

# Investigating Factors that Impact Income Generation and Distribution in Western National Park Gateway Communities

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# There is increasing necessity to understand how tourism-dependent economies are developing

- Shift from agriculture and resource extraction to reliance on outdoor recreation and tourism (Hjerp et al., 2020, Machlis & Field, 2000)
- Increasing national park visitation (Poudyal et al., 2013)
- Increasing migration to gateway communities (Beyers & Nelson, 2000)



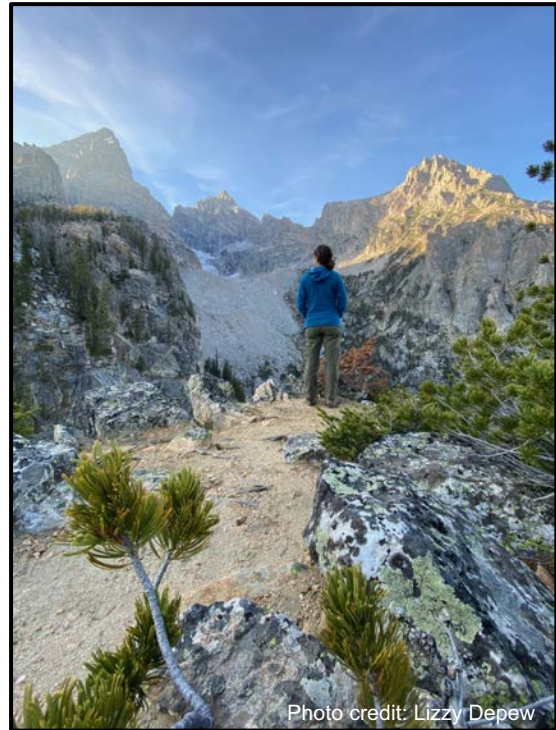
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# This work focuses on income and income inequality

- ACS: Full-time year-round earnings and GINI Index
- There are mixed opinions on income in gateway communities
- Widespread concern of income inequality



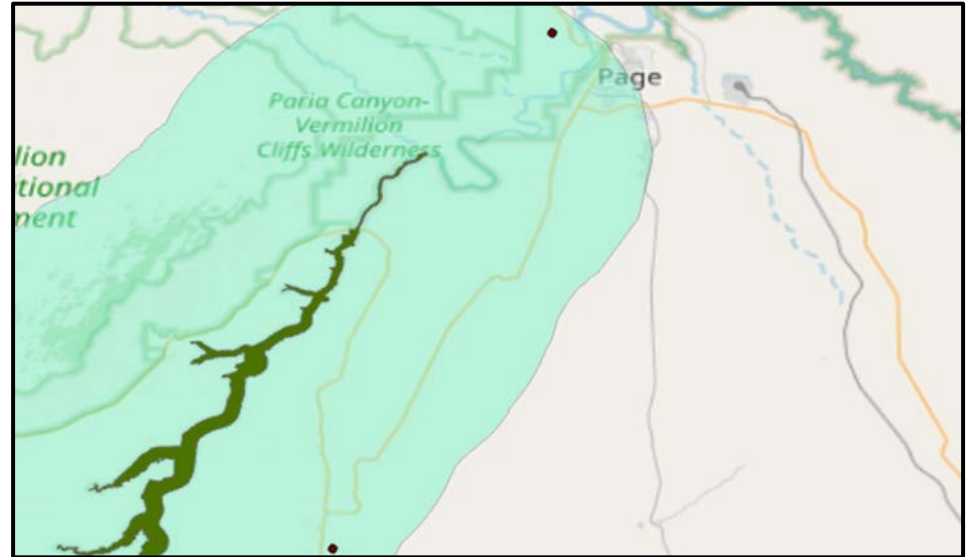
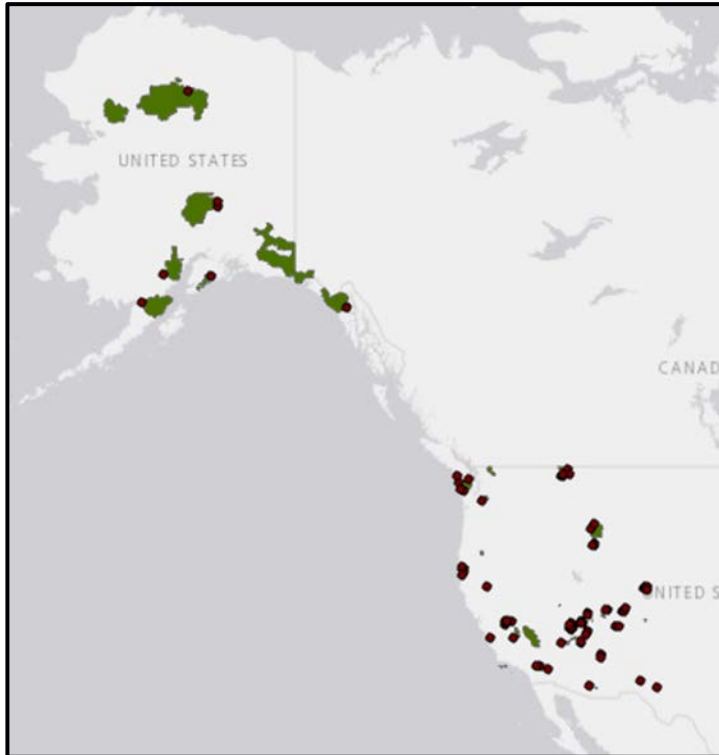
## Research Question One:

