Facebook's Reach (on Reach)

Miscalculations In The Age Of Precision

VAB
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Summary

In what's seemingly become a regular occurrence as of late, Facebook was recently forced again to publicly defend some of their key metrics to the advertising community. This time it involved the estimated reach numbers that Facebook reflects in their Ads Manager product after global reports surfaced that the potential reach for younger demos in several countries was higher than current Census population data.

This discrepancy was brought to the forefront in the United States when a respected Wall Street analyst did the same analysis at the country level for the investor community. This "potential reach" inflation should be important to advertisers since the metric lives in the Facebook Ads Manager product; a self-serve tool that allows anyone to plan, budget, buy and optimize their own campaigns across Facebook platforms.

In this report, we set out to confirm the numbers that were being reported in the press and then we drilled down further into several geographies – states, cities, zip codes - to see if this reach inflation is a nationwide issue or if it's just isolated to a few areas throughout the country.

Finally, we set forth an example of executing an advertising schedule through Facebook Ads Manager to show the potential impact that reach inflation could have on an advertiser's campaign.

In August, *AdNews* In Australia Revealed That Facebook Claims It Can Reach More Young People Than What The Census Reports

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RECOGNITION IS THE GREATEST MOTIVATOR

Facebook says platform can reach 1.7m more young adult users than Aussie population

By Arvind Hickman | 30 August 2017 — 4 Comments

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Update: AdNews has updated the original article with the latest rebased estimates from the ABS as well as adding new figures from Nielsen. The headline figure changes from 2 million to 1.7 million and all subsequent calculations have been adjusted.

Facebook claims its platform allows advertisers to reach 1.7 million more 15- to 40-year-old users in Australia than the country's official population.

The gap between Facebook users and population data has been revised from the original article AdNews ran last week to incorporate the latest rebased estimates of 2016 census data. This includes adjusting undercounts and overcounts of younger and older demographics as well as adding 600,000 residents who were overeas on census day and not included in the ABS's original estimate.

It provides a more accurate picture of the difference between Australia's official population and the number of users Facebook says advertisers can reach in this market.

The gap is signficant when compared to the size of Australia's largest cities. The additional 1.7 million users on Facebook in the millennial and Gen X age groups are nearly enough to populate Australia's fourth-largest city, Perth.

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- The most powerful people in media, marketing and advertising: The AdNews Power 50
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FACEBOOK'S REACH (ON REACH)

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In Fact, This Facebook Reach Inflation Occurs Globally

	P18-24			P25-34		
	Census	FB Potential Reach	Diff	Census	FB Potential Reach	Diff
United Kingdom	5.6MM	7.6MM	+2.0MM	8.9MM	11.0MM	+2.1MM
Germany	5.8MM	7.8MM	+2.0MM	9.9MM	10.0MM	+97K
France	5.5MM	7.3MM	+1.8MM	8.0MM	9.3MM	+1.3MM
Canada	3.1MM	4.1MM	+1.0MM	4.8MM	6.0MM	+1.2MM
Italy	4.3MM	5.6MM	+1.3MM	7.0MM	7.6MM	+0.6MM
Australia	2.1MM	3.0MM	+0.9MM	3.3MM	4.3MM	+1.0MM
Mexico	15.2MM	23.0MM	+7.8MM	19.9MM	22.0MM	+2.1MM
Brazil	23.5MM	33.0MM	+9.5MM	34.0MM	34.0MM	-----
Argentina	4.7MM	7.9MM	+3.2MM	6.6MM	8.8MM	+2.2MM

FACEBOOK'S REACH (ON REACH)

Source: 2017 estimated Global Census; Facebook Ads Manager. "FB Potential Reach" includes Facebook + Instagram + Audience Network + Messenger platforms and reflects "everyone in this location" data pulled on September 22nd, 2017 (Facebook numbers are fluid and are subject to change based on the date when numbers are pulled).

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This Became A Big Topic In The United States When A Respected Analyst Brought It To The Industry's Attention

The New York Times

MEDIA

Facebook Tells Advertisers It Can Reach Many Young People. Too Many.

By SAPNA MAHESHWARI SEPT. 6, 2017

Facebook has told companies that its online advertising tools can reach 25 million more young people in the United States than the census says exist.

Facebook faced criticism on Wednesday after an analyst pointed out that the company's online advertising tools claim they can reach 25 million more young Americans than the United States census says exist.

RELATED COVERAGE

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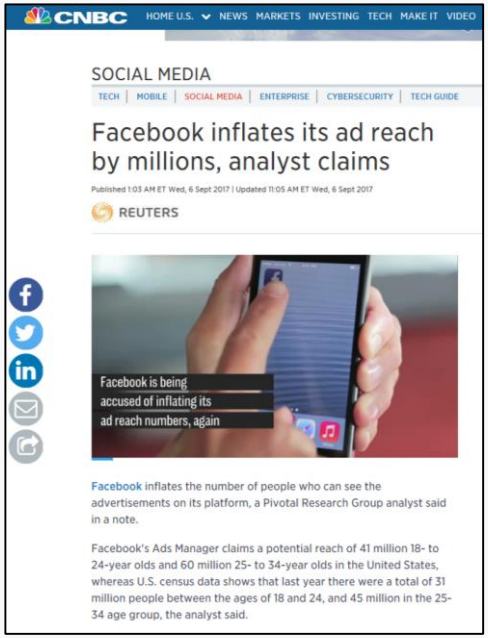

CNBC

SOCIAL MEDIA

Facebook inflates its ad reach by millions, analyst claims

REUTERS

Facebook is being accused of inflating its ad reach numbers, again

Facebook inflates the number of people who can see the advertisements on its platform, a Pivotal Research Group analyst said in a note.

Facebook's Ads Manager claims a potential reach of 41 million 18- to 24-year olds and 60 million 25- to 34-year olds in the United States, whereas U.S. census data shows that last year there were a total of 31 million people between the ages of 18 and 24, and 45 million in the 25-34 age group, the analyst said.

Bloomberg Technology

Facebook Faulted for Saying It Can Reach People Who Don't Exist

By Jing Cao and Sarah Frier

September 06, 2017 10:46 AM *Updated on* September 06, 2017 12:21 PM

BUSINESS INSIDER TECH INSIDER

Facebook says it can reach 25 million more people in the US than census data shows exist

Alex Heath

Sep. 6, 2017, 10:55 AM 9,019

FACEBOOK'S REACH (ON REACH)

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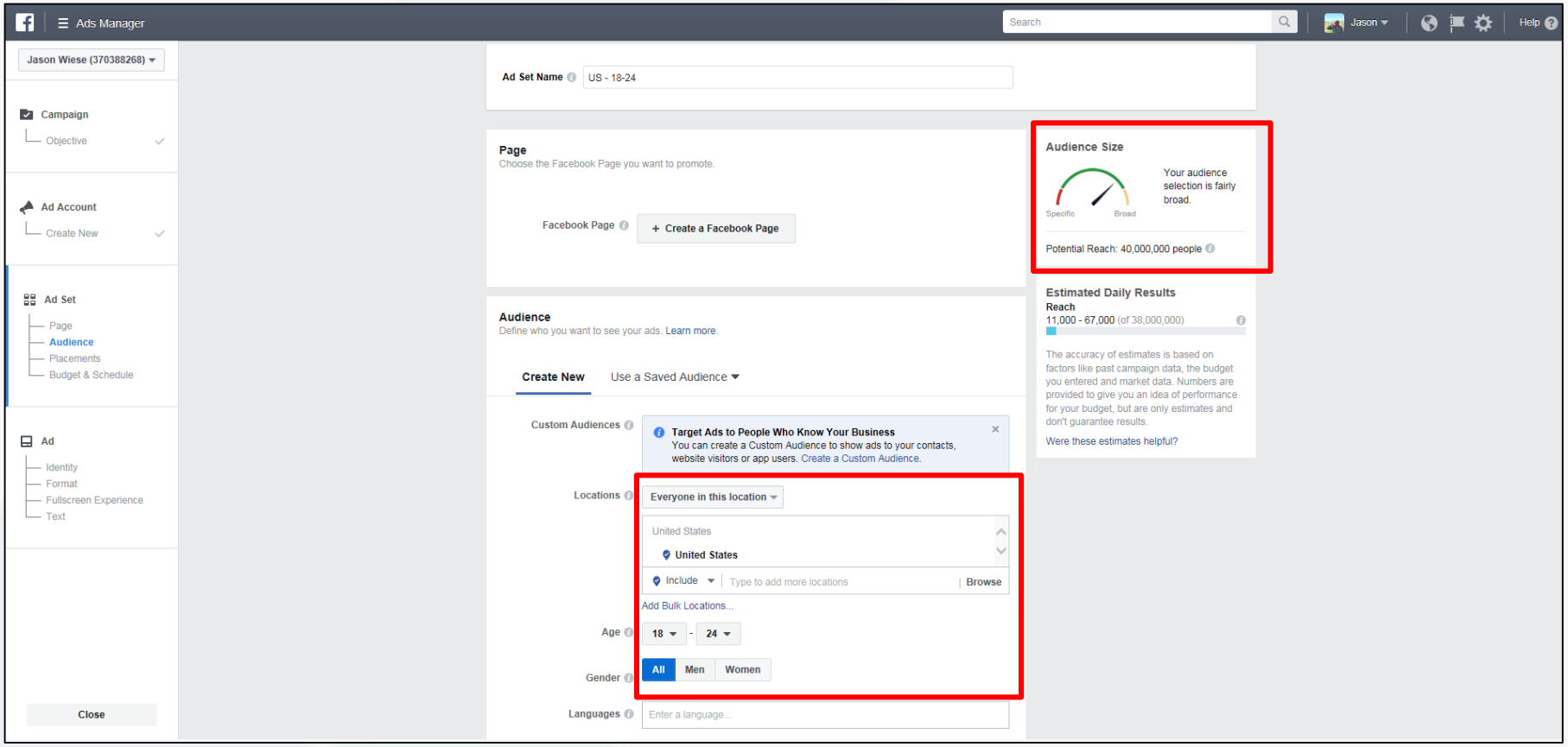
Using The Publicly Accessible Ads Manager, Anyone With A Facebook Account Can Review The Platform's Estimated Reach

https://www.facebook.com/ads/manager/creation



FACEBOOK'S REACH (ON REACH)

