



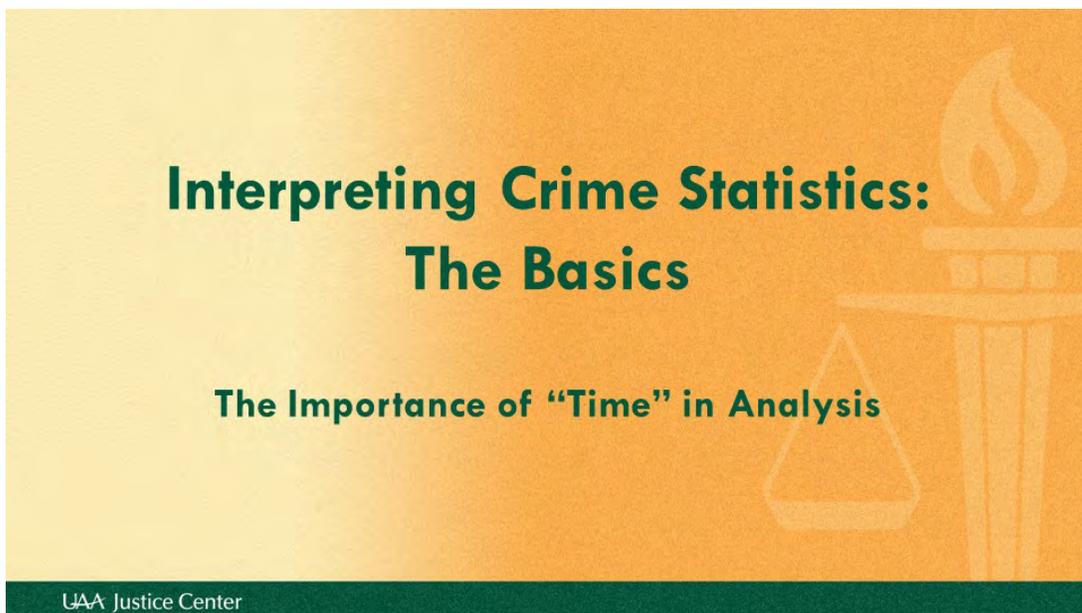
Interpreting Crime Statistics: The Basics The Importance of “Time” in Analysis

Brad A. Myrstol

*This is a transcript of a video presentation, which can be found at
<https://youtu.be/x2KQTuqA-BI>*



Hi, my name is Brad Myrstol, and I'm the interim director of the Justice Center at the University of Alaska Anchorage. This is the first in a series of short videos to help everyday people interpret basic crime statistics.



Today's focus is going to be on crime trends and the importance of time in making conclusions about whether or not crime is up or down or flat. So let's begin with a basic question:

Are property crime rates in Alaska trending upward?

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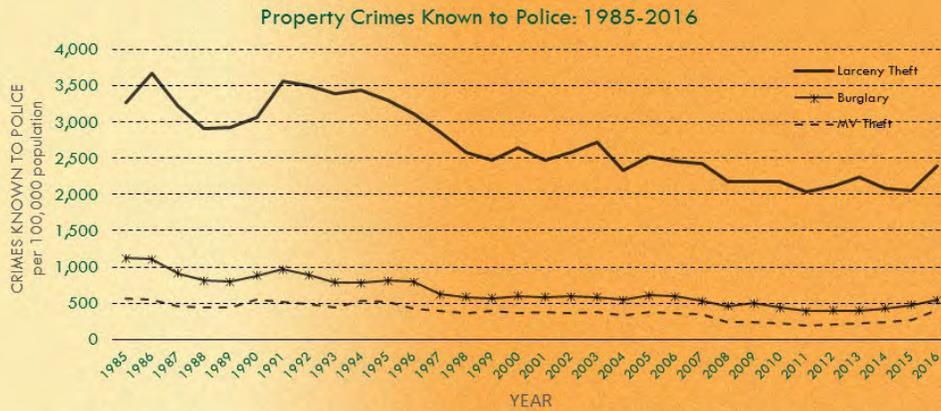
Are property crime rates in the state of Alaska trending upward?

What is the Timeframe of Reference?

