



**CENTRAL WASATCH COMMISSION
MOUNTAIN TRANSPORTATION
SYSTEM STAFF RECOMMENDATION**

March 19, 2021

Vision for a Successful Mountain Transportation System

A no action alternative is not acceptable given failing transportation conditions. A workable, successful Mountain Transportation system starts with improvement in Little Cottonwood Canyon with the following elements:

- Provide year-round, reliable, and safe service for the multitude and variety of users accessing the Central Wasatch Mountains
- Successfully tie into the regional transportation system, reducing vehicular congestion in the Canyons and reducing costs and impacts at the mouths of the Canyons
- Minimize, mitigate, or improve environmental conditions (watershed emphasis) in the Mountains
- Significantly reduce vehicular use in the Mountains
- Optimize the traveling user experience accessing the Central Wasatch Mountains
- Achieve reasonable life-cycle costing over a lifespan reflecting the enormous investment
- Provide an ability to help visitors achieve the variety of experiences and locations sought in the Central Wasatch Mountains
- Couple any transportation improvements with improved land protection through Congressional designations and include statutory changes that accomplish the best transportation solutions
- Establish a management direction to preserve this small Mountain Range -- its environment and range of desired experiences

Three modes have been considered and evaluated for at least 30 years: bus, aerial, and rail. Dozens of studies have completed, plans prepared, and ideas presented and vetted. During that time, the traffic conditions have become unacceptable and increasingly unsafe. No action has been taken because of varying opinions, no decisions, and the enormous investment associated with addressing the problem. (The 30-year life-cycle cost for any mode would be at least \$700 million, according to the best estimates.)

While many small steps have made and can make a difference, many directly supported by Central Wasatch Commission, the scale of the problem demands a full-scale, long-term decision. Anything short of that perspective will only postpone a transportation condition that is unacceptable. Regardless of the mode or alternative, each can be implemented within a reasonable time frame (3-5 years). Transit solutions are at the heart of any effective mountain transportation system, as concluded in Mountain Accord and every recent study.

Implementing the Vision for a Mountain Transportation System

Every transportation solution has tradeoffs. We believe the following recommendation accomplishes a vision that is viable and that serves the broadest range of users and interests.

Central Wasatch Commission staff has looked at solutions through the lens of Mountain Accord, from a technical perspective, from the user experience, and all interests and jurisdictions, as well as comprehensively implementing a Mountain Transportation System. A combination of modes will be needed when looking at how a Mountain Transportation System would tie into the

existing regional transportation system in the Salt Lake Valley, have year-round service and serve the unique characteristics of the mountains and destinations.

This recommendation is divided into two parts:

1. Conditions for a Mountain Transportation System
2. Staff recommendation for a Mountain Transportation System

Conditions for a Mountain Transportation System

Decisions about transportation in the Central Wasatch Mountains exist in the context of how these mountains are protected and used. The Central Wasatch Mountains serve as the foundation for invaluable community and statewide values and objectives that were the basis for Mountain Accord, a consensus agreement in 2015. Any transportation solution in the Mountains requires parallel actions to address other objectives.

Staff recommends that the Central Wasatch Commission Board condition implementation of any transportation solution on the following elements, some of which are in progress:

1. Pursuit and passage of the Central Wasatch National Conservation and Recreation Area in Congress
2. Assurances that watersheds and environmental values will be protected using best management practices and decisions that integrate those impacts into Mountain Transportation System development
3. Further development of a regional transit system to support a Mountains-specific approach
4. Addressing local community impacts of an increased concentration of traffic at Mountain entrances
5. Ensuring all the 5 million+ annual users of the Central Wasatch Mountains have equal and fair access
6. Ongoing effort to seek consensus and meaningful public involvement as a core approach to achieve solutions

Central Wasatch Commission Staff Recommend the Rail Option

The staff recommendation for Little Cottonwood Canyon centers on rail as the preferred mode, with strong bus and possibly other modes support for a rail-based approach.

