

# **Preparing Nevada's 2020 Projections: A Look at the REMI Model and COVID-19 and a World Gone a Little Crazy**

## **Presentation For REMI's Annual User Conference**

**October 30, 2020**

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## **What I Will Be Covering**

**COVID-19 and Tourism**

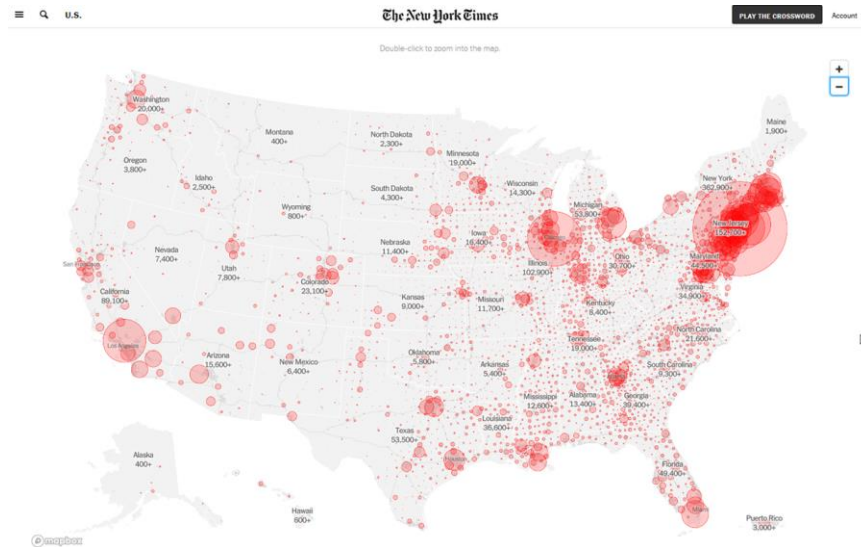
**This is complicated**

**Modeling Nevada**

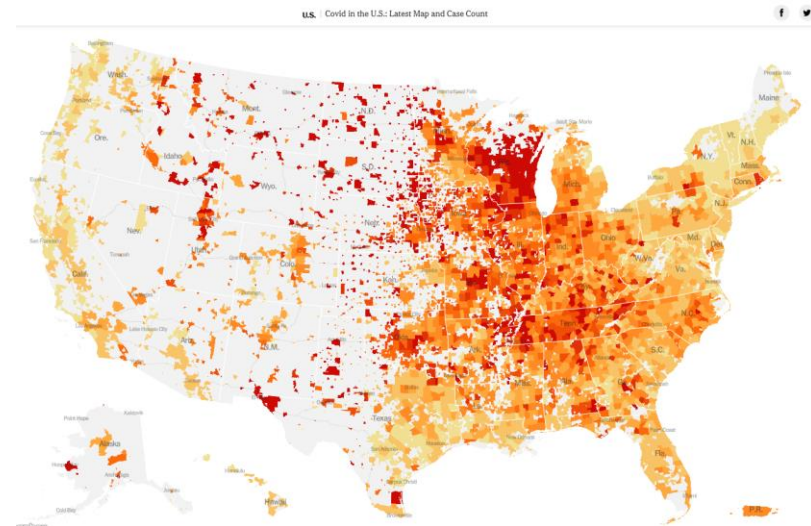
**How well REMI does with Nevada's Projections**

**2020 Census Update**

### May 27, 2020 COVID-19 Cases



### October 27, 2020 COVID-19 Cases



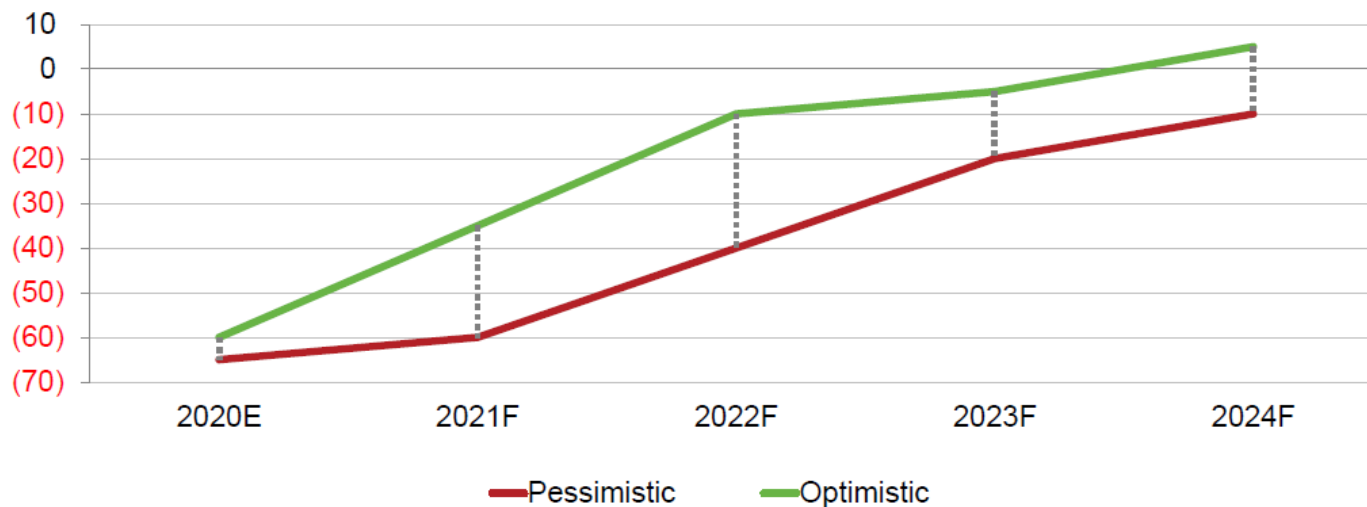
The pandemic has turned easy decisions tied to convenience and safety much harder decisions to make. This has impacted life in general and travel in a number of ways.

