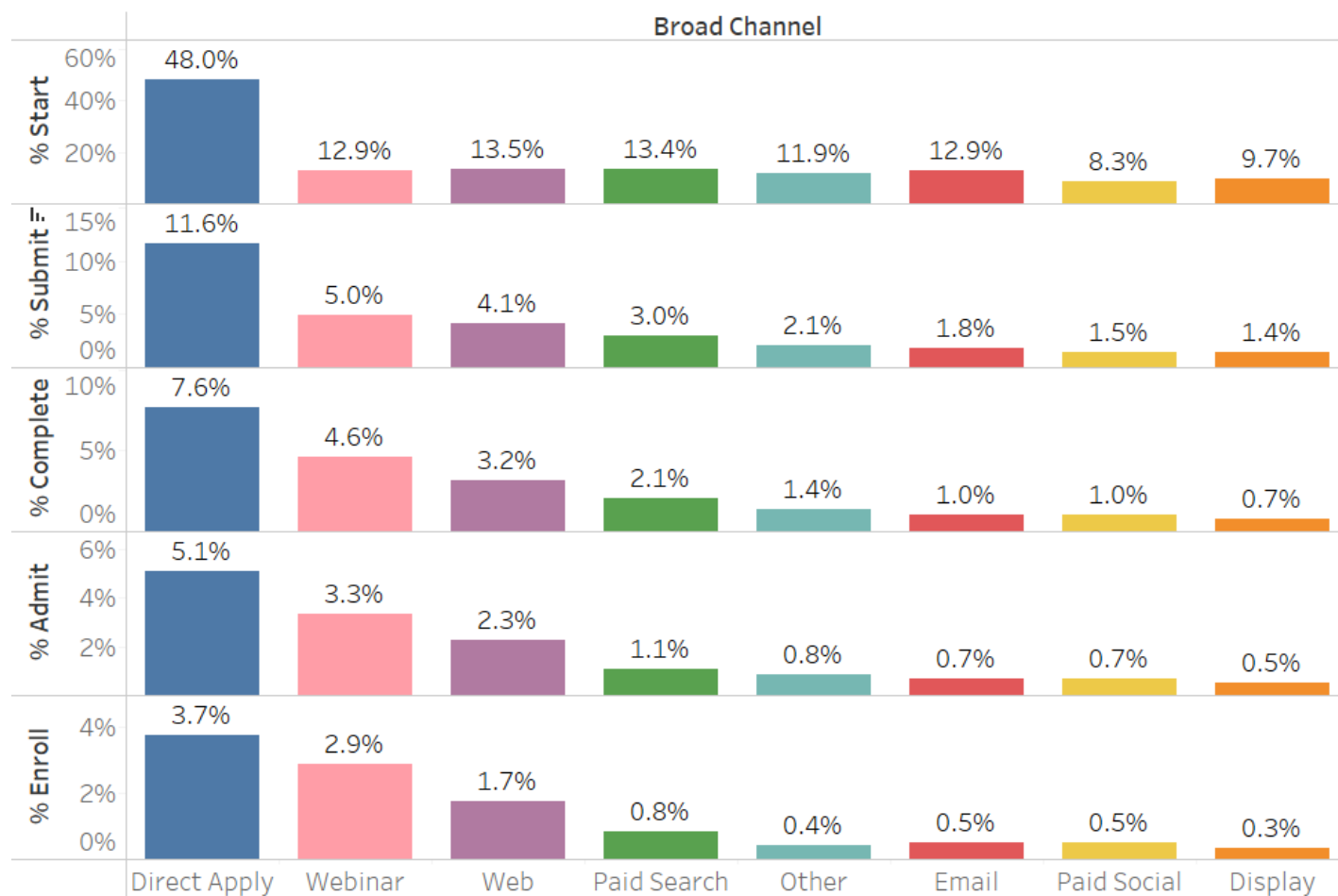# ASSIGNMENT #2

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Question 1- Bar graph with metrics for each of the 'broad' lead categories

% Start, % Submit, % Complete, % Admit and % Enroll for each Broad Channel. Color shows details about Broad Channel. The view is filtered on Broad Channel, which excludes Null.

