



COUNCIL STAFF REPORT

CITY COUNCIL of SALT LAKE CITY

TO: City Council Members

FROM: Russell Weeks
Senior Policy Analyst

DATE: August 8, 2017

RE: **Transit Master Plan**

Item Schedule:

Briefing: August 8, 2017
Set Date: August 29, 2017
Public Hearing: To Be
Determined
Potential Action:

ISSUE AT-A-GLANCE

Goal of the briefing: To determine if the City Council is ready to hold a public hearing on the proposed Transit Master Plan, or if Council Members may have changes to the proposed plan.

- The proposed master plan, initiated by the City Council, appears to be based largely on three things: Salt Lake City's existing street grid system, the existing transit system including the bus, TRAX light-rail and streetcar system in the City, and the Utah Transit Authority's planned core bus network in the City.
- The proposed plan contains a density threshold formula based on residential population and jobs to help determine future transit service levels in the City. (Please see Page 6 for more detail.)
- The plan recommends that the City and UTA build on the two's existing partnership and develop a local service delivery approach that strengthens the relationship and provides Salt Lake City with additional accountability, possibly through an agreement or memorandum of understanding.¹ A key reason for the proposal is the proposed plan describes transit infrastructure and infrastructure investment in the City as "primarily controlled by UTA." The plan says, "Salt Lake City can influence development along the FTN (Frequent Transit Network)."² (Please see Page 3 for more detail.)



- The cost for UTA to operate local bus routes in Salt Lake City in 2014 was about \$16 million.³ Implementing the plan completely in about 20 years, may cost an additional \$7.7 million a year in operating costs.⁴ One option to move the Frequent Transit Network forward is to have Salt Lake City pay UTA to increase bus frequency or span of service on a route.⁵ The City Council would have to identify a revenue source to accomplish the option.
- For areas of the City that do not receive transit service, one option would involve the City or UTA or both negotiating with a ride-sharing service such as Uber or Lyft to provide service to transit stops. The plan estimates the annual cost net cost to Salt Lake City would be roughly \$500,000 to \$900,000.⁶ The City Council would have to identify a revenue source to accomplish the option. The plan also describes an option where employers in industrial areas could fund a shared shuttle service to and from major transit stations.⁷
- The plan proposes to add two secondary transit centers where buses could layover, and riders could obtain transfers. The centers would be located somewhere near the intersection of 200 South and 700 East streets and at the University of Utah.⁸
- The plan recommends the City work with UTA to determine the next steps to establish more affordable fare options for transit within Salt Lake City because the standard \$2.50 one-way fare is “high for many Salt Lake City families” and reduces transit’s competitiveness with other transportation options.⁹
- The plan projects that by 2040, 73 percent of people who live and work in Salt Lake City will be within a quarter mile (two Salt Lake City blocks) walking distance of the Frequent Transit Network.¹⁰

POLICY QUESTIONS

1. Although City Councils cannot bind future Councils, does the proposed master plan meet the values and goals of the City Council’s 2013 *Philosophy Statement Priority: Transportation and Mobility*? (Please see Pages 9 and 10.)
2. To what extent would the proposed transit master plan help the City reach carbon emission reduction goals outlined in the City’s *Community Renewable Energy Feasibility Study*?
3. The last public hearing on this item was a Planning Commission public hearing on November 30, 2016, where three people spoke at the hearing before the Planning Commission unanimously voted to forward to the City Council a favorable recommendation. Given the time passage between then and now, to what extent would the City Council like to seek public comment?
4. The master plan includes a formula to help match transit to appropriate levels of housing and job density. Is there flexibility in the plan to allow for transit development to foster housing and job density similar to what has occurred along the S-Line?
5. Are there areas of Salt Lake City where density thresholds might now require a higher level of transit service? Who determines when the thresholds are met, and what happens if density exceeds expectation?
6. The proposed master plan calls for secondary transit hubs near the intersection of 200 South and 700 East streets and at the University of Utah. In terms of land use, is a transit hub

appropriate to locate on 200 South Street? If so, what size would be appropriate? Should the hub have bus parking on the surface or underground? What is the University of Utah's position on a secondary transit hub on its campus?

