



MOUNTAIN ACCORD

Draft Executive Summary

Existing Conditions and Future Trendlines

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PURPOSE

This report summarizes the best available information on existing conditions and future trendlines for the Mountain Accord Transportation, Environment, Recreation, and Economy Systems, with the purpose of informing the Executive Board. It is meant to concisely present available information about the systems that are most relevant to the intent of Mountain Accord. A full report for each system group has been produced that further captures detailed information and analyses. Together with the Future Trendlines information, the Existing Conditions information will help identify the key needs and opportunities for each system, inform the development of a vision, goals, and metrics, and establish a baseline against which to compare options for a future Idealized System. If later steps in the process identify the need for additional information on existing conditions and future trendlines, that information can be added at that time.



TRANSPORTATION SYSTEM

Summary of Existing Conditions

- Unreliability is a major issue within the Mountain Accord Study Area's transportation system. While concerns exist year throughout the year, winter travel in the Cottonwood Canyons is perceived as the most unreliable. Factors contributing to this can include high peak hour volumes, inclement weather, avalanche mitigation delays, and transit overcrowding. The nature of these conditions is difficult to quantify based on available data.
- Overall, the freeway network generally operates well, although truck traffic on I-80 in Parley's Canyon can create delay and safety issues.
- The arterial network along, to, and within the Wasatch has various performance attributes:
 - Weekday, commuter traffic is high at the Cottonwood Heights/I-215 area. The east/west corridors of 9000 South and 7200 South also experience peak-hour congestion. Foothill Boulevard in Salt Lake City has weekday morning and evening congestion due to the University of Utah and associated health facilities at the north end of the corridor. Kimball Junction in Summit County experiences more consistent congestion as a result of both resort traffic and increased "background" traffic due to extensive commercial, retail, housing, and office development.
 - Weekend, recreational congestion tends to be high due to peak resort demand at or along all four entryways to the Wasatch: Kearns Boulevard (SR-248), SR-224, Big Cottonwood Canyon Road (SR-190), and Little Cottonwood Canyon Road (SR-210).
- The transit system is provided through multiple providers, predominately by the Utah Transit Authority (UTA) and Park City Transit. UTA operates an extensive network of bus and rail throughout the Wasatch Front, with an express bus service to Park City and seasonal (winter) bus routes up the Cottonwood Canyons. Park City Transit operates a free, year-round bus service throughout Snyderville Basin and Park City with service to mountain resorts. Seasonal and private shuttles are also available.
- Parking is provided at lots at major trailheads, ski resorts, park-and-ride lots at the base of the canyons and west of US-40, and along roadsides. In the Cottonwood Canyons, parking is at or near capacity on peak winter days (15-20 days per year). Parking is also a problem near recreation access points during peak summer periods. Parking in Park City and near the mountains can be scarce during the ski season, while park-and-ride lots in Summit County generally have available capacity.



- The Cottonwood Canyons have only one emergency ingress/egress route, which can inhibit access, especially in winter when this route is closed.
- Avalanches in the Cottonwood Canyons pose a serious threat to safety. An average of 33 avalanches per year may affect SR-210. Road conditions and driver behavior in Big Cottonwood Canyon contribute to SR-190 having one of the highest crash rates in the state. I-80 in Parley's Canyon and SR-210 also have higher than average crash rates.