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So We Were Able To Confirm The Numbers That Were Reported In The Press

Facebook's potential reach against Adults 18-34 in the United States is almost *22 Million* higher than the U.S. Census A18-34 population

Demo	2016 Census	Facebook Platforms - Potential Reach (FB + Instagram + Audience Network + Messenger) "*Everyone* In This Location"	
P18-24	31,020,241	39,000,000	+8.0MM
P25-34	44,268,470	58,000,000	+13.7MM
		P18-34 Diff:	+21.7MM

FACEBOOK'S REACH (ON REACH)

Source: 2016 U.S. Census (American Community Survey, 1-year estimate); Facebook Ads Manager. Based on "everyone in this location" United States data pulled on September 22nd, 2017. (Facebook numbers are fluid and are subject to change based on the date when numbers are pulled).

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One Of The More Common Explanations For Why There Is This Reach Overage Is Due To Visits From Travelers Outside The Geography…

But Is This True?

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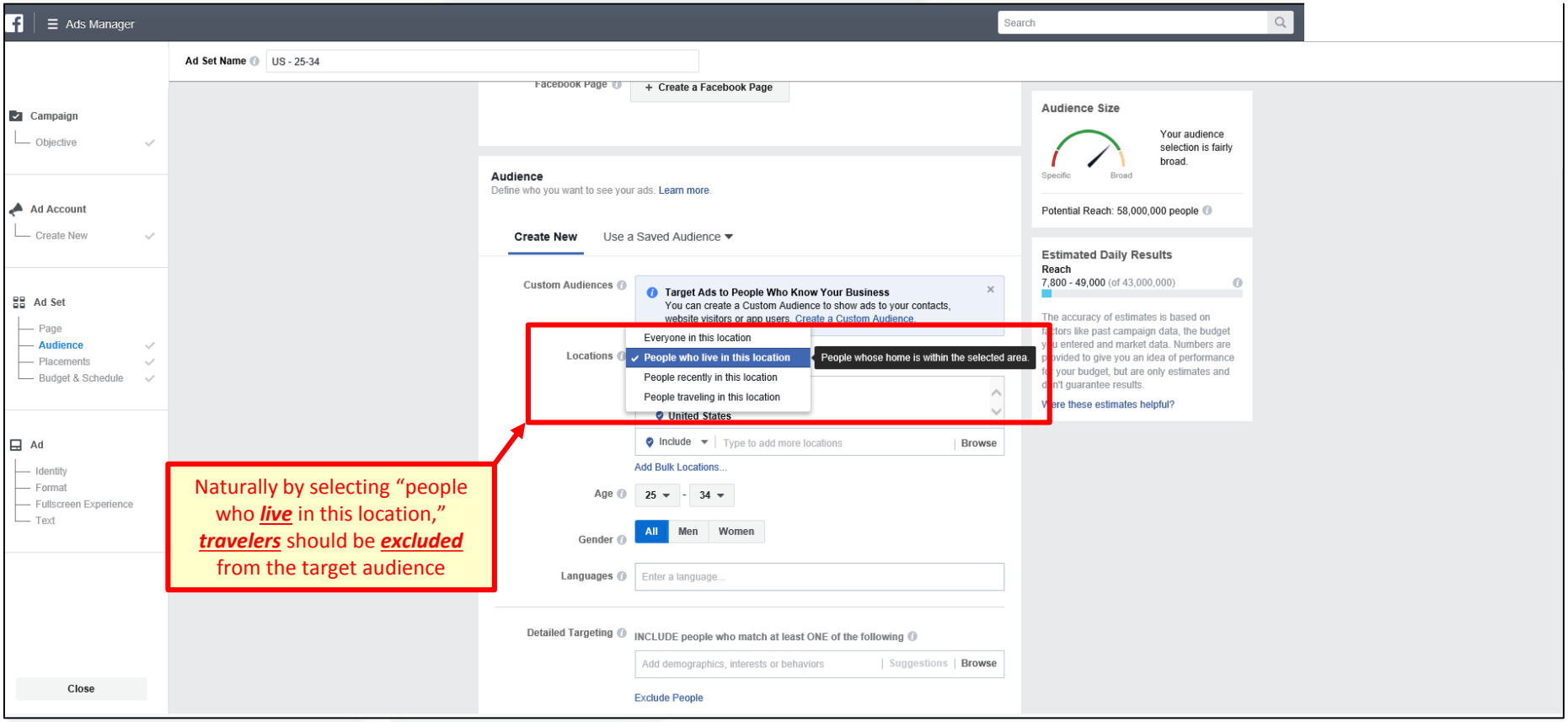
From An Audience Perspective, The Ads Manager Tool Allows You To Select Just Those People Who ***Live*** In A Specific Location



Naturally by selecting "people who ***live*** in this location," ***travelers*** should be ***excluded*** from the target audience

https://www.facebook.com/ads/manager/creation

FACEBOOK'S REACH (ON REACH)

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Interestingly, There's No Difference In The Potential Reach Between "Everyone" In The U.S. & Those That "Live" Here

Although it'd be expected that "*everyone* in this location" would include non-resident travelers, this universe within Facebook Ads Manager reflects the same size as "people who *live* in this location"

Facebook Platforms - Potential Reach

(FB + Instagram + Audience Network + Messenger)

Demo	"*Everyone* In This Location"	"People Who *Live* In This Location"
P18-24	39,000,000	39,000,000
P25-34	58,000,000	58,000,000

In theory, "everyone" should include travelers as well even though the country-wide numbers are the same as the resident totals (i.e., "people who live in this location")

Note: there are only 670K and 940K identified within the potential reach as those who are "traveling in this location" among P18-24 & P25-34, respectively

Source: 2016 U.S. Census (American Community Survey, 1-year estimate); Facebook Ads Manager. Based on "everyone in this location" and "people who live in this location" data pulled on September 22nd, 2017. (Facebook numbers are fluid and are subject to change based on the date when numbers are pulled).

Is This Reach Inflation Issue Nationwide Or Just Isolated To A Few Areas?

To Answer This We Conducted The Below P18-34 Analysis On Several Geographical Levels:

2016 U.S. Census Data
Vs.
"People Who ***Live*** In This Location" Data
From Facebook Ads Manager

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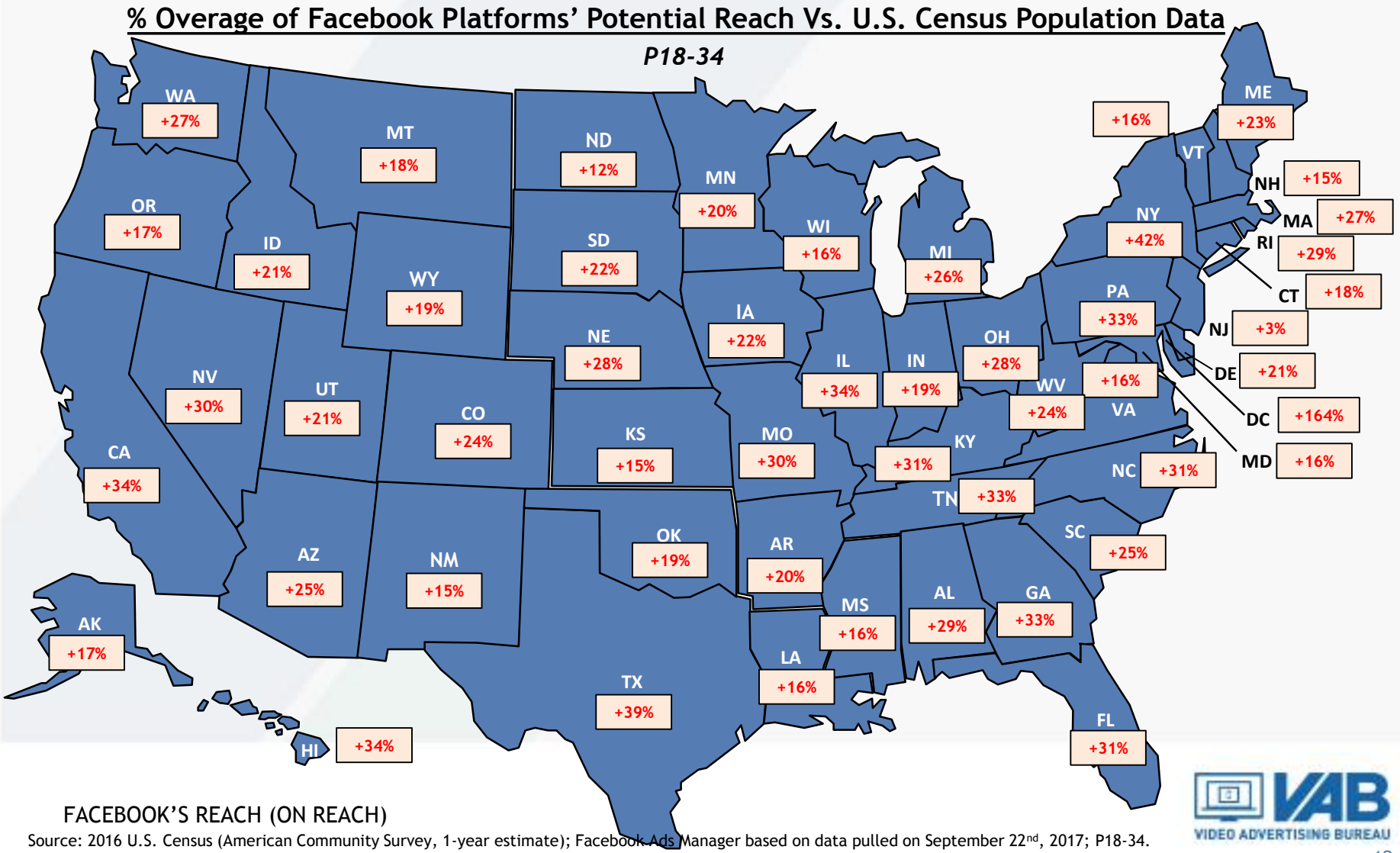
In *Every* State, Facebook Claims They Can Reach More P18-34 Residents Than What Is Reported By The U.S. Census Bureau



