**MINUTES OF THE CENTRAL WASATCH COMMISSION BOARD EDUCATION SESSION (AERIAL) HELD THURSDAY, FEBRUARY 11, 2021, AT 10:00 A.M. THE MEETING WAS CONDUCTED ELECTRONICALLY WITHOUT A PHYSICAL LOCATION, AS AUTHORIZED BY THE GOVERNOR’S EXECUTIVE ORDER DATED MARCH 18, 2020.**

**Present:** ChairChristopher Robinson, Mayor Harris Sondak, Mayor Dan Knopp, Mayor Mike Peterson, Mayor Jeff Silvestrini, Mayor Erin Mendenhall, Mayor Jenny Wilson, Councilor Jim Bradley, Councilor Marci Houseman, Councilor Max Doilney, Ex Officio Member Carlton Christensen

**Staff:** CWC Executive Director Ralph Becker, CWC Deputy Director Blake Perez, CWC Communications Director Lindsey Nielsen, Office Administrator Kaye Mickelson

**Presenters:** Shawn Marquardt, Katharina Schmitz - Doppelmayr, Chris Cushing – SE Group

**Others:** Dave Fields, Ellen Birrell, Glenn Eurick, Roger Borgencht, Will McCarvill, Ed \_\_\_\_\_, Tara Tannahill, Mimi Leavitt, Chris Putt, Catherine Kanter, Caroline Rodriguez, Chris McCandless, Don Despain, Bob Kollar, Tom Diegel, Robert Sampson, Dennis Goreham, Randy Doyle, Robert Myers, Zach Gardner, Bart Reuling, Laura Briefer, Katie \_\_\_\_\_, Steve Van Maren, Colby Hartman, Alex Schmidt, Angela Lee, Carl Fisher, James Hicks, James Dorsie, Lorie Fowlke, Lynn Carol, Jason Mentz, Jolin Slintak, Lynn Pace, Micki \_\_\_\_\_, Mike Johnson, Nathan Rafferty, Patrick Nelson, Tom Ward, Barbara Cameron, Brian Hutchinson, Helen Peters, Megan Nelson, Robert Grow, Pat Shea

**OPENING**

1. **Commissioner Christopher F. Robinson will Conduct the Meeting as Chair of the Board (t*he “Board”*) of the Central Wasatch Commission (“CWC”).**

Chair Christopher Robinson called the meeting to order at 10:00 a.m.

1. **The Chair will Read the Chair’s Written Determination Regarding an Electronic Meeting Anchor Location for this Meeting Pursuant to Utah Code Ann. 52-4-207(4).**

The Legislature, pursuant to Section 52-4-207(4), required the Board to make a determination, which was as follows:

‘I, as the Chair of the Board of the Central Wasatch Commission hereby determine that conducting council meetings at any time during the next 30 days at an anchor location presents a substantial risk to the health and safety of those who may be present at the anchor location. The World Health Organization, the President of the United States, the Governor of Utah, the Salt Lake County Mayor, and the Health Department have all recognized that a global pandemic exists related to the new strain of the Coronavirus, SARS-CoV-2. Due to the state of emergency caused by the global pandemic, I find that conducting a meeting at an anchor location under the current state of public health emergency constitutes a substantial risk to the health and safety of those who may be present at the location. According to the information and from State epidemiology experts, Utah is currently in an acceleration phase, which has the potential to overwhelm the State’s health care system.’

1. **Recap of February 1 CWC Board Meeting and Goals of the MTS Process.**

Chair Robinson overviewed the Mountain Transportation System (“MTS”) process with the Central Wasatch Commission (“CWC”) Board. He reported that the first month of the year was spent discussing the key values and evaluation matrix. Since then, there had been educational seminars on enhanced bus and cog rail transportation options. The current meeting is dedicated to the aerial gondola option and would complete the mode education sessions. Chair Robinson reported that the goal was to gain a deeper understanding of the aerial gondola modes and alternatives, operations, and tradeoffs, for the Commissioners to reach a consensus decision on the MTS by early April 2021.