Summary of Future Trends


- General population growth will contribute to an increase in average daily traffic, as will increase the frequency and severity of peak period traffic and parking congestion.
- UTA, Utah Department of Transportation (UDOT), Wasatch Front Regional Council (WFRC), and the Mountainland Association of Governments (MAG), have developed the Unified Long Range Transportation Plan. The purpose of this plan is to prioritize highway and transit projects into three phases in order to maintain and increase capacity of the transportation system. Various planned projects for the Mountain Accord study area include increased highway passing lanes, interchange upgrades, road widening, avalanche snow shed construction, enhanced park and rides, and bus rapid transit (BRT) development.
- Public support of active and alternative transportation modes to access outdoor recreation areas will continue to increase.
- Although transit service is available, travel by private automobile is by far the dominant travel mode, and will continue to be without changes in travel choice and mobility including shorter transit travel times, more convenient and/or reliable transit travel, financial incentives to encourage transit use, or financial disincentives to discourage automobile use.
- Growth in skier days at resorts and dispersed recreation is likely to draw increased visitation.
- Summer travel is emerging as an important consideration for transportation in the study area. Park City is becoming a major summer activity center, with traffic volumes in July and August approaching wintertime levels.
- The current plan to address parking congestion in the Cottonwood Canyons is not necessarily increasing supply to meet current demand, but to add clarity by formalizing parking areas. Therefore, the short-term reoccurring parking shortages will continue into the future.



ENVIRONMENT SYSTEM

Summary of Existing Conditions and Future Trendlines

Water:

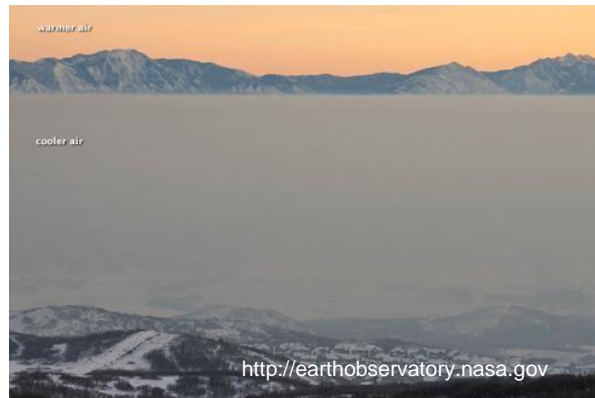
- Project area watersheds are critical sources of drinking water for the Central Wasatch communities and are carefully managed to protect this important resource. In addition to the Central Wasatch communities, the water sources are a vital part of the overall water supply system of northern Utah. Degradation of these watersheds must be avoided to ensure quality drinking water into the future. These water sources will become more critical, and more in need of protection, as demands increase in response to population growth and climate change. The economic impact of replacing the 18,000 acre-feet of water supplied by Little Cottonwood Creek, for example, would cost an estimated \$125 million (MWDSLS 2014). Within the multi-use watershed, prioritization of water quality comes first and multiple use of watershed is second.
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- Developing water in Utah has always been a challenge and is not anticipated to get any easier. Therefore, protection of the current drinking water supplies, as well as their respective watersheds, is imperative today and becomes increasingly important in the future for several reasons: 1) opportunities for developing new water supplies are very limited; 2) water scarcity will become more widespread; 3) population within the Central Wasatch will increase; and 4) climate change will alter supply and demand for the existing water resources.
 - The surface water supplies originating in the project area are critical to the water supply for populations along the Wasatch Front and Wasatch Back. Salt Lake City, Sandy, and the Park City/Snyderville Basin area rely on quality surface water sources for approximately 41 percent, 21 percent, and 30 percent, respectively, of their annual production needs (BCA 2007, BoR 2006).
 - Past efforts to protect the health of project area watersheds for their ecological and social values have been effective, although some watershed areas are degraded. Numerous stressors threaten future watershed health, including urban encroachment and mountain development, wildfire, water development, and climate change.



