Insight 1
https://public.tableau.com/profile/raphael.von.lottner#!/vizhome/CancellationPercentages_16133947762710/Dashboard1?publish=yes

In this dashboard you can see the cancellation percentage of flights per state, filtered by Airline. By selecting all airlines, one can see that Vermont (with almost 4.5%) and Rhode Island (with a 3.2%) have the highest amount of cancellation rates, while American Samoa, Guam, Delaware and the Virgin Islands had no cancellations in 2015.
I think it is important to note that the instruction video actually has some errors here and this dashboard should get it right.

Design: Comparing states is best done via a map where you can see differences in cancellation percentages quick and easy. Another good way of communicating the findings and comparing them is a lined up bar chart where you can easily detect which states perform good and which do worse. The color choice was blue because it is easy to distinguish even for colorblind people.

Resources: Instruction Video from Udacity

Insight 2
https://public.tableau.com/profile/raphael.von.lottner#!/vizhome/ArrivalandDeparturePunctuality/Dashboard1

In this visualization you can see the percentage of punctuality in terms of arrival and departure per airline and further filtered by state. Interestingly, the overall punctuality is very low. Please note that it does not matter here whether the flights arrived/departed late or too early. The blue shade shows how many flights were involved for the visualization per airline - the darker the color, the more flights this airline had, encoded as “Counted F1”. It is surprising to me that there is no clear correlation between the number of flights and the punctuality of flights, other than if there are enough flights, the punctuality eventually exceeds 0%.
Interestingly, given all states and therefore all flights recorded, American Eagle Airlines Inc. (MQ) and Atlantic Southeast Airlines (EV) had the best overall punctuality with an arrival punctuality of 5,4% and 3,3% respectively. Also in terms of departure punctuality percentage these airlines did best with 4.8% and 2,8% respectively. Regarding both statistics, Hawaiian Airlines Inc (HA) performed worst (given all states).

Also important to note is that given certain states, e.g. Florida (FL), some Airlines actually were never punctual. In this case Virgin America (VX) and Alaska Airlines Inc., which is due to the fact that only very few flights of these airlines took place.

Design: The two horizontal bars where chosen because of the few numbers of airlines involved. So the audience can easily compare the arrival and departure punctuality in terms of the airlines at a glance. The blue color shades showing how many flights were involved per airline can also easily be recognized and understood by colorblind people.

Resources: N/A

Insight 3
https://public.tableau.com/profile/raphael.von.lottner#!/vizhome/FlightsPerAirlineDashboard/Dashboard1?publish=yes

This visualization shows a grouping of all flights in terms of their arrival time. The flights were grouped as follows: All flights with an arrival time that were 30 and more minutes ahead of their scheduled arrival time are categorized as “Way too early”, while flights that were between 29 and 5 ahead of their scheduled arrival time are categorized as “Too early”. Further, all flights that were within a 10 minute time window of their scheduled arrival time (so at least 5 minutes late or early) were “Somewhat punctual”, all flights that were maximum 30 minutes late were “Late” and all flights that were more than 30 minutes late were categorized as “Way too late”.
As you can see, most flights (45,75%) were actually too early, while ~22% of flights were somewhat punctual. 18% of flights were late and almost 12% of flights were way too late, while 1,9% of flights were way too early.
The coloring of the bars in this visualization shows the average departure delay of these groups, where orange shows a negative average departure delay (started too early) and blue shows a positive departure delay, with grey being close to 0. As you can see there is a strong correlation between the average departure delay and the arrival delay, which should be somewhat expected.
But interestingly there seems to be a correlation between the distance and flight time of flights and their grouping into “Way too early”, which can be seen in the tooltips. It seems like especially long flights tend to arrive very early - this is somewhat counterintuitive.

Design: The ordered bar chart was chosen to easily show the distribution of flights according to their arrival group, ordered from highest to lowest. While the average departure delay could have also shown with the width of the single bars, I found it more compelling to show it with color (with colors suitable for colorblind people) to have a cleaner overall look.

Resources: N/A