

Existing and Future Conditions Memo

January 2021

DRAFT

Prepared for

Utah Transit Authority
669 W. 200 S.
Salt Lake City, UT 84101
www.rideuta.com

Prepared by

Parametrix
4179 Riverboat Road, Suite 130
Salt Lake City, UT 84123
T. 801.307.3400 F. 1.855.542.6353
www.parametrix.com

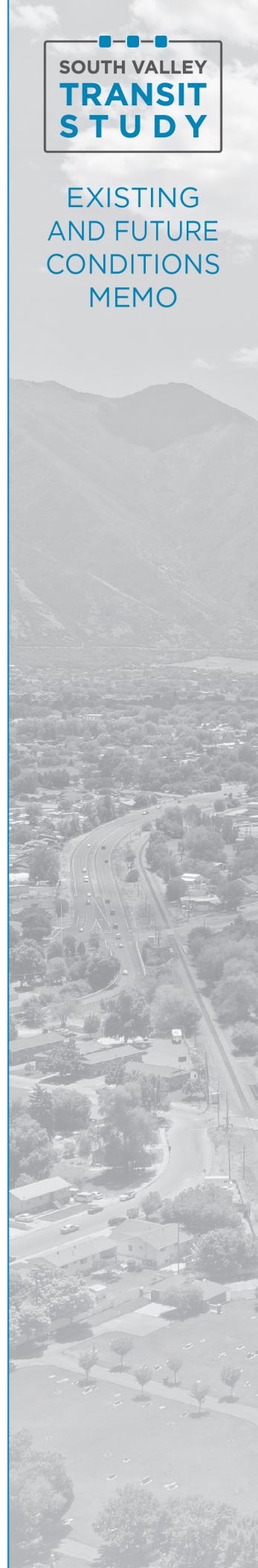
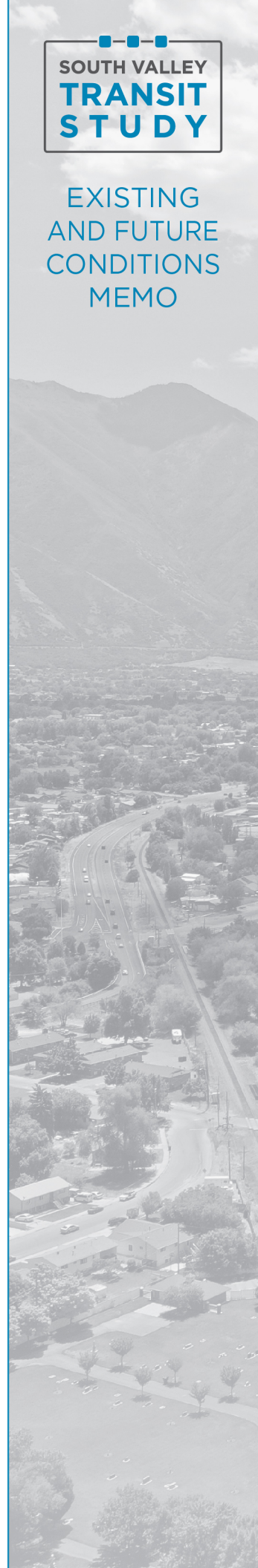


