

1 **MINUTES OF THE CENTRAL WASATCH COMMISSION BOARD EDUCATION**  
2 **SESSION (AERIAL) HELD THURSDAY, FEBRUARY 11, 2021, AT 10:00 A.M. THE**  
3 **MEETING WAS CONDUCTED ELECTRONICALLY WITHOUT A PHYSICAL**  
4 **LOCATION, AS AUTHORIZED BY THE GOVERNOR’S EXECUTIVE ORDER DATED**  
5 **MARCH 18, 2020.**  
6

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

11  
12 **Staff:** CWC Executive Director Ralph Becker, CWC Deputy Director Blake Perez, CWC  
13 Communications Director Lindsey Nielsen, Office Administrator Kaye Mickelson  
14

15 **Presenters:** Shawn Marquardt, Katharina Schmitz - Doppelmayr, Chris Cushing – SE Group  
16

17 **Others:** Dave Fields, Ellen Birrell, Glenn Eurick, Roger Borgencht, Will McCarvill, Ed  
18 [REDACTED], Tara Tannahill, Mimi Leavitt, Chris Putt, Catherine Kanter, Caroline  
19 Rodriguez, Chris McCandless, Don Despain, Bob Kollar, Tom Diegel, Robert  
20 Sampson, Dennis Goreham, Randy Doyle, Robert Myers, Zach Gardner, Bart  
21 Reuling, Laura Briefer, Katie [REDACTED], Steve Van Maren, Colby Hartman, Alex  
22 Schmidt, Angela Lee, Carl Fisher, James Hicks, James Dorsie, Lorie Fowlke, Lynn  
23 Carol, Jason Mentz, Jolin Slintak, Lynn Pace, Micki [REDACTED], Mike Johnson, Nathan  
24 Rafferty, Patrick Nelson, Tom Ward, Barbara Cameron, Brian Hutchinson, Helen  
25 Peters, Megan Nelson, Robert Grow, Pat Shea  
26

27 **OPENING**  
28

29 **1. Commissioner Christopher F. Robinson will Conduct the Meeting as Chair of the**  
30 **Board (the “Board”) of the Central Wasatch Commission (“CWC”).**  
31

32 Chair Christopher Robinson called the meeting to order at 10:00 a.m.  
33

34 **2. The Chair will Read the Chair’s Written Determination Regarding an Electronic**  
35 **Meeting Anchor Location for this Meeting Pursuant to Utah Code Ann. 52-4-207(4).**  
36

37 The Legislature, pursuant to Section 52-4-207(4), required the Board to make a determination,  
38 which was as follows:  
39

40 ‘I, as the Chair of the Board of the Central Wasatch Commission hereby  
41 determine that conducting council meetings at any time during the next 30 days  
42 at an anchor location presents a substantial risk to the health and safety of those  
43 who may be present at the anchor location. The World Health Organization, the  
44 President of the United States, the Governor of Utah, the Salt Lake County  
45 Mayor, and the Health Department have all recognized that a global pandemic  
46 exists related to the new strain of the Coronavirus, SARS-CoV-2. Due to the

1 state of emergency caused by the global pandemic, I find that conducting a  
2 meeting at an anchor location under the current state of public health emergency  
3 constitutes a substantial risk to the health and safety of those who may be present  
4 at the location. According to the information and from State epidemiology  
5 experts, Utah is currently in an acceleration phase, which has the potential to  
6 overwhelm the State’s health care system.’  
7

8 **3. Recap of February 1 CWC Board Meeting and Goals of the MTS Process.**  
9

10 Chair Robinson overviewed the Mountain Transportation System (“MTS”) process with the  
11 Central Wasatch Commission (“CWC”) Board. He reported that the first month of the year was  
12 spent discussing the key values and evaluation matrix. Since then, there had been educational  
13 seminars on enhanced bus and cog rail transportation options. The current meeting is dedicated to  
14 the aerial gondola option and would complete the mode education sessions. Chair Robinson  
15 reported that the goal was to gain a deeper understanding of the aerial gondola modes and  
16 alternatives, operations, and tradeoffs, for the Commissioners to reach a consensus decision on the  
17 MTS by early April 2021.  
18