7. What is more important in a transit network – speed or frequency?
8. Has the Utah Transit Authority's current financial position had any effect on the proposed master plan?
9. Are the federal transportation funding sources listed in the proposed Transit Master Plan still available? How might current federal budget proposals affect those funding sources?

ADDITIONAL & BACKGROUND INFORMATION

Historical Summary

The City Council called for preparing a city-wide transit master plan when it adopted the locally preferred alternative route for the Sugar House “S” line on May 7, 2013. The Council then adopted a motion at its formal meeting June 18, 2013, to allocate \$250,000 for the master plan. The adopted motion had three requirements:

- That a scope of work be presented to the Council for review and approval.
- That the scope of work include a plan for raising additional funds to increase the value and quality of the plan, and
- That the scope of work include examination of land use as a key factor, or specify how the Administration intends to link land use plans to the City-wide Transit Plan.¹¹

During a retreat September 10, 2013, the City Council discussed what elements a transit master plan would contain. In February 2014 the City Council adopted Resolution No. 1 of 2014 which approved a revised scope of work and a \$400,000 budget. The proposed budget included the \$250,000 City allocation and an estimated \$150,000 from the Utah Transit Authority.¹² The City then put out a request for proposals to do the study and selected Nelson/Nygaard Consulting of San Francisco to research and write it. The goal of the study was to meet objectives in the City Council's 2013 *Philosophy Statement Priority: Transportation and Mobility*.¹³

Frequent Transit Network

The master plan's focal point is a Frequent Transit Network. When fully operational in 20 years the proposed network would cover roughly the area contained by Redwood Road, 1000 North Street, 11th Avenue, the University of Utah, Foothill Drive, 2100 East Street, and 2100 South Street. The North Temple Street TRAX line, including the segment to and from Salt Lake City International Airport would be a component of the network.¹⁴ (Please see Attachment No. 1.)

According to the proposed master plan, a goal is to develop a Frequent Transit Network that becomes “a stable, relatively unchanging part of the system so that riders can rely on it as much as they do the TRAX system.”¹⁵

The network would be based on Salt Lake City's existing street grid, UTA's existing light rail, streetcar, and bus system, and components of UTA's proposed core bus network that are depicted in the 2013 *UTA Network Study*.

North-South bus routes depicted in the 2013 study are routes on North State Street, 500 East Streets, 900 East Street, Highland Drive/1300 East Street, 2100 East Street, and Foothill Drive. East-

West routes depicted in the 2013 study are 2100 South, 100 South, and North and South Temple streets.¹⁶ UTA has not yet designated a core route service but is scheduled to finish a study of core routes in 2018 and implement core route service in 2019.¹⁷

UTA already operates 15-minute-frequency bus service on Redwood Road (Route 217); 200 South Street (Route 2); 2100 South and 2100 East streets (Route 21); State Street North (Route 200); 500 East Street (Route 205); 900 East Street (Route 209); and Highland Drive and 1300 East Street (Route 220). Current bus service on the routes appear to closely follow the 2013 study's core service network. The length of the routes and service frequency also mirror the concept of a Frequent Transit Network.

According to the proposed Transit Master plan:

“The FTN is designed to serve long, direct citywide corridors. This includes TRAX light rail, Bus Rapid Transit, and other frequent bus modes that are oriented to serve longer-distance trips and have a longer spacing between stops.”¹⁸

Although local transit service is designed to connect neighborhoods and employment areas to a Frequent Transit Network, the local City network is not a key focus of the Transit Master Plan because “the City’s limited resources will be focused on the development of the FTN.”¹⁹ According to the proposed plan, the City could support UTA in maintaining “a basic or ‘lifeline’” level local service to within one-half mile of most residents. The service level is defined a minimum one-hour frequency for 12 hours a day.²⁰

The master plan proposes that buses in a Frequent Transit Network would operate on arterial streets or streets where transit is made a priority “where it will be the most rapid and reliable,” and that improvement should be made “that reduce transit travel time and make it more competitive with automobile travel.” Improvements could include providing transit with priority traffic lanes on high ridership corridors, and that traffic signals within the network could be managed to favor transit vehicles because they carry more people.²¹

It might be noted that priority traffic lanes are not necessarily set apart by barriers such as in a bus rapid transit system, but can be, as in some cities, a traffic lane where buses, taxis, and other commercial vehicles with more than one passenger have priority during peak traffic volumes. Signal management already is used on the TRAX system.