- A disproportionate percentage (48%) of students that started their application come from direct apply leads. Additionally, the direct apply lead contributed to the highest numbers of students at every level of the program as they move through the sales funnel with the webinar lead producing the second highest share of students.

- Majority of students tend to only start and submit their applications rather than complete, admit, or enroll at American University's program. Across all leads, 10.8% of students enroll in AU's program.

- Display and paid social leads contribute the smallest number of students to the program's matriculation process with display and paid social leads accounting for less than 10% at every application level.

Average Lead Cost Per Channel
By Lead Location and Lead Stage (Funnel View)

Broad Channel	Narrow Channel	Domestic						International					
		Lead	Started	Submited	Completed	Admitted	Enrolled	Lead	Started	Submited	Completed	Admitted	Enrolled
Display	Display	63	995	3,604	5,148	8,109	12,013	63	472	6,203	47,555	71,332	142,664
	Remarket	62	674	1,752	2,190	2,190	2,920	91	543				
Paid Search	OtherPPC	123	1,024	3,804	3,804	13,314	13,314	144	886	8,860			
	GoogleSEM	132	926	3,486	5,141	9,348	10,824	143	1,119	42,519			
	MarinPPC	103	1,018	2,908	3,393	6,786		79	1,541				
Paid Social	LinkedIn	72	875	4,414	5,675	8,828	12,223	68	843	9,277	64,942	64,942	
	Facebook	61	722	3,701	5,230	7,517	10,023	61	629	6,287			
	Instagram	61	2,817					86					
	Twitter	58	1,854					73	508				
Other	Other	63	684	2,317	2,660	4,490	8,979	65	421	5,300			
Email	Email	61	657	2,839	3,535	5,020	6,792	60	337	4,203	252,202		
Webinar	Webinar	2	16	38	42	57	65	0	0				
Direct Apply	Direct Apply	0	0	0	0	0	0						
Web	Web	0	0	0	0	0	0	0	0	0	0	0	0
All Channels - Total		42	293	1,007	1,312	1,923	2,581	40	309	3,342	22,704	28,590	35,088

Domestic:
- Webinars are an effective low cost paid marketing strategy and have the least average paid cost per enrolled student at $65.
- Within paid social media, leads from Instagram and Twitter do not convert to statuses beyond starting an application.
- In the broad Display channel, Remarket is more cost effective than Display (narrow) – 4x lower by the enrolled stage.

International
- The only successful paid channel that converted leads to enrolled students was the Narrow Display Channel. At $142,664, this is the highest average cost compared to all channels in either the Domestic or International group.

QUESTION 3

- Disproportionate percentage of program enrollments comes from the east coast states and in particular the Mid-Atlantic states (MD, DC, VA, NC).

- Midwestern states, Plains states, and Mountain states are underrepresented in program enrollment numbers.

- States with larger populations (CA, TX, FL, NY) have larger contributions to the program's enrollment numbers.

- Large states with larger historically "liberal" population centers (i.e. large cities: LA, Seattle, Austin, Miami, NYC) contribute more to the program's enrollment numbers.