- The Salt Lake City Watershed Ordinance (§17.04) establishes guidelines for existing water agreements for the use of “surplus” water. Each agreement establishes a volume of water available and the geographic area in which the water can be used. These interruptible agreements cannot be expanded. The Town of Alta, Snowbird, Solitude, and Brighton all benefit from “surplus” water agreements.
- Groundwater quantity and quality in Salt Lake County support current needs. However, declining groundwater levels and climate change impacts threaten water supply, and water quality is threatened by industrial contamination, road de-icing chemicals, and other factors. A key to meeting future water supply needs may be the conjunctive use of surface water and groundwater.
- Park City relies heavily on groundwater collected in the project area for its drinking water supply. Park City is working with the State of Utah Division of Water Quality on Utah Pollutant Discharge Elimination System (UPDES) permits for two mine tunnels and as a result will be investing tens of millions of dollars over the next 10 to 15 years to treat the existing flows from the tunnels for stream and drinking water. These mine tunnels also supply several streams in the Snyderville Basin. Any project or activity such as tunneling or the drilling of new wells within the drainage boundary, which includes parts of Bonanza Flat and Salt Lake City’s watershed, could interfere with this water supply and cause severe financial impact on Park City and reduction of flows in Silver and McLeod creeks.
- Due to the location in the top of a portion of the Weber River Drainage and the lack of water storage, one of Park City’s and Snyderville Basin’s biggest challenges in meeting water demand is the ability to meet peak day demand.
- Water quality regulations require implementation of best management practices to protect drinking water supplies and minimize pollution from stormwater runoff from new urban areas, construction sites, industrial sites, and transportation facilities. Nonetheless, as urban and mountain development increase, stormwater runoff will be an increasing threat to water quality.
- Several stream segments in the project area are classified as impaired by the State of Utah, with generally degraded water quality conditions in the lower portions of the watersheds. In the project area along the Wasatch Front, the headwaters of Big Cottonwood Canyon, Mill Creek, and Parleys Creek received a moderate “functioning at risk” rating, while the headwaters of Little Cottonwood Canyon received the lowest rating, “impaired function” watershed condition. Along the Wasatch Back, the Kimball Creek and Snake Creek watersheds received a “functioning properly” condition classification. Any further degradation of water quality may further impact aquatic habitat and/or require drinking water treatment plant upgrades. Degradation of the watershed or water quality cannot be simply offset with additional drinking water treatment plant upgrades. In addition to the cost of upgrades, there is also an increased risk of a pollutant breaking through the treatment plant and being passed on to consumers.

Air:

- Davis and Salt Lake counties are considered air quality maintenance areas for ozone.
- Potential for a new lower ozone standard may result in new nonattainment areas for ozone.
- Salt Lake and Utah counties are nonattainment areas for PM₁₀.
- Davis County, Salt Lake County, and portions of Utah County are nonattainment areas for PM_{2.5}.
- Although pollutant levels are declining based on historical monitoring, ozone and particulate matter continue to be problematic. Ozone is highest during the summer, while particulate matter is highest during winter temperature inversions. Ozone and the majority of the particulate matter are formed in the atmosphere from precursor air pollutants.
- Survey monitoring of the Wasatch Back indicates elevated levels of ozone; however, it is unclear whether this ozone is transported from another area or is created locally. Survey monitoring of PM_{2.5} indicates levels are low.
- Future emissions from industrial sources are expected to remain unchanged because of air permit limits; emissions from area sources are expected to grow with population; and emissions from cars and trucks will decline as new vehicle tailpipe standards roll into the fleet.



Ecosystems:

- The streams, wetlands, and plants of the central Wasatch Mountains provide services that are the backbone for nearly all other uses. Despite this key role, comprehensive studies of ecosystem health and function in the Wasatch Mountains have not been conducted. However, summaries of existing conditions can be constructed from available information. What is known is that:
- Much of the vegetation in the project area is experiencing an ongoing, moderate to high level of departure from reference (potential natural vegetation in a healthy system) conditions. Primary factors that negatively affect forest health across the landscape include drought-aided infestations of insects, such as several species of wood-boring beetles, and decades of fire suppression. Ecosystem function is also affected by fragmentation, invasive plants, and habitat loss—effects that are typically strongest near developed areas and human activities.

