Central Wasatch Commission
February 1, 2021 Rail Mode Education
Meeting Highlights

On February 1, 2021, the Central Wasatch Commission met with experts from the Stadler USA to discuss the rail mode laid out in both UDOT's Little Cottonwood Canyon EIS, and the CWC's Mountain Transportation System Draft Alternatives report. In discussing the capacity, reliability, frequency, accessibility, and impact of the rail alternative with Mike Allegra and Martin Ritter (operations experts with Stadler USA), and Newell Jensen with Jacobs, the following statements were made:

Pros of Rail System in LCC

Mike Allegra: "The key issues here – reliability, flexibility, certainly water quality is a key issue, visual impacts, we're able to run year-round throughout the day and you can adjust the demand, and we've discussed whistle stops, we can accommodate bikes and the disabled community. We believe it accommodates all the key issues in the canyon that the public has been asking for. It's safe, environmentally secure, it provides year-round public use, it's able to connect to the rest of the valley, you can easily expand and contract its cars to respond to the demand."

Alignments and Cost Background Info

Newell Jensen: "One of the advantages of a rail system in LCC is to seamlessly tie into the transit network in the valley. We wanted to make sure it was feasible to connect somewhere to the rail network. We looked at connecting along Wasatch Boulevard on Fort Union down to 7200 S. – that ends up adding a lot of additional alignment. We looked at going down towards 9400 S. There are a lot of challenges getting to the mouth of the canyon, but none of the options have fatal flaws. We also looked at the feasibility of having a connection from the Front Runner to the North South line. It provides the opportunity to collect patrons from across the entire region."

Newell Jensen: "There are a lot of potential alignments in the canyon. We're looking at the interactions between the cog rail and the highway, the interaction with avalanche paths. We even looked at an alignment that completely avoids avalanche paths but that ended up going into a Wilderness area. Going through the Snowbird village and into Alta, there are a number of options that we could explore. There are two options that we can focus one: north and south side of the highway."

Newell Jensen: "The north side alignment is single-track with passing sidings. The alignment runs immediately adjacent to the highway. The rail system can take a lot of the carrying capacity of the highway, so there's not as much need for the passing lanes on the highway."

Newell Jensen: "The souths side alignment runs immediately adjacent to the highway and continues on the south side until it get past the seven turns area at which point it veers off on the highway and skirts around the maybird avalanche path towards the mid-canyon avalanche paths. There's a possibility that there would be an avalanche shed in the White Pine area, otherwise this alignment remains relatively free of avalanche sheds."

Newell Jensen: "The northside alignment which has avalanche sheds, the civil costs end up being higher than the south side alignment that avoids the majority of the avalanche sheds. The cost estimate in UDOT's EIS was quite a bit higher – higher cost in snow sheds and soft costs were much higher."

Mike Allegra: "The southside alignment can carry a lot more people. We can get to 3,000 people an hour running 2-3 car trains at ten-minute headways. It avoids most of the avalanche paths."

Newell Jensen: "We have a high cost in the retaining walls – probably more retaining walls than UODT. Our cost for excavation went down as compared to UDOT. Overall it ended up being a less expensive project because we too advantage of some of the existing highway footprint."

Mike Allegra: "The difference between UDOT's estimate and ours. The roadway work that they want to do that we didn't feel was necessary is one of those cost drivers. They've added significant monies for avalanche sheds not only for rail but for the road as well. There's 40 percent overhead which is not typical."

Chair Robinson: "It seems to me that this mode is in a deep hole compared to other mode options for cost."
Mike Allegra: "Our 40 million dollars for snowsheds accommodate the train. Their 240 million for snowsheds is for the train and the road – longer and wider snowsheds."

Chair Robinson: "Would you stick with the northern alignment because there would have to be avalanche mitigation efforts on the road anyway and it doesn't have the downside of not being able to convert to electric absent batteries?"
Mike Allegra: "The advantage of the southside alignment is that it is independent of the road and if the road gets closed you still have an alternate way potentially of getting in and out of that canyon."

Lifecycle
Mike Allegra: "Lifecycle costs are the most important ingredient to study. Rail always comes out as the least expensive one."

Funding
Mike Allegra: "Opportunity to use fares. Opportunity to get private monies from the relationships that UTA has had with the ski resorts. There are growing private/public partnerships in the US that are maturing right now. The state of Utah just enacted legislation that allows that to happen."

Capacity
Martin Ritter: "On the south side we looked at a train every ten minutes, which equals to 6 trains per hour and we can easily have two trains coupled together and run together, which would equal 3,000 people/hour. That would add one siding track, which is relatively easy to accomplish."

Scalable
Commissioner Knopp: "All of this is scalable – we can add more trains and more double track as needed, it's scalable, it's also controllable. We put as many people up there as we can fit. It's the easiest was to control how many people go up there."