- Are there significant trends in the income profiles of gateway communities? And, do these trends in income profiles differ from comparable non-gateway communities?

## Research Question Two:

- Are there significant relationships between the unique characteristics of gateway communities and the income generation and distribution within these communities?

# Identify sample of gateway communities and benchmark communities



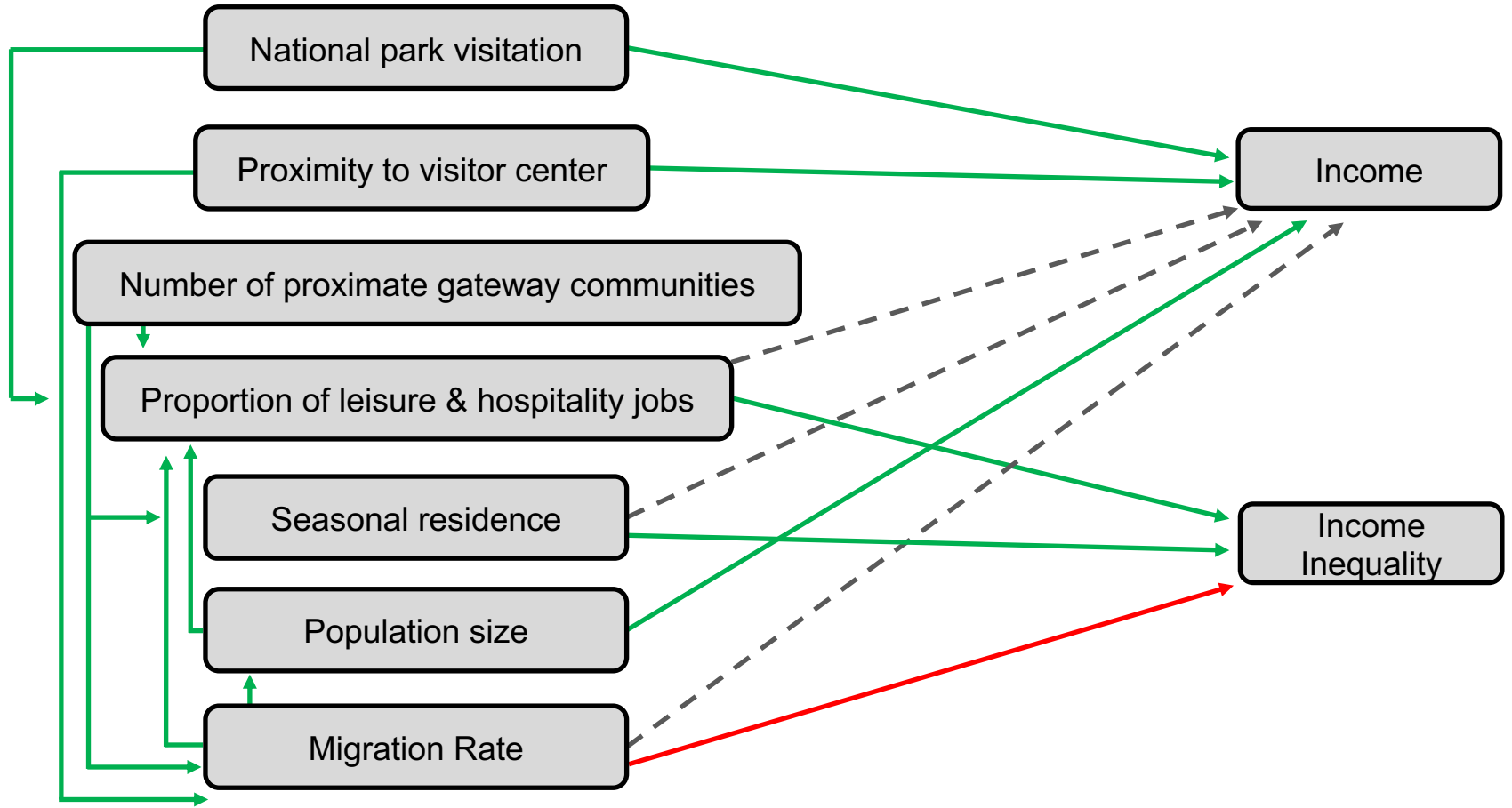


# Identify gateway community specific characteristics

- Park visitation
- Proximity to park visitor's center
- Number of other proximate gateway communities
- Population size
- Migration rate
- Proportion of seasonal residential units
- Proportion of jobs in the leisure and hospitality industry

Independent Variables

Dependent Variables



# Descriptive Statistics

**Table 4**  
*Summary of Variables*

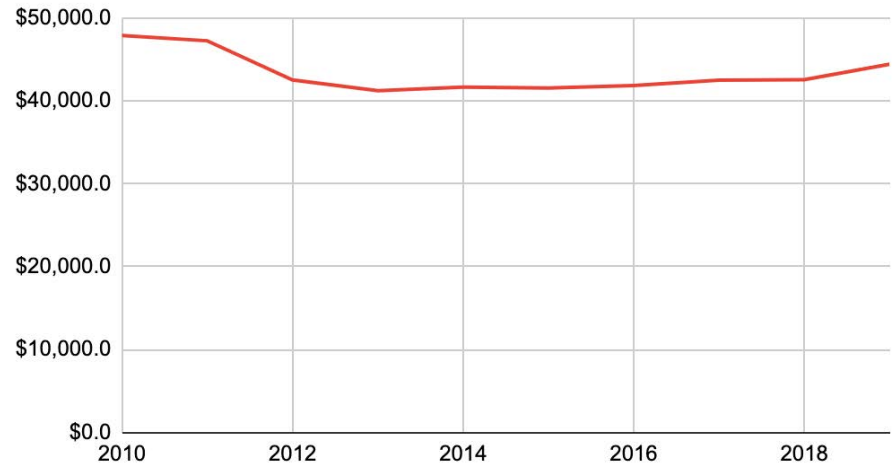
	Min.	Max.	Mean	Std. Dev.