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The answer to that question is: **it depends on your timeframe of reference.**

Property Crimes (Alaska)

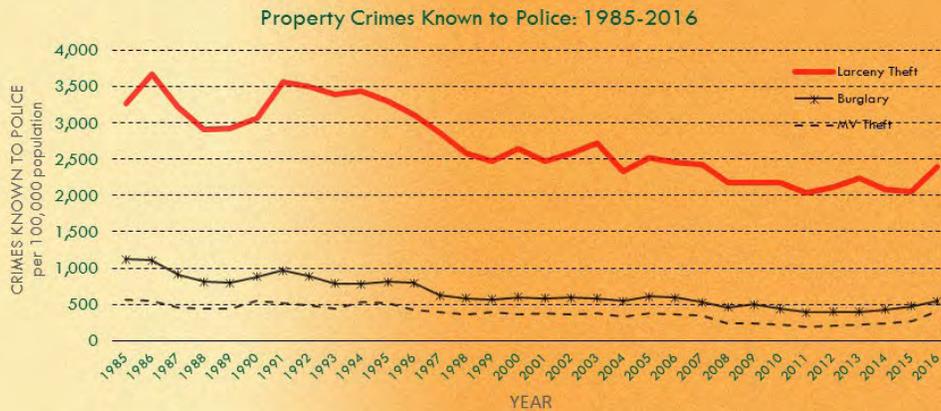


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Let's look at some statewide property crime rate data for the state of Alaska.

This chart presents three crime rates:

Property Crimes (Alaska)

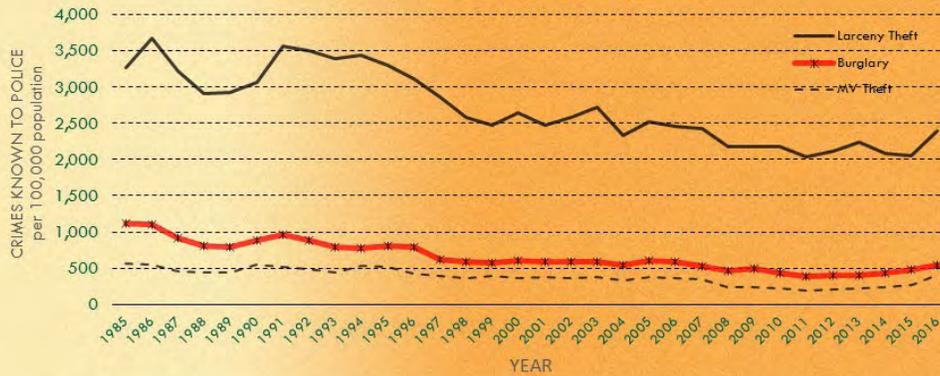


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- one for larceny thefts,

Property Crimes (Alaska)

Property Crimes Known to Police: 1985-2016

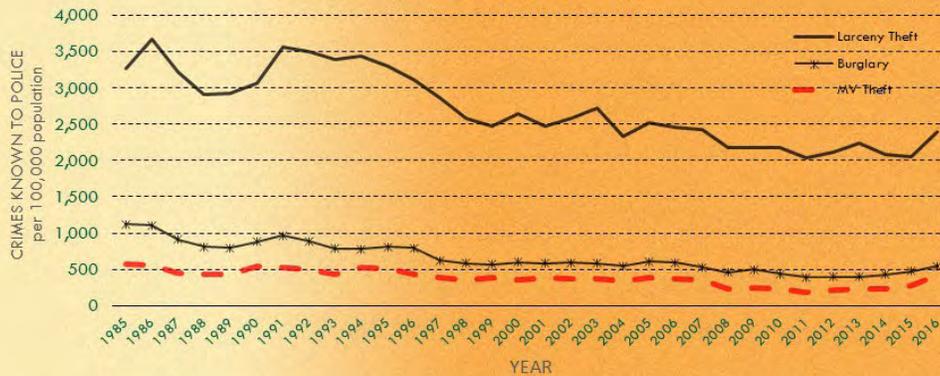


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- one for burglaries, and

Property Crimes (Alaska)

