasts

Ken Kasman
Research & Analysis Division Manager

Regional Transportation Plan

- Why Forecast:
  - 20-year vision for transportation system
  - Programs and policies
  - Greenhouse gas / vehicle miles traveled reductions

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Regional Forecasts

- Regional land use pattern
- Population and demographics
- Visitation

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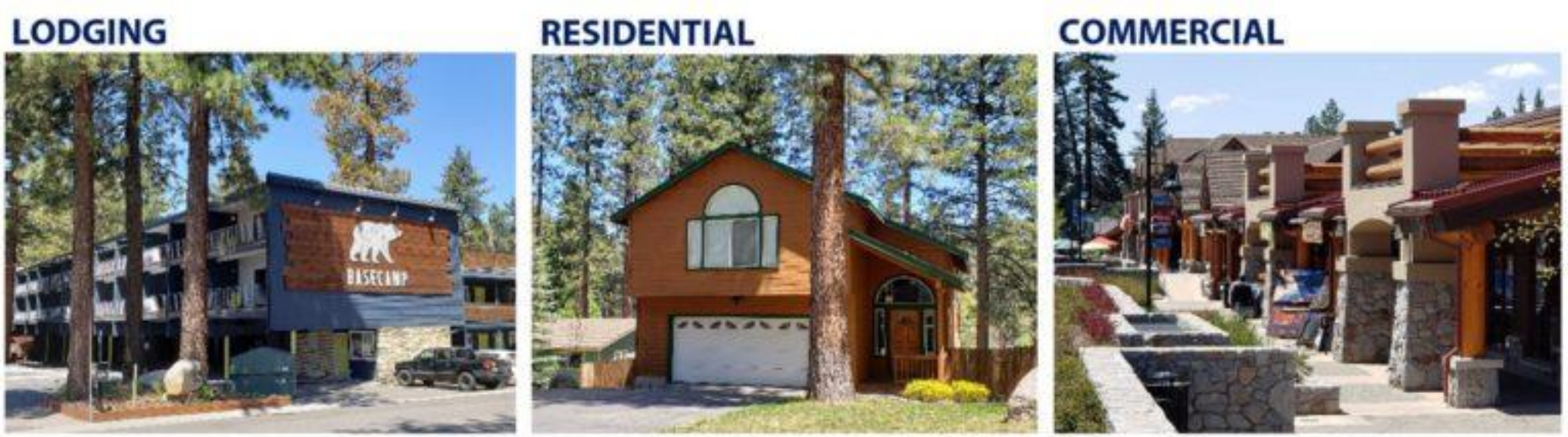
Regional Land Use