- The quality of aquatic and riparian habitats in urban and suburban areas is low. Most urban streams are highly altered, experience reduced or controlled flows, and are physically constrained from functioning naturally. In mountain areas, aquatic systems have been negatively affected near developments and from stream dewatering, recreation, effects of historical mining, and stocking of non-native fish. However, aquatic and riparian habitats in mountain areas continue to support a diverse community of native wildlife plant species.
- Widespread changes in terrestrial and aquatic ecosystem function have been observed, and can be represented in part by the decline of indicator species such as Bonneville cutthroat trout (for the aquatic system) and Northern goshawks (for overall forest health). Despite these changes, the project area overall supports many areas with biologically diverse and healthy terrestrial and aquatic ecosystems in undeveloped areas of the Wasatch Mountains. These areas continue to provide functional services for wildlife and human users.
- Climate change and drought will exacerbate existing stressors on ecosystem health and function.
- Mountain development can make ecosystem management more difficult; for example, fire as a management tool is difficult or impossible to use where lives, public water supply, and property may be at risk. Additionally, increased development and fragmentation of terrestrial and aquatic habitats could impair current wildlife habitat use and movement across the landscape, as well as wildlife population viability in the Wasatch Mountains.
- While there have been many restoration efforts and remediation of some past human-caused changes, further active management and restoration will be important. Avoiding actions that degrade the function of irreplaceable systems—such as wildlife migration corridors, wetlands, streams, rare plant habitats, and alpine meadows—will also be important.

Land:

- There are similar amounts of protected open space in the Wasatch Front and Wasatch Back within the project area (42 percent and 36 percent, respectively) with little protection in the urbanized areas. There is increasing development pressure on remaining open space that may also be available for protection in both the Wasatch Front and Wasatch Back.
- The central Wasatch Mountains contain world-class viewsheds and open space. Increasing development pressure correlates with increasing threats to open space, public land access, and viewsheds. Views are compromised on bad air quality days.
- Historic mining activities in the Wasatch have left legacy soil contamination and physical mine hazards. Elevated metal concentrations related to mine activities may pose ecological and human health threats.



- Future development will result in increased pressure on those lands not currently afforded protection as open space and will be particularly evident in Summit County as growth spreads into undeveloped areas.
- Funding for future acquisition of open space or protection of sensitive lands will need to meet or exceed current levels.
- Not all undeveloped lands are suitable for development.
- Salt Lake City, Park City, and the Town of Alta have ordinances in place to protect sensitive lands within their jurisdictions. Restrictions include the Salt Lake County Foothills and Canyon Overlay Zone (FCOZ), the Park City Sensitive Land Overlay Zone (SLO), and the Town of Alta Uniform Zoning Ordinance (UZO).

RECREATION SYSTEM

Summary of Existing Conditions and Future Trendlines

Natural Environment:

- The Central Wasatch region boasts a unique environment in the Western U.S. that is prized by locals and visitors alike. With urban and suburban communities nestled adjacent to high-elevation mountains, opportunities to participate in recreation opportunities and escape from urban life abound.
- Utah is the 8th most urban state in the country, with more than 90% of the population living on 1.1% of the land (U.S. Census Bureau 2010). The Central Wasatch Mountains provide an outdoor recreation haven for this urban population and are an important element of residents' quality of life. Utah is in a unique position to preserve the natural environment that supports these opportunities.
- The mountains are also a place for the population to escape summer heat and winter inversions. These environmental influences will become more intense through population growth and climate change, making the Central Wasatch even more important for its citizens to maintain their high quality of life.

Recreation Users:

- Utah residents participate in outdoor recreation at a higher rate than the national average and projected population growth will increase the number of the recreation users in the Central Wasatch. The Uinta-Wasatch-Cache National Forest experiences higher visitor use than all five Utah National Parks combined (Utah Governor's Council on Balanced Resources 2013). If actions are not taken to provide high quality recreation experiences for increasing numbers of users recreation experiences will begin to decline due to crowding, conflicts between user groups, environmental impacts, traffic and parking congestion, and degrading infrastructure.
- Communities along the Wasatch Back have strongly held values regarding outdoor recreation and have placed an emphasis on access to recreation and healthy lifestyles during community planning and development. The resulting access to recreation and development pattern is cited by many Wasatch Back residents as an important consideration in choosing a place to live and as evidenced by property values, residents are willing to pay a premium to live close to these amenities. This access to recreation facilities is also the primary driver of the Wasatch Back's summer and winter recreation and tourism economies.
- The resorts are a vital element of the recreation system. The current balance of resorts with non-commercial winter recreation uses makes the Central Wasatch a unique, world-class skiing destination. Wintertime visitors

to ski resorts are primarily out-of-state visitors, while the majority of general year-round recreational visits to other amenities are from Utah residents (RRC Associates 2013 and USFS 2008).