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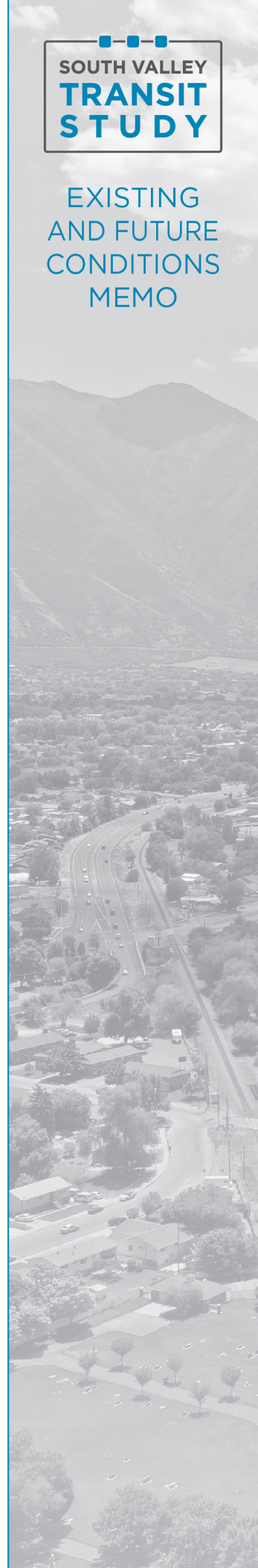
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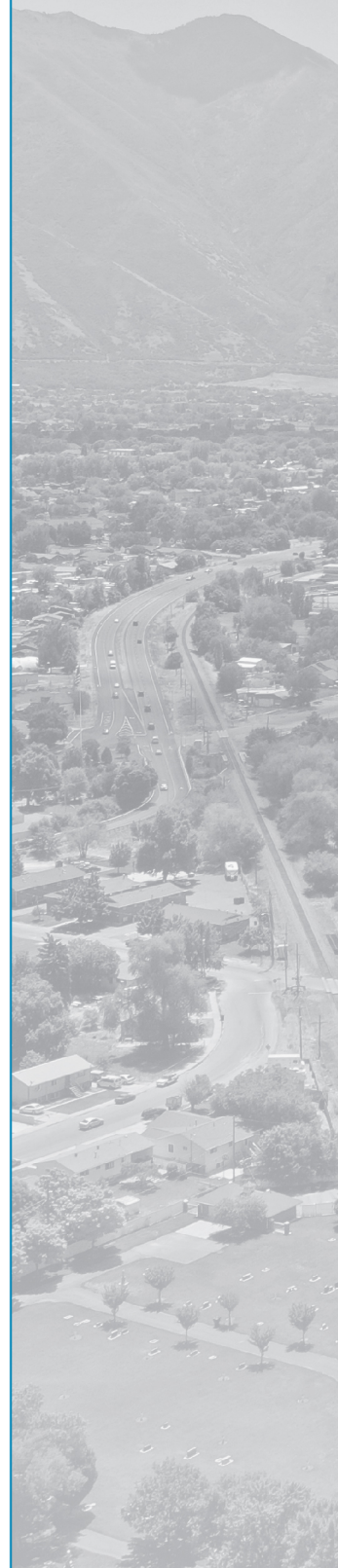
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ACRONYMS AND ABBREVIATIONS

BRT	bus rapid transit
CAA	Clean Air Act
CAAA	Clean Air Act Amendments
CRT	commuter rail transit
EPA	Environmental Protection Agency
FTA	Federal Transit Administration
HOV	high-occupancy vehicle
ITOD	interim transit-oriented development
LRT	light rail transit
MAG	Mountainland Association of Governments
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
PA	Preferred Alternative
RDA	Redevelopment Agency
RTP	Regional Transportation Plan
TMA	Transportation Management Associations
TOD	transit-oriented development
UDOT	Utah Department of Transportation
USDOT	U.S. Department of Transportation
UTA	Utah Transit Authority
UVX	Utah Valley Express



1. INTRODUCTION

1.1 OVERVIEW

The Cities of Provo, Springville, Mapleton, Spanish Fork, Salem, Payson, and Santaquin, in collaboration with Mountainland Association of Governments (MAG), Utah Transit Authority (UTA), and Utah Department of Transportation (UDOT) have initiated a transit study to evaluate options for providing expanded high-capacity transit service in the southern portion of Utah County, from Provo to Santaquin. The purpose of the study is to determine a Preferred Alternative (PA) that can be advanced into the next phase of project development – environmental study and preliminary engineering. The PA will identify the transit alignment (corridor and locations to be served) and the transit mode (type of transit technology, e.g. commuter rail, bus rapid transit, etc.). In addition, near term investments and phased transit service options will be explored to bridge the gap between existing transit service and full implementation of the PA.

The study process consists of several distinct steps including (Figure 1):

- **Establish Project Context** – collecting data and documenting existing and future conditions within the study area.
- **Determine Purpose and Need** – investigating and documenting the Purpose and Need for the proposed project, i.e., why the project is being considered.
- **Identify Project Alternatives** – developing different ways the purpose and need for the project can be achieved.
- **Perform Initial Alternative Screening** – evaluating factors such as land use, economic development, transit ridership, capital and operating costs, community and environmental considerations, and public and stakeholder outreach to determine the best performing alternatives.
- **Conduct a Detailed Alternative Evaluation** – refining the remaining alternatives and evaluating in greater detail to inform the selection of the PA.
- **Develop Implementation Plan** – based on factors, such as ridership, cost, and funding strategies, potential phasing scenarios will be explored, and an implementation plan will be developed.

