For your final exam studying:

Tony Seba 2020 North Carolina presentation just over 1 hour

Future of Transportation / Keynote: 2020 NC DOT Transportation Summit

<https://youtu.be/y916mxoio0E>

This is an incredibly important piece toward understanding what disruptive change is and how it works. Some of this might seem to be overstated, and perhaps it is, I don’t know. My sense is that it is a bit overstated, at least. But what I can say is that the facts of history are on Tony Seba’s side. I would also confess to you that I felt when I first read the Grand Solar plan of 2008…that it was too optimistic about how fast the price of solar pv electricity might fall. But costs have fallen much faster than the authors envisioned.

Some areas of inquiry:

The point of horses to cars photos…in how many years?

What is a technology-based disruption?

Lesson of AT&T and cellphones…and what did AT&T miss out on. What two groups of people does Seba say often miss disruptive opportunities?

From your answer above, is it possible that some “very important people in US industries are about to miss out on disruptive opportunities?” (food for thought – we will come back to this later).

Illustrative of Seba’s prediction of peak auto is this graph…<https://www.statista.com/statistics/200002/international-car-sales-since-1990/>

What example does Seba give for converging exponential technologies? (you probably own one)

BIG ESSAY VERY LIKELY ON THIS ONE: Seba presents a long list a long list of technologies that he follows, and then a list of four technologies directly involved in transportation…What are the four sectors where Seba sees converging exponential technologies? Know the points he makes about each, and how these sectors are interconnected. (I illustrate what he says about the first one below to get you started)

1.first one is battery storage - record

growth in production capacity, and

percentage annual change in cost, and

how Tesla created market trauma in Australia,

natural gas peaker plants that produce electricity at peak demand times, and sell it for a premium – what are batteries doing in this sector…

what did GE get wrong about this – and what happened to its stock price consequently

Do something like this for each of the next three converging exponential technologies”\*

And where is the disruption in this story?

Cars: huge waste of \_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Who is “didi”

What is TaaS?

What is an AEV?

Why will the predictive graph at 53:45 happen, according to Seba?

TaaS disruption: a \_\_\_\_% decrease in carbon dioxide emissions is projected. How/why?

List other anticipated benefits:

Implications to oil industry: (58:40)

Implications for cities:

After you finish video- check to see if you have answers and/or descriptions for the following related topics – and if you don’t, it would be a good idea to trace back and find these items:

the distinction of individual vs fleet vehicles, and battery and EV cost curves – and the Amazon van example – why electric? And what is AI pushing forward in your list of 4 – and how…)

How would solar electricity play into all of the above? To facilitate it happening quickly. The cheaper solar gets, the cheaper it will be to power all the changing activities that he describes in this video.

\*the maintenance of EVs is not always as rosy as Seba describes, neither is the gasoline vs. electricity cost example of the Jeep widely applicable –and the earliest EVs had short life expectancy (though not so much now), and even if EVs end up cheaper it doesn’t mean that absolutely everyone will be them rather than gasmobiles, but stick with this, as the concepts he is presenting are valid and important. And remember, Seba is a futurist. He will not get everything right, or at the right time or magnitude, but what he says here is worth consideration…