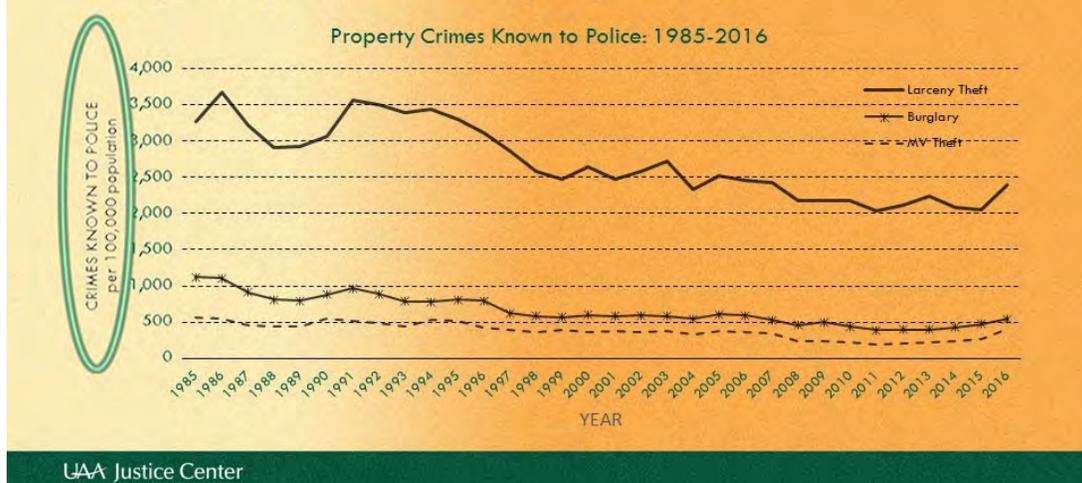
Property Crimes Known to Police: 1985-2016



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- one for motor vehicle thefts.

Property Crimes (Alaska)

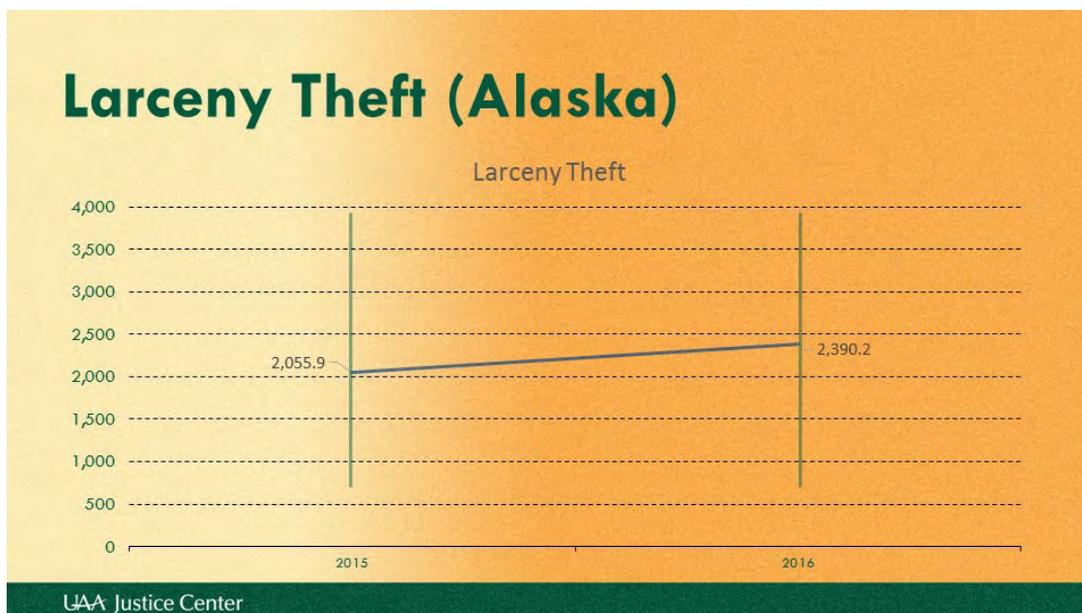


The rates shown are calculated as the number of crimes known to police per 100,000 population.

The **crime rate range**, depicted on the **vertical axis** of the graph, ranges from 0 to 4,000 per 100,000 people.

The **horizontal axis** depicts the **timeframe of reference** and it ranges from 1985 through 2016.

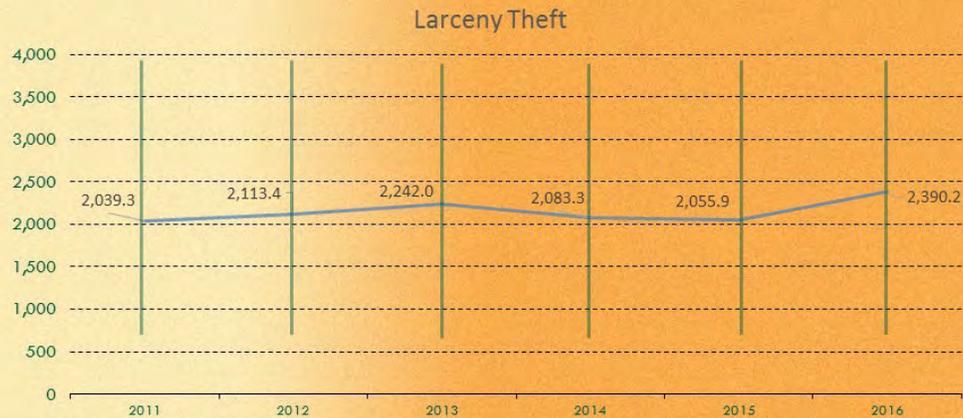
Now for the purposes of illustration we're going to only focus on one of these crimes: larceny thefts.