## COVID-19 and Travel/Tourism

**We Are Unlikely to See a Return to 2019 Passenger Volumes Before 2023-2024**

2021-2022 Clouded by Uncertainty re: State of Pandemic, Vaccination/Therapeutics, Economy

Estimated U.S. Airline Industry Passenger Traffic Change (%) vs. 2019 Levels



Source: A4A and various airline equity analysts



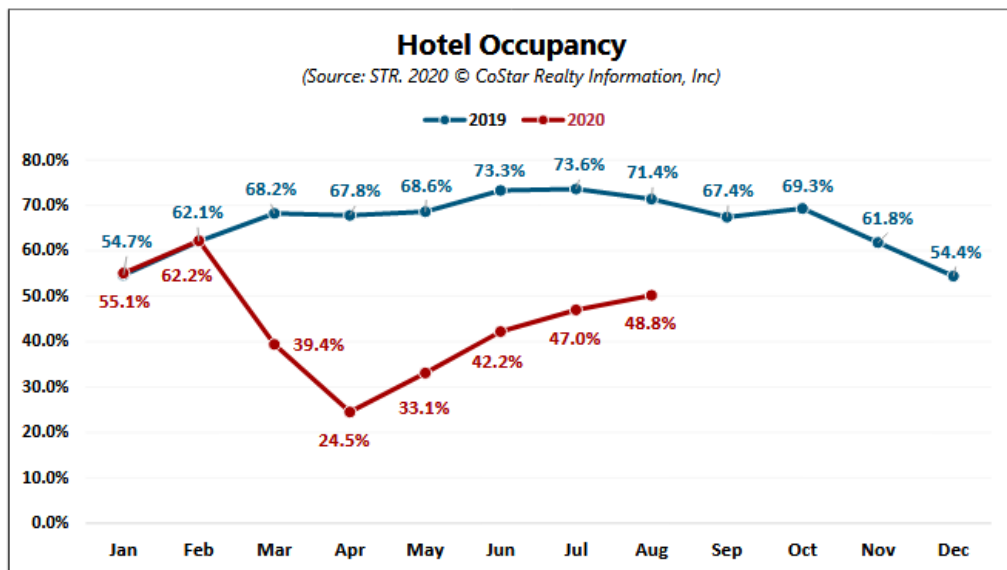
## 2. Almost 2/3 (65%) of Hotels Remain At Or Below 50% Occupancy. That's Below The Threshold At Which Most Hotels Can Break-Even And Pay Debt<sup>xxxv</sup>

In April, 8 out of 10 hotel rooms<sup>xxvi</sup> were empty. In August, 5 out of 10 hotel rooms<sup>xxvii</sup> are still empty with little expectations that occupancies will pick up until at least 2021. In fact, 65%<sup>xxviii</sup> of hotels are at or below 50% occupancy, which is near the threshold at which most hotels can break-even with expenses and pay for their debt. Thousands of hotels are at risk of closure, and their employees are facing the possibility of permanent job loss.