19 **MOUNTAIN TRANSPORTATION SYSTEM AERIAL GONDOLA INFORMATION**  
20 **SESSION**  
21

22 **1. CWC Board will have Open Discussion with Representatives from SE Group and**  
23 **Doppelmayr Regarding Information and Tradeoffs of Aerial Gondola Service to**  
24 **Serve in a Regional Mountain Transportation System.**  
25

26 Chair Robinson welcomed Chris Cushing from SE Group and Shawn Marquardt from  
27 Doppelmayr. Mr. Cushing stated that a slide deck of information had been prepared. It would  
28 provide a basic understanding of the attributes of an aerial transportation system. Doppelmayr  
29 USA President, Katharina Schmitz was also present at the meeting. She was grateful for the  
30 opportunity to present information to the CWC Board and looked forward to answering questions  
31 following the aerial gondola presentation.  
32

33 Mr. Marquardt overviewed the topics that would be discussed during the presentation:  
34

- 35 • Introduction to Doppelmayr and aerial systems in general.
- 36 • Discuss aerial ropeway transportation as a solution for Little Cottonwood Canyon.
- 37 • Preliminary Little Cottonwood Canyon 3S specifications; and
- 38 • Question and answer session.  
39

40 Mr. Marquardt reported that Doppelmayr is part of the global Doppelmayr/Garaventa Group. The  
41 group was formed in 2002 but Doppelmayr itself was founded in 1893. Mr. Marquardt reported  
42 that the majority of Doppelmayr USA employees are based out of Utah. Mountain and winter  
43 sports are the core business; however, over the last several years, ropeways have become more  
44 accepted as urban transportation solutions. The Little Cottonwood Canyon Project will be an  
45 interesting hybrid of both winter transportation and mass transit. Mr. Marquardt stated that there

1 are approximately 3,081 Doppelmayr employees worldwide with approximately 215 based in the  
2 USA. Doppelmayr was responsible for more than 15,000 ropeway installations worldwide with  
3 103 systems in Utah. Mr. Marquardt added that the Snowbird tram turns 50 years old this year.  
4 He commented that a new system built with modern technology would have the same kind of  
5 longevity.

6  
7 The monocable gondola was discussed. Mr. Marquardt reported that this type of gondola has  
8 smaller cabins that carry 8 to 10 passengers. Monocable gondolas have one cable that does all the  
9 work. It not only moves the cabins but provides the structure and supports the load of the cabins  
10 as they rotate around the system. Due to the length, capacity needs, and ride time associated with  
11 a monocable gondola, it was not the preferred solution for Little Cottonwood Canyon.

12  
13 The 3S gondola or tricable gondola was discussed. Mr. Marquardt reported that this system has  
14 six track ropes that the carriage rolls along as well as one moving haul rope that propels the carriage  
15 and the cabin along the track. He noted that the 3S system is continually circulating. The larger  
16 cabins can hold between 32 and 35 passengers. Additionally, the 3S system can be scaled by  
17 varying the number of cabins on the line each day. The support track ropes allow for much longer  
18 spans, which means that there will be fewer towers. The towers can be placed in safe zones and  
19 cross over avalanche paths. Mr. Marquardt stated that the track ropes provide high wind stability  
20 as well. The systems can sustain winds greater than 60 miles per hour and reach a high speed of  
21 approximately 19 miles per hour.

22  
23 Mr. Marquardt discussed a typical 3S gondola station. He reported that the station has a level  
24 walk-in floor so the passenger platform would meet up seamlessly with the cabin floor. There are  
25 also wide door openings to allow passengers to move freely in and out. If the cabins were spaced  
26 out to pass every 30 seconds, there would be a capacity of approximately 4,000 passengers per  
27 hour. Mr. Marquardt noted that the number of cabins could be scaled down as desired. He  
28 commented that the continuous circulation would eliminate typical wait times associated with  
29 mass transit and provide an even distribution of passengers. The 3S gondola was also configurable  
30 for material handling, which could remove some of the delivery trucks from the highway.

31  
32 The towers and tracks were discussed. Mr. Marquardt reported that there would be a small amount  
33 of ground disturbance and fast construction times. He added that forest clearing would not be  
34 needed underneath the ropeway. The system would also operate independent of the existing  
35 roadway and no roadway improvements would be required. Mr. Marquardt commented that the  
36 proximity to the roadway would provide easy maintenance access to tower sites. He shared images  
37 of possible cabin configurations. The 3S cabins have continuous power, which means there could  
38 be lighting, WiFi, window defrost, seat heating, audio/visual options, and communication system  
39 options. Mr. Marquardt commented that the gondola system offered both comfort and stability.