Transfers
Commissioner Houseman: "What would the transfers look like, regionally?"

Mike Allegra: "The system is designed to be able to run the train from the airport through downtown, all the way down 9400 South to the ski resorts. If the market is there, the system is designed to have a one-seat ride from any of those locations. That's based on market, demand, and use. It's inevitable that you'll have a transfer – they're typically cross-platform transfers. They're intended to be time-transfers to reduce the amount of time waiting."

Chair Robinson: "What are the significant advantages of having the same mode coming from the airport going all the way up the canyon?"

Martin Ritter: "It certainly will be more user friendly to have less transitions from one mode to the other."

Impact on homes
Commissioner Sondak: "Do the tracks run through homes? Are you running through the creek? What's the noise-level?"

Newell Jensen: "Running single track along the bypass road, we were able to squeeze it in without impacting any homes. It gets very close to the Powderbirds shack, and there may be some realignments for access to condo areas. Near the bridge over the creek, it snakes through those homes and behind the Peruvian lodge. There is a bridge crossing over the creek, but it doesn't require encasing the creek, it's a single bridge. "

Martin Ritter: "It's a much quieter train than the Frontrunner – it's comparable to the light rail at the TRAX station."

Commissioner Sondak: "So every ten minutes a train would go past some people's windows?"

Mike Allegra: "Yes, that would be the full build-out."

Climate Change
Commissioner Sondak: "You're talking about 50-100 years. What assumptions are you making about climate change and the longevity of skiing in this canyon?"
Mike Allegra: "Our assumption is that market is changing, and that the demand to get up there is not just from skiers. The advantage is that it runs year-round and throughout the day. It's usage is not designed just for the skier."

Watershed
Commissioner Peterson: "What's the impact on the watershed?"
Mike Allegra: "We know that the latest construction techniques are doing wonderful things in terms of not impacting water. Putting multiple people in one rail car is less impactful than people driving in cars. Reduction in cars really offsets the minimal impacts created by trains."

Laura Briefer: "The UDOT LCC EIS shows the rail alignment on the northside and they show quite a large footprint of cut and fill – it essentially expands the corridor. What's the difference between the northside alignment and UDOT's alignment because the UDOT alignment showed a significant construction footprint on the northside."
Newell Jensen: "We started at the south shoulder of the highway and then allowed for two shoulders and two traffic lanes and that's where we put the edge of our rail line. So we pushed the rail alignment as close as possible to concentrate the corridor. The philosophy is that the rail could accommodate the majority of the people, the volume of private vehicles would go down. We focused the footprint of the existing corridor on the rail. UDOT's alignment keeps rail from touching the highway in order to maintain the existing roadway capacity."

Wasatch Boulevard
Commissioner Peterson: "What's the impact on Wasatch Boulevard? How does the train cross Wasatch? Is the 1,500-stall parking area sufficient?"

Mike Allegra: "The northside alignment would have a pedestrian underpass. The southside would not have that issue. Wherever you put a parking lot, you're going to generate traffic. Our goal is to ultimately get people on a mode that does not require people to drive."

Parking
Chair Robinson: "UDOT talks about 1500 parking stalls at la Caille and 600 at the UTA gravel pit and 400 at the 9400 S park and ride. Does your plan contemplate any improvements at those other two park and rides and any mode of connecting BCC park and ride to this?"
Mike Allegra: "

Train speed
Mike Allegra: "The slowest one is the northside of the road – the diesel train. 19 minutes from the La Caille lot to Snowbird, and another six minutes to Alta. If you straighten out some of the curves, you'll improve upon that and make it go faster. The top speed is the speed of the road. The slowest speed is when the train is going downhill when the vehicle is in cog mode. That's average speed 30mph. Half the canyon requires a cog and half of LCC does not. Those calculations are I the UDOT report."

Whistle Stops
Chair Robinson: "What's the possibility of whistle stops?"
Mike Allegra: "At this stage of the design, you're going to ask to improve upon that speed. If you electrify the train, the acceleration and deceleration rates are quicker, and you'll gain travel time. Whistle stops do affect schedule though. So we would have to consider that in the final design stage to figure out how many we could do."

Martin Ritter: “The whistle stops may be limited during peak times, whereas during the off-season times like the summer there would be higher possibility for whistle stops.”

Avalanches

Chair Robinson: “What happens if you have an avalanche that crosses the rail track?”
Newell Jensen: “Without a catenary, then it hits the road. You clean it and resume operations. With a catenary, the poles would have to be hardened, as well as the connections to the wires. It would not withstand significant avalanche impact. Where this alignment goes, except for under white pine chutes and white pine, it goes through a 50–75-year return interval area.”