FACEBOOK'S REACH (ON REACH)

Source: 2016 U.S. Census (American Community Survey, 1-year estimate); Facebook Ads Manager based on data pulled on September 22nd, 2017; P18-34.
"FB Potential Reach" includes Facebook + Instagram + Audience Network + Messenger platforms. Facebook data based on "People who live in this location."

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Facebook Platforms' Reach Inflation Stretches Anywhere Between 3% - 42% By State Vs. The U.S. Census

P18-34 Population By State: 2016 U.S. Census vs. Facebook Platforms' Potential Reach

State	2016 U.S. Census P18-34	Facebook Ads Manager (Potential Reach) "People Who Live In This Location" FB Platforms* P18-34 Potential Reach	# Difference	% Difference
Alabama	1,089,379	1,400,000	310,621	29%
Alaska	197,344	230,000	32,656	17%
Arizona	1,601,077	2,000,000	398,923	25%
Arkansas	672,356	810,000	137,644	20%
California	9,734,004	13,000,000	3,265,996	34%
Colorado	1,374,055	1,700,000	325,945	24%
Connecticut	793,972	940,000	146,028	18%
Delaware	214,215	260,000	45,785	21%
District of Columbia	235,004	620,000	384,996	164%
Florida	4,431,674	5,800,000	1,368,326	31%
Georgia	2,412,627	3,200,000	787,373	33%
Hawaii	335,711	450,000	114,289	34%
Idaho	380,390	460,000	79,610	21%
Illinois	2,982,759	4,000,000	1,017,241	34%
Indiana	1,518,969	1,800,000	281,031	19%
Iowa	714,710	870,000	155,290	22%
Kansas	677,398	780,000	102,602	15%
Kentucky	993,882	1,300,000	306,118	31%
Louisiana	1,118,918	1,300,000	181,082	16%
Maine	267,627	330,000	62,373	23%
Maryland	1,383,783	1,600,000	216,217	16%
Massachusetts	1,655,262	2,100,000	444,738	27%
Michigan	2,223,939	2,800,000	576,061	26%
Minnesota	1,253,029	1,500,000	246,971	20%
Mississippi	687,407	800,000	112,593	16%
Missouri	1,383,111	1,800,000	416,889	30%
Montana	228,312	270,000	41,688	18%
Nebraska	444,358	570,000	125,642	28%
Nevada	676,213	880,000	203,787	30%
New Hampshire	286,981	330,000	43,019	15%
New Jersey	1,940,950	2,000,000	59,050	3%
New Mexico	476,552	550,000	73,448	15%
New York	4,798,105	6,800,000	2,001,895	42%
North Carolina	2,293,174	3,000,000	706,826	31%
North Dakota	204,647	230,000	25,353	12%
Ohio	2,578,391	3,300,000	721,609	28%
Oklahoma	925,960	1,100,000	174,040	19%
Oregon	941,497	1,100,000	158,503	17%
Pennsylvania	2,863,667	3,800,000	936,333	33%
Rhode Island	256,712	330,000	73,288	29%
South Carolina	1,116,252	1,400,000	283,748	25%
South Dakota	197,324	240,000	42,676	22%
Tennessee	1,503,170	2,000,000	496,830	33%
Texas	6,826,336	9,500,000	2,673,664	39%
Utah	793,316	960,000	166,684	21%
Vermont	138,035	160,000	21,965	16%
Virginia	1,976,775	2,300,000	323,225	16%
Washington	1,734,544	2,200,000	465,456	27%
West Virginia	379,038	470,000	90,962	24%
Wisconsin	1,288,652	1,500,000	211,348	16%
Wyoming	134,665	160,000	25,335	19%
Grand Total	75,336,230	97,000,000	21,663,770	29%

FACEBOOK'S REACH (ON REACH)

Source: 2016 U.S. Census (American Community Survey, 1-year estimate); Facebook Ads Manager based on data pulled on September 22nd, 2017; P18-34. "FB Potential Reach" includes Facebook + Instagram + Audience Network + Messenger platforms. Facebook data based on "People who live in this location." (Facebook numbers are fluid and are subject to change based on the date when numbers are pulled).

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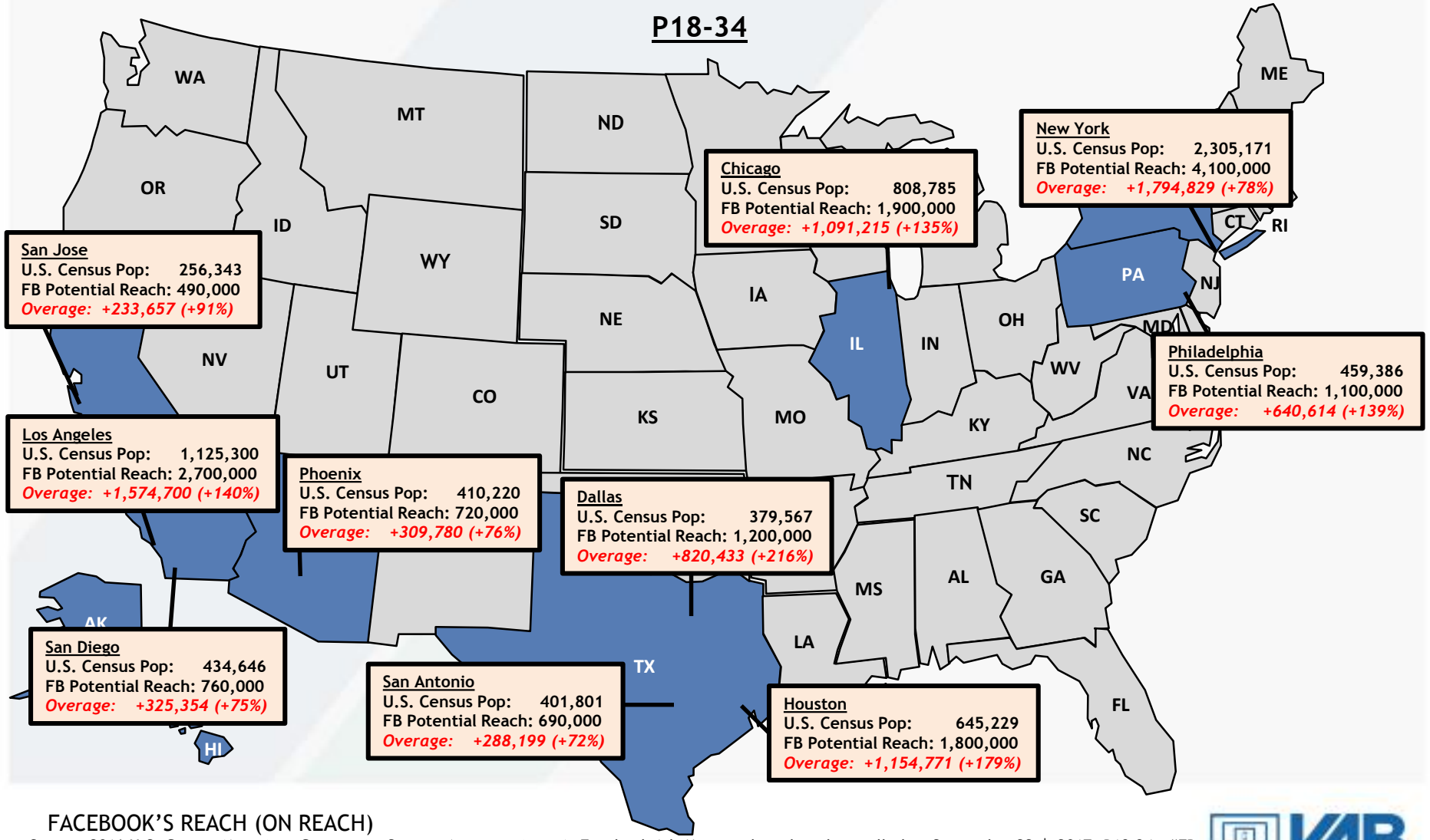
The Facebook P18-34 Reach Inflation Is Much More Pronounced Within The Ten Most Populous Cities