40  
41 Mr. Marquardt overviewed the operations and maintenance and reported that there would need to  
42 be technical staff to oversee the operations and guarantee reliability. All the preventative work  
43 would be carried out during nightly shutdowns or periodically throughout the year. He discussed  
44 what would happen in the event of an emergency. Mr. Marquardt reported that rescue systems  
45 guaranteed that all cabins could be brought safely back into the station. He shared slide images of  
46 a recently completed 3S gondola in Grindelwald, Switzerland, called the Eiger Express.

1  
2 Sustainability issues were discussed. It was noted that the gondola system would have minimal  
3 watershed impact and a small ground disturbance. In the Doppelmayr preliminary drawings, there  
4 were only 14 towers between the Park and Ride lot and Snowbird. Mr. Marquardt reported that  
5 modern technology and equipment eliminated issues like grease drips coming from the towers.  
6 Wildlife was also able to cross safely below. The gondola systems were driven by central electric  
7 high-efficiency drive, so all power would come directly from the grid. Mr. Marquardt also stated  
8 that there is no noise along the line and minimal noise at the drive stations. He added that a gondola  
9 system could improve air quality thanks to reduced carbon dioxide emissions.

10  
11 Mr. Marquardt shared slides related to a lifetime emissions study. For a system that operates nearly  
12 356 days per year, 17 hours per day, for a 30-year span, the system would contribute 48.2 tons of  
13 carbon dioxide to the environment. This is significantly less than other conventional transportation  
14 modes.

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

21  
22 Mr. Marquardt reported that the UDOT estimate was between \$398 million and \$478 million for  
23 the LaCaille Gondola option. That option would include the resort interface for terminal stations,  
24 parking, and enhanced bus service. The gondola equipment itself would cost an estimated \$219  
25 million to accommodate 1,500 passengers per hour. Mr. Marquardt reported that the Doppelmayr  
26 3S ropeway equipment estimate was less than the UDOT estimate for 1,500 passengers per hour.  
27 If the system were built out with enough cabins and infrastructure to achieve 4,000 passengers per  
28 hour, the equipment costs would be approximately in line with the UDOT estimate.

29  
30 Some preliminary technical specifications for a Little Cottonwood Canyon gondola were shared.  
31 Mr. Marquardt reported that there would be a connection between LaCaille and the Park and Ride  
32 lot. Then there would be a long, straight section between the Park and Ride lot and Tanners Flat,  
33 followed by an angle station and another long, straight section between Tanners Flat and Snowbird.  
34 The gondola would then move over to Alta. There would be 14 towers between the mouth of Little  
35 Cottonwood Canyon and Snowbird, two towers from LaCaille to the mouth of the canyon, and  
36 two towers from Snowbird to Alta. Preliminary drawings were shared with the CWC Board.

37  
38 Chair Robinson read questions from the Zoom chat box. Brian Hutchinson asked about the number  
39 of parking spaces in the Swiss and German gondola locations. Mr. Marquardt believed there were  
40 approximately 1,500 parking spaces in the previously discussed Eiger Express location. There  
41 was discussion regarding cabin storage. Mr. Marquardt noted that cabin parking would be  
42 dispersed throughout the ropeway to optimize operations.

43  
44 Carl Fisher wondered how a gondola system would reduce vehicles in Little Cottonwood Canyon  
45 when the mode would only provide access to the ski resorts. Mr. Marquardt responded that people  
46 would use the gondola system to head to the resorts. This will open the roadways for dispersed

1 users. He believed the system would eliminate the vast majority of cars from the roadway and  
2 used to reach key recreation zones.

3  
4 Mr. Hutchinson asked about the number of turns. Mr. Cushing reported that there would be a turn  
5 at three intermediate stations. The alignment would run from the LaCaille Station to the Park and  
6 Ride at the mouth of the canyon. It would then go into a second station. At that station, the  
7 alignment would turn slightly and continue up the canyon to the Tanners Flat Station. The  
8 alignment would turn slightly again up to the Snowbird station and then turn a third time and  
9 continue to Alta. Chair Robinson wondered whether passengers could board and disembark at those  
10 locations. Mr. Cushing stated that it was an option. However, based on the current UDOT Little  
11 Cottonwood Canyon EIS, the doors would not open and close at Tanners Flat. They would open  
12 at each end of the alignment and at Snowbird.