Tourist Accommodation Units

Residential Units

Commercial Floor Area

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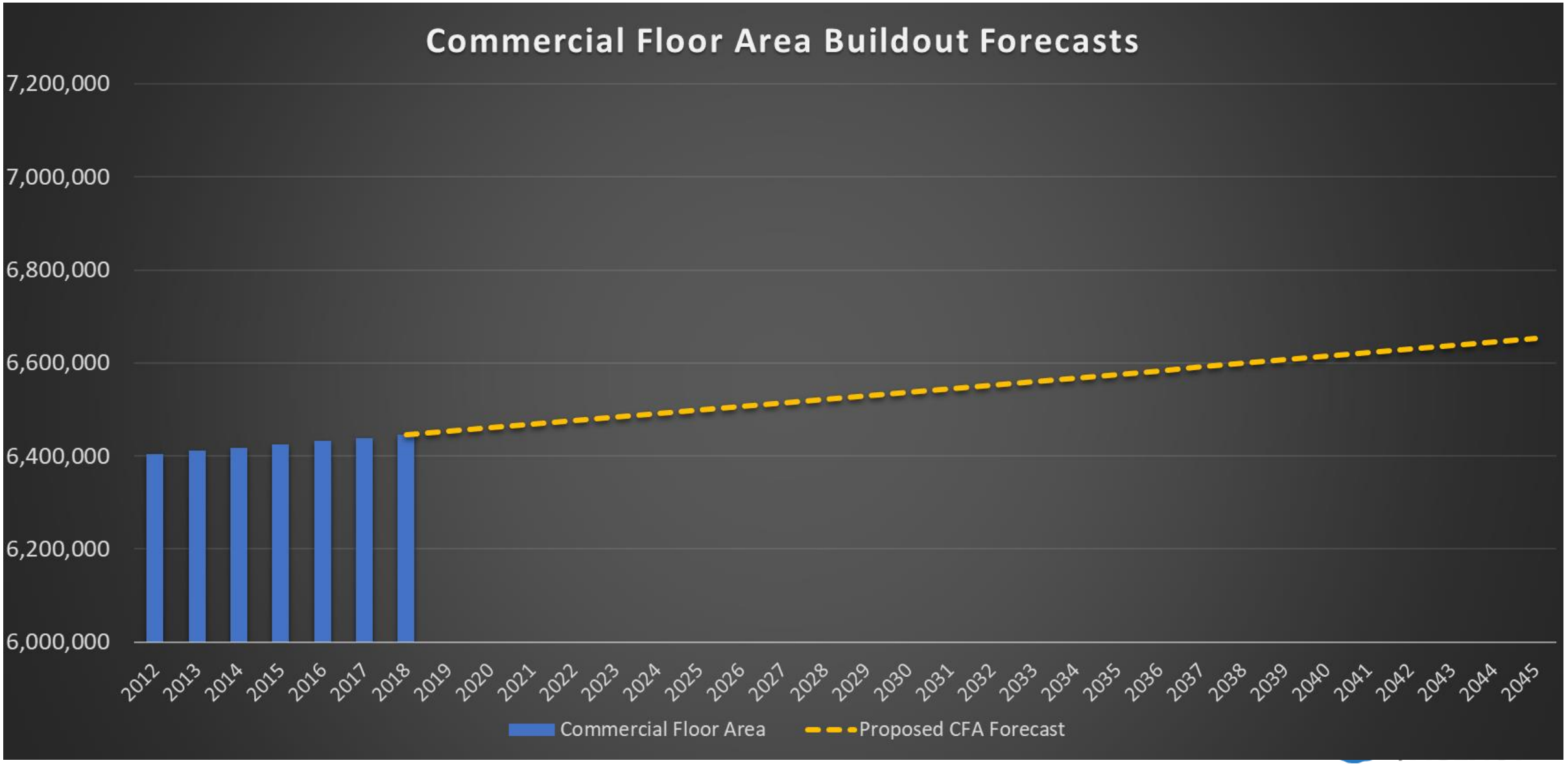
Commercial Floor Area



Tourist Accommodation Units

- Includes permitted projects not yet constructed
- No new tourist accommodation projects
- Some existing units will be removed
- Conversions to residential