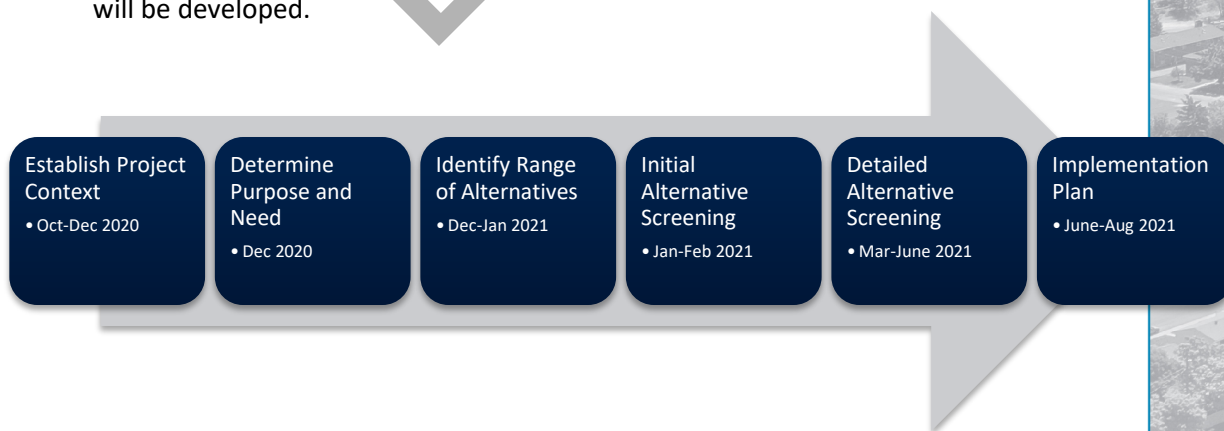


Figure 1. Transit Study Process

In addition to the steps outlined above, coordination and involvement with affected jurisdictions, stakeholders, and the public is an essential component of the study and will occur throughout the transit study process.

1.2 CONTEXT

According to MAG's TransPlan 2050, by 2050 Utah County is expected to nearly double in population – adding over 660,000 more people and surpassing 1.3 million people. This equates to 100 percent growth and is more than double any other Wasatch Front county. For comparison, Salt Lake County (which is focused more on infill than greenfield development) has a growth rate of only 36 percent. During this period, Utah County's growth will be larger than the other three Wasatch Front counties combined. This rapid growth is discussed in greater detail in Section 3.3.

The area identified by MAG in TransPlan50 as South Utah County, encompassing all the Cities participating in this study, will grow to a population of nearly 400,000 by 2050.






Cities in south Utah County have begun planning for this growth and have been developing plans for increased density around future high-capacity transit service. Maintaining reliable and efficient mobility, including offering mobility choices, are key to meeting current and future transportation demands and fostering a positive quality of life.

1.3 WHAT IS HIGH-CAPACITY TRANSIT?

A robust transit system serves different types of trips. High-capacity transit serves as the transit backbone, connecting major destinations regionally. This backbone is augmented by local bus service and "first mile/last mile" connections, which include appropriate and safe bicycle and pedestrian connections to transit facilities.

High-capacity transit carries larger numbers of passengers and provides more frequent and reliable service than a standard bus system, and often employing features to accommodate more passengers and reduced travel times. It can operate in exclusive right-of-way (out of traffic) or on existing streets. High-capacity transit service typically features modern vehicles and enhanced station areas and amenities, off vehicle fare collection to allow for faster boarding, and signal priority at intersections.

Figure 2 compares the three primary types of high-capacity transit: bus rapid transit (BRT), light rail transit (LRT), and commuter rail transit (CRT). For additional context, Figure 2 also describes local and express bus service.

	BUS RAPID TRANSIT	LIGHT RAIL TRANSIT	COMMUTER RAIL TRANSIT	EXPRESS BUS	LOCAL BUS
Trip Types	Local and regional	Local and regional	Regional	Regional	Local
Operating Environment	Exclusive right-of-way or mixed traffic along arterial streets or highways ^a	Exclusive right-of-way within arterial streets or in dedicated right-of-way separate from streets	Separate right-of-way	Utilizes existing travel lanes, often on interstates mixes with general traffic	Utilizes existing local streets, mixes with general traffic
Typical Spacing of Stops	1/2 - 1 mile	1 mile	4-5 miles	Varies, but tends to have longer stop spacing (>1 mile)	1/4 - 1/2 mile
Typical Peak Frequencies	5-10 minutes	15 minutes	30 minutes	30 minutes during AM/PM peak, little or none outside of that	15-30 minutes
Passenger Capacity per Vehicle	60-90 per bus	180-200 per car ^b	100-200 per car ^b	60-90 per bus	40-80 per bus
UTA Example					
	UVX	TRAX	FrontRunner	Route 805	Route 822

a - BRT has the greatest flexibility in operating environment. In addition to functioning in a typical street environment, it can also operate along highways, including in high-occupancy vehicle (HOV) lanes.

b - Multiple LRT and CRT vehicles can be linked to create a longer train, