

# **Estimated Effects of a Partial Tax Abatement on the Aviation Industry in Nevada**

A Presentation to the Nevada Senate Revenue and  
Economic Development Committee and the  
Assembly Taxation Committee

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Dr. Mike Tretheway  
Executive Vice President and  
Chief Economist

# Introduction & Objectives

The Nevada legislature is considering legislation that would provide a partial tax abatement on aviation parts and property in the State.

- Our 2014 study examined the impact that similar legislation introduced in 2013 would have on aviation-related employment and economic activity.
- This presentation is based on the results of that study.

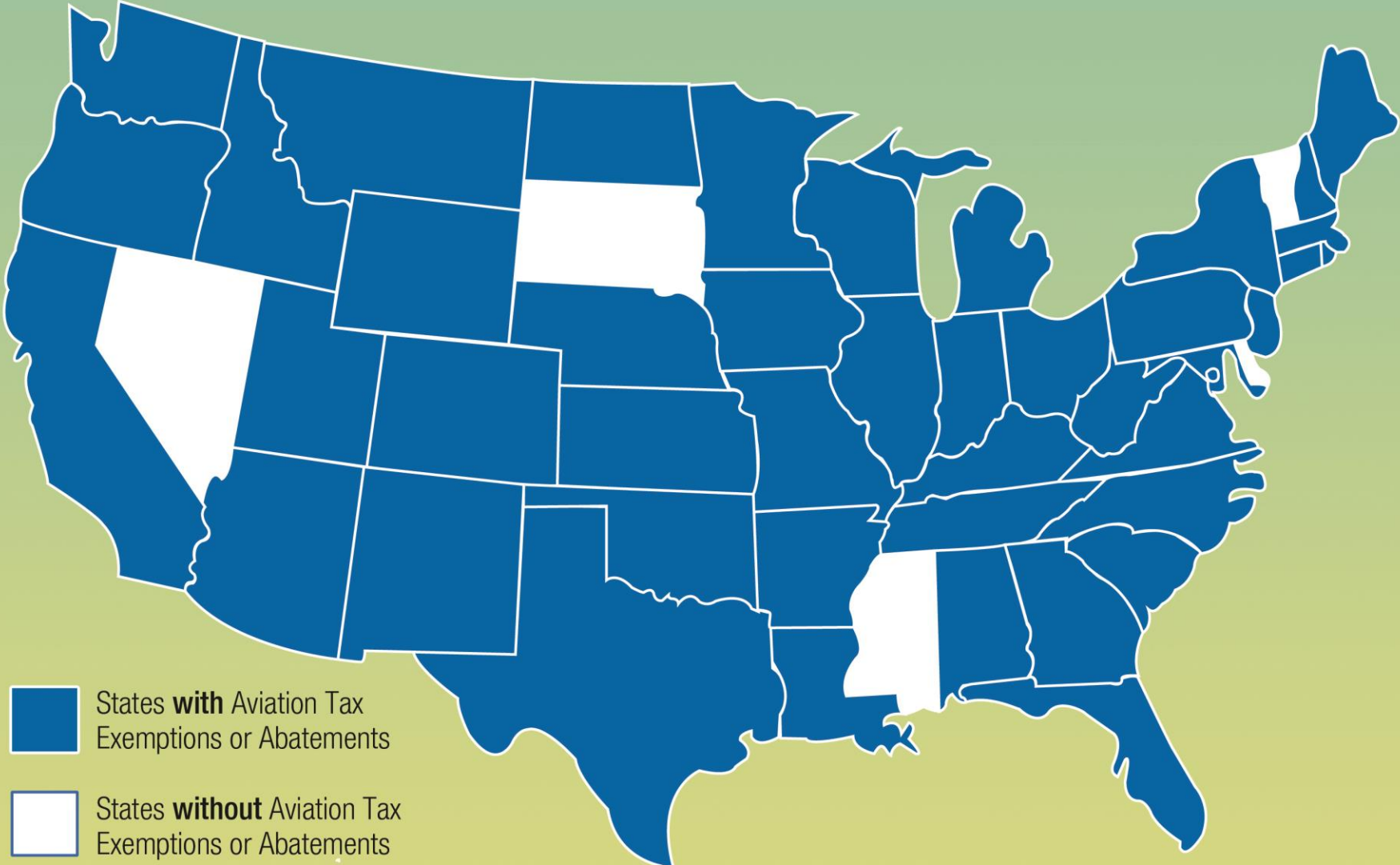
## **Objectives:**

- Analyze the economic impact of a partial tax abatement program on the aviation industry in Nevada
- Provide estimates of potential increases in direct employment and economic activity in the sectors targeted by the tax abatement
- Estimate expected changes in flows of tax revenues through different channels

# Methodology

- Reviewed literature
  - 45 other states have adopted tax exemption or abatement policies
- Interviewed 60+ stakeholders
- Surveyed members of the Nevada Business Aviation Association
- Analyzed economic data & conducted econometric analysis of the expected changes in employment and earnings
  - Projected county-level changes in employment and earnings and flows of tax revenues