57,180 Hotels in US

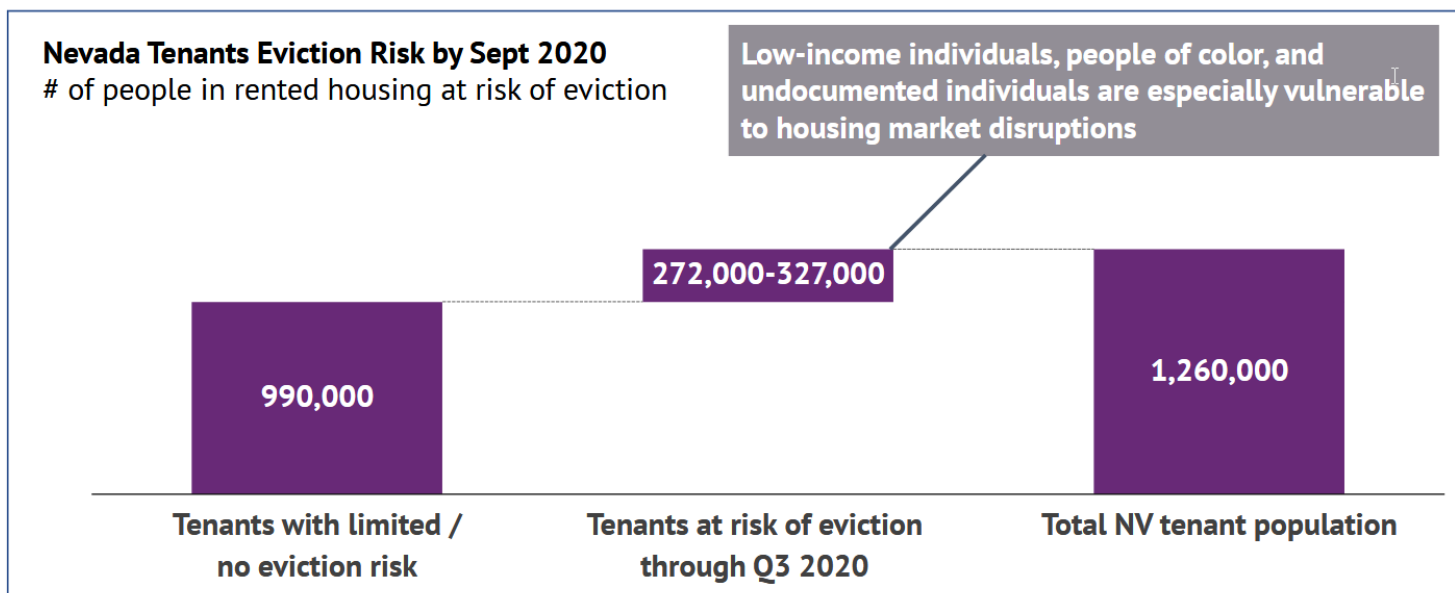
20,018 Potential Foreclosures

38,311 Closures



## COVID-19 and Impact on the Community

Between 272,000-327,000 Nevadans (or 118,000-142,000 households) could struggle to pay their rent by September 2020

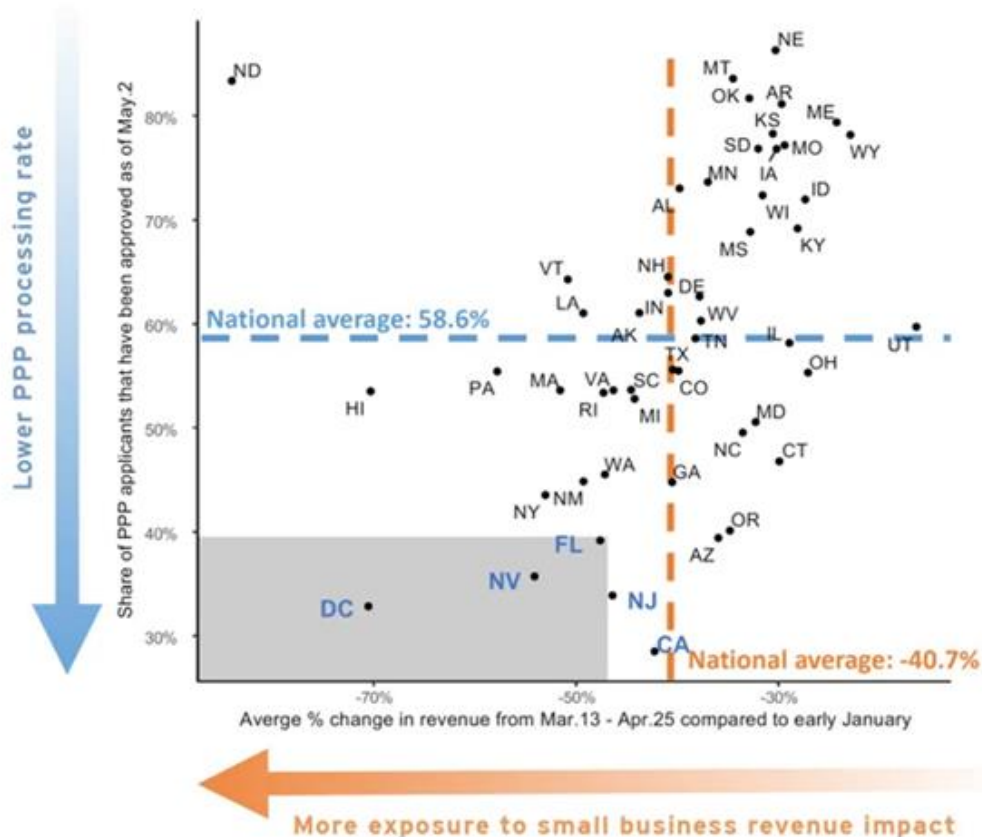


Source: COVID-19 Eviction Defense Project (CEDP) Model, 6/5/2020. See Methodology Page for Details.



FIGURE 1

Some states are more exposed to small business revenue impact, and slow to process PPP applications



Source: Brookings analysis of Opportunity Insights Economic Tracker and the U.S. Census Bureau's May 2 Small Business Pulse Survey.

NEWS

## Sheldon Adelson's Las Vegas Sands in talks to sell Vegas Strip properties

Ed Komenda Reno Gazette Journal

Published 4:02 p.m. PT Oct. 26, 2020 | Updated 6:04 p.m. PT Oct. 26, 2020

View Comments



Las Vegas Strip reopens, awakening from 80-day coronavirus coma

The Las Vegas Strip is slowly awakening after a nearly 80-day slumber due to the coronavirus crisis. USA TODAY

LAS VEGAS – Las Vegas Sands Corp. is considering selling its two hotel-casinos on The Strip, the company confirmed to the Reno Gazette Journal Monday.