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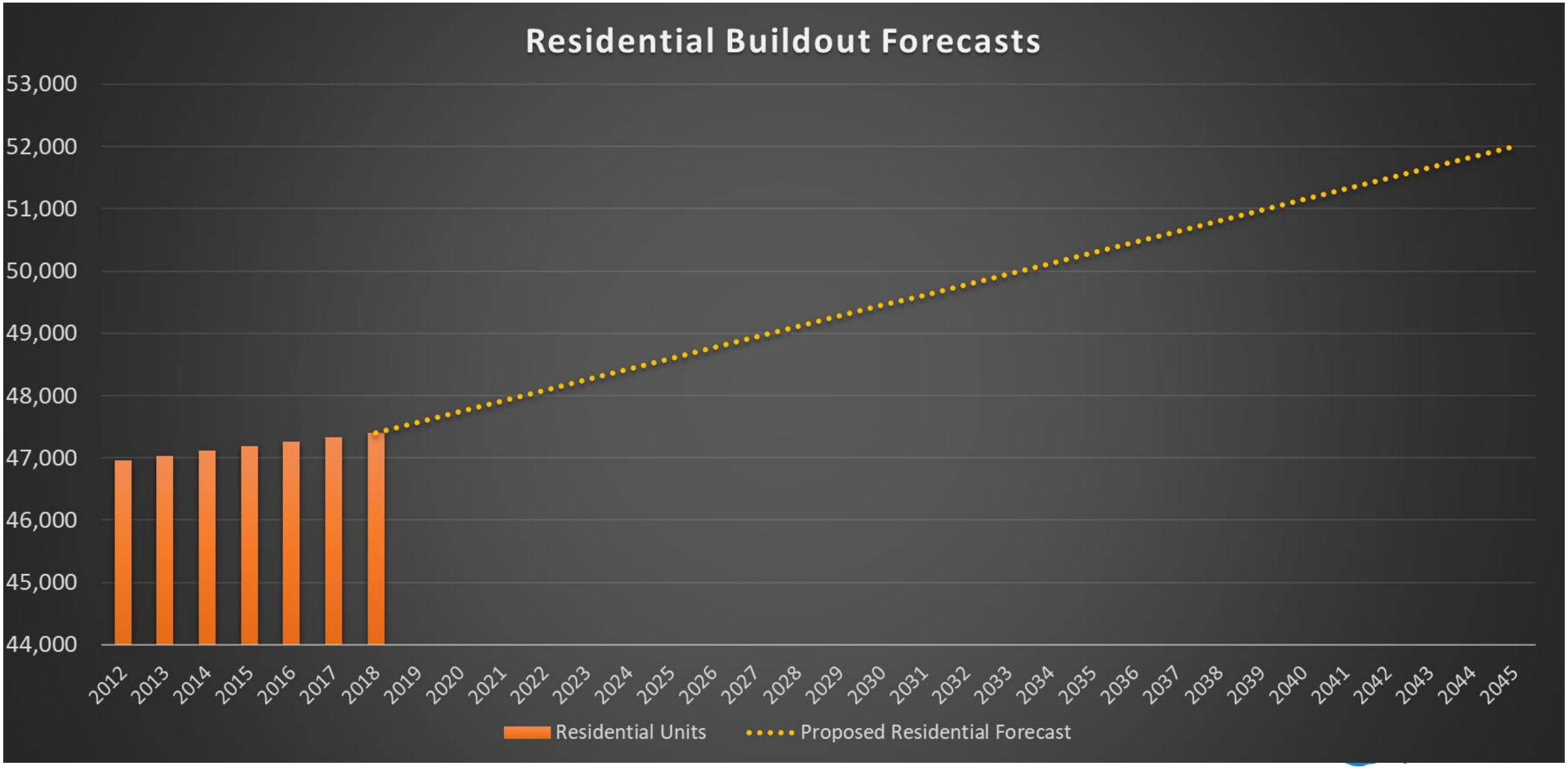