Park visitation (visits)	5,158	6,380,495	2,150,208	1,622,561
Proximity to park visitors center (km)	0.45	356.49	27.79	46.94
Number of other gateway communities within 16.1 km (10 miles) of park	0.00	7.00	3.24	2.23
<b>Population size</b>				
Gateway	0	21,622	2,371	4,408
Benchmark	0	35,174	3,431	4,854
<b>Migration proportion<sup>1</sup></b>				
Gateway	0.00	0.58	0.08	0.08
Benchmark	0.00	1.00	0.06	0.06
<b>Proportion of seasonal residential units<sup>1</sup></b>				
Gateway	0.00	1.00	0.19	0.21
Benchmark	0.00	1.00	0.08	0.15
<b>Proportion of jobs in the leisure and hospitality industries<sup>1</sup></b>				
Gateway	0.00	1.00	0.22	0.19
Benchmark	0.00	1.00	0.10	0.10
<b>Full-time year-round earnings</b>				
Gateway	2,697	173,073	43,342	15,221
Benchmark	2,701	293,775	49,299	21,764
<b>GINI Index</b>				
Gateway	0.021	0.774	0.392	0.091
Benchmark	0.000	0.865	0.397	0.078

<sup>1</sup> Values of 0 or 1.00 were investigated and did not significantly change the mean.