# Competitive Landscape



States **with** Aviation Tax Exemptions or Abatements

States **without** Aviation Tax Exemptions or Abatements

# Background: Key Aviation Stakeholders That Could Benefit

- **Aviation maintenance and repair**
  - 20 FAA-recognized aviation repair stations in Nevada, 530 employees
  - Includes “fixed base operators” (FBOs) and “maintenance, repair, and overhaul” (MRO) facilities
- **Air tour operators**
  - Large and growing business (10% per year), employ nearly 1100 staff, operating approximately 120 aircraft
  - Maintenance spending *out of state* of over \$20 million annually
- **Business and general aviation**
  - Business aviation: Any general aviation aircraft used for business
  - FAA: 5,323 aircraft registered to Nevada addresses in May 2014
- **Unmanned Aerial Systems or Vehicles (UAS / UAV)**
  - The newest major development in commercial and civil aviation
  - FAA UAS test site in Nevada – standards, operations and operator standards and certification

# Background: General Aviation-Related Employment in Nevada

Sector	FTEs	Establishments	Total Wages (\$m)	Avg. Annual Wage
Support activities for air transportation	3,501	161	\$195	\$49,000
Scenic and sightseeing transportation	643	12	\$37	\$51,000
Aircraft parts and auxilliary equipment manuf	114	5	\$6	\$47,000
Other nonscheduled air transportation	13	7	\$1	\$92,000
Other electronic equipment repair	376	86	\$37	\$87,000
<b>Total</b>	<b>4,647</b>	<b>271</b>	<b>\$276</b>	<b>\$53,000</b>

Source: BLS QCEW

NOTE: Figures shown for employees include both full and part-time filled positions.

Excludes employment with scheduled commercial air services

FTE = full time equivalent, same as person year of employment

- **Average annual wage of these employees: more than 25% higher (\$10,000) than Nevada statewide average.**
- The largest % of these positions are in Clark County, followed by Washoe County and Northern Nevada generally.

# What is Economic Impact?

- A measure of spending and employment associated with change in a sector of the economy, specific project or government policy
  - **Direct impacts:** employment in the sector directly related to qualifying businesses
  - **Indirect impacts:** Impacts associated with employment in industries *that depend on* the presence of the qualifying business (e.g., upstream industries, such as companies that supply food to caterers)
  - **Induced impacts:** Impacts that stem from expenditures by individuals employed indirectly or directly. E.g., economic ripple effects of direct employees spending wages on renovating home

# Key Findings

- **Impacts were measured based on two methods:**
  - **Price elasticities**
    - » Derived from economic research and our literature review
    - » “Elasticity” is an economic measure of the sensitivity of one variable (such as demand for a product) in response to a change in another variable (such as the price)
  - **Expert opinion expressed by industry stakeholders**  
in interviews and a survey conducted in cooperation with NVBAA

***The conclusions from both are clear:***

A partial abatement of sales and use taxes on aviation property and parts will lead to growth in the aviation industry in *both* the short and long term.



# Key Findings: 1<sup>st</sup> Year Employment Impacts

## Baseline (Nevada State Totals)

	Employment FTEs	Income (\$millions)	GDP (\$millions)	Output (\$millions)
Direct	4,647	\$277	\$250	\$490

## State growth estimate *developed from elasticities*

	Employment FTEs	Income (\$ Millions)	GDP (\$ Millions)	Output (\$ Millions)
Direct	241	11	13	25
Indirect	51	2	3	6
Induced	123	4	7	13
Total	414	16	23	44

## State growth estimate *developed from stakeholder survey*

	Employment FTEs	Income (\$ Millions)	GDP (\$ Millions)	Output (\$ Millions)
Direct	765	34	43	87
Indirect	182	7	10	22
Induced	401	13	22	43
Total	1,348	54	75	152

# Short Term Impacts are Real

- Aviation businesses are already established in Nevada
- They are competing nationally...and currently losing business due to tax rates
- Tax abatement highly likely to quickly produce increase in sales
- This is not a case where several years are needed for benefits to be realized while efforts are made to attract firms to establish new business
- Further, education strategies in Nevada are training potential workers for the new positions

# Key Findings:

## Longer-Term Employment Impact (Year 5)

### Baseline (Nevada State Totals)

	Employment FTEs	Income (\$millions)	GDP (\$millions)	Output (\$millions)
<b>Direct</b>	4,647	\$277	\$250	\$490

### State growth estimate *developed from elasticities*

	Employment FTEs	Earnings (\$ Millions)	GDP (\$ Millions)	Output (\$ Millions)
Direct	841	40	48	94
Indirect	178	7	11	22
Induced	429	14	25	49
<b>Total</b>	<b>1,447</b>	<b>61</b>	<b>85</b>	<b>165</b>

### State growth estimate *developed from stakeholder survey*

	Employment FTEs	Income (\$ Millions)	GDP (\$ Millions)	Output (\$ Millions)
Direct	1,753	83	103	205
Indirect	397	17	25	51
Induced	907	30	53	103
<b>Total</b>	<b>3,057</b>	<b>130</b>	<b>181</b>	<b>359</b>

# Key Findings: County Distribution of Employment Effects Within Nevada

Partial tax abatement is likely to generate employment effects throughout the state, consistent with existing patterns of aviation activity.