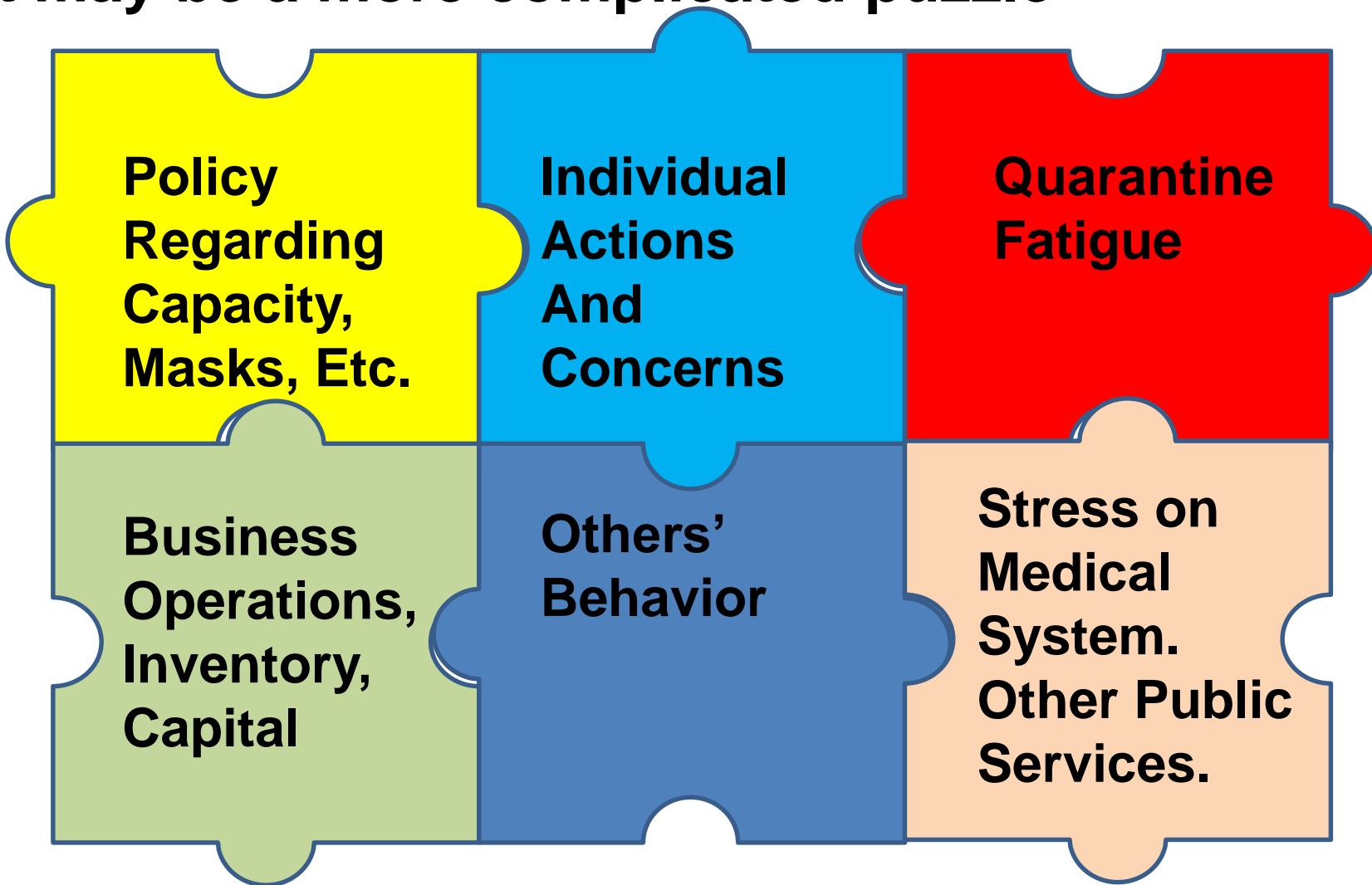
## We're in a world of hurt'

The disappearance of conventions in the wake of COVID-19 contributed to a second quarter loss of almost \$1 billion for Las Vegas Sands.

**Adelson, the 87-year-old billionaire chief executive of Las Vegas Sands Corp., said government officials must first ease occupancy restrictions before the trade show and convention industry can make a comeback.**



## It may be a more complicated puzzle



# What Happens Next?

## How much would each condition help you feel comfortable with attending a sporting game or event in person?

Responses in a FiveThirtyEight/Ipsos poll conducted May 5-11, 2020








CONDITION	WOULD HELP..			WOULD NOT HELP
	A LOT	SOME	A LITTLE	
If there was a COVID-19 vaccine	51%	13%	9%	27%
If all fans were required to wear masks	21	16	22	39
If new coronavirus cases in your area have declined two weeks in a row	17	20	23	40
If fans were required to keep 6 feet away from each other	18	18	24	39
If there were temperature checks to detect fevers for all fans	18	17	21	43
If there were walkway directions in the concourse or aisles	14	16	21	48

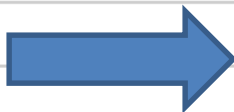
**Note:** Sums may not add to 100 percent for each option because some respondents skipped the question.