1 year: 2015–2016

If our timeframe of reference is only 1 year, we would undoubtedly conclude that crime is up. The rate of larceny thefts actually **increased** approximately 16% from 2,056 per 100,000 people in 2015 to 2,390 per 100,000 in 2016.

Larceny Theft (Alaska)



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5 years: 2011–2016

Even at 5 years, our conclusion is that there was an **increase** of approximately 17%.

Larceny Theft (Alaska)

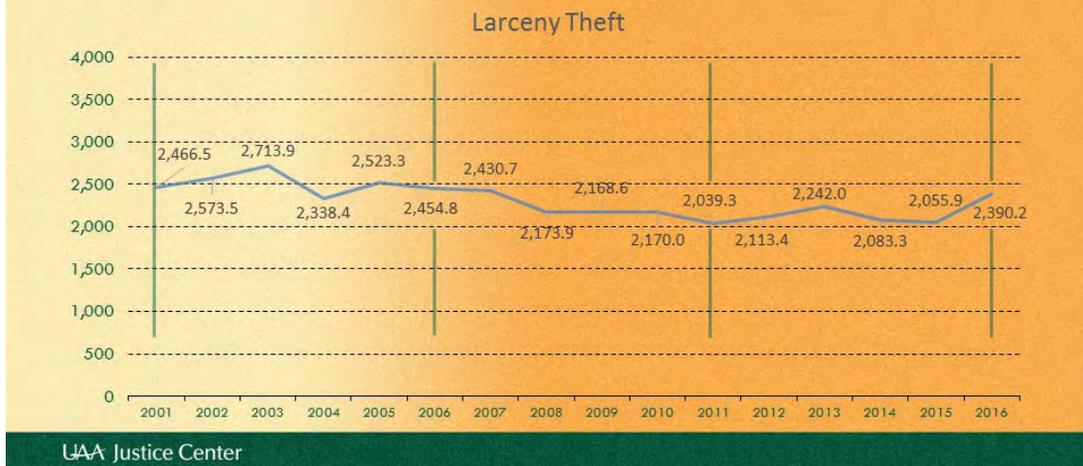


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10 years: 2006–2016

However, if we stretch out another 5 years our conclusion changes. Between 2006 and 2016, the larceny theft rate in Alaska **decreased** slightly — approximately 3%.

Larceny Theft (Alaska)



15 years: 2001–2016

If our timeframe is 15 years, going back to 2001, we see a similar level of **decrease** in the larceny theft rate of about 3%.

Larceny Theft (Alaska)



20 years: 1996–2016

At the 20-year mark we see a substantial intensification at the level of **decrease** over time. Between 1996 and 2016, Alaska's larceny theft rate declined by 23%.

Larceny Theft (Alaska)



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25 years: 1991–2016

At 25 years, the rate of **decline** was almost one-third or nearly 33%.

Larceny Theft (Alaska)



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30 years: 1985–2016

At 30 years, the **decline** was 34.9%.

Crime Rates Fluctuate

Year-to-Year Variability is Normal

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So, using lengthy time series, we see a couple of really important things.

The first is that **crime rates fluctuate up and down over time**. Year-to-year variability in crime rates is normal and even expected.

Larceny Theft (Alaska)



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Second, by taking the long view, we can see that the **long-term trend indicates decreasing larceny theft rates in the state of Alaska**.

So our lesson here is to **make sure that we use an adequately long timeframe** to reach conclusions about whether crime is trending upward or trending downward or remaining flat. The risk is if we use too short of a timeframe to reach conclusions about the level of crime.

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Thank you.

Brad A. Myrstol is interim Justice Center director and director of the Alaska Justice Statistical Analysis Center (AJSAC) and Alaska Justice Information Center (AJiC).



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Reference

“The Importance of ‘Time’ in Analysis” (streaming video) by Brad A. Myrstol. *Interpreting Crime Statistics: The Basics*. (3:55 mins.). Produced and edited by Eric Baldwin, UAA Academic Innovations and eLearning. Anchorage, AK: Justice Center, University of Alaska Anchorage, 26 Oct 2017. (<https://youtu.be/x2KQTuqA-BI>).

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