The backbone of a desirable transportation system for the Central Wasatch Mountains should be rail-based. Rail has the best combination of:

- Attracting the most riders to transit;
- Enhancing the traveler experience;
- Serving the number of travelers to Little Cottonwood Canyon, and
- Minimizing the footprint on the environment and watershed (potentially, depending on alignment).

A rail line tied to the existing rail system along the Wasatch Front would give the potential for a one-ride trip from many locations in the Salt Lake Valley, including the airport, downtown, middle and westside of the Valley, and Sandy. Unlike any other systems that could serve the number of people who make Little Cottonwood Canyon a destination, rail could avoid a substantial amount of impact at the mouths of the Canyons while providing the non-Utah visitor convenient and relatively quick access for themselves and their baggage/equipment. Trains can easily provide a convenient ride to Central Wasatch Mountains destinations plus have the flexibility for multiple stops enroute.

For the non-region visitor, the ability to come to Utah and have a seamless way to avoid using a car to gain access to resort destinations, rail offers a highly attractive venue compared to other locations in the United States. With today's technology, a visitor can check a bag at their departing airport and arrive at their ski resort destination on one ride from starting locations including the airport, downtown Salt Lake City or Sandy, and never have to touch their bags except at their lodging location. For the resident user, a maximum one-change transfer makes for a relatively fast transit ride to Little Cottonwood Canyon destinations. When tying mountain rail to existing rail lines, rail also offers the greatest opportunity to reduce the volume of traffic going to the mouth of Little Cottonwood Canyon and need for parking structures.

Moving forward with the rail option will require some further analysis and conclusions. For example, new technology suggests for much of the routes, catenary lines for an electrified system would not be necessary, thereby reducing the impact and need for additional infrastructure. If a south-of-road alignment were chosen, trains could completely or largely avoid major avalanche paths eliminating the need for avalanche sheds. Trains would also be at ground level, minimizing the impact on the scenery and visual quality of this scenic corridor. The noise impacts would require further evaluation as compared to buses or an aerial system.

Rail has its challenges. It would require the greatest capital investment, and there are issues to be addressed for the best alignment in Little Cottonwood Canyon. Protecting the stream and watershed while avoiding avalanches, for example, requires a sensitive design and alignment. And, that alignment may require a change in federal law to optimize an approach that achieves environmental, transportation, and user needs.

The Central Wasatch Commission staff believes a well-designed rail system can have the least environmental impact of any transit mode. As an on-ground mode, rail blends relatively well into the existing Little Cottonwood Canyon environment. Rail would also operate on a largely permeable surface, decreasing run-off. The rail footprint is narrower than a vehicle right of way. This is not to suggest that rail does not have significant potential impacts that would need to be addressed. If a south-of-road alignment is chosen, assuring that the Little Cottonwood Canyon stream is protected is a critical, *non-negotiable* aspect of rail development. How rail would tie into and affect trailheads and the Tanner Flat Campground must be addressed. The Central Wasatch Commission staff's *initial* analysis is that all these factors could be addressed through careful corridor alignment, design, construction, and operation techniques. The objective should be to pick the best approach and then, coupled with Congressional action that addresses further

land and resource protections, include measures to address the best results for transportation in that context.

The financing for rail, like the other modes, needs to be analyzed. There is potential for significant private—public partnerships to pay for all or portions of a rail (or aerial) system. A Valley rail line to the mouth of Little Cottonwood Canyon would also have the beneficial effect of bringing rail to the last non-rail quadrant of the Salt Lake Valley. For the commuters in the southeast quadrant of Salt Lake County, an improved transit service would be provided. And, for visitors who wish to locate in a more urban setting with quick access to the Central Wasatch Mountains, Sandy would become a more desirable lodging destination.

For a train system to work effectively, other modes may be desirable for connections. The East Bench of the Salt Lake Valley does not presently have rail, so those coming from the northeast to southeast benches would still need increased bus service to connect to rail. And, the best mode between Snowbird and Alta may be a bus shuttle or gondola system tying directly to rail. That detailed analysis needs further exploration.

Note that the focus of the Mountain Transportation System decision here is on a Little Cottonwood Canyon solution. Work by the Central Wasatch Commission for other portions of a Mountain Transportation System resulted in a consensus about the Wasatch Back, Millcreek Canyon, Big Cottonwood Canyon, and general objectives for Valley connections. Unresolved in this recommendation, and left for more, future analysis and involvement is whether and how to connect the tops of Little Cottonwood Canyon and Big Cottonwood Canyon and the Wasatch Back. Further analysis of those connections is needed before any definitive conclusions can be reached.

Additional staff recommendations from 12/2020:

- Seasonal (winter), 10-minute frequency, express bus individually from Midvale Trax to Solitude and Brighton for Big Cottonwood Canyon.
- Year-round local bus serving dispersed recreation, canyon residents, and businesses for Big Cottonwood Canyon.
- Reduce on-road parking and implement variable tolling in both Big and Little Cottonwood Canyons
- Improve bus service and frequency along key UTA routes that connect riders to recreation and economic destinations in the Central Wasatch Mountains.
- Support bus rapid transit efforts in Summit County along State Road 224 from Kimball Junction to Park City, enhance bus service from Quinn's Junction to Park City, and improve PC-SLC Connect frequency.
- Pursue necessary mobility, safety, transit, and parking projects in Mill Creek Canyon to implement a shuttle service.

Non-Rail Options

Other modes have strengths and weaknesses. A bus system offers flexibility and could tie well into the existing bus system of the Salt Lake Valley. A bus system has drawbacks that the Central Wasatch Commission staff believe are insurmountable. Buses without roadway expansion will be caught in traffic and be subject to weather and natural hazard events that increasingly worsen traffic congestion. To improve safety and reliability, extensive avalanche sheds with a large construction impact would be required.

Without headways/frequencies that seem almost impossible (30 second-to-one minute), buses cannot meet the existing and projected user demand. In the objective to further reduce or eliminate vehicles from Little Cottonwood Canyon, buses would have great difficulty meeting that desired objective, if at all. Over a life cycle of 30-years, the number and lifespan of buses (12 years), the number of drivers needed, support maintenance facilities, and total growth of a bus system would be a staggering undertaking and investment for Utah Transit Authority.

An aerial/gondola system has attractiveness, especially in serving the ski resorts. However, it has limitations that make it less desirable than rail. A gondola has the benefit, like rail, of being able to carry more passengers over time through a dedicated travel corridor. Because gondola systems can only move point-to-point, every Little Cottonwood Canyon user would have to collect at the mouth of the Canyon. It would take an enormous investment in parking structures plus a bus system to get passengers to the gondola starting point, with a subsequent increase of congestion at the mouths of Little Cottonwood Canyon and Big Cottonwood Canyon.

A gondola up Little Cottonwood Canyon would be the longest gondola in the world, and to avoid avalanches (and thus avalanche sheds), the towers would be up to 80 meters, or 262 feet tall. The visual and scenic character of Little Cottonwood Canyon would be dramatically altered. And, because of a combination of the height of the towers and the spans of cable, having any intermediate stops seems improbable according to gondola experts. So, the year-round access for non-ski area destination users would have to occur through the existing roadway.

While roadway availability would be freed up from the people using the gondola to access the resorts, to serve a range of users equally and equitably, significant bus system improvements would still be needed to get passengers to the gondola starting point, thus the limiting factors of the existing roadway would still be in place.

Conclusion

The rail-based approach best meets the values and objectives of the Central Wasatch Commission. Any transportation solution for the Central Wasatch Mountains exists within the larger context of the mountain environment and its users. Implementation of any mountain transportation system needs to happen with other governmental actions to protect the watershed, environment, and other values for the multiple users.