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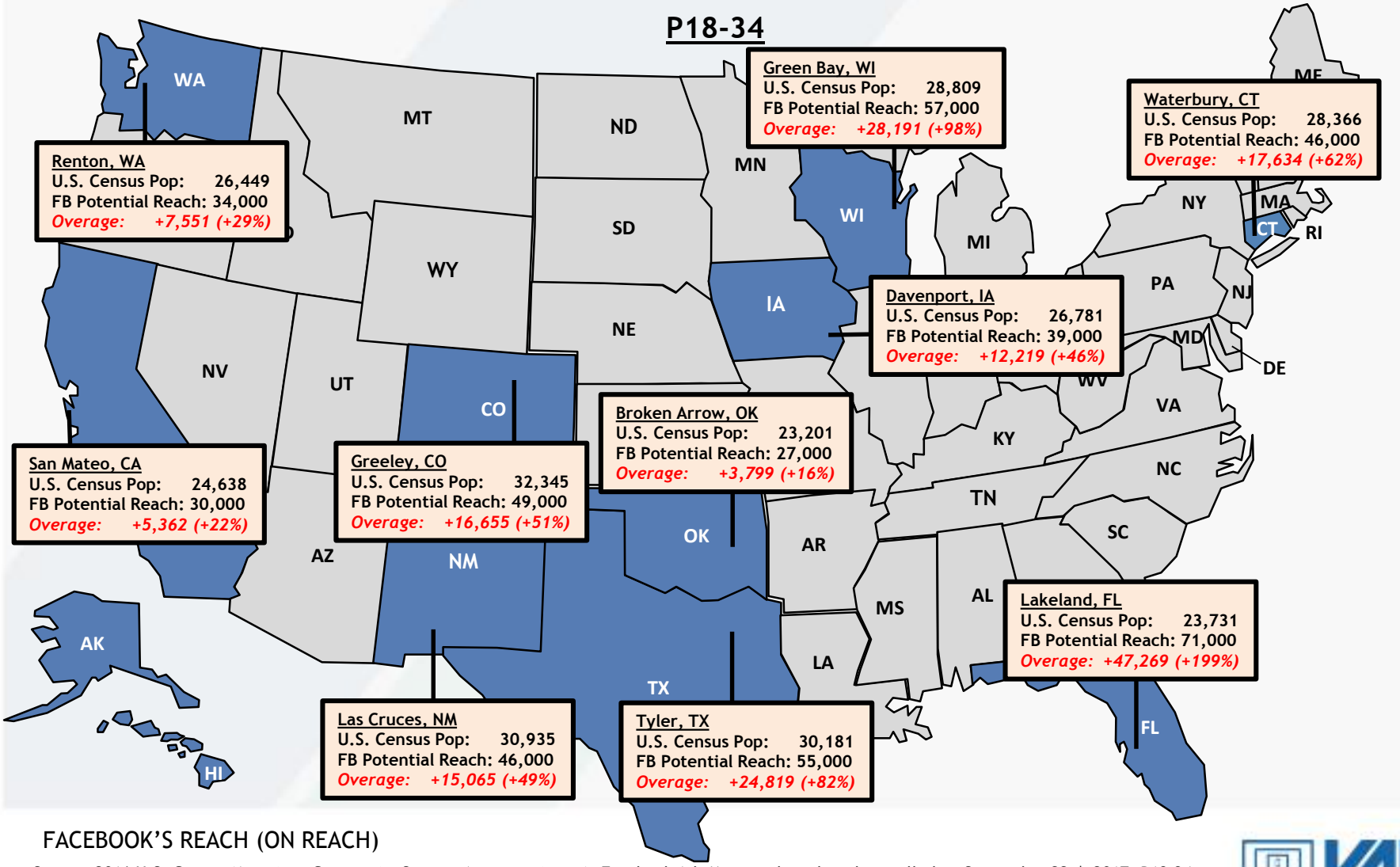
Similar P18-34 Reach Inflation Is Seen Among "Mid-Sized" Cities As Well



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Source: 2016 U.S. Census (American Community Survey, 1-year estimate); Facebook Ads Manager based on data pulled on September 22nd, 2017; P18-34. "FB Potential Reach" includes Facebook + Instagram + Audience Network + Messenger platforms. Facebook data based on "People who live in this location" and reflects the city with no radius added. "Mid-Sized" cities are based on a diverse cross-section of 10 cities with a total population between 100K – 110K with no more than one city reflected per state. (Facebook numbers are fluid and are subject to change based on the date when numbers are pulled).

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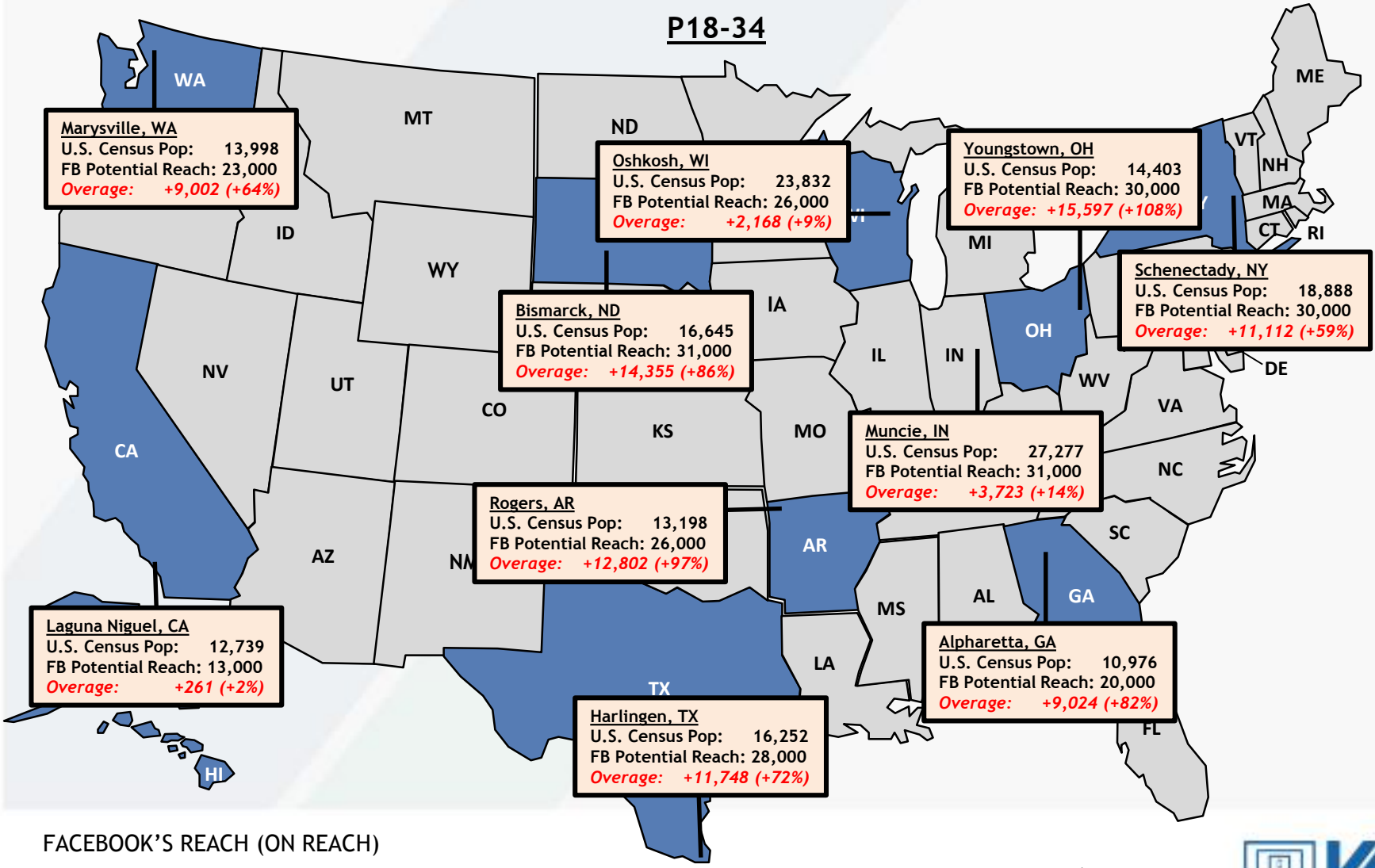
These P18-34 Reach Inflation Trends Are Also Seen Among "Smaller" Cities Throughout The Country