**MOUNTAIN TRANSPORTATION SYSTEM AERIAL GONDOLA INFORMATION SESSION**

1. **CWC Board will have Open Discussion with Representatives from SE Group and Doppelmayr Regarding Information and Tradeoffs of Aerial Gondola Service to Serve in a Regional Mountain Transportation System.**

Chair Robinson welcomed Chris Cushing from SE Group and Shawn Marquardt from Doppelmayr. Mr. Cushing stated that a slide deck of information had been prepared. It would provide a basic understanding of the attributes of an aerial transportation system. Doppelmayr USA President, Katharina Schmitz was also present at the meeting. She was grateful for the opportunity to present information to the CWC Board and looked forward to answering questions following the aerial gondola presentation.

Mr. Marquardt overviewed the topics that would be discussed during the presentation:

* Introduction to Doppelmayr and aerial systems in general.
* Discuss aerial ropeway transportation as a solution for Little Cottonwood Canyon.
* Preliminary Little Cottonwood Canyon 3S specifications; and
* Question and answer session.

Mr. Marquardt reported that Doppelmayr is part of the global Doppelmayr/Garaventa Group. The group was formed in 2002 but Doppelmayr itself was founded in 1893. Mr. Marquardt reported that the majority of Doppelmayr USA employees are based out of Utah. Mountain and winter sports are the core business; however, over the last several years, ropeways have become more accepted as urban transportation solutions. The Little Cottonwood Canyon Project will be an interesting hybrid of both winter transportation and mass transit. Mr. Marquardt stated that there are approximately 3,081 Doppelmayr employees worldwide with approximately 215 based in the USA. Doppelmayr was responsible for more than 15,000 ropeway installations worldwide with 103 systems in Utah. Mr. Marquardt added that the Snowbird tram turns 50 years old this year. He commented that a new system built with modern technology would have the same kind of longevity.

The monocable gondola was discussed. Mr. Marquardt reported that this type of gondola has smaller cabins that carry 8 to 10 passengers. Monocable gondolas have one cable that does all the work. It not only moves the cabins but provides the structure and supports the load of the cabins as they rotate around the system. Due to the length, capacity needs, and ride time associated with a monocable gondola, it was not the preferred solution for Little Cottonwood Canyon.

The 3S gondola or tricable gondola was discussed. Mr. Marquardt reported that this system has six track ropes that the carriage rolls along as well as one moving haul rope that propels the carriage and the cabin along the track. He noted that the 3S system is continually circulating. The larger cabins can hold between 32 and 35 passengers. Additionally, the 3S system can be scaled by varying the number of cabins on the line each day. The support track ropes allow for much longer spans, which means that there will be fewer towers. The towers can be placed in safe zones and cross over avalanche paths. Mr. Marquardt stated that the track ropes provide high wind stability as well. The systems can sustain winds greater than 60 miles per hour and reach a high speed of approximately 19 miles per hour.

Mr. Marquardt discussed a typical 3S gondola station. He reported that the station has a level walk-in floor so the passenger platform would meet up seamlessly with the cabin floor. There are also wide door openings to allow passengers to move freely in and out. If the cabins were spaced out to pass every 30 seconds, there would be a capacity of approximately 4,000 passengers per hour. Mr. Marquardt noted that the number of cabins could be scaled down as desired. He commented that the continuous circulation would eliminate typical wait times associated with mass transit and provide an even distribution of passengers. The 3S gondola was also configurable for material handling, which could remove some of the delivery trucks from the highway.

The towers and tracks were discussed. Mr. Marquardt reported that there would be a small amount of ground disturbance and fast construction times. He added that forest clearing would not be needed underneath the ropeway. The system would also operate independent of the existing roadway and no roadway improvements would be required. Mr. Marquardt commented that the proximity to the roadway would provide easy maintenance across to tower sites. He shared images of possible cabin configurations. The 3S cabins have continuous power, which means there could be lighting, WiFi, window defrost, seat heating, audio/visual options, and communication system options. Mr. Marquardt commented that the gondola system offered both comfort and stability.