Elasticity Estimate				
Impact	FTE Employment			Total
	Clark	Washoe	All Other	
Direct	135	26	80	241
Indirect	27	6	17	50
Induced	69	13	41	123
<b>Total</b>	<b>230</b>	<b>46</b>	<b>138</b>	<b>414</b>

Stakeholder Survey Estimate				
Impact	FTE Employment			Total
	Clark	Washoe	All Other	
Direct	456	76	233	765
Indirect	104	31	59	194
Induced	236	56	124	417
<b>Total</b>	<b>796</b>	<b>163</b>	<b>416</b>	<b>1,375</b>

**Employment growth will be concentrated in Southern Nevada**

because of the presence of air tour operators, aviation repair stations, and large numbers of business aircraft.

# Estimated *Gross* Increase in Tax Revenue to the Counties and State

## Tax Revenues in \$000s

Cumulative totals	Local Government Apportionment						State Portion	
	<u>Clark</u>		<u>Washoe</u>		<u>Others</u>		Low	High
	Low	High	Low	High	Low	High		
1-year	\$487	\$1,684	\$95	\$287	\$292	\$1,235	\$219	\$761
2-year	\$994	\$3,436	\$194	\$586	\$596	\$2,520	\$446	\$1,552
5-year	\$2,529	\$9,139	\$516	\$1,558	\$1,585	\$6,703	\$1,189	\$4,130

## Tax Revenues in \$000s

Cumulative totals	Statewide TOTAL	
	Low	High
1-year	\$1,093	\$3,967
2-year	\$2,230	\$8,094
5-year	\$5,819	\$21,530

# Key Findings: Effect on State and Local Tax Revenues From Tax Abatement

The Nevada Department of Taxation developed an estimate of the fiscal impact of SB 93. The Fiscal Note assumed that the partial tax abatement would apply to all business and general aviation aircraft.

## **Total estimated revenue impact:**

2016:	\$ 665,047
2017:	\$ 665,047
Future biennia:	\$1,330,094

# Key Findings: Statewide Net Tax Impact

## Low case (Year 1)

- **Gross increase in tax revenues: \$1,093,000**
- **Less: Fiscal note taxes foregone: \$ 665,000**
- **Net change in tax + \$428,000**

# UAS Opportunity Overview

The impact of a partial tax abatement on attracting UAS firms to Nevada is unclear.

UAS are not simply aircraft. They are systems with three major components -- airframe, control station, data link – along with payload. Frequently, each major component is manufactured separately.

## Aircraft

- Airframe
- Engines
- Flight control computer or system
- Precision navigation system
- Sense & avoid system

## Payload

- Photography / video
- Infrared systems
- Radar
- Electro-optical sensors or scanners
- Environmental sensors
- Product delivery

**The key is to attract specific components of the value chain.**

Nevada is well-positioned to take advantage of the expected growth in the industry due to its business-friendly environment and access to skilled labor.



# UAS Opportunity

Estimates of the impact of UAS globally and in the U.S. are **staggering**

- **Markets To Markets:** The total UAS market will be worth nearly **\$115 billion by 2023**
- **Teal Group:** UAS spending will more than double over the next decade, totaling over **\$89 billion in the next ten years**, with 2/3 of worldwide R&D occurring in the U.S.
- **Yamaha:** **70,000 new jobs and \$13.6 billion** in economic impact within 3 years of integration. The source document for Yamaha's estimate also projects 100,000 new jobs by 2025
- **The State of Nevada** cited **10,000 new jobs and \$2.5 billion** economic impact by the middle of the next decade

***Even the most conservative estimates suggest a significant economic presence***

***FAA's just-announced NPRM on commercial UAS will jump-start activity.***

# Conclusions

## **Partial tax abatement on aviation parts and property will generate positive economic benefits for Nevada and individual counties.**

1. Impacts will begin very quickly
2. Job generation at above average wages
3. Job training program already in place
4. Increase in employment:
  - » Year 1: 241 – 765 direct FTE jobs (414 – 1,348 total FTE jobs)
  - » Year 5: 841 – 1,753 direct FTE jobs (1,447 – 3,057 total FTE jobs)
  - » Ten year impacts:  
creation of 7,000 to 15,000  
direct person years of employment  
*plus indirect and induced employment impacts*

# Conclusions

## **Partial tax abatement on aviation parts and property will generate positive economic benefits for Nevada and individual counties.**

5. Incremental jobs are expected to generate new tax revenues that exceed cost of the abatement
  - » Year 1: estimated net benefit of \$0.4 mil. to \$3.3 mil.
  - » By year 5, the net benefit could be as high as \$18.2 mil.
6. Impact of tax abatement on UAS industry is unclear
  - › Firms consider many factors in making location decisions, including access to skilled labor, capital, and the supply chain
  - › However, the proposed tax abatement reinforced Nevada's reputation as a "business friendly" location

Coupled with its other comparative advantages, we believe that Nevada will experience UAS-related activity that generates new employment and economic activity

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**THANK YOU!**