## What Happens Next?

### When should each sport restart games or events?

Responses in a FiveThirtyEight/Ipsos poll conducted May 5-11, 2020

RESTART WHEN...							
Immediately	12%	10%	11%	10%	13%	10%	13%
Government gives OK	17	17	17	18	18	17	19
Coronavirus is under control	46	45	45	46	44	45	44
Vaccine is available	24	26	27	26	23	26	23



**Note:** Sums may not add to 100 percent for each option because some respondents skipped the question.

**How people see the virus being controlled may not be the same as having a vaccine available or having been vaccinated.**

## **Three Scenarios**

- **Traditional Baseline**
- **COVID-19 Best case**
- **COVID-19 Worst case**

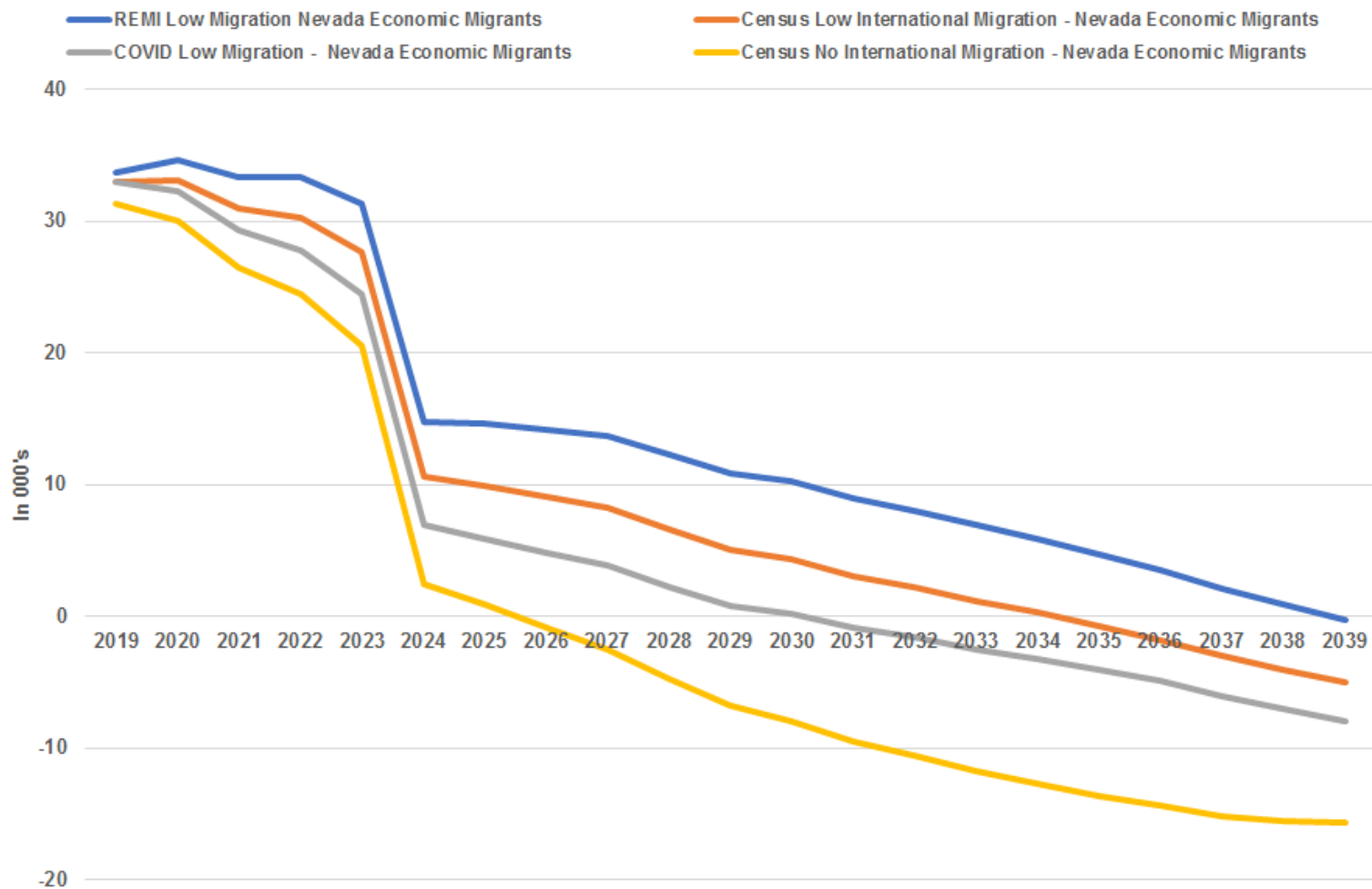
<b>National Variables</b>		
<b>Baseline</b>	<b>COVID-19 Best Case</b>	<b>COVID-19 Worse Case</b>
<b>Employment –</b> Employment Update for 2019	<b>Employment –</b> Employment/Output Policy Variable through 2022	<b>Employment –</b> Employment/Output Policy Variable through 2024
<b>International Migration –</b> Census Low	<b>International Migration –</b> COVID-19 Low	<b>International Migration –</b> Census No Migration
	Transfer Payments - State unemployment insurance compensation Other transfer receipts of individuals from governments	Transfer Payments - State unemployment insurance compensation Other transfer receipts of individuals from governments
		<b>Labor Force Participation Rates</b>
<b>State Variables</b>		
<b>Employment –</b> Employment Update for 2019 Mining Hotel Room Based	<b>Employment –</b> Driven by National Employment Mining	<b>Employment –</b> Driven by National Employment Mining
<b>Residence Adjusted Employment for Eureka and Storey Counties</b>	<b>Residence Adjusted Employment for Eureka and Storey Counties</b>	<b>Residence Adjusted Employment for Eureka and Storey Counties</b>
<b>Migration</b> Retiree Migration	<b>Migration</b> Retiree Migration Economic Migration Net 0 for 2020	<b>Migration</b> Retiree Migration Economic Migration Net 0 for 2020
	<b>Transfer Payments -</b> State unemployment insurance compensation Other transfer receipts of individuals from governments	<b>Transfer Payments -</b> State unemployment insurance compensation Other transfer receipts of individuals from governments