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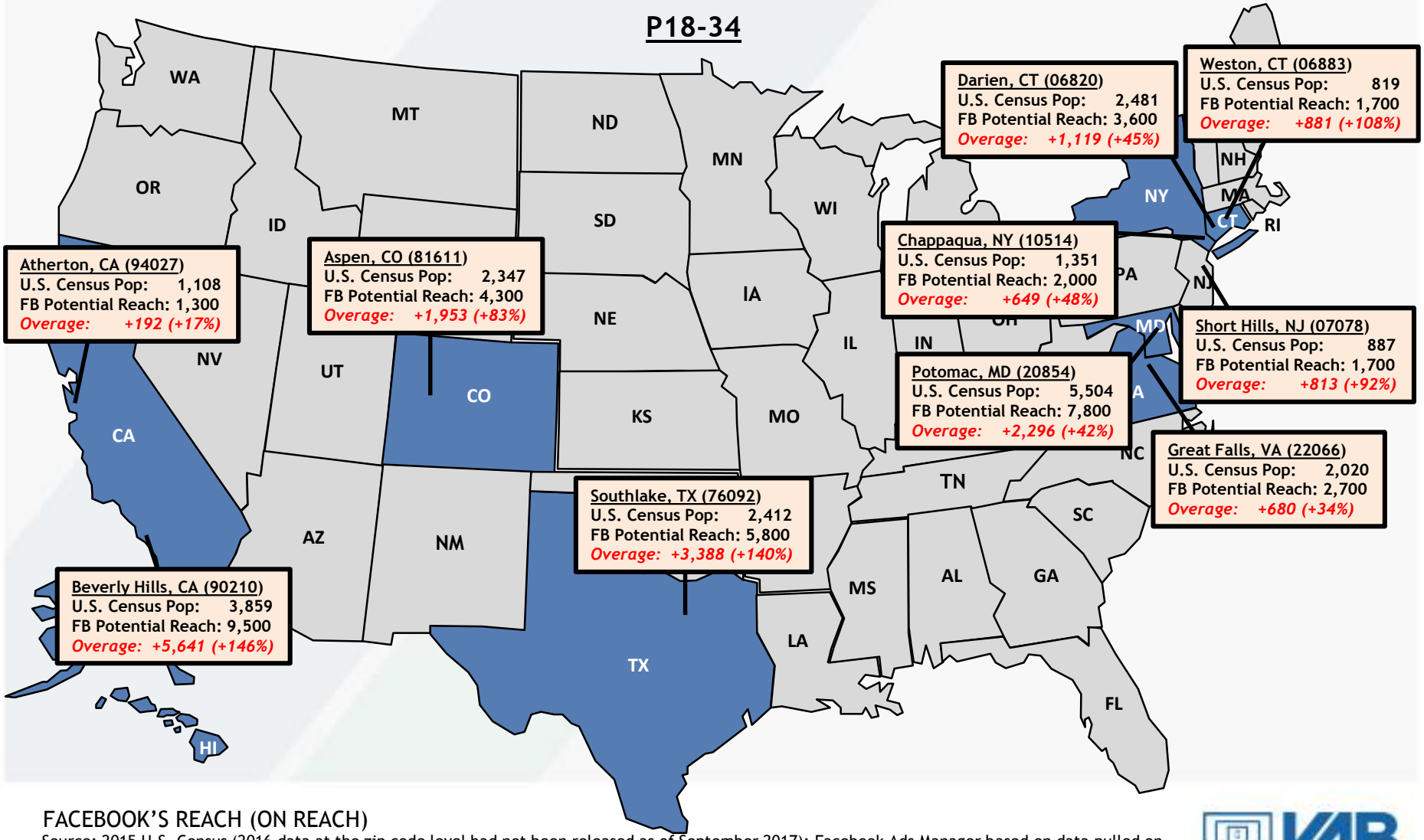
Facebook Also Overestimates Their Potential Reach Among The Young & Affluent Within Targeted Zip Codes



FACEBOOK'S REACH (ON REACH)

Source: 2015 U.S. Census (2016 data at the zip code level had not been released as of September 2017); Facebook Ads Manager based on data pulled on September 22nd, 2017; P18-34. "FB Potential Reach" includes Facebook + Instagram + Audience Network + Messenger platforms. Facebook data based on "People who live in this location." "Affluent" zip codes were selected based on metrics like median home values as reported by sources such as Forbes. (Facebook numbers are fluid and are subject to change based on the date when numbers are pulled).

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OK, So Reach Is Overstated…

So What?

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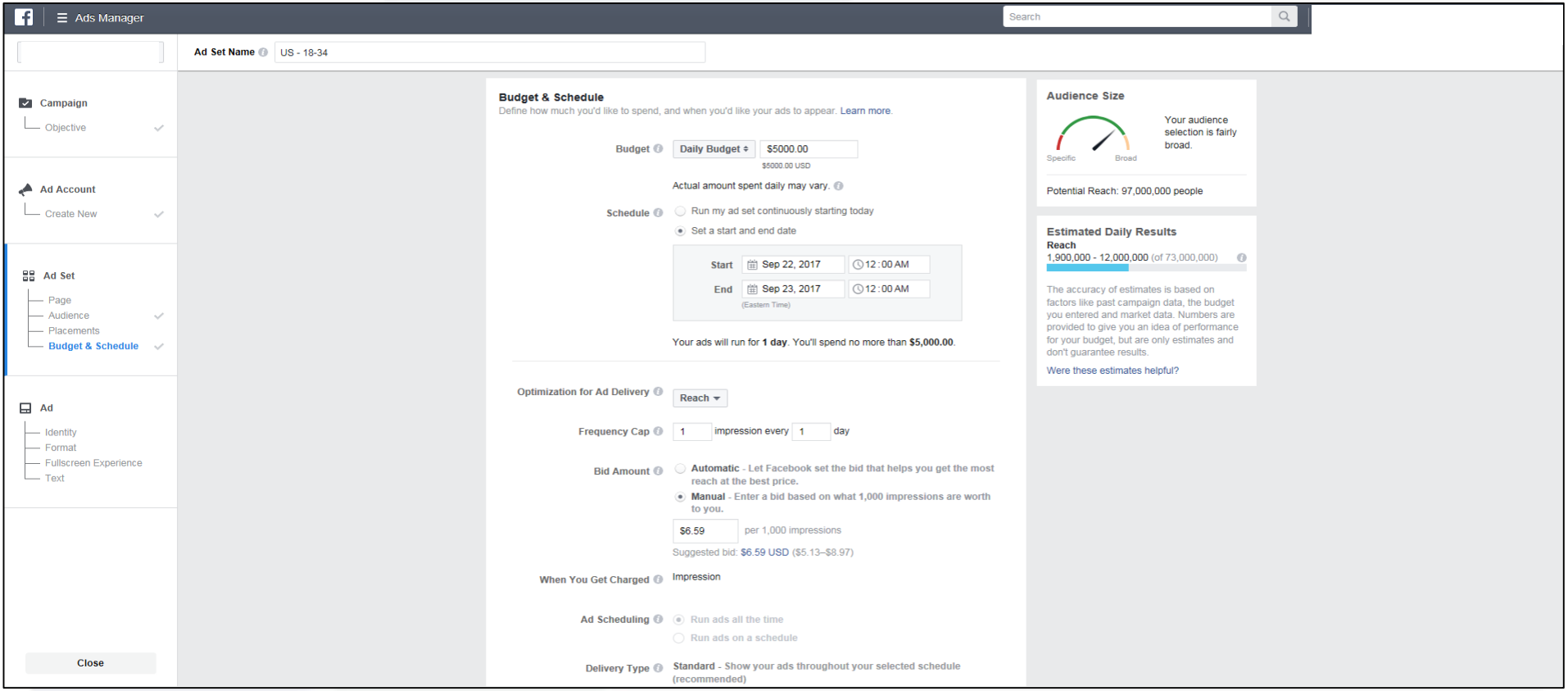
There's A Potential For Facebook Reach Inflation To Have Real Consequences For An Advertiser's Overall Communications Plan

In addition to providing audience and targeting data, more importantly Facebook Ads Manager functions as a tool for an advertiser to plan, budget, buy and optimize their own campaigns across Facebook platforms.



https://www.facebook.com/ads/manager/creation

FACEBOOK'S REACH (ON REACH)

Source: Facebook Ads Manager based on data pulled on September 20th, 2017; P18-34, United States, "people who live in this location." "FB Potential Reach" includes Facebook + Instagram + Audience Network + Messenger platforms. (Facebook numbers are fluid and are subject to change based on the date when numbers are pulled).

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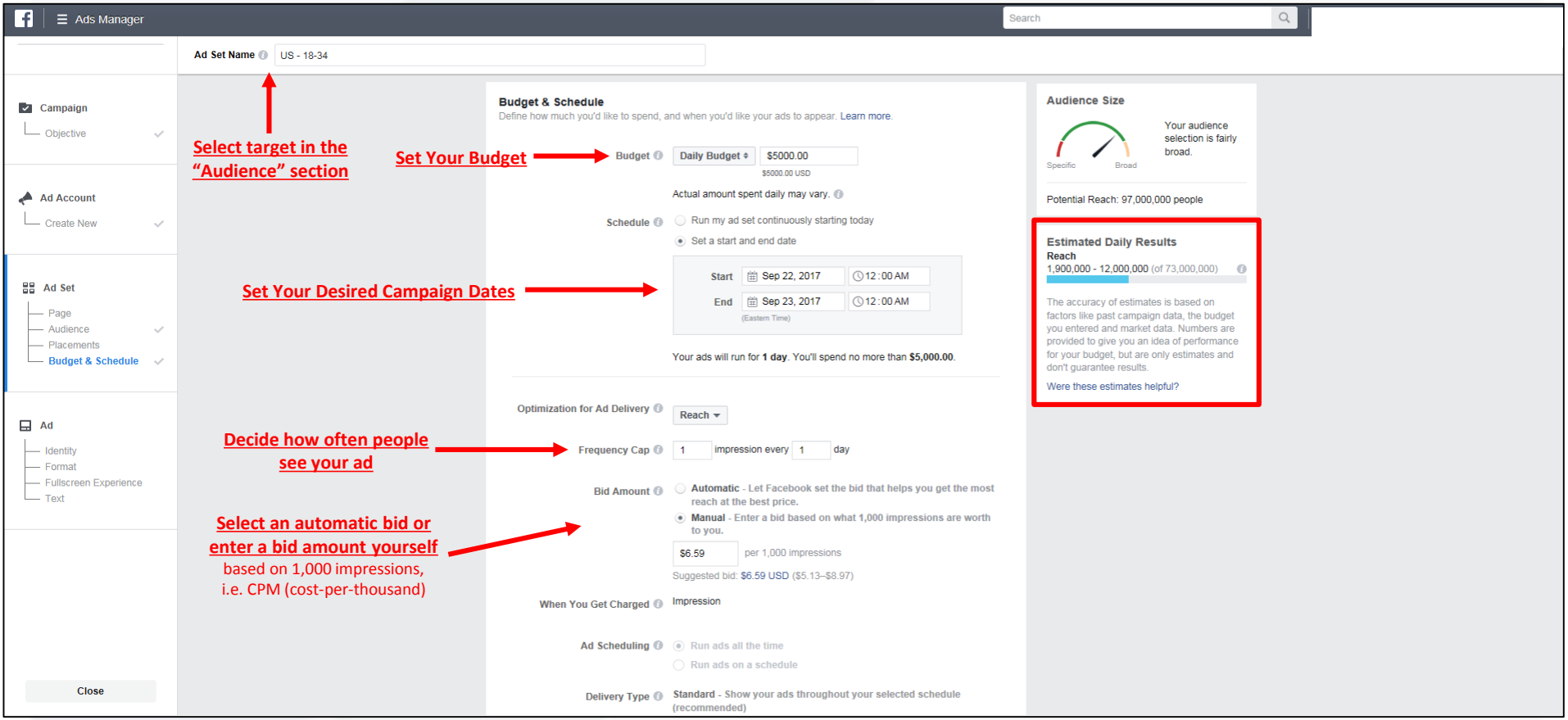
To Make A Buy, It's As "Simple" As Selecting Your Target Then Setting The Budget, Campaign Dates And Entering A Bid Amount