Here are the corridors the master plan proposes the Frequent Transit Network be implemented first (Plan’s comments included):

- **200 S.** – performed strongly in the Transit Master Plan analysis and is recommended as a primary east-west transit corridor for bus (and potentially future bus rapid transit and/or streetcar) service between downtown and the University.
- **State Street, 500 E, 900 E, and 1300 E.** Combined with existing TRAX service in the 200 W corridor, frequent bus service on State Street, 500 E, 900 E, and 1300 E would provide north-south connections with approximately half-mile spacing between southern city limits and downtown, as far east as the University of Utah.
- **North and South Temple Streets** – also performed strongly in the Transit Master Plan analysis, and in conjunction with frequent service on 200 S and existing TRAX service in the 400 S corridor, would provide quarter-mile spacing for frequent service through downtown.
- **2100S/2100E.** This east-west and north-south corridor (currently served by Route 21), provides a connection between the Central Pointe TRAX Station and the University along the southern and eastern edges of the frequent grid.

- **Redwood Road.** While it lacks the density of other corridors, Redwood Road is an important, continuous street for transit in west Salt Lake City. It would run along the western edge of the recommended Salt Lake City FTN and would be linked with additional east-west FTN corridors.²²

The master plan proposes that the following corridors also be considered high priorities: 400 South Street from Redwood Road to the University of Utah; 1300 South and 900 South with a transition at 1300 South between 300 West and Redwood Road; State Street service extended to the Capitol; 500 East and 900 East streets service extended to LDS Hospital and the Avenues; frequent service on 200 West and 600 North streets to connect the Rose Park and Fairpark neighborhoods.²³

Secondary Transit Centers

Under the proposed transit plan, the City’s street grid would become the underlying structure of the transit system instead of a hub and spoke system with the Central Station as the hub. Buses currently routed to the Central Station could travel routes that never go there while they’re in service. In addition, Central Station parking spaces where buses layover already operates at capacity during peak travel time.²⁴ According to the master plan, “creating more layover space for UTA buses is a major factor in enabling additional transit service to be provided in Salt Lake City, including implementation of the envisioned FTN network.”²⁵

The master plan proposes that two secondary transit hubs be built somewhere near the 200 South and 700 East intersection and at the University of Utah. It might be noted that the Wasatch Front Regional Council’s *Unified Transportation Plan for 2015-2040* includes a “200 South transit hub” in Phase 2 of that plan’s Salt Lake County transit project list and estimates the cost at \$7 million. A transit hub at the University of Utah is listed as a Phase 1 project with an estimated cost of \$3 million.²⁶

Light-Rail and Streetcar Role

According to the proposed master plan, “The existing light rail and streetcar system already provides frequent service.”²⁷ The master plan is intended to “build off this core network by identifying a high-frequency grid comprised of both rail and bus service.”²⁸ Again, one goal of the Transit Master Plan is to foster a network that is “a stable, relatively unchanging part of the transit system so that riders can rely on it as they do the TRAX system.”²⁹

The proposed master plan did not directly include future light rail improvements or routes “because they emerged from local or regional plans that have already conducted a detailed study to refine the preferred transit mode for the corridor.”³⁰ However, the study listed rail projects as “additional projects supported by Salt Lake City.” They include:

“**TRAX improvements including the Black Line** and other downtown network enhancements. These enhancements would resolve capacity issues necessary to enable direct TRAX service between the Airport and the University, two of Salt Lake City’s major travel demand generators.”