## Comparison of 2039 Projected Population for Four Different Nevada Scenarios

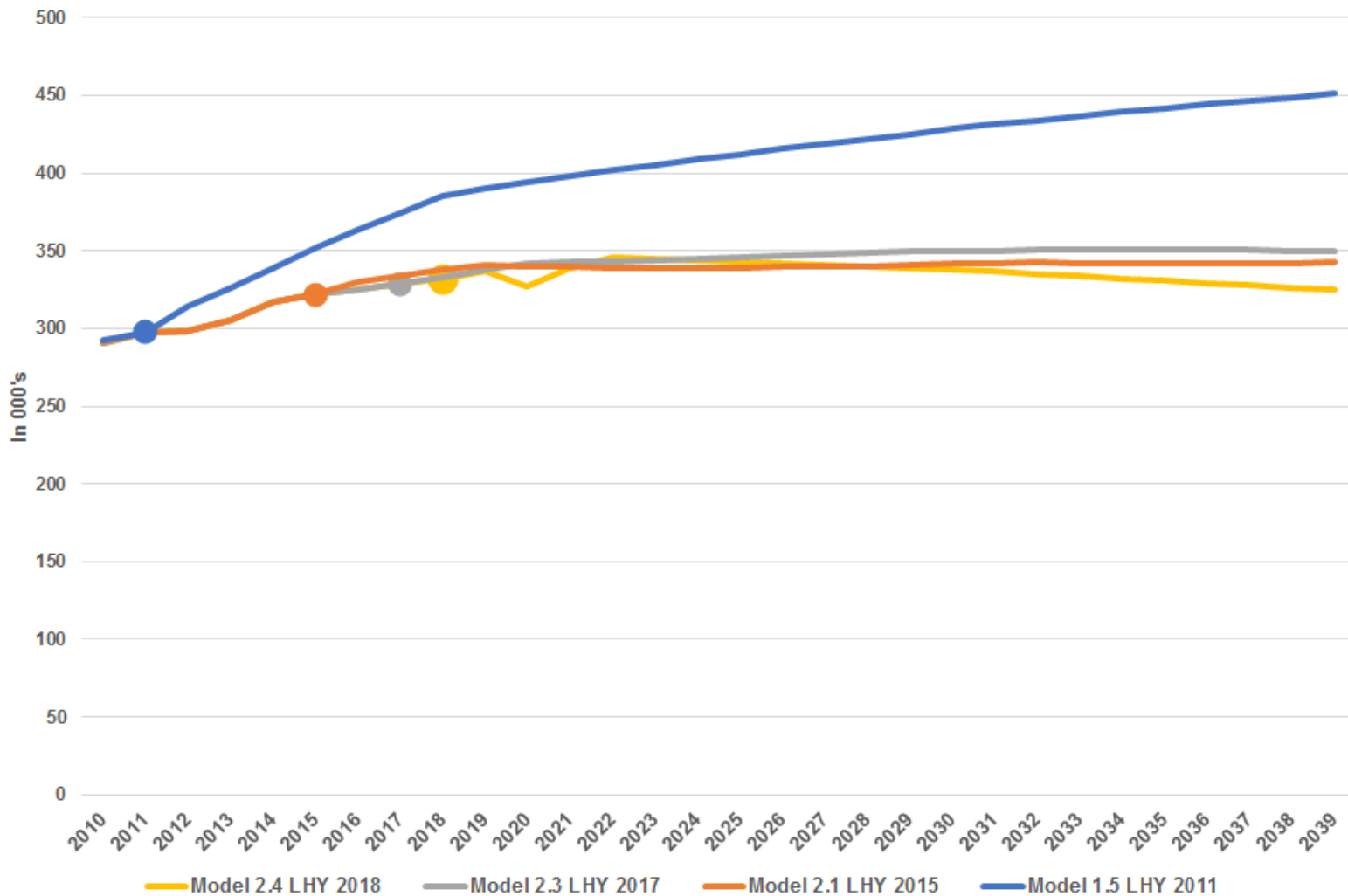
	2019 Estimate	REMI Low Migration	Census Actual International Migration and Low Projection	Covid Best Case	Covid Worse Case
<b>Clark</b>	2,293,391	2,717,581	2,611,448	2,539,603	2,378,557
<b>Washoe</b>	469,801	553,284	532,302	518,723	491,771
<b>Mining</b>	155,499	172,890	167,640	165,032	160,923
<b>Balance of State</b>	194,244	220,692	210,955	191,940	195,629
	3,112,935	3,664,447	3,522,345	3,415,298	3,226,880