13  
14 Mr. Marquardt added that anything was possible at this stage of planning. He noted that there  
15 could be passenger platforms for loading and unloading at Tanners Flat. The service could also  
16 be seasonal. Mr. Marquardt reported that the gondola system moves at a speed of approximately  
17 19 miles per hour out on the rope. In the stations, the cabins decelerated down to less than one  
18 mile per hour. The system could be configured to slow down enough to be a passenger handling  
19 station or they could slow down just enough to make the turn. Chair Robinson asked if additional  
20 stops would drastically increase travel time. Mr. Cushing reported that every time a station is  
21 added, it adds approximately one minute to the total travel time.

22  
23 There was discussion regarding the cost to revenue ratio. Mr. Marquardt noted that the gondola  
24 system is a transportation mode that passengers will be excited to use, as compared to other forms  
25 of transportation, such as a bus. He believed the costs that UDOT established seemed reasonable.  
26 A question was read from the Zoom chat box related to the total travel time from LaCaille to Alta.  
27 It was reported that the estimated time would be 36 minutes.

28  
29 Dennis Goreham asked about the height of the tallest tower. Mr. Marquardt explained that  
30 everything in the presentation was based on feasibility. The specifics could change during the  
31 final design phase. However, the maximum tower height is 80 meters. He noted that the majority  
32 of the tower placements will be on the north side of the roadway between the mouth of the canyon  
33 and Tanners Flat. From Tanners Flat, they will be on the south side of the highway and lower  
34 down in the canyon. Mr. Cushing commented that the UDOT Little Cottonwood Canyon EIS  
35 contained a study that looked at avalanche slide paths and the impact on a potential aerial system.  
36 The tallest towers were 80 meters to keep the cabin path above any slide paths and to protect the  
37 cabins from powder blasts.

38  
39 Mayor Harris Sondak believed that cabins with 30 or more passengers would take longer than 30  
40 seconds to load. Dave Fields commented that he shared a video of a 3S system in Austria that  
41 showed the speed of passenger loading. Chair Robinson suggested that Mr. Fields send the video  
42 to CWC Deputy Director, Blake Perez so it could be distributed. Mayor Sondak wondered if the  
43 alignment map could be looked at again. Mr. Marquardt shared a profile view and a plan view  
44 photo with the CWC Board. There was discussion regarding potential locations for a station in  
45 Alta. Mr. Cushing noted that there were a few different options to consider.

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

10  
11 There was discussion regarding the length of the proposed gondola system. Mr. Marquardt  
12 reported that the longest 3S system in the world is located in Vietnam and is approximately 7km  
13 in length. The proposed Little Cottonwood Canyon system will be approximately 15km in length.  
14 Chair Robinson wondered if there was any additional risk in having the longest gondola system.  
15 Mr. Marquardt clarified that no single section is longer than something that has already been built.  
16 It could be thought of as four independent systems that were coupled together to provide a single-  
17 seat ride.

18  
19 Mayor Knopp wondered about the greatest challenge of the project. Ms. Schmitz commented that  
20 the greatest challenges pertain to the actual prep work as well as community support. She  
21 understood that there were strong opinions related to transportation but believed the gondola  
22 system would be a beneficial solution for mountainous terrain. It would work as a hybrid between  
23 mass transportation and mountain access. Mayor Knopp asked how the cabins will be lit at night.  
24 He expressed concern that there will be light impacts. Ms. Schmitz explained that there are many  
25 different light options. Indirect lighting involves LED lights along the floor of the cabin. This  
26 would provide light for those inside but would minimize light impacts along the line. There were  
27 also other types of lighting available, such as ceiling lights.

28  
29 Mayor Jenny Wilson felt it was important to consider CWC goals in these discussions. She felt  
30 the presentation was informative but expressed concerns about the additional visitors a gondola  
31 system could bring to the canyon. Mayor Mike Peterson wondered what the unintended  
32 consequences will be on Wasatch Boulevard. He also wondered if the LaCaille Base Station can  
33 handle all of the additional traffic from visitors.