“**Downtown Streetcar connecting to the University of Utah.** The Transit Master Plan corridor analysis supports transit investments in a downtown streetcar including a connection to the University. The analysis showed strong demand for east-west travel between Downtown and the University of Utah. The locally preferred alternative includes portions of 200 S (west of W Temple Street), 100 S, and S Temple Street. An additional consideration for the project could include coordination with the plan’s recommendation to develop a transit center in the vicinity of 200 S. and 500 E.”³¹

The master plan also references the S-Line in Sugar House. According to the proposed plan, extending the line was: “Included as an element of the 900 E corridor in the *Transit Master Plan* corridor evaluation. The 900 E corridor is part of the FTN and is also included in the *Transit Master Plan* capital recommendations for Enhanced Bus. The plan will support evolving capital recommendations from the Sugar House Streetcar project that would improve utility of the line, e.g., an extension to 1700 S (consistent with *Regional Transportation Plan*) with a connection to the 900 E FTN corridor. A future extension along 900 E could connect to TRAX service at 400 S.”³²

It might be noted that the three transportation options the Wasatch Front Regional Council presented to the City Council on July 25 as potential components of the next Regional Transportation Plan in 2019 include:

- **Option 1** – Streetcar project on 200/100 South streets; bus rapid transit on State Street and 1300 East Street.
- **Option 2** – TRAX Black Line (airport to University of Utah direct, alleviating the bottleneck at 400 South Street); S-Line extension on Highland Drive to Holladay City Center.
- **Option 3** – Frequent, direct bus service that utilizes Salt Lake City’s gridded street network; S-Line extension north to connect to TRAX Red Line.

Area Service outside the Frequent Transit Network

As indicated earlier in this report, when the proposed Frequent Transit Network is fully operational, 73 percent of residents and people who work in Salt Lake City will be within a quarter mile of the network. Areas farther than a quarter mile from the network when the first tier of projects are complete would be likely places for “first-mile, last-mile” service. Areas listed in the proposed master plan include:

- Western Salt Lake City, west of Redwood Road or I-215 (primarily employment-oriented demand)
- University of Utah Research Park (primarily employment-oriented demand)
- Southeast Salt Lake City, including the East Bench (primarily residential)
- Glendale/Poplar Grove neighborhoods (primarily residential)
- Rose Park/Fairpark neighborhoods (primarily residential)
- Northern part of Greater Avenues neighborhood (primarily residential)

The zones include areas that would be within a quarter mile of the network as the network is fully built out.³³ (Please see Attachment No. 2.)

To reach those areas and ultimately areas that still will be outside a fully completed network, the proposed master plan suggests two options:

For employment centers beyond a quarter mile from the network, companies could partner with each other to provide a shared shuttle service.³⁴ It should be noted that at least one company near the North Temple light-rail line has provided a shuttle bus to employees who use the line.

The City and UTA could partner with transportation network companies such as Uber or Lyft to provide a discounted fare on trips to transit stations or other identified neighborhood destinations such as a grocery store.³⁵ The plan estimates that in Salt Lake City it costs between \$5 and \$8 for a person to take an on-demand ride to a nearby transit station. That cost could be reduced through an agreement with a transportation network company in exchange for the City subsidizing the service. The master plan estimates the subsidy could be a net cost to Salt Lake City of between \$500,000 and \$900,000 a year.³⁶ Again, a funding source would have to be identified and a budget allocation made for the option.

Density Thresholds

The proposed master plan used a formula based on transit industry standards to develop the Frequent Transit Network recommendations. According to the plan, the formula can be used in the future to help determine when the plan's recommendations can be revised to reflect population or job growth within the City. Here is the formula:

- Operate light rail in areas where there are 12 to 24 or more households per acre and/or 16 to 32 or more jobs per acre.
- Operate Bus Rapid Transit in areas where there are 10 to 15 households per acre and/or 12 to 20 jobs per acre.
- Operate buses every 15 minutes in areas where there are 10 to 12 households per acre and/or 12 to 16 jobs per acre.
- Operate buses every 30 minutes in areas where there are 6 to 10 households per acre and/or 8 to 12 jobs per acre.
- Operate buses every hour in areas where there are 3 to 6 households per acre and/or less than 4 jobs per acre.³⁷ (Please see Attachment No. 3.)