Mr. Marquardt overviewed the operations and maintenance and reported that there would need to be technical staff to oversee the operations and guarantee reliability. All the preventative work would be carried out during nightly shutdowns or periodically throughout the year. He discussed what would happen in the event of an emergency. Mr. Marquardt reported that rescue systems guaranteed that all cabins could be brought safely back into the station. He shared slide images of a recently completed 3S gondola in Grindelwald, Switzerland, called the Eiger Express.

Sustainability issues were discussed. It was noted that the gondola system would have minimal watershed impact and a small ground disturbance. In the Doppelmayr preliminary drawings, there were only 14 towers between the Park and Ride lot and Snowbird. Mr. Marquardt reported that modern technology and equipment eliminated issues like grease drips coming from the towers. Wildlife was also able to cross safety below. The gondola systems were driven by central electric high-efficiency drive, so all power would come directly from the grid. Mr. Marquardt also stated that there is no noise along the line and minimal noise at the drive stations. He added that a gondola system could improve air quality thanks to reduced carbon dioxide emissions.

Mr. Marquardt shared slides related to a lifetime emissions study. For a system that operates nearly 356 days per year, 17 hours per day, for a 30-year span, the system would contribute 48.2 tons of carbon dioxide to the environment. This is significantly less than other conventional transportation modes.

In terms of transportation cost comparisons, a ropeway is generally comparable to adding bus service between two points. It is approximately 55% of the cost of light rail or 15% of the cost of a subway system. Mr. Marquardt commended the Utah Department of Transportation (“UDOT”) on their Little Cottonwood Canyon Environmental Impact Statement (“EIS”) Addendum Report from November 11, 2020. He believed the report was thorough and in line with industry norms.

Mr. Marquardt reported that the UDOT estimate was between $398 million and $478 million for the LaCaille Gondola option. That option would include the resort interface for terminal stations, parking, and enhanced bus service. The gondola equipment itself would cost an estimated $219 million to accommodate 1,500 passengers per hour. Mr. Marquardt reported that the Doppelmayr 3S ropeway equipment estimate was less than the UDOT estimate for 1,500 passengers per hour. If the system were built out with enough cabins and infrastructure to achieve 4,000 passengers per hour, the equipment costs would be approximately in line with the UDOT estimate.

Some preliminary technical specifications for a Little Cottonwood Canyon gondola were shared. Mr. Marquardt reported that there would be a connection between LaCaille and the Park and Ride lot. Then there would be a long, straight section between the Park and Ride lot and Tanners Flat, followed by an angle station and another long, straight section between Tanners Flat and Snowbird. The gondola would then move over to Alta. There would be 14 towers between the mouth of Little Cottonwood Canyon and Snowbird, two towers from LaCaille to the mouth of the canyon, and two towers from Snowbird to Alta. Preliminary drawings were shared with the CWC Board.

Chair Robinson read questions from the Zoom chat box. Brian Hutchinson asked about the number of parking spaces in the Swiss and German gondola locations. Mr. Marquardt believed there were approximately 1,500 parking spaces in the previously discussed Eiger Express location. There was discussion regarding cabin storage. Mr. Marquardt noted that cabin parking would be dispersed throughout the ropeway to optimize operations.

Carl Fisher wondered how a gondola system would reduce vehicles in Little Cottonwood Canyon when the mode would only provide access to the ski resorts. Mr. Marquardt responded that people would use the gondola system to head to the resorts. This will open the roadways for dispersed users. He believed the system would eliminate the vast majority of cars from the roadway and used to reach key recreation zones.

Mr. Hutchinson asked about the number of turns. Mr. Cushing reported that there would be a turn at three intermediate stations. The alignment would run from the LaCaille Station to the Park and Ride at the mouth of the canyon. It would then go into a second station. At that station, the alignment would turn slightly and continue up the canyon to the Tanners Flat Station. The alignment would turn slightly again up to the Snowbird station and then turn a third time and continue to Alta. Chair Robinson wondered whether passengers could board and deboard at those locations. Mr. Cushing stated that it was an option. However, based on the current UDOT Little Cottonwood Canyon EIS, the doors would not open and close at Tanners Flat. They would open at each end of the alignment and at Snowbird.

Mr. Marquardt added that anything was possible at this stage of planning. He noted that there could be passenger platforms for loading and unloading at Tanners Flat. The service could also be seasonal. Mr. Marquardt reported that the gondola system moves at a speed of approximately 19 miles per hour out on the rope. In the stations, the cabins decelerated down to less than one mile per hour. The system could be configured to slow down enough to be a passenger handling station or they could slow down just enough to make the turn. Chair Robinson asked if additional stops would drastically increase travel time. Mr. Cushing reported that every time a station is added, it adds approximately one minute to the total travel time.

There was discussion regarding the cost to revenue ratio. Mr. Marquardt noted that the gondola system is a transportation mode that passengers will be excited to use, as compared to other forms of transportation, such as a bus. He believed the costs that UDOT established seemed reasonable. A question was read from the Zoom chat box related to the total travel time from LaCaille to Alta. It was reported that the estimated time would be 36 minutes.

Dennis Goreham asked about the height of the tallest tower. Mr. Marquardt explained that everything in the presentation was based on feasibility. The specifics could change during the final design phase. However, the maximum tower height is 80 meters. He noted that the majority of the tower placements will be on the north side of the roadway between the mouth of the canyon and Tanners Flat. From Tanners Flat, they will be on the south side of the highway and lower down in the canyon. Mr. Cushing commented that the UDOT Little Cottonwood Canyon EIS contained a study that looked at avalanche slide paths and the impact on a potential aerial system. The tallest towers were 80 meters to keep the cabin path above any slide paths and to protect the cabins from powder blasts.

Mayor Harris Sondak believed that cabins with 30 or more passengers would take longer than 30 seconds to load. Dave Fields commented that he shared a video of a 3S system in Austria that showed the speed of passenger loading. Chair Robinson suggested that Mr. Fields send the video to CWC Deputy Director, Blake Perez so it could be distributed. Mayor Sondak wondered if the alignment map could be looked at again. Mr. Marquardt shared a profile view and a plan view photo with the CWC Board. There was discussion regarding potential locations for a station in Alta. Mr. Cushing noted that there were a few different options to consider.

Mayor Dan Knopp asked about construction roads. Mr. Marquardt explained that there will be construction roads into each tower site. After the system is in place, a determination will be made as to whether the roads will be kept. Mayor Knopp also asked if there was a need to change cars at each station. Mr. Marquardt commented that it would be a one-seat ride from LaCaille to Alta. Mayor Knopp wondered about the enhanced bus. Mr. Marquardt noted that the UDOT assessment coupled enhanced bus with the aerial mode. Chair Robinson believed the enhanced bus had to do with local buses within the canyon. Mayor Knopp asked about the total number of cabins on the line. It was noted that the maximum number of cars needed to maintain the 30-second intervals was approximately 130.

There was discussion regarding the length of the proposed gondola system. Mr. Marquardt reported that the longest 3S system in the world is located in Vietnam and is approximately 7km in length. The proposed Little Cottonwood Canyon system will be approximately 15km in length. Chair Robinson wondered if there was any additional risk in having the longest gondola system. Mr. Marquardt clarified that no single section is longer than something that has already been built. It could be thought of as four independent systems that were coupled together to provide a single-seat ride.

Mayor Knopp wondered about the greatest challenge of the project. Ms. Schmitz commented that the greatest challenges pertain to the actual prep work as well as community support. She understood that there were strong opinions related to transportation but believed the gondola system would be a beneficial solution for mountainous terrain. It would work as a hybrid between mass transportation and mountain access. Mayor Knopp asked how the cabins will be lit at night. He expressed concern that there will be light impacts. Ms. Schmitz explained that there are many different light options. Indirect lighting involves LED lights along the floor of the cabin. This would provide light for those inside but would minimize light impacts along the line. There were also other types of lighting available, such as ceiling lights.

Mayor Jenny Wilson felt it was important to consider CWC goals in these discussions. She felt the presentation was informative but expressed concerns about the additional visitors a gondola system could bring to the canyon. Mayor Mike Peterson wondered what the unintended consequences will be on Wasatch Boulevard. He also wondered if the LaCaille Base Station can handle all of the additional traffic from visitors.

Councilor Marci Houseman believed it was important to move people instead of cars. She wondered what the resort partnership would look like. Mr. Fields reported that the resorts are committed to finding a long-term transportation solution. He noted that many Snowbird pass holders and employees will be willing to ride mass transit if there is more seating available. A transportation solution like a gondola would be heavily used by both pass holders and employees due to the added convenience. Mr. Fields reported that during heavy snow or road closures, cars had to wait before moving up or down the canyon. With a gondola system in place, the canyon could be closed to vehicles entirely during extreme weather conditions. The gondola system would still be able to move people up and down the canyon.

Mr. Fields added that the resorts do not believe an infinite number of skiers can be accommodated. He noted that the gondola system could control the number of visitors with the number of cabins. Mr. Marquardt commented that an aerial system was designed to accommodate peak load. That did not necessarily mean that 4,000 people would be brought up the canyon every hour of the day. He reported that the gondola could be used as a metering system. It could be tailored to deliver an appropriate number of visitors to the canyons.

Mayor Sondak noted that Mike Maughan from Alta Ski Area suggested that he may not continue to pay for bus tickets with season passes. Mayor Sondak wondered if Mr. Fields would want to stop paying for transportation fares for employees and pass holders in the future. Mr. Fields hoped that the operating costs would be less for a gondola than for buses running up and down the canyon. However, he believed the ski resorts were committed to contributing.

Mayor Jeff Silvestrini wondered if the gondola will go over existing structures from Snowbird to Alta. Mr. Cushing reported that the alignment of the gondola from the Snowbird station was on the bypass road near The Cliff Lodge. It would then terminate in or around the Alta Lodge or Rustler Lodge. He believed there would 300 yards or more from the gondola alignment to the nearest home. The alignment would also be in the air. The cabins may be visible but visibility from the cabins into units would not be an issue. Catherine Kanter asked about the height of the towers between the mouth of the canyon and the LaCaille Base Station. Mr. Marquardt reported that there is an 80-meter tower and a 72-meter tower between the mouth of the canyon and the LaCaille Base Station.

Ms. Kanter asked about snow sheds. She noted that the UDOT Little Cottonwood Canyon EIS includes snow sheds with all of the transportation alternatives. Mr. Marquardt explained that UDOT included snow sheds as an improvement to the roadway. Those improvements were independent of the needs of an aerial system. Snow sheds would not be required for a ropeway to operate safely and effectively. Mr. Cushing believed that UDOT had focused on a combined solution. The gondola system included in the UDOT Little Cottonwood Canyon EIS had a very low hourly capacity of 1,000 people per hour. Their vision was that the traffic in the canyon would remain the same and any additional use over the next several years would balance out with another transportation system. Chair Robinson commented that the UDOT Little Cottonwood Canyon EIS would remove 1,500 people from the road per hour, which was approximately 30%. The remaining 70% would still be on the road. As a result, the snow sheds would be needed.

Chair Robinson thanked Mr. Cushing, Mr. Marquardt, and Ms. Schmitz for their presentation. He asked CWC Staff to address the remaining questions in the Zoom chat box via email.

**PUBLIC COMMENT**

There were no public comments.

**COMMISSIONER COMMENT**

There were no Commissioner comments.

**ADJOURNMENT**

**MOTION:** Mayor Knopp moved to adjourn. Mayor Mendenhall seconded the motion. The motion passed with the unanimous consent of the Committee.

The Central Wasatch Commission Board Education Session adjourned at 11:30 a.m.

***I hereby certify that the foregoing represents a true, accurate, and complete record of the Central Wasatch Commission Board Education Session held Thursday, February 11, 2021.***

Teri Forbes

Teri Forbes

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Minutes Secretary

Minutes Approved: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_