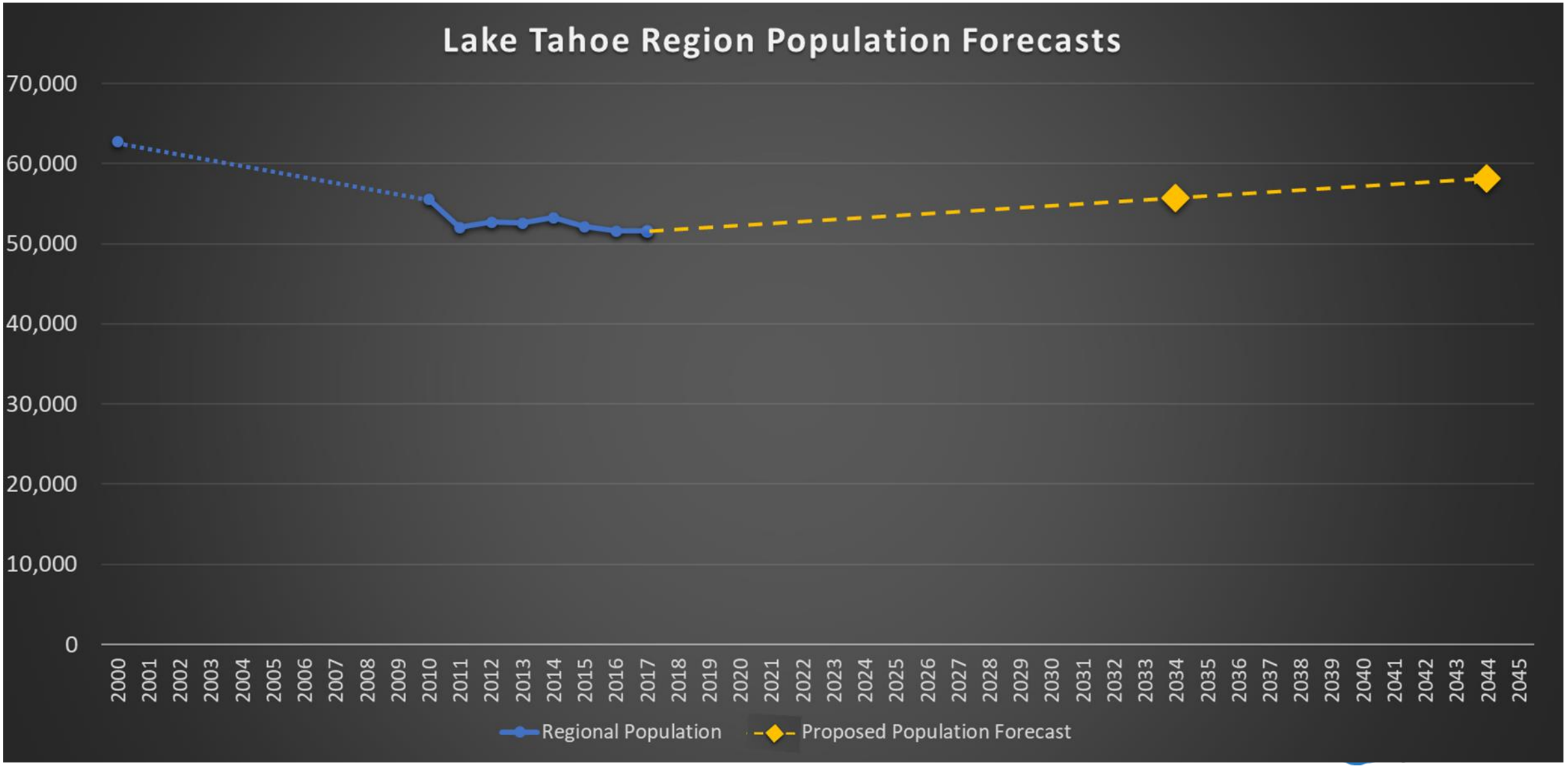
Residential Units