According to the Administration, the thresholds are best practices based on current industry research and should be used as guidelines rather than standards. Transit planning would take a variety of local conditions into consideration about appropriate densities as would UTA in establishing service levels. The guidelines also can be helpful to communicate to people about the relationship between density and successful transit.³⁸

Fare Affordability

The proposed plan notes that “the standard \$2.50 fare is high for many Salt Lake City families, especially for short trips within Salt Lake City. This undermines the competitiveness of transit against other transportation options, especially in areas where parking is free; a simpler and more equitable fare system is needed.”³⁹

Two recommendations in the master plan are to continue to promote the City's hive pass program, which is available to Salt Lake City residents, to “get more passes into hands of people who are not currently using transit,” and in the medium term “work with UTA to determine next steps for establishing more affordable fare options for intra-Salt Lake City trips.”⁴⁰

Bus Shelters and Access

The proposed master plan notes that 17 percent of the 1,200 bus stops in the City have benches or shelters.⁴¹ The plan also quotes a July 2016 study published by Transit Center that “supports the importance of comfortable and convenient access to transit and locating transit near a mix of uses.”⁴² The plan quotes the study as saying, 80 percent of all-purpose transit riders walk to transit and that the number of those who ride transit for all kinds of trips is higher where it is easy to walk to transit and where transit is frequent and provides access to many destinations within walking distance.

Among ways to improve bus shelters the proposed plan recommends:

- Direct economic development activities to locate transit-supportive uses, such as cafes, restaurants, and shops, along the Frequent Transit Network.

- Invest in shade treatments, weather protection, pedestrian-scaled lighting, street furniture, bus shelters, street trees, and public art to enhance the attractiveness and safety of the street environment surrounding the Frequent Transit Network.⁴³
- Provide business owners and developers with incentives if they sponsor or build transit stops and stations.⁴⁴
- Provide places to park bicycles at transit stops or stations.

Funding

As noted earlier, the cost for UTA to operate local bus routes in Salt Lake City in 2014 was about \$16 million.⁴⁵ Implementing the proposed Frequent Transit Network completely in about 20 years, may cost an additional \$7.7 million a year in operating costs. In addition, the plan estimates that one option to help people who live beyond a quarter mile of the proposed network would be to contract with one or more transportation network company to provide service to transit stations and other places. The estimated cost would be between \$500,000 and \$900,000 a year. Again, both options would require a funding source and budget allocations. Finally, upgrades for transit stops and stations are recommended to be a UTA/City partnership in the short-term with incentives to developers. In a longer term, the plan suggests an option where a private company might build, own, and maintain transit shelters in exchange for leasing advertising space in them.⁴⁶

The plan reviews a variety of federal funding sources for transit projects and improvements but observes, “Many recent capital projects in the United States have relied largely, if not solely, on local funding for construction and operations.”⁴⁷ The plan reviews the function and use of a variety of local options including general obligation bonds, sales tax, congestion pricing, vehicle-miles-traveled fees, vehicle registration fees, hotel and rental car taxes, impact fees, and transit access fees among others.⁴⁸ How those might be enacted by Salt Lake City might be explored in more detail.

The plan recommends implementing the Frequent Transit Network that would include “an enhanced or new fixed-route service, including longer hours of operation on weekdays and on weekends, increased frequency, service on new corridors, and route extensions to more directly serve key destinations.”

Initial priorities in the recommendation include “buying up” evening service on key routes. Providing service longer into the evenings makes transit more usable for both work and non-work trips, according to the proposed plan. The proposed plan says:

“Salt Lake City could provide UTA with a financial contribution to increase frequency or span of service on a route. If the change does not require additional vehicles, i.e., increasing midday or evening service to the same level of service provided at a different time period, no additional vehicles would be required. ... Where the City desires to buy-up service on routes that extend beyond Salt Lake City limits, the City would invest only in service that is within city boundaries. UTA would be responsible for how that service is connected to the rest of the system. For example, service increases that the City buys up could terminate at/near city limits. It is anticipated that once service is demonstrated to meet UTA service standards, the agency would take over provision of that service, as funding allows. UTA and the City would need to document any such agreements in a memorandum of understanding.”⁴⁹