Once all buy parameters are set, Facebook will calculate the estimated daily reach of your campaign based on "past campaign data, the budget entered and market data"



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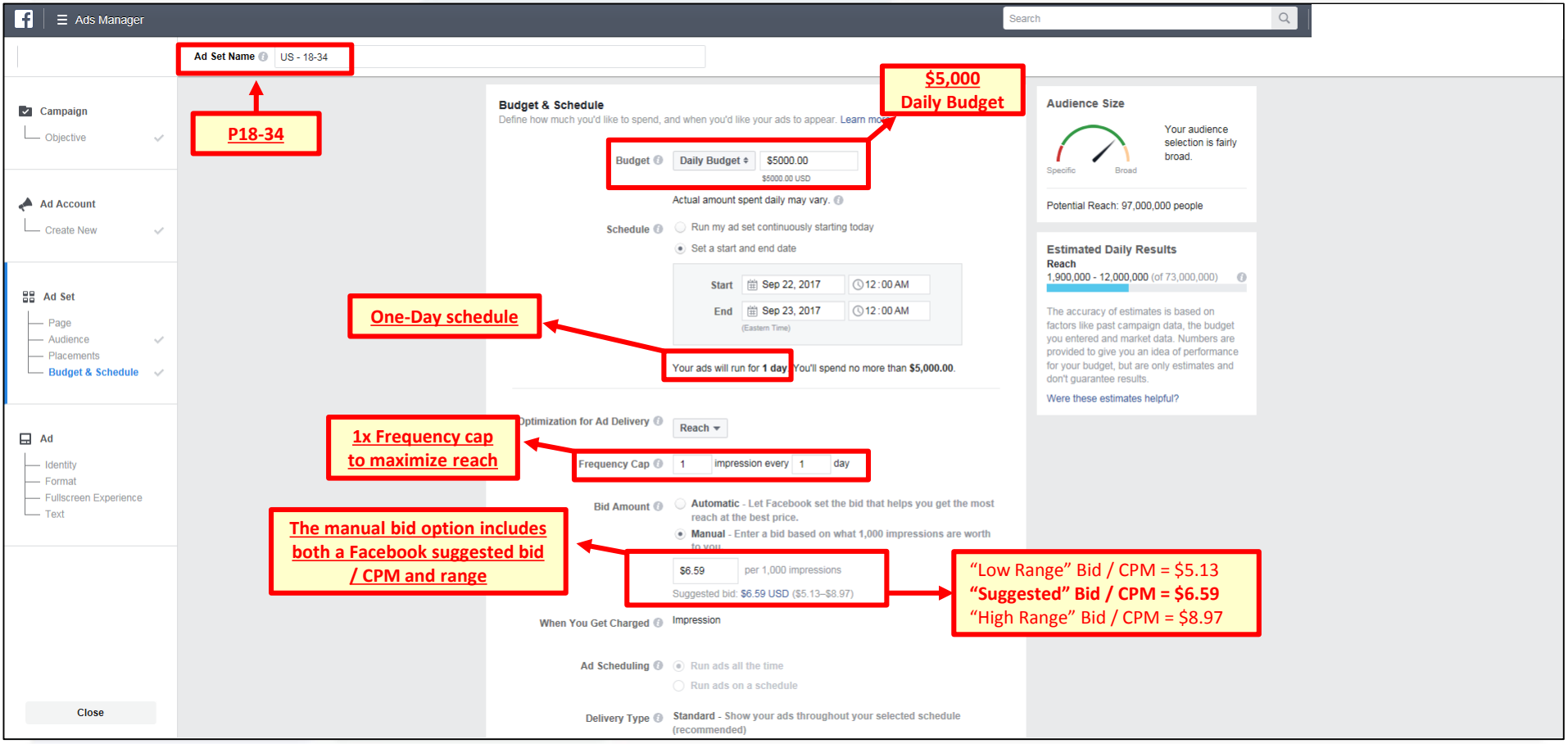
To Verify The Accuracy Of The Estimated Daily Reach Metric, We Built A One-Day Campaign Designed To Maximize Reach

While a one-day schedule is not a "typical" campaign length, we were limited to this time period for comparison purposes since Facebook only reports estimated reach results at the daily level



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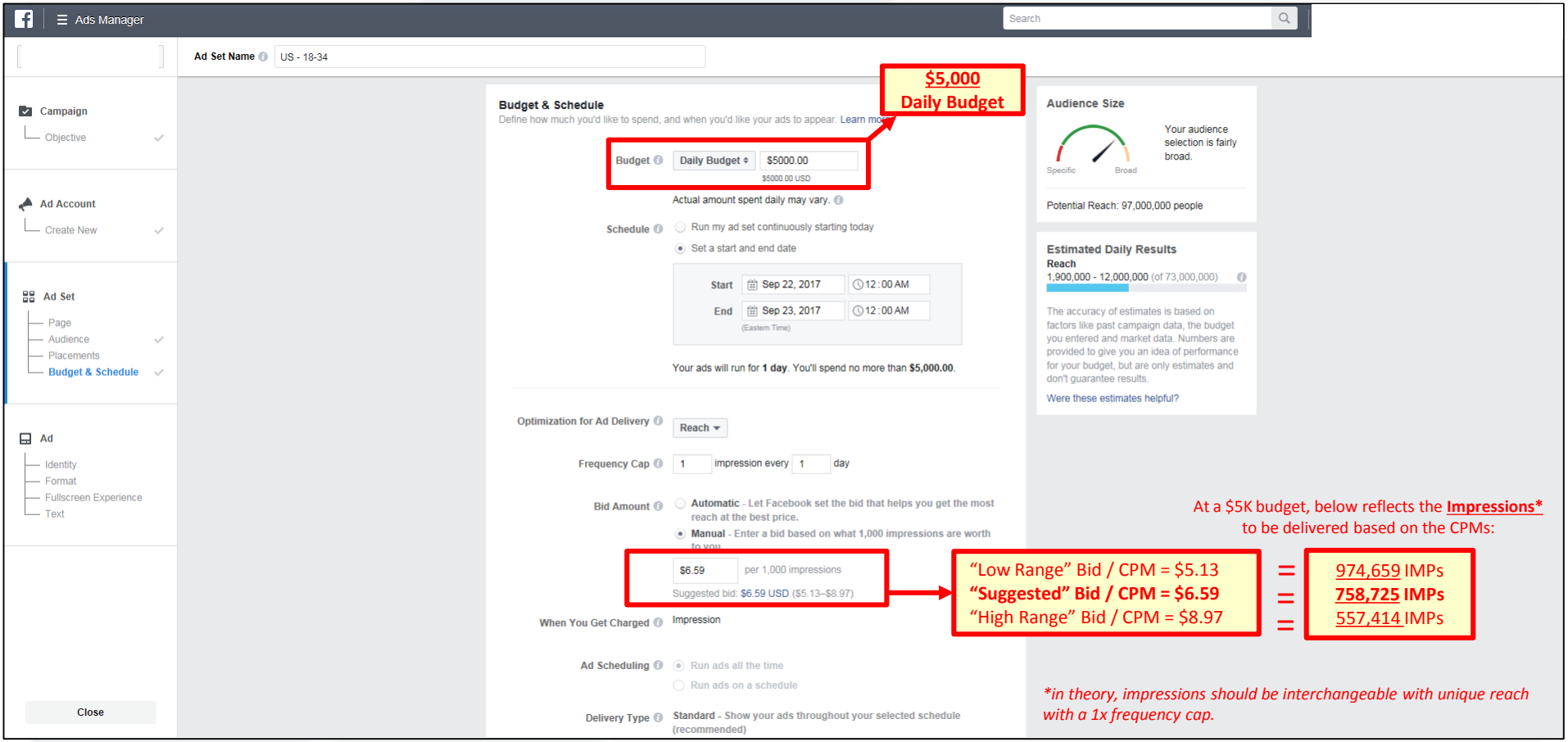
Based On The Budget & Bid, An Advertiser Can Use Media Math To Figure Out Their Expected Campaign Impressions