- Trends show that children spend half as much time outdoors as their parents, which has been correlated with increased rates of childhood obesity and overall declining health. Childhood outdoor recreation creates a foundation for healthy lifestyles and establishes a lasting connection to the natural world. If these values are not fostered and passed through the



generations, a trend toward diminished interest in outdoor recreation, environmental awareness, and the associated community health benefit may be lost.

Recreation Uses:

- The Wasatch Mountains support a wide variety of recreation uses. Maintaining a balance of uses and activities is essential to ensure that all recreation users' needs are met. Anticipated future trends including climate change, land use development (e.g., residential and ski resort expansion), and population growth will concentrate recreation users into smaller areas, increasing crowding and conflicts. A primary concern identified by the system group is the potential effect that warming climate and ski resort expansion could have on winter backcountry recreation. Users could be crowded into small areas of accessible, high-elevation terrain where the snow lingers the longest.
- Many of the high quality areas for different recreation activities overlap, which increases conflicts between different user groups during high use days. As the use of these areas increases, user conflicts will intensify, diminishing the quality of future recreational experiences.
- Advancing technology has led to rapidly increasing participation in some existing activities (e.g., mountain biking, backcountry skiing) as well as the emergence of new sports. Changing interests and further technological advances anticipated in the future will perpetuate these trends, underscoring the necessity of forward thinking recreation planning.

Recreation Infrastructure and Setting:

- Recreation infrastructure in the Central Wasatch consists of trails, resorts, campgrounds, picnic areas, and the natural features that draw recreation users to these areas. The resorts provide substantial economic benefit to the region, access to varied terrain for a range of skill levels, and are critical for the health of the ski industry. Resort summer uses will grow in importance as

climate change shortens the winter season and more people seek access to recreation opportunities.

- The Wasatch trail system is a key infrastructure component, supporting a wide variety of recreation uses, including activities such as mountain biking, which have experienced a rapid increase in participation. In some areas, overuse is leading to resource degradation, particularly on trails that were not originally designed for recreation uses. Increasing use will put further strain on the trail system.
- The setting in which recreation occurs plays a critical role in the enjoyment of recreational activities. Each area within the Central Wasatch has a unique balance of different settings which support these activities. Future land use development and increasing use in these areas can modify the setting and character, upsetting the delicate balance of recreation uses.



Access to Recreation:

- Access to recreation opportunities affects an individual's complete, door-to-door recreation experience, which includes the opportunity for multiple types of recreation use in a single day. Currently, personal vehicles constitute the primary mode of access to recreation locations, severely stressing the transportation network on peak volume days and creating conflicts with other road users, such as road bikers. Increases in use will make access more difficult, even on days that experience average traffic volumes, and will potentially limit recreation participation in the future.
- Development, especially along the Wasatch Front, is physically blocking access to existing recreation areas, a trend which will become more prevalent with future development. On the Wasatch Back, planning regulations support the incorporation of recreation access into private land developments to maintain and increase recreation network connections.

Recreational Funding:

- Funding of recreation that promotes long-term maintenance and management is critical for the sustainability and flexibility of a high-quality recreation system. Many communities on the Wasatch Back have established tax bond measures to support the development, maintenance, and management of recreation facilities to meet changing demand. In contrast, funding for recreation management and maintenance on the Wasatch Front is provided by municipalities and the U.S. Forest Service. The U.S. Forest Service budget is outside the control of local government and has been level to decreasing in recent years. As a result, recreation facilities (e.g., trails) have been developed at a slower pace compared to the Wasatch Back and trail conditions have degraded as maintenance has been unable to keep pace with increased recreation use in the Central Wasatch.

ECONOMY SYSTEM

Summary of Existing Conditions and Trends

The Central Wasatch Mountains are a key feature of the region's economy, providing direct employment, tourism and travel spending, socially valuable recreation, aesthetic and scenic enjoyment, critical natural and environmental resources, and overall quality of life.

Within the State of Utah, and also the counties in Mountain Accord's project area (Salt Lake, Summit, and Wasatch), most features of the economic system routinely outperform the same features of the national economy. A brief summary of existing conditions and trends is included for five key economy categories:

Category 1 – Employment:

- Employment indicators for the 3-County Mountain Accord region are very strong. Employment and wage figures have dipped or flattened during recessions along with the national trends, but have outrun national averages consistently for 40-plus years. The local economy lags behind in wage and income metrics, which is attributable to unique demography. For example, Utah has the nation's highest fertility rate, youngest average age, and largest household size. Additionally, Utah has a unique preference for part-time work that dilutes wage and income metrics.
- *Trends:* Utah's continued population growth, young and educated workforce, favorable/predictable tax structure, access to amenities, and quality of life will result in a continued condition of low unemployment, improving wages, and resilience to recessions.

Category 2 - Economic Diversity:

- The project area has a strong, stable, and diverse economy that has been resilient to recessions in the US economy. The Mountain Accord study area's economy has a remarkably similar structure to the national economy. This structure is very diverse, and as a result Utah ranks 4th nationally for economic diversity. However, there are important differences between the primary economic sectors for communities on the Wasatch Back versus the Wasatch Front.
- *Trends:* Economic diversity on the Wasatch Front is expected to stay balanced and highly diverse, as it presently is. Economic development efforts in the communities on the Wasatch Back focus on protecting the travel and tourism industry, but recognize the need for more local employment options and greater economic diversity than currently exists. Therefore, slow but steady diversification, to depend less upon tourism, is predicted over time.

Category 3 - Tax Revenue:

- Activities in the project area create revenue resources through tax collections. In aggregate, the project area counties generate over \$5.8B in annual revenue, including \$481M in sales tax (2013), \$1.27B in property tax (2013), and \$4.07B in federal and state income tax (2011).
- *Trends:* Tax revenue, from all sources, is connected to the overall prosperity of a population. Within the project area, high employment, good relative wages, increasing property values, and a population increase of nearly 500,000 residents by 2040 all point to substantial increases in tax revenue.

Category 4 - Recreation and Tourism Economy:

- Travel and Tourism represent an important part of the project area's economy. Statewide, this sector contributes approximately \$12B annually to the overall economy. In Wasatch and especially Summit counties, these sectors are significant employers, supporting 22.1% and 50.8% of total employment, respectively.
- *Trends:* Significant growth in the study area's population will increase the amount and variety of local recreation activity demand in the project area. Additionally, steady increases in non-local tourism visits (skier days, arts and entertainment events, and an emerging summer industry) are anticipated. At some point, the capacity of the Central Wasatch to accommodate recreation and tourism will be reached. Without investment and intervention, the potential for crowding and a degraded experience could naturally limit growth in the tourism economy of the Central Wasatch.

Category 5 - Land Development:

- All three project area counties have been under heavy and continuous population and land development pressures for the past decade (2000-2010). This has resulted in substantial percentage change in developed land: Salt Lake County (+11.1%); Summit County (+36.2%); and Wasatch County (+65.5%). During this same period, average land consumed/person trended downward in Salt Lake County, but substantially upward in Wasatch and Summit Counties.
- *Trends:* The significant population bump in Salt Lake, Summit, and Wasatch Counties between now and 2040 will increase the need for land development, driving construction of housing, retail, and commercial structures for nearly 500,000 new residents. This would result in an approximate 43% increase in the built environment in these three counties. All three counties have undertaken planning in the most recent decade to shift land use and development patterns toward more dense, integrated, and sustainable patterns. Generally speaking, the average land consumed per capita in Salt Lake County would remain stable because it is already low. In Wasatch and Summit Counties, significant reductions in land consumption

per capita are likely, as denser, clustered developments with preserved open spaces will be a common and standard development pattern.