## Comparing Nevada's Net Economic Migration Based on Four Different International Migration Scenarios: REMI Low, Census Bureau's Low, COVID-19 Best case and COVID-19 worse case

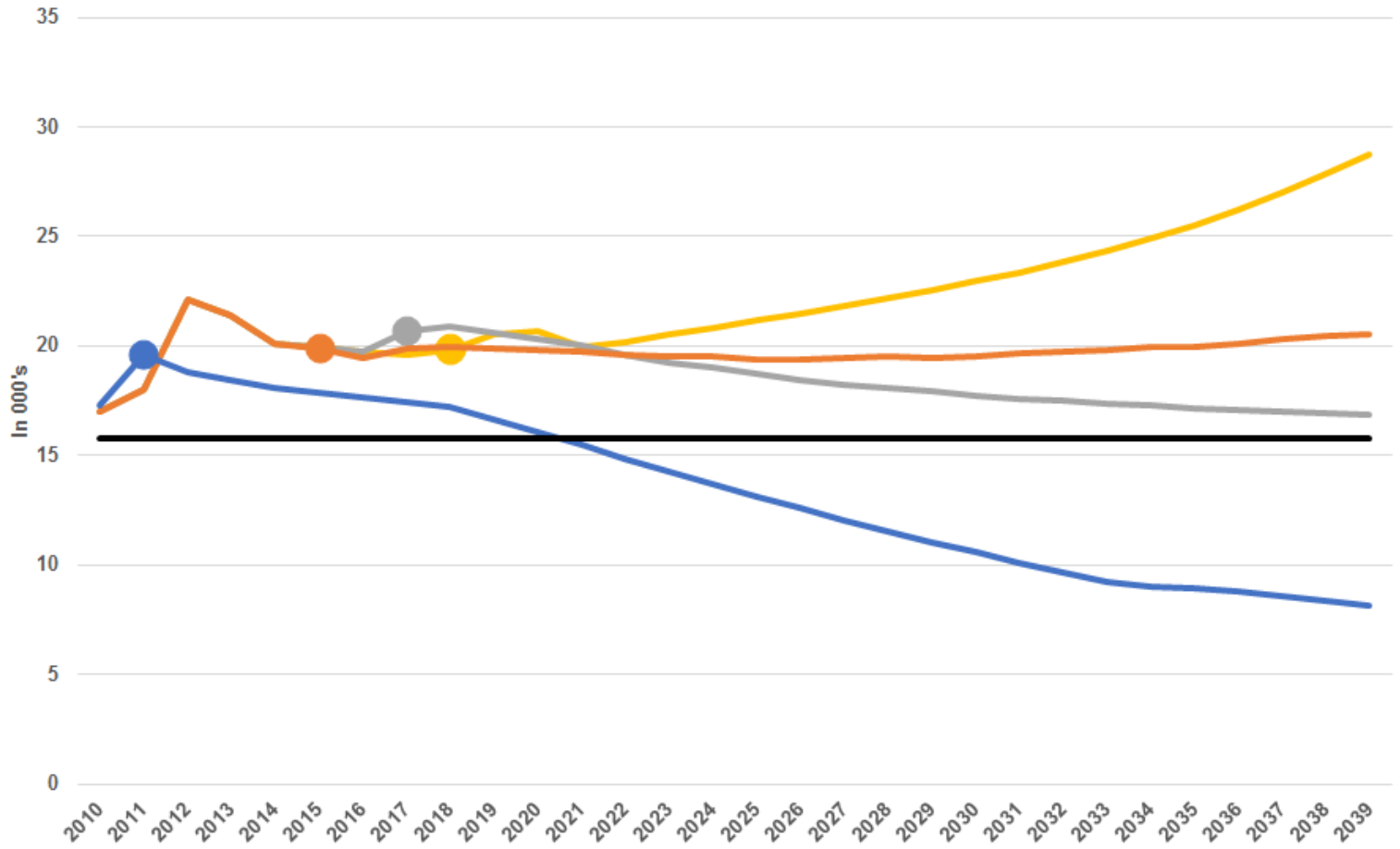


## Comparing Accommodations and Food Services Employment for Nevada - Last History Years of 2011, 2015, 2017, and 2018

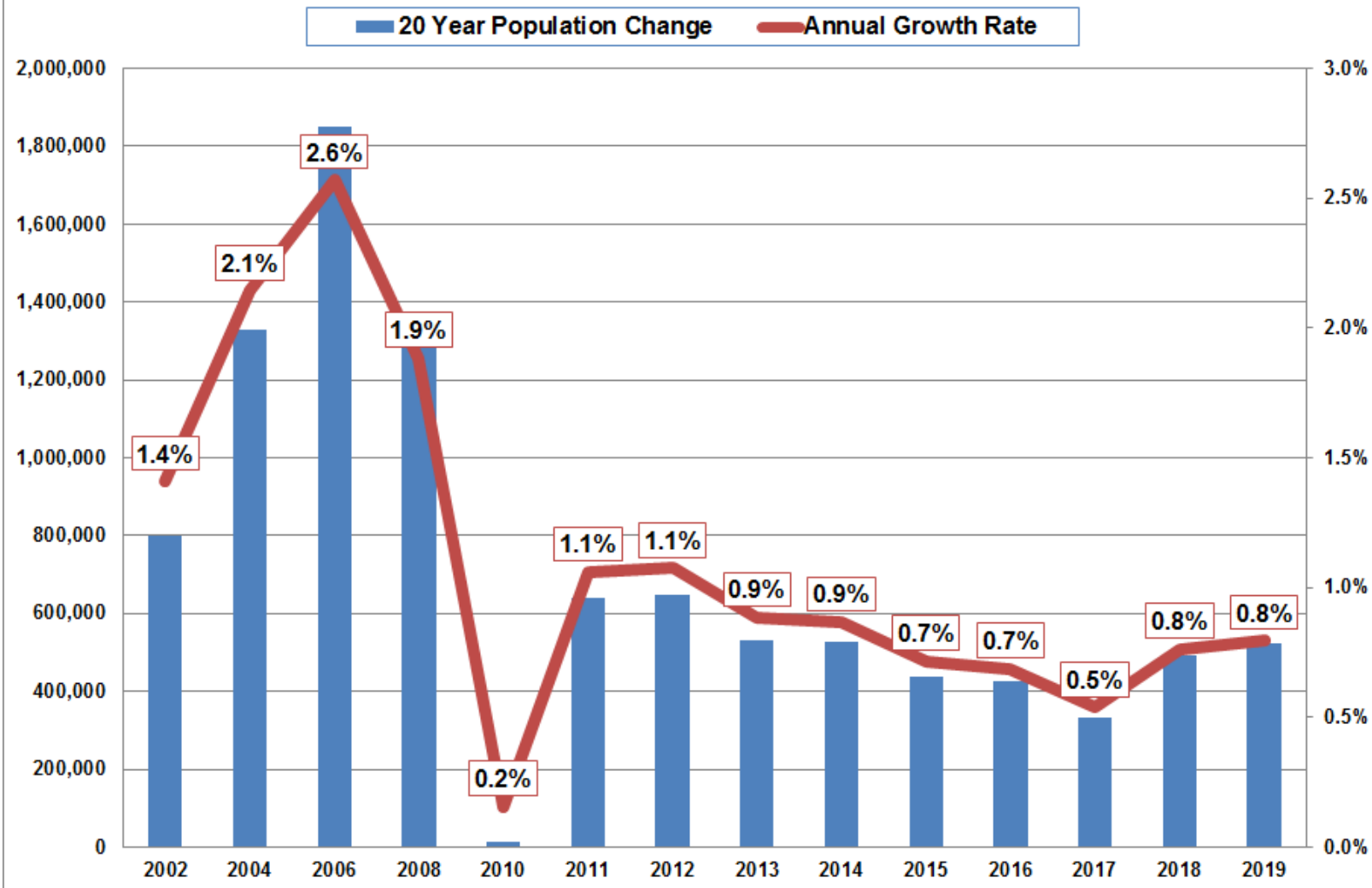


## Comparing Mining Employment for Nevada For Last History Years of 2011, 2015, 2017, and 2018

—●— Model 2.4 LHY 2018   
 —●— Model 2.3 LHY 2017   
 —●— Model 2.1 LHY 2015  
—●— Model 1.5 LHY 2011   
 — 1990 to 2018 average



## 20 Year Population Projections for Nevada and Annualized Growth Rates Published From 2002 to 2019



## How well does REMI do?

Table 1. An Example of Error Ranges for State Population Projections

Horizon	10 Year		20 Year	
	Low	High	Low	High
Mean Algebraic Percent Error	-3.6%	7.7%	-4.9%	26.5%
Mean Absolute Percent Error	9.2%	19%	13.7%	41.3%

Source: Smith, Stanley K. and Jeff Tayman. 2004. "Confidence Intervals for Population Forecasts; A Case Study of Time Series Models for States." Paper presented at Population Association of America, 2004.