Budget / CPM x 1,000 = Impressions



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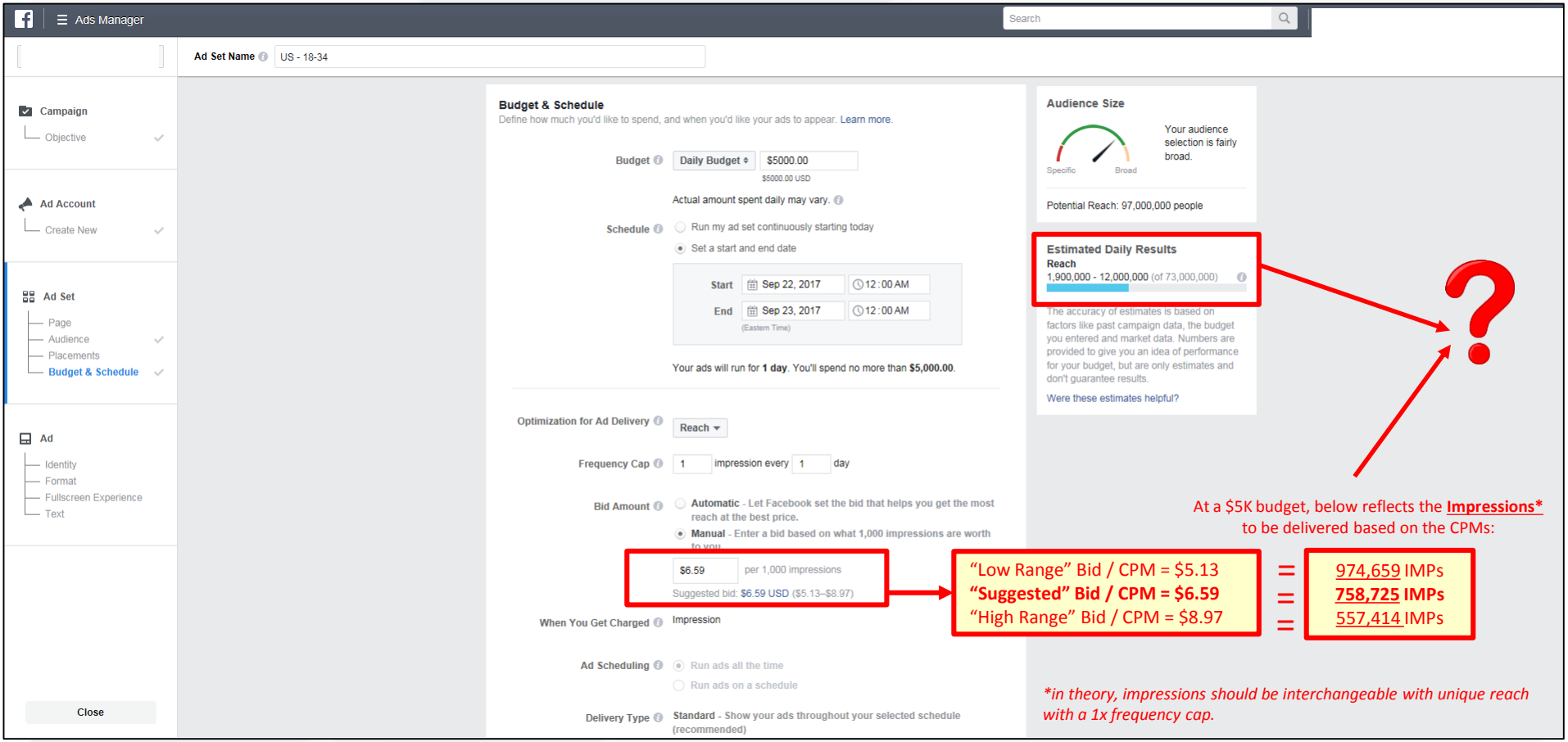
From The Math, An Advertiser Would See That The Impressions Are Much Lower Than Facebook's Estimated Reach Results

It's important to note that in a one-day campaign with a 1x frequency cap (as reflected below), the term "impressions" can be used interchangeably with "reach"



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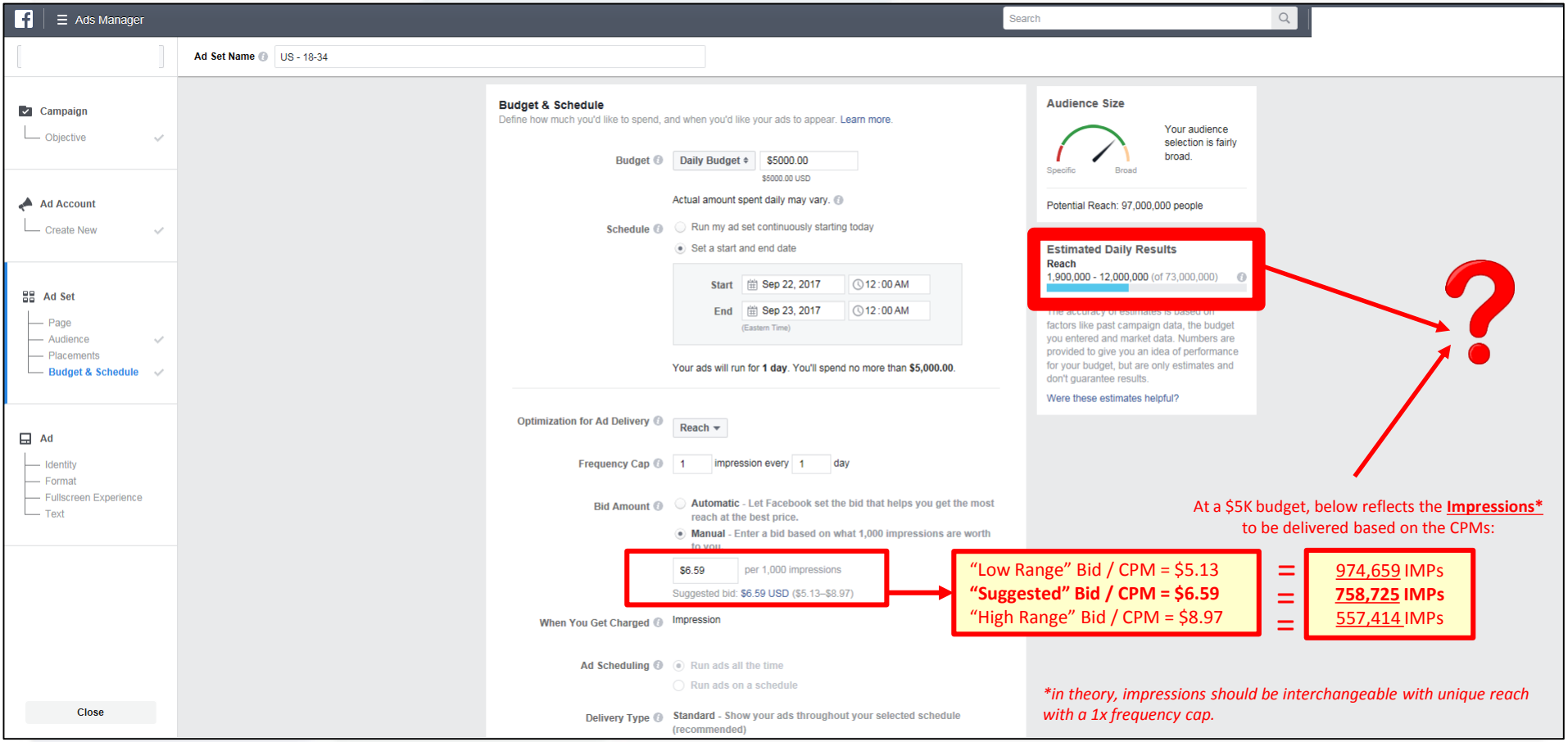
Notably, There Is Also A Very Wide Gap Within The Estimated Daily Reach Range For A Platform That Often Touts Its' Precision Targeting

There is a gap of over 10 million A18-34's (1.9MM - 12.0MM) between the low & high range for a demo-targeted, one-day $5K buy