## Research Question One

- Gateway community mean income significantly declined between 2010 (\$47,885) and 2019 (\$44,422); a 7% decline
- Income inequality did not change significantly in gateway communities

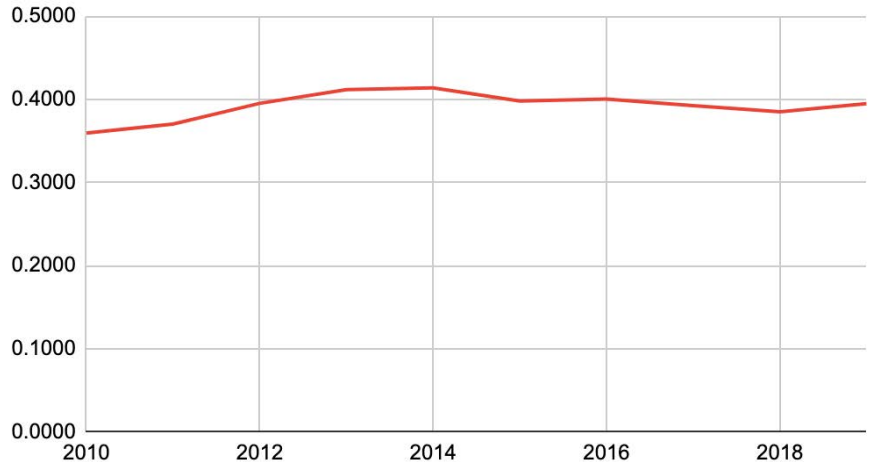
Annual Earnings



## Research Question One

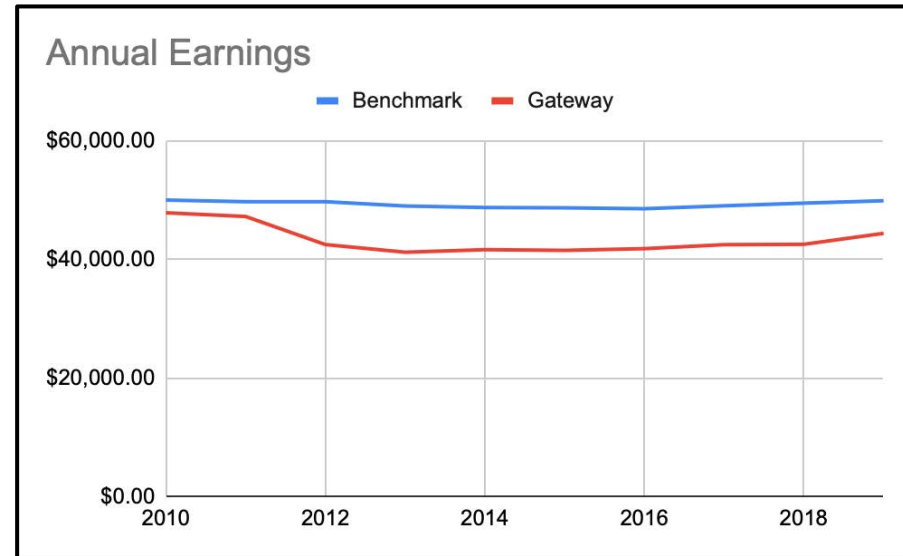
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GINI Index