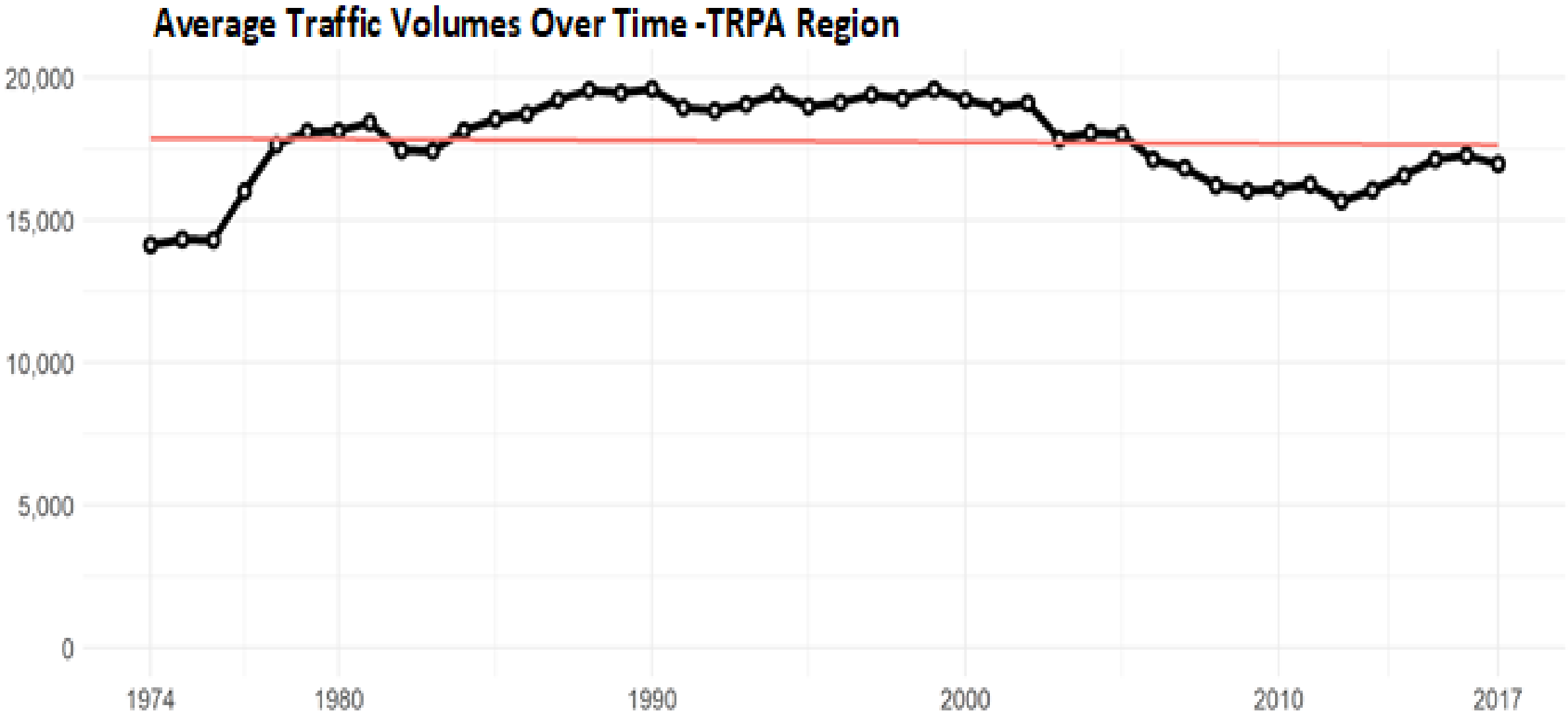
Population Forecasts



Visitation

The Reno-Tahoe Airport Authority, Reno-Tahoe International Airport: Passengers and Cargo Statistics Reports 2008-2020, https://www.renoairport.com/airport-authority/facts-figures/statistics

Traffic Volumes in Tahoe Region



Visitation

	Metric	Forecast Growth	Forecast Year
Sacramento Region	Population	+26%	2045
Sacramento Region	Employment	+25%	2045
Interstate-80	Traffic Volumes	+22%	2040
US Highway-50	Traffic Volumes	+18%	2040
Reno/Sparks Metro	Population	+27%	2040
Reno/Sparks Metro	Employment	+37%	2040
Carson City Region	Population	+28%	2040
San Francisco Region	Population	+27%	2040

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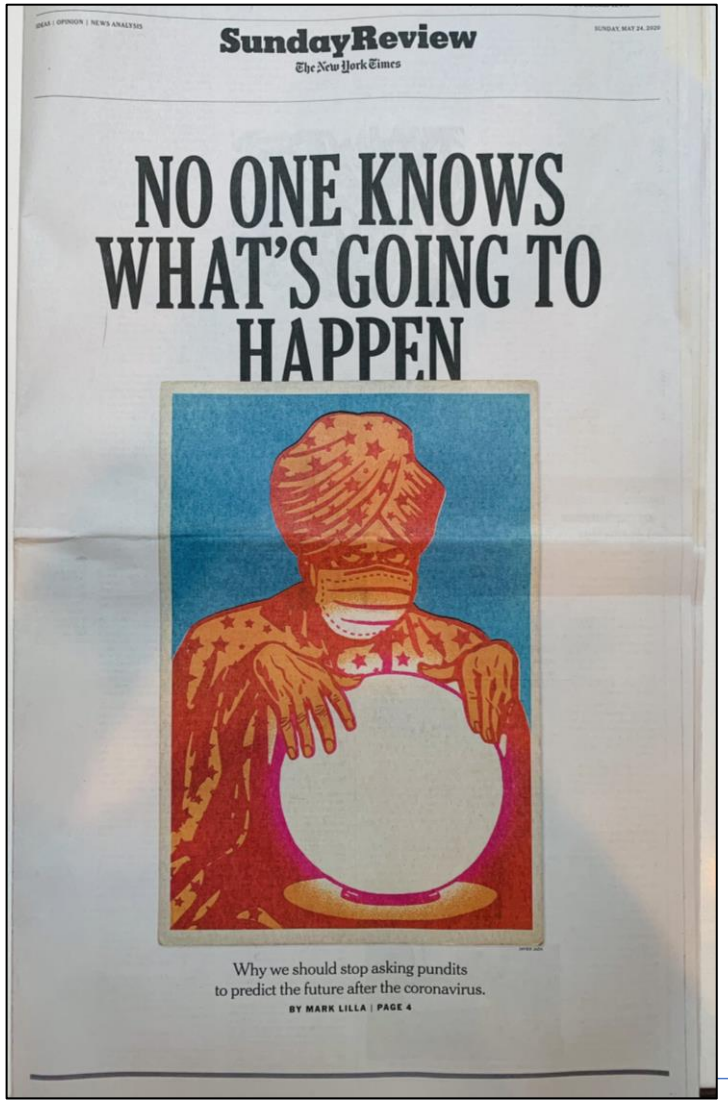
COVID-19