The plan goes on to recommend “developing a local service delivery approach that strengthens” the relationship between UTA and Salt Lake City. “The City and UTA should develop an agreement or memorandum of understanding (or a set of agreements) that comprehensively and clearly outlines mutual responsibilities, decision-making structure, and commitments to promote transparency and ensure accountability. The FTN, which represents the City’s policy vision for frequent service corridors and service levels, is a key area that could be addressed in such agreement. The City can provide local funding support to increase frequency and hours of operation

on high priority corridors and implement capital improvements that enhance transit speed and reliability.”⁵⁰

Various Statistics

Emissions from cars account for nearly half the air pollutants on the Wasatch Front. ... Transit riders along the Wasatch Front take 120,000 car trips off roads each day, saving 850,000 vehicle miles traveled and keeping 2,000 tons of emissions out of the air.⁵¹

A substantial portion of all transit trips begin or end in downtown Salt Lake City or the University of Utah area – 70 percent in Salt Lake County; 57 percent from Davis County; 24 percent from Weber County; and (before Front Runner began operating in Utah County) 19 percent from Utah County.⁵²

Six percent of Salt Lake City residents take transit to work; 2 percent of all trips in Salt Lake City are made on transit.⁵³

Total transit ridership on all lines that touch Salt Lake City increased by 28 percent between 2011 and 2014; boardings in Salt Lake City in the same period increased by 13 percent.⁵⁴ (Council Staff Note: The increase might be due to the completion in 2013 of UTA’s Frontlines Project in which five rail lines were built. Draper and the Airport lines were the last two lines to open.)

Open UTA Questionnaire – Conducted between the summer of 2015 and October 1, 2015, received 461 responses, including 74 from Salt Lake City. Bus was identified as the most important mode for improvement (45%), followed by TRAX and Streetcar (35%). Improving service span was the most important bus improvement (50%). Late night service was the most important TRAX improvement (47%) and Sunday service was the top priority for FrontRunner enhancement (59%).⁵⁵

Design Your Own System Online Tool – More than 1,412 people participated in the study. Of that, 65 percent (918) of the respondents lived in Salt Lake City.

- Seventy percent of the participants said they would like more service in evenings; followed by Saturday service (58%) and finally Sunday service (39%). The priorities were identical, regardless of respondents’ frequency of transit use, age, or income.
- The top capital improvement priority was to increase investments in a rail-based system (46%). This was the top priority regardless of frequency of use, age, or income. Responses from Salt Lake City residents were similar to those of all people who responded, though Salt Lake City residents were somewhat more likely to want to increase investment in the bus system.
- Adults age 45-64, age 65 or older, and low-income respondents were somewhat more likely than other groups to indicate a preference for a bus-based system or incremental improvements to the current system.⁵⁶

Transit Vehicle Capacity – Commuter rail: 100-135 seats per car; TRAX car: 100 person capacity; Streetcar: 100 person capacity; Bus Rapid Transit: 40 to 90 person capacity; Enhanced Bus: 40 to 60 person capacity; Local Bus: 40 to 60 person capacity; Community Shuttle: 15 to 30 person capacity.

CITY COUNCIL PHILOSOPHY STATEMENT PRIORITY: TRANSPORTATION AND MOBILITY – 2013

VISION

Salt Lake City residents should have choices in modes of transportation which are safe, reliable, affordable, and sustainable. Residents should reap the value of well-designed transportation systems that connect residents to neighborhoods and the rest of the region.

The City encourages alternatives to motorized-vehicular transportation and making those options more appealing and accessible to visitors and residents.

VALUES

- 1.) We support maximizing the accessibility, affordability, and reliability of transportation options into and around the City and support increasing accommodations for non-automotive transportation options.
- 2) We support educational efforts that will help residents make informed choices about the types of transportation they use.
- 3) We support reducing the environmental and health impacts created by vehicle emissions.
- 4) We support efforts that will reduce the need for people to drive alone in vehicles.
- 5) We value the social, economic and health benefits that come from active transportation options such as bicycling and walking.
- 6) Pedestrian and bicycle safety are a high priority and we believe they can be compatible with other modes of transportation.
- 7) We support establishing and maintaining safe routes to schools.
- 8) We value coordinating with transportation agencies and other municipalities to improve the movement of people throughout the city.
- 9) As the population of Salt Lake City and the region increases, land use design decisions should reflect the intention to better accommodate all modes of transportation and focus on the movement of people.

¹ *Salt Lake City Transit Master Plan*, Salt Lake City Transportation Division and Nelson\Nygaard Consulting Associates Inc., San Francisco, CA, 2016, March 16, 2017, Page 7-21.

² *Transit Master Plan*, Page 6-4.

³ *Transit Master Plan*, Page 7-21.

⁴ *Transit Master Plan*, Page 7-4.

⁵ *Transit Master Plan*, Page 7-3.

⁶ *Transit Master Plan*, Page 7-7.

⁷ *Transit Master Plan Executive Summary*, Pages 16 and 17.

⁸ *Transit Master Plan*, Page 2-17.

⁹ *Transit Master Plan*, Page 5-13.

¹⁰ *Transit Master Plan Executive Summary*, Page 16.

¹¹ City Council Meeting Minutes, May 7, 2013.

¹² City Council Meeting Minutes, February 4, 2014.

¹³ City Council Staff Report, *Transit Master Plan – Launch*, Russell Weeks, March 17, 2015, Page 2.

¹⁴ *Transit Master Plan*, Figure 2-7

¹⁵ *Transit Master Plan*, Page 2-3.

¹⁶ *UTA Network Study Next Tier Program Final Report*, Lochner Co., June 13, 2013, Page 47.

¹⁷ Discussion, Christopher Chesnut, UTA senior manager of integrated service planning, July 28.

¹⁸ *Transit Master Plan*, Page 2-18.

¹⁹ *Transit Master Plan*, Page 2.18.

²⁰ *Transit Master Plan*, Page 2-18.

²¹ *Transit Master Plan*, Pages 2-2 and 3

²² *Transit Master Plan*, Page 2-9.

²³ *Transit Master Plan*, Page 2-9.

²⁴ *Transit Master Plan*, Page 2-17.

²⁵ *Transit Master Plan*, Page 2-17.

²⁶ *Utah's Unified Transportation Plan 2015-2040*, Wasatch Front Regional Council, UTA, and others, Page 57.

²⁷ *Transit Master Plan*, Page 2-1.

²⁸ *Transit Master Plan*, Page 2-1.

²⁹ *Transit Master Plan*, Page 2-3.

³⁰ *Transit Master Plan*, Page 3-11.

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- ³¹ *Transit Master Plan*, Pages 3-11 and 12
 - ³² *Transit Master Plan*, Page 3-17.
 - ³³ *Transit Master Plan*, Page 2-19.
 - ³⁴ *Transit Master Plan*, Page 2-22.
 - ³⁵ *Transit Master Plan*, Page 2-22.
 - ³⁶ *Transit Master Plan*, Page 7-7.
 - ³⁷ *Transit Master Plan*, Page 6-4.
 - ³⁸ E-mail, Julianne Sabula, August 2, 2017.
 - ³⁹ *Transit Master Plan*, Page 5-13.
 - ⁴⁰ *Transit Master Plan*, Page 5-13.
 - ⁴¹ *Transit Master Plan* Page 6-10.
 - ⁴² *Transit Master Plan*, Page 6-3.
 - ⁴³ *Transit Master Plan*, Page 6-7.
 - ⁴⁴ *Transit Master Plan*, Page 6-9.
 - ⁴⁵ *Transit Master Plan*, Page 7-21.
 - ⁴⁶ *Transit Master Plan*, Page 6-12.
 - ⁴⁷ *Transit Master Plan*, Page 7-14.
 - ⁴⁸ *Transit Master Plan*, Pages 7-14-20.
 - ⁴⁹ *Transit Master Plan*, Pages 7-1 and 3.
 - ⁵⁰ *Transit Master Plan*, Pages 7-20 and 21.
 - ⁵¹ *Unified Transportation Plan*, Page 6.
 - ⁵² *UTA Network Study*, Executive Summary Page 4 and Network Study, Page 30.
 - ⁵³ *Transit Master Plan*, Page 1-8.
 - ⁵⁴ *Transit Master Plan*, Page 1-8.
 - ⁵⁵ *Transit Master Plan*, Page 1-6.
 - ⁵⁶ *Transit Master Plan*, Page 1-7.