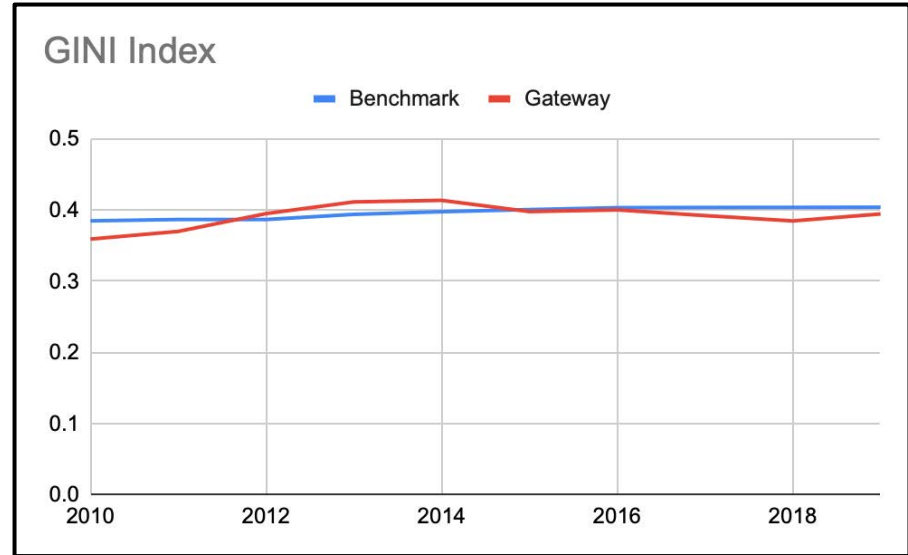
## Research Question One

- Gateway communities had a significantly lower mean earnings of \$5,957
- No difference in GINI



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# Research Question Two

**Table 5**  
*Impacts of Predictor Variables on Full-Time Year-Round Earnings*

<b>Independent Variable</b>	<b>Main Effects Only Model</b>			<b>Full Model with Significant Interaction</b>		
	<b>Coef.</b>	<b>Std. Err.</b>	<b>p-value</b>	<b>Coef.</b>	<b>Std. Err.</b>	<b>p-value</b>
Park visitation (thousands)	0.13	1.31	0.924	0.18	1.30	0.889
Km to Nearest Visitors Center ( <i>log10</i> )	-202.71	178.39	0.256	-250.26	177.82	0.159
Number of Nearby Gateway Communities	32.43	54.95	0.555	51.72	54.91	0.346
Total Population ( <i>square root</i> )	-238.00	179.36	0.185	-262.90	178.32	0.140
Migration Proportion ( <i>square root</i> )	-11,067.88	4,093.10	<b>0.007</b>	-11,424.61	4,067.93	<b>0.005</b>
Seasonal Residential Units	-38,444.57	7,056.44	<b>&lt; 0.001</b>	-54,236.80	8,604.58	<b>&lt; 0.001</b>
Proportion of Recreation Industry Jobs	-10,034.53	4,777.13	<b>0.036</b>	-24,360.77	6,558.82	<b>&lt; 0.001</b>
Seasonal Residential Units * Proportion of Recreation Industry Jobs				47,990.32	15,168.53	<b>0.002</b>



## Research Question Two

**Table 6**  
*Impacts of Independent Variables on GINI Index*

<b>Predictor Variable</b>	<b>Coef.</b>	<b>Std. Err.</b>	<b>p-value</b>
National Park Visitation ( <i>thousands</i> )	<.001	<.001	0.840
Km to Nearest Visitor's Center ( <i>log 10</i> )	0.001	0.001	0.178
Number of Nearby Gateway Communities	0.000	<0.001	0.577
Total Population ( <i>square root</i> )	0.001	0.001	0.192
Migration Proportion	-0.001	0.022	0.951
Seasonal Residential Units	0.050	0.041	0.223
Proportion of Recreation Industry Jobs	0.023	0.025	0.342

Independent Variables

Dependent Variables



# Discussion



Photo credit:  
Rob Sims

# Seasonal Residential Units



Photo credit:  
jetchristina.com

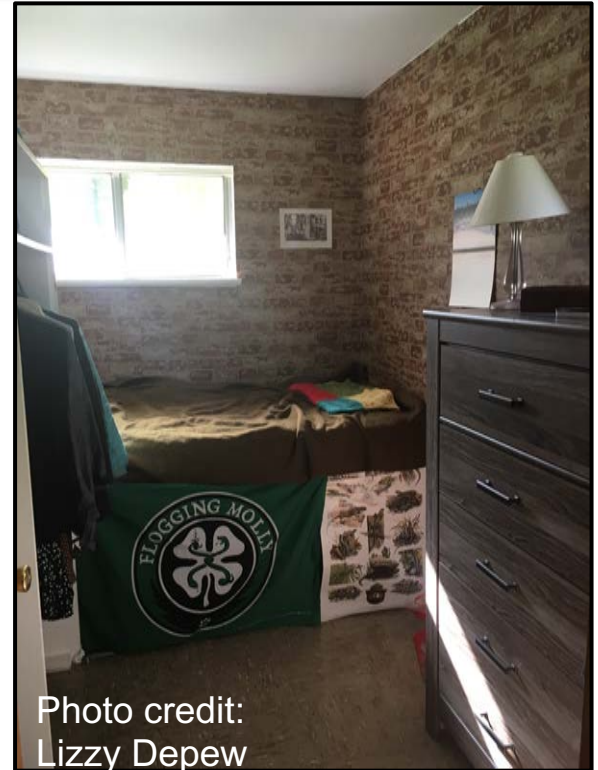


Photo credit:  
Lizzy Depew

# Seasonal Residential Units

- Limiting the number of residential units for seasonal workers is not an option
- There is some precedent for limiting the number of second homes within gateway communities



## NOT YOUR TYPICAL DEED RESTRICTION PROGRAM

No appreciation cap

No income cap

No household size requirement

# Migration Proportion

- Important for community planners to consider given trends
- Need for survey work to disaggregate the data
- Encourage in-migration of full-time residents employed in industries other than leisure and hospitality



# Proportion of Jobs in the Leisure and Hospitality Industry

- Gateway communities may see greater returns on local income levels if they diversify their economy



Photo credit: tripadvisor.com



# Income Inequality

An aerial photograph of a mountain valley. The landscape is dominated by rolling hills and mountains covered in dense forests. The trees show signs of autumn, with some yellow and orange leaves interspersed among the dark green evergreens. In the center of the valley, there is a small town or village with several buildings, a parking lot, and a road. To the right of the town, there is a large, open, brownish field, possibly a golf course or a large farm. The overall scene is a mix of natural beauty and human development.

Photo credit:  
Lizzy Depew

# Income inequality may only be notably high in certain gateway communities

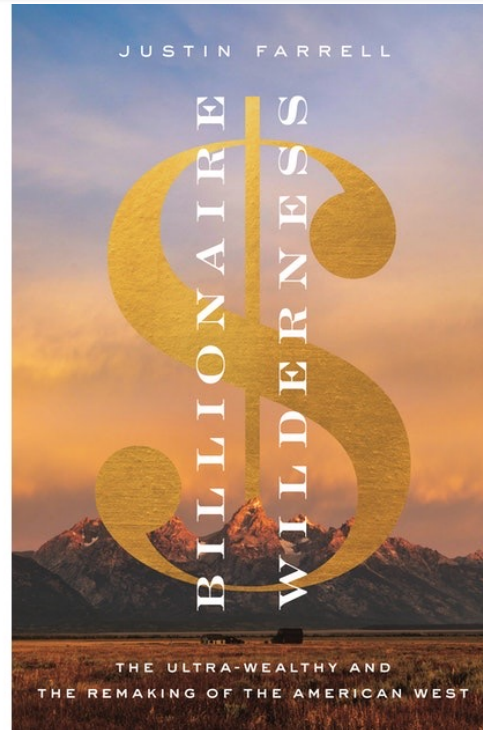


Photo credit: [press.princeton.edu](http://press.princeton.edu)

# Manner of reporting income affects income inequality measures

- Income is only reported for primary residents
- Retirees have low or no reported income



AMERICAN  
COMMUNITY  
SURVEY

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U.S. CENSUS BUREAU

# Income inequality may be more visible in gateway communities



# Conclusions & Implications

- Reduce proportion of seasonal residential units
- Encourage in-migration of full-time residents employed in industries other than leisure and hospitality
- Diversify the economy and decrease the proportion of jobs in the leisure and hospitality industry
- Targeted efforts on all three fronts

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A panoramic night view of a snowy mountain town, likely in the Rocky Mountains. The scene is illuminated by warm yellow and orange lights from buildings and streets, contrasted with vibrant blue and purple Christmas lights on trees. A large, snow-covered mountain dominates the background under a dark blue sky. The town features a mix of residential and commercial buildings, with a prominent tower in the center. The foreground shows a snow-covered road and a gazebo-like structure. The overall atmosphere is festive and serene.

Questions?