

# Comparing Data used for Commuting Analysis in Skagit County

January 17, 2024



# Purpose

- Address the issue of out-commuting to King County
- Update work done in 2014
- Understand the methodology behind different data sources





# Available Data Compared

- American Community Survey (ACS)
  - Journey to Work
- Longitudinal Employer-Housing Dynamics Data (LEHD)
- Household Travel Survey
- Origin Destination Study (ODS)
  - Passive data



# ACS Journey to Work

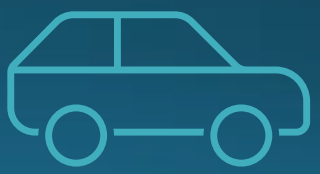
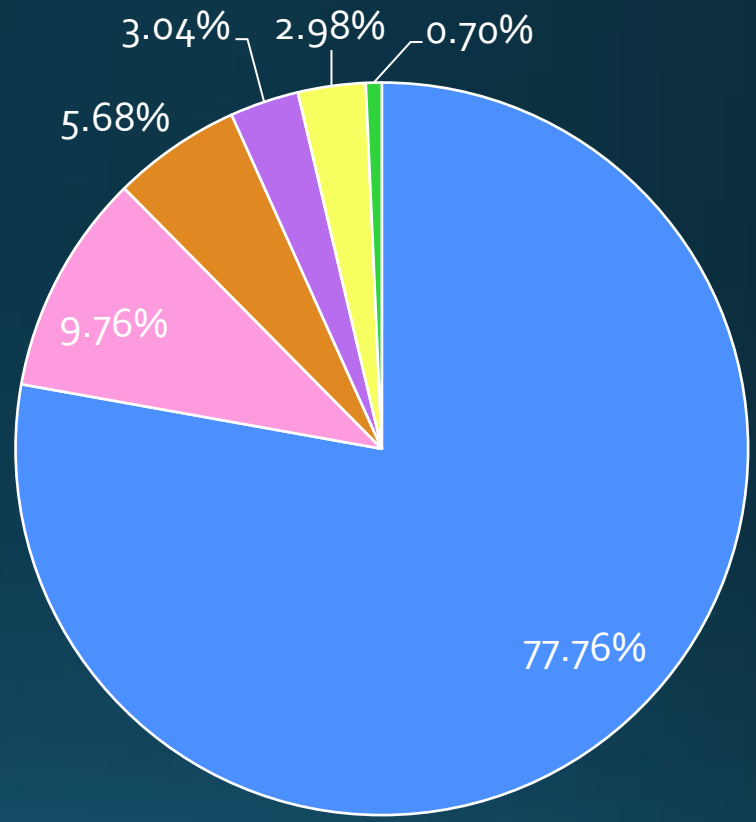
- Self responses from a sample population
  - weighted to the estimated population total
- Mitigate nonresponse bias due to COVID-19 pandemic
  - Process data from 2020
  - Entropy Balance Weighting (EBW) methodology



# ACS Journey to Work – Results

Percent of workers commuting from Skagit  
County in 2016-2020 according to the ACS  
Journey to Work Data:

- Skagit
- Snohomish
- Whatcom
- Island
- King
- Other



## 2006-2010

Work County Destination	Commuting from Skagit County
Skagit	77.9%
Snohomish	8.7%
Whatcom	5.4%
King	3.3%
Island	3%
Pierce	0.2%
San Juan	0.21%
Other	1.4%
Total:	100%

- 11,349 people reside in Skagit County yet work outside of the county.
  - Margin of Error: +/- 597
  - Standard Error: 363
  - Coefficient of Variation: 3.2%

Data Source: 2006-2010 American Community Survey; Residence County to Workplace County Flows for the United States

## 2016-2020

Work County Destination	Commuting from Skagit County
Skagit	77.8%
Snohomish	9.8%
Whatcom	5.7%
King	3%
Island	3%
Pierce	0.1%
San Juan	0.1%
Other	0.5%
Total:	100%

- 12,629 people reside in Skagit County yet work outside of the county.
  - Margin of Error: +/- 764
  - Standard Error: 464
  - Coefficient of Variation: 3.7%

Data Source: 2016-2020 American Community Survey; Residence County to Workplace County Flows for the United States

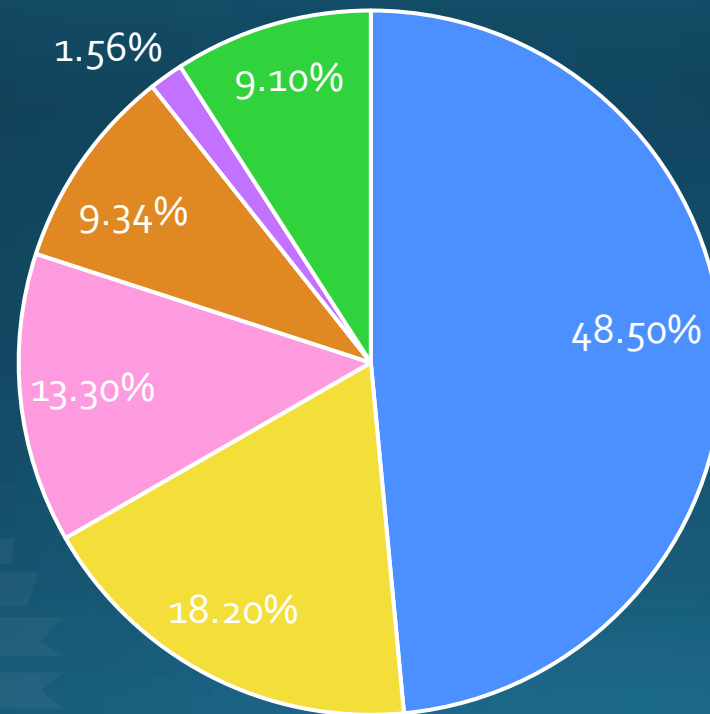
# ACS Comparison

# LEHD

- Comprised of
  - Unemployment Insurance (UI) records
  - Quarterly Census of Employment and Wages (QCEW) records
    - Multiple Worksite Report (MWR)
      - Optional in WA
- State employer identification numbers (SEINs)
  - SEINs can include multiple individual reporting units called SEINUNITs
  - Both are required to correctly identify a firm with multiple worksite locations
  - Assigned to a singular 'alpha' in the Business Register
- Unit-to-Worker (U2W)
  - Contains a maximum of 10 equally-weighted worksite locations where employee numbers are assigned
- Discrepancies
  - Raw data production

# LEHD - Results

Percent of workers commuting from Skagit County in 2016-2020 according to LEHD:

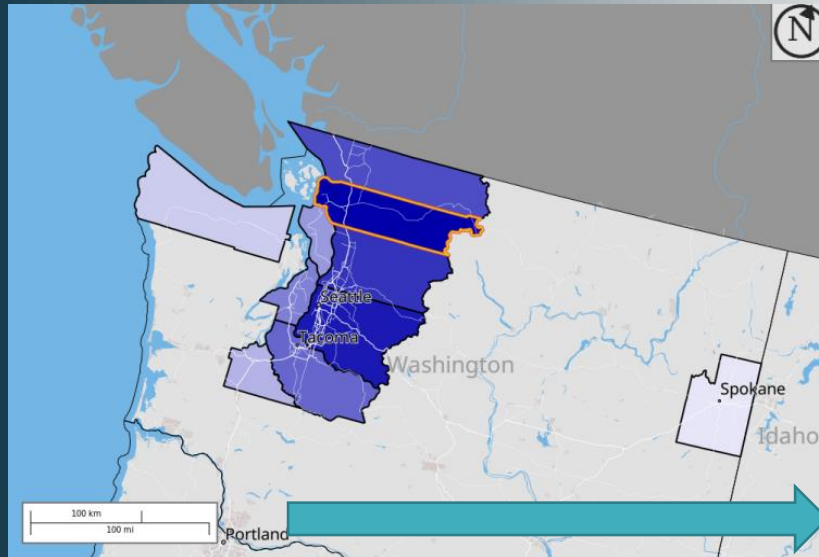
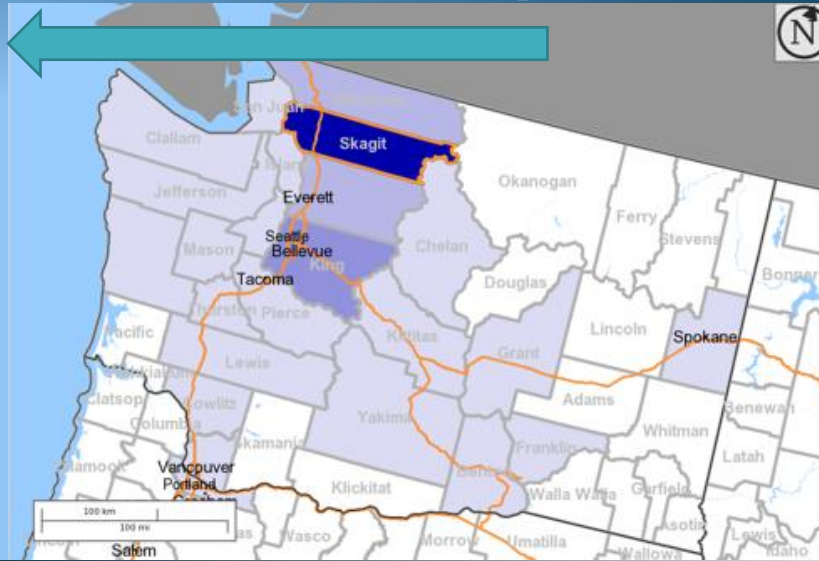


■ Skagit ■ King ■ Snohomish ■ Whatcom ■ Island ■ Other



# 2011 LEHD - Comparison 2016-2020

Work County Destination	Commuting from Skagit County
Skagit	51.2%
King	17.8%
Snohomish	12.1%
Whatcom	9.0%
Pierce	1.6%
Kitsap	1.4%
Island	1.6%
Thurston	0.7%
Clallam	0.6%
Spokane	0.6%
Other	3.4%
Total:	100%



Work County Destination	Commuting from Skagit County
Skagit	48.5%
King	18.2%
Snohomish	13.3%
Whatcom	9.3%
Pierce	1.9%
Kitsap	1.5%
Island	1.6%
Thurston	0.9%
Clallam	0.7%
Spokane	0.5%
Other	3.6%
Total:	100%

# Household Travel Survey

2008

Included travel behavior for Whatcom, Skagit, and Island County residents.

Conducted by NuStats consulting firm.

Sample size:

- 1,501 households
- 3,446 individual survey participants
- 12,711 trips

2021

Included travel behavior for Skagit County residents only.

Conducted by RSG consulting firm.

Sample size:

- 672 households
- 1,343 individual survey participants
- 14,657 trips

Demographic Characteristics

- Age
- Gender
- Income
- Housing
- Race and Ethnicity
- Telework Frequency
- Number of Jobs
- Employment
- Education

Included travel behavior for Skagit County.

Included the use of a Travel Diary.

# Household Travel Survey Highlights

- <https://storymaps.arcgis.com/stories/5586157f4e1d477a899eb2f1a79b6d2a>

## Job Type

Skagit County commuters' job type:	Full-time	Part-time	Other
Commute to King	92%	8%	0%
Commute to Island	88%	6%	6%
Commute to Whatcom	88%	8%	4%
Commute to Snohomish	85%	15%	0%
Commute to Skagit	71%	18%	11%

## Gender

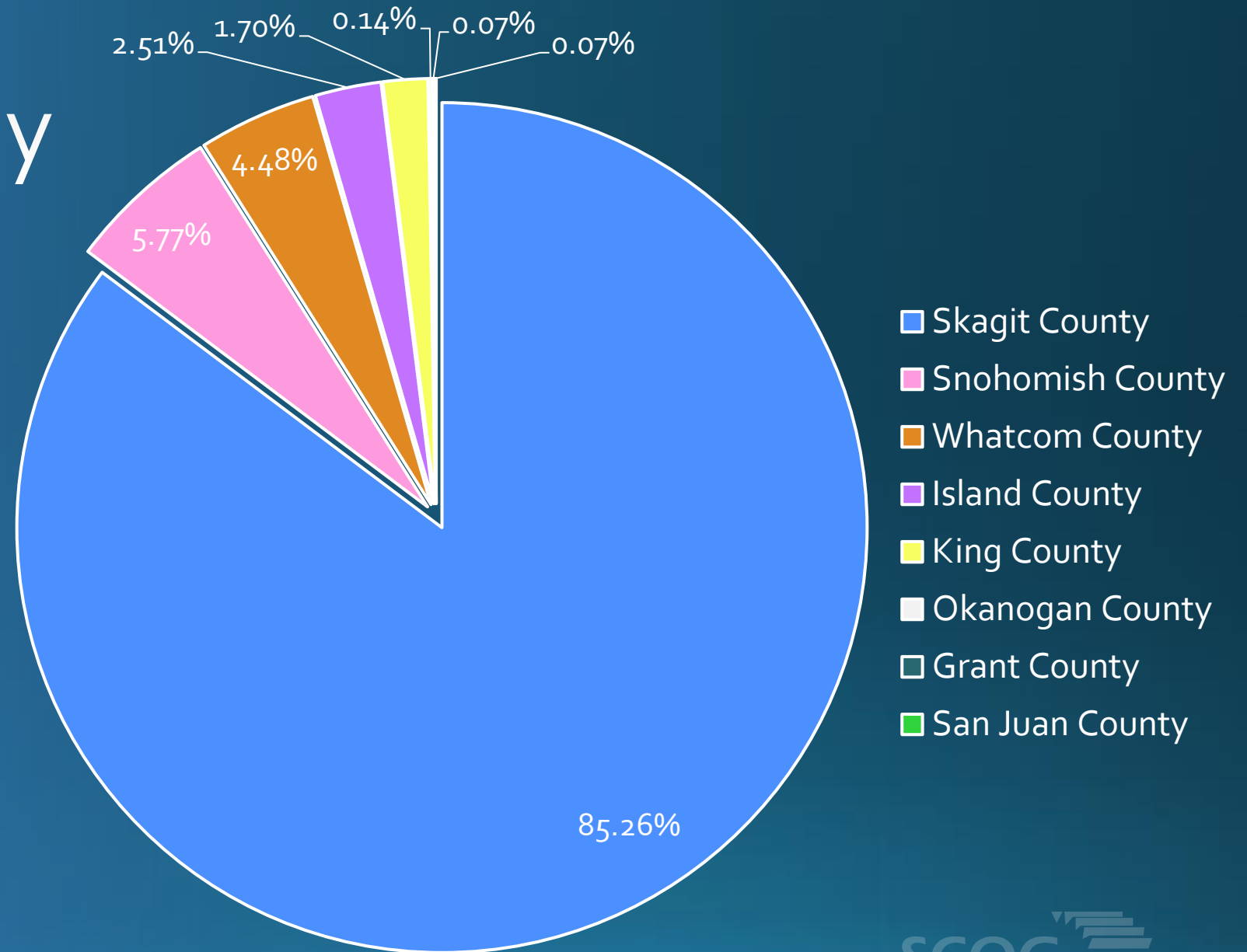
Skagit County commuters' gender:	Male	Female	Nonbinary/Other
Commute to King	23%	54%	23%
Commute to Skagit	48%	46%	6%
Commute to Snohomish	59%	36%	4%
Commute to Whatcom	49%	49%	2%
Commute to Island	54%	46%	0%

## Income

Skagit County commuters' income:	Less than \$50,000	\$50,000 - \$150,000	More than \$150,000	No answer
Commute to King	0%	77%	16%	7%
Commute to Island	6%	70%	24%	0%
Commute to Snohomish	12%	73%	5%	10%
Commute to Whatcom	24%	60%	12%	4%
Commute to Skagit	24%	50%	15%	11%

# Travel Survey - Results

Percent of workers  
commuting from  
Skagit County in 2021  
according to the RSG  
Travel Survey:





# Travel Survey - Comparison

## 2008 Cross-County Travel for Work

Work County Destination	Commuting from Skagit County
Skagit	83.9%
Whatcom	3.3%
Island	2.3%
Other:	10.5%
Total:	100%

Base: 1,975 work locations

## 2021 Cross-County Travel for Work

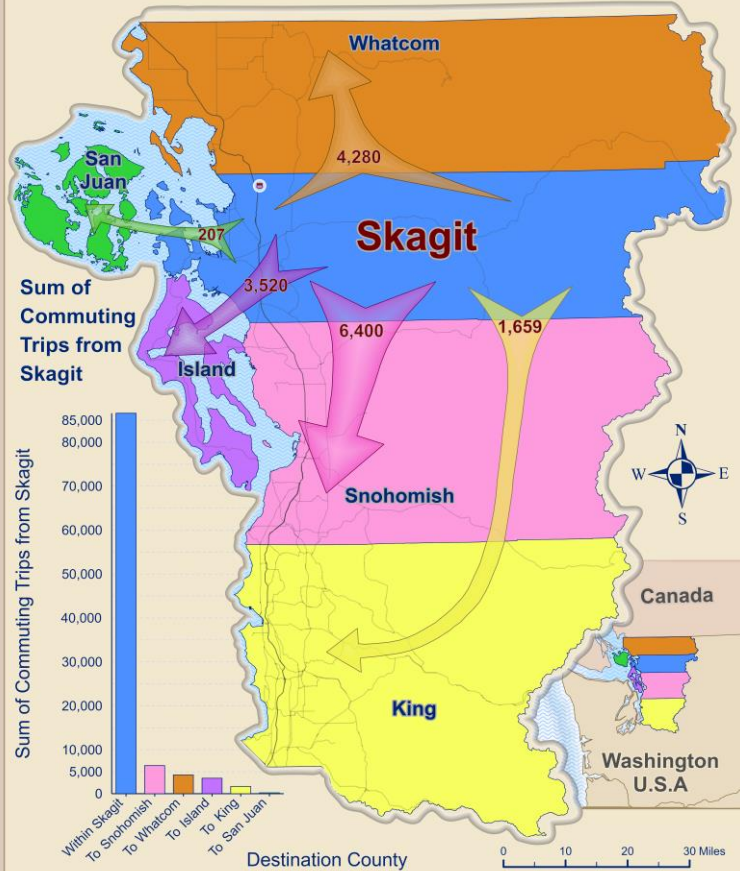
Work County Destination	Commuting from Skagit County
Skagit	85.3%
Whatcom	4.5%
Island	2.5%
Snohomish	5.8%
King	1.7%
Okanogan	0.1%
San Juan	0.1%
Grant	0.1%
Total:	100%

# Passive Data

- Origin destination study (ODS)
  - location-based-services (LBS)
  - October 2021
- Collected from a 3<sup>rd</sup> party
  - Filtered device quality; identified anchor locations (clusters of home, work, or other); and identified trips between clusters.
- 21,056 devices
  - 4,316 Skagit residents
  - 16,740 Skagit visitors
  - 341,325 total trips



## Commuting Trips From Skagit County



By: Madeline Pysher

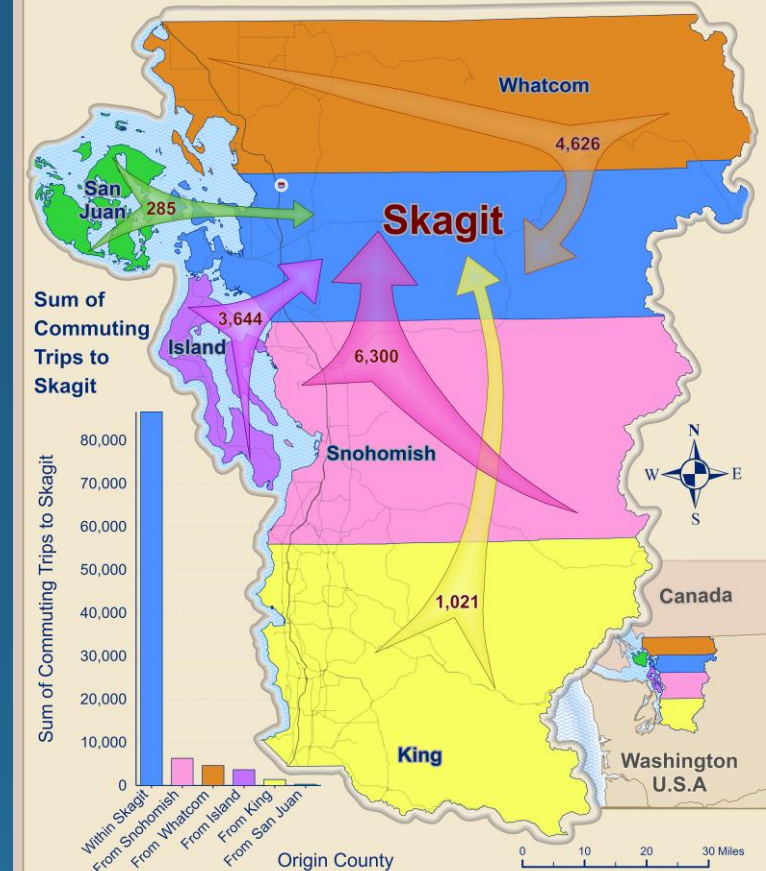
SCOG  
Skagit Council of Governments

Data Source: RSG, 2021

## Passive Data – Results

- Daily commuting flows from Skagit County in 2021.
- Includes
  - home-based work and non-home-based work trips
  - residents and visitors of Skagit County
- The arrow extends from the origin county to the destination county.

## Commuting Trips To Skagit County



By: Madeline Pysher

SCOG  
Skagit Council of Governments

Data Source: RSG, 2021



# Comparing Updated Data

\*All jobs selected; other options available.

Commuting from Skagit County to:	Travel Survey (2021)	Passive Data (2021)	ACS Data (2016-2020)	LEHD Data * (2016-2020)
Skagit County, WA	85.26%	84.4%	77.76%	48.50%
King County, WA	1.70%	1.6%	2.98%	18.20%
Snohomish County, WA	5.77%	6.2%	9.76%	13.30%
Whatcom County, WA	4.48%	4.2%	5.68%	9.34%
Pierce County, WA	N/A	N/A	0.11%	1.88%
Island County, WA	2.51%	3.4%	3.04%	1.56%
Kitsap County, WA	N/A	N/A	0.04%	1.50%
Thurston County, WA	N/A	N/A	0.01%	0.94%
Spokane County, WA	N/A	N/A	0.01%	0.50%
Clark County, WA	N/A	N/A	0.01%	0.44%
San Juan County, WA	0.07%	0.2%	0.08%	0.30%
Jefferson County, WA	N/A	N/A	0.02%	0.18%
Benton County, WA	N/A	N/A	0.03%	0.12%
Grant County, WA	0.07%	N/A	0.02%	0.10%
Grays Harbor County, WA	N/A	N/A	0.00%	0.10%
All Other Locations	0.14%	N/A	0.45%	3.04%
Total:	100%	100%	100%	100%



# Summary of Findings

- Findings from the 2014 Data Comparison are compatible with those of the 2023 Data Comparison.
  - In both;
    - The Travel Survey, Passive, and ACS data results are all similar.
    - The LEHD data varies significantly from the other data sets.

2014

2023

Data Source:	Commuting from within Skagit County to Skagit County:	Difference between the LEHD Data (2011) and the other data sources:
Travel Survey (2008)	83.9%	32.7%
Passive Data (2021)	N/A	N/A
ACS Data (2006-2010)	77.9%	26.7%
LEHD Data (2011)	51.2%	0%

Data Source:	Commuting from within Skagit County to Skagit County:	Difference between the LEHD Data (2016-2020) and the other data sources:
Travel Survey (2021)	85.3%	36.8%
Passive Data (2021)	84.4%	35.9%
ACS Data (2016-2020)	77.8%	29.3%
LEHD Data (2016-2020)	48.5%	0%

# Conclusion



HTS is best data source to use

- Supported by ACS
- Done by consultants specifically for Skagit County