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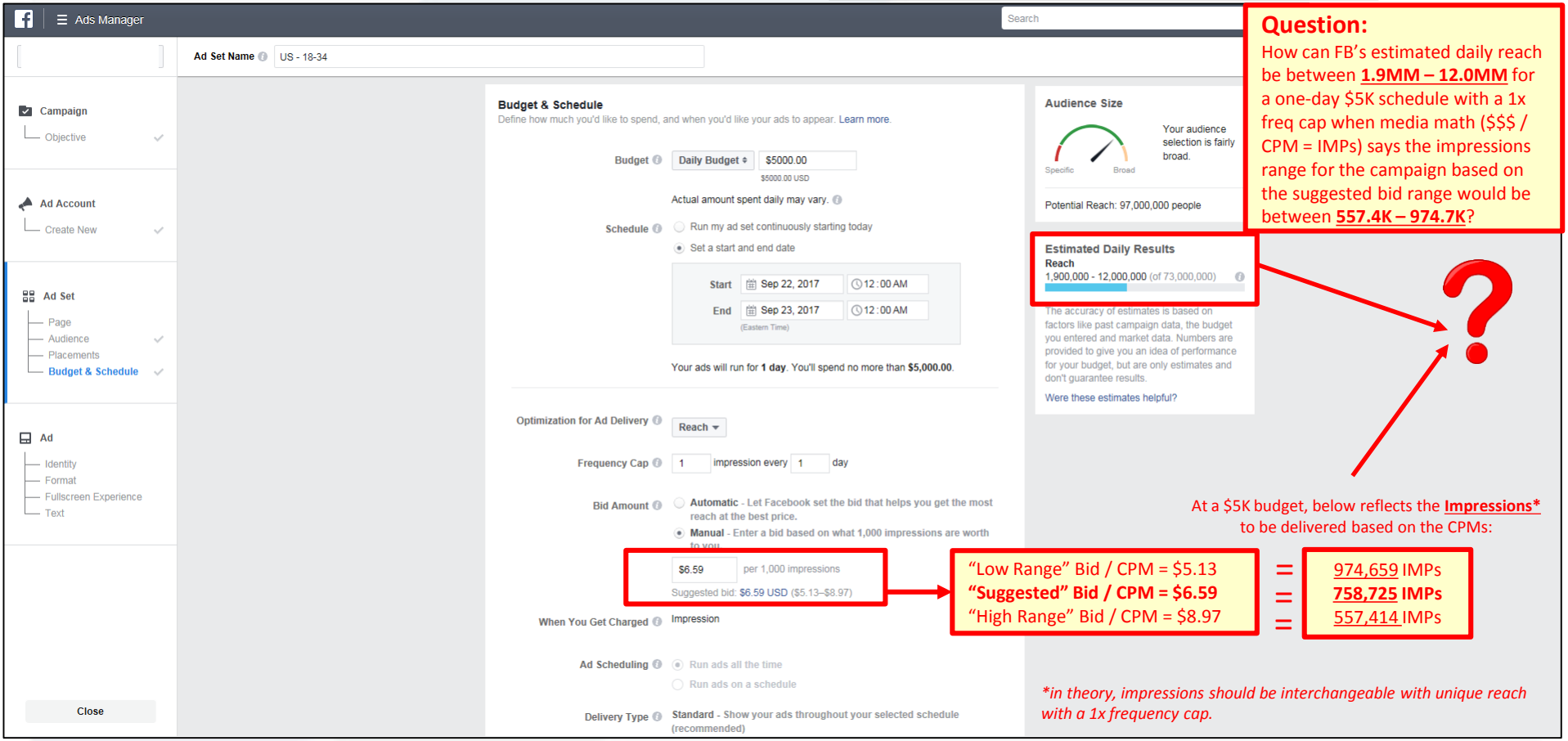
Key Question: How Can Facebook's Estimated Daily Reach Be 2x - 12x Times Larger Than What It Should Be Based On Basic Media Math?

Impressions Based On Budget & Bid/CPM:
557.4K - 974.7K

Facebook's Estimated Daily Reach:
1.9MM - 12.0MM



Question:
How can FB's estimated daily reach be between **1.9MM – 12.0MM** for a one-day $5K schedule with a 1x freq cap when media math ($$$ / CPM = IMPs) says the impressions range for the campaign based on the suggested bid range would be between **557.4K – 974.7K**?

At a $5K budget, below reflects the **Impressions*** to be delivered based on the CPMs:

**in theory, impressions should be interchangeable with unique reach with a 1x frequency cap.*

https://www.facebook.com/ads/manager/creation

FACEBOOK'S REACH (ON REACH)

Source: Facebook Ads Manager based on data pulled on September 20th, 2017; P18-34, United States, "people who live in this location." "FB Potential Reach" includes Facebook + Instagram + Audience Network + Messenger platforms. (Facebook numbers are fluid and are subject to change based on the date when numbers are pulled).

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According To The Math, It Would Take A Lot More Than The $5K Budget To Achieve The Campaign Reach Facebook Estimates

Based on Facebook's suggested bid (CPM) range, it would actually cost anywhere between $9.7K - $107.6K to deliver against their own P18-34 estimated daily reach for a one-day campaign schedule

			"Low End" Reach Range		"High End" Reach Range	
	Original Budget	Bid / CPM	Facebook Est. Daily Reach	**Revised Budget**	Facebook Est. Daily Reach	**Revised Budget**
"Low Range" Bid / CPM	$5,000	$5.13	1,900,000	**$9,747**	12,000,000	**$61,560**
"Suggested" Bid / CPM	**$5,000**	**$6.59**	**1,900,000**	**$12,521**	**12,000,000**	**$79,080**
"High Range" Bid / CPM	$5,000	$8.97	1,900,000	**$17,043**	12,000,000	**$107,640**

FACEBOOK'S REACH (ON REACH)

Source: Facebook Ads Manager based on data pulled on September 20th, 2017; P18-34, United States, "people who live in this location." "FB Potential Reach" includes Facebook + Instagram + Audience Network + Messenger platforms. (Facebook numbers are fluid and are subject to change based on the date when numbers are pulled).

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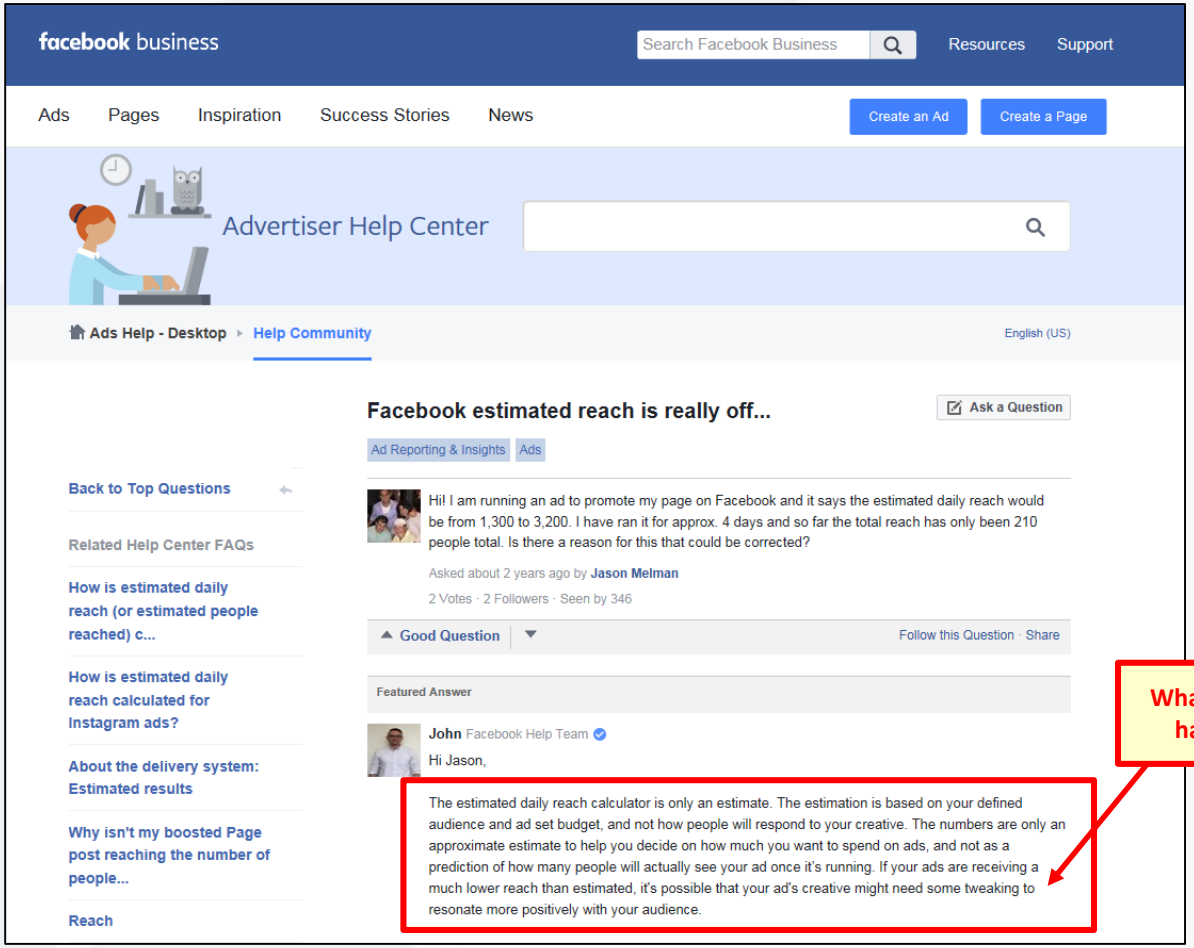
Apparently Other People Have Noticed This Reach Discrepancy As Well



Closing Thoughts

Whether this is truly another metrics glitch remains to be seen. However, with questions of trust regarding ad-tech platforms at an all-time high among many marketers, our analysis provides another instance where first-party data should at least be questioned, or even challenged, particularly when the numbers don't align with universally accepted metrics such as U.S. Census Bureau population data and basic media math.

Advertisers and their agencies must remain vigilant with all their media partners when it comes to their campaign executions and deliveries. We believe in complete transparency as an industry and for advertisers to verify their campaign metrics and results through independent, third party data sources.

And for everyone, both advertisers and agencies, as you plan your campaigns, execute your schedules and evaluate your post-buy analyses across your multiplatform media partners, our advice continues to remain the same:

Assume Nothing, Investigate Everything

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