Table 2: Error for Nevada's State Projections

Compared to:	2002 to 2010 Projections (2010 = 10 or less horizon and 2019 20 year of less horizon)		2011 to 2019 Projections (10 year or less horizon)	
	Mean Algebraic Percent Error	Mean Absolute Percent Error	Mean Algebraic Percent Error	Mean Absolute Percent Error
2010 Census July 1 Estimate	-5.0%	6.1%		
Census 2019 Estimate	-6.3%	14.6%	2.0%	2.2%
Nevada 2019 Estimate	-5.2%	14.2%	3.0%	3.0%
<b>Without Outliers (the 2006 and 2008 projections)</b>	<b>2002 to 2010 Projections</b>			
<b>Difference 2010</b>	<b>-0.4%</b>	<b>2.2%</b>		
<b>Difference Census 2019</b>	<b>3.9%</b>	<b>9.9%</b>		
<b>Difference Nevada 2019</b>	<b>4.9%</b>	<b>10.1%</b>		
<b>Difference Average</b>	<b>4.4%</b>	<b>10.0%</b>		

## Update on the Census

- **COVID-19 possibly impacted data quality**
  - **Mixed messages on response**
  - **Data gathering**
  - **Processing**
  - **Court case on timing**
  - **Anecdotal stories on field work**
- **Court case on citizenship/apportionment**
- **Differential Privacy**
  - **National Academies of Science Workshop**
  - **Ongoing review against 2010 “Best Census”**





## Questions?

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