Question 3-% each state has of the total enrolled students
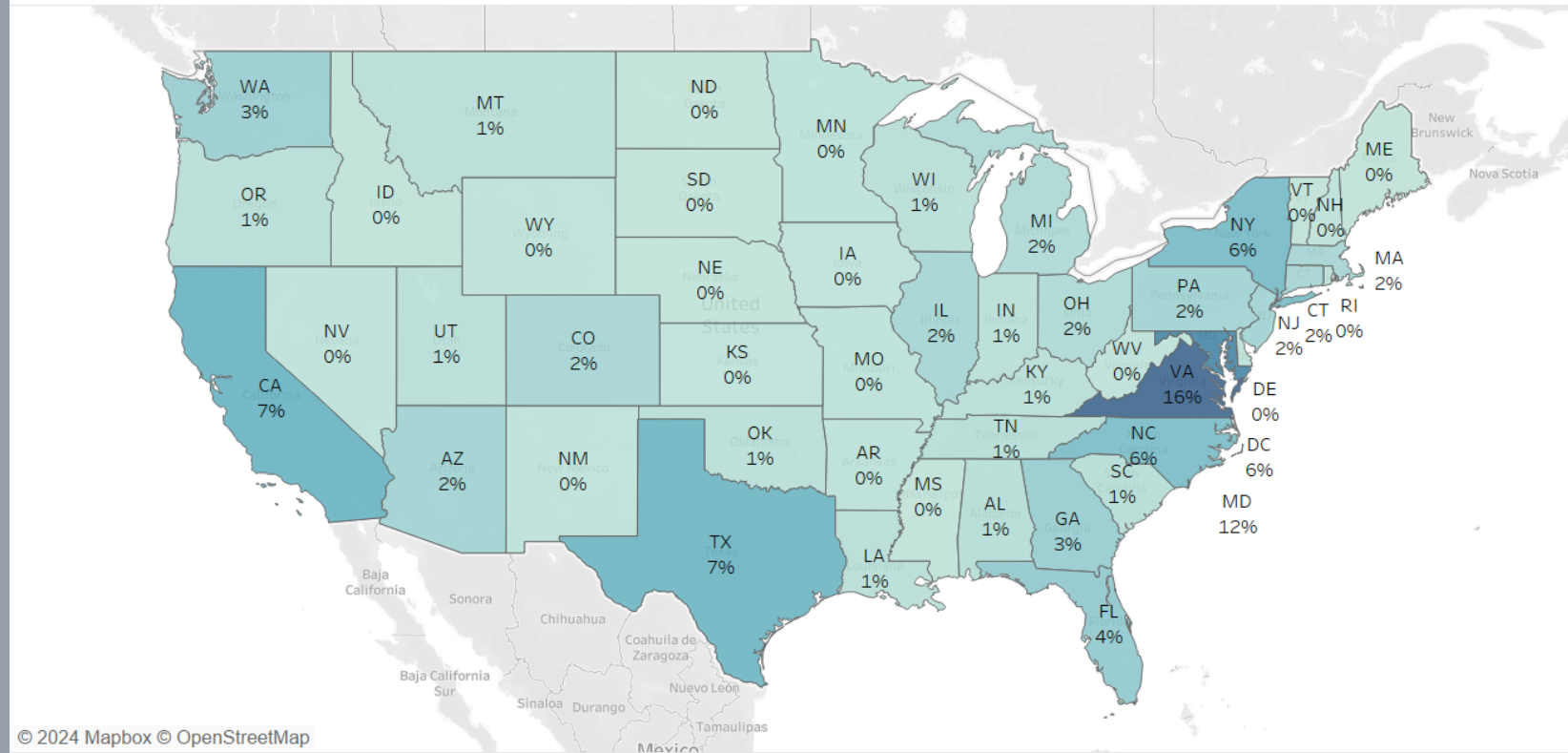
Map based on Longitude (generated) and Latitude (generated). Color shows % of Total App.Enroll. The marks are labeled by State.C and % of Total App.Enroll. The view is filtered on State.C, Latitude (generated) and Longitude (generated). The State.C filter excludes Null, AK, HI and Other. The Latitude (generated) filter keeps non-Null values only. The Longitude (generated) filter keeps non-Null values only. Percents are based on the whole table.

ADDITIONAL INVESTIGATION CONSIDERATIONS

While about 50% of domestic students came from paid channel leads, nearly all international students came from web channel leads (at no expense). To better guide the business, we should consider why international leads are not converting to help us determine whether we should adjust the amount of funding towards international marketing.

Before pursuing changes to marketing strategies, we should consider the distribution of expenses. For instance, leads not converting from Instagram and Twitter channels may be due to significantly less expenses paid for Instagram and Twitter, totaling $6,524 combined, compared to Facebook and Twitter, totaling $558,351 combined.

Additionally, while considering changes to expense distribution, we should consider the role of impressions-based marketing. Though enrollment is the end goal of lead generation expenses, the current data cannot tell us how much of the money spent in this cycle is influencing the behaviors of future applicants. It's worth exploring how changing expense allocation may influence even the web channel leads that appear to come with no expense based on the way these data are presented.

To better address the way in which the data is presented in Question 3, it would be interesting to see heatmaps with finer granularity at the state level to see if the contributions to program enrollment are, in fact, clustered around large "liberal" cities or if the state population itself is driving the higher performance with respect to program enrollment contribution.