"Know when not to forecast....*Even in periods of dramatic, rapid transformation, there are vastly more elements that do not change than new things that emerge*"

-- Paul Saffo, Harvard Business Review
"Six Rules For Accurate Effective Forecasting"
https://hbr.org/2007/07/six-rules-for-effective-forecasting

Mark Lilla. "No One Knows What's Going to Happen." The New York Times, May 22, 2020, www.nytimes.com/2020/05/22/opinion/sunday/coronavirus-prediction-future.html

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Forecast/Modeling Next Steps

- **GB Agenda Item VII.B - Tomorrow**

- The Staff recommendation to TRPA Governing Board is to proceed with modeling the forecasts as presented

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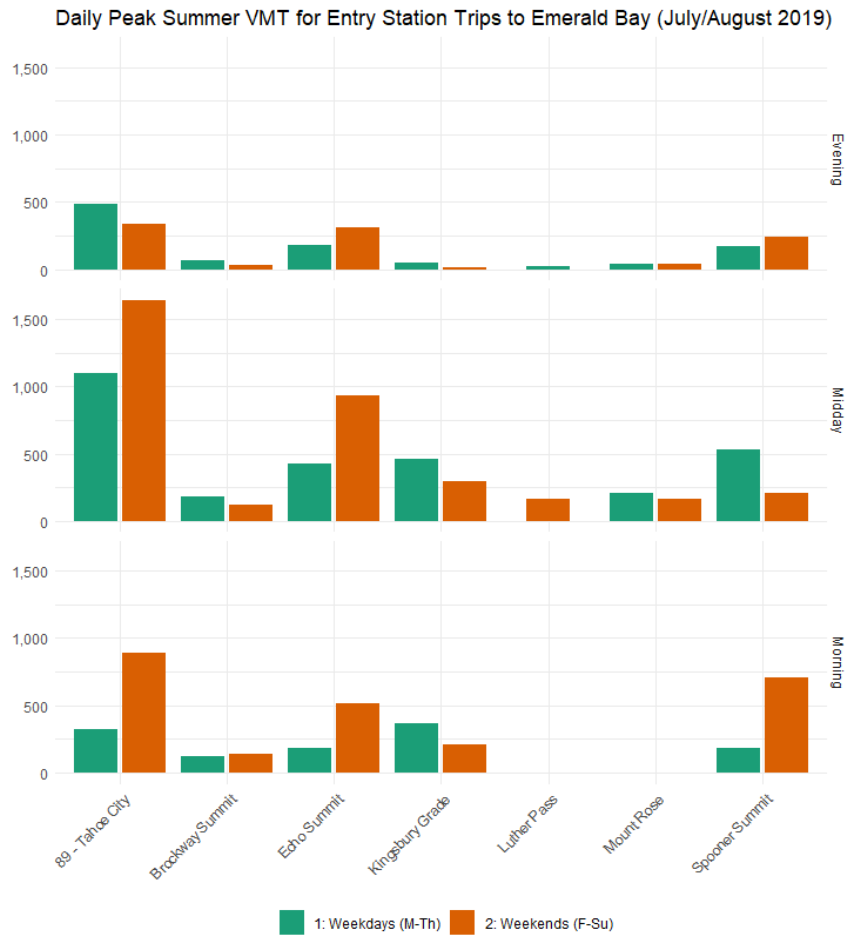
Next Steps

STREETLIGHT DATA
Big Data for Mobility

StreetLight VMT – TRPA Region			
Year	Model Day VMT	Peak Summer Daily VMT (July/Aug Weekends)	Data Source
2018	1,448,206	2,167,152	Streetlight Data



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