34  
35 Councilor Marci Houseman believed it was important to move people instead of cars. She  
36 wondered what the resort partnership would look like. Mr. Fields reported that the resorts are  
37 committed to finding a long-term transportation solution. He noted that many Snowbird pass  
38 holders and employees will be willing to ride mass transit if there is more seating available. A  
39 transportation solution like a gondola would be heavily used by both pass holders and employees  
40 due to the added convenience. Mr. Fields reported that during heavy snow or road closures, cars  
41 had to wait before moving up or down the canyon. With a gondola system in place, the canyon  
42 could be closed to vehicles entirely during extreme weather conditions. The gondola system would  
43 still be able to move people up and down the canyon.

44  
45 Mr. Fields added that the resorts do not believe an infinite number of skiers can be accommodated.  
46 He noted that the gondola system could control the number of visitors with the number of cabins.

1 Mr. Marquardt commented that an aerial system was designed to accommodate peak load. That  
2 did not necessarily mean that 4,000 people would be brought up the canyon every hour of the day.  
3 He reported that the gondola could be used as a metering system. It could be tailored to deliver an  
4 appropriate number of visitors to the canyons.

5  
6 Mayor Sondak noted that Mike Maughan from Alta Ski Area suggested that he may not continue  
7 to pay for bus tickets with season passes. Mayor Sondak wondered if Mr. Fields would want to  
8 stop paying for transportation fares for employees and pass holders in the future. Mr. Fields hoped  
9 that the operating costs would be less for a gondola than for buses running up and down the canyon.  
10 However, he believed the ski resorts were committed to contributing.

11  
12 Mayor Jeff Silvestrini wondered if the gondola will go over existing structures from Snowbird to  
13 Alta. Mr. Cushing reported that the alignment of the gondola from the Snowbird station was on  
14 the bypass road near The Cliff Lodge. It would then terminate in or around the Alta Lodge or  
15 Rustler Lodge. He believed there would 300 yards or more from the gondola alignment to the  
16 nearest home. The alignment would also be in the air. The cabins may be visible but visibility  
17 from the cabins into units would not be an issue. Catherine Kanter asked about the height of the  
18 towers between the mouth of the canyon and the LaCaille Base Station. Mr. Marquardt reported  
19 that there is an 80-meter tower and a 72-meter tower between the mouth of the canyon and the  
20 LaCaille Base Station.

21  
22 Ms. Kanter asked about snow sheds. She noted that the UDOT Little Cottonwood Canyon EIS  
23 includes snow sheds with all of the transportation alternatives. Mr. Marquardt explained that  
24 UDOT included snow sheds as an improvement to the roadway. Those improvements were  
25 independent of the needs of an aerial system. Snow sheds would not be required for a ropeway to  
26 operate safely and effectively. Mr. Cushing believed that UDOT had focused on a combined  
27 solution. The gondola system included in the UDOT Little Cottonwood Canyon EIS had a very  
28 low hourly capacity of 1,000 people per hour. Their vision was that the traffic in the canyon would  
29 remain the same and any additional use over the next several years would balance out with another  
30 transportation system. Chair Robinson commented that the UDOT Little Cottonwood Canyon EIS  
31 would remove 1,500 people from the road per hour, which was approximately 30%. The remaining  
32 70% would still be on the road. As a result, the snow sheds would be needed.

33  
34 Chair Robinson thanked Mr. Cushing, Mr. Marquardt, and Ms. Schmitz for their presentation. He  
35 asked CWC Staff to address the remaining questions in the Zoom chat box via email.

36  
37 **PUBLIC COMMENT**

38  
39 There were no public comments.

40  
41 **COMMISSIONER COMMENT**

42  
43 There were no Commissioner comments.

44  
45 **ADJOURNMENT**

1 **MOTION:** Mayor Knopp moved to adjourn. Mayor Mendenhall seconded the motion. The  
2 motion passed with the unanimous consent of the Committee.  
3  
4 The Central Wasatch Commission Board Education Session adjourned at 11:30 a.m.

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

3

4 *Teri Forbes*

5 Teri Forbes

6 T Forbes Group

7 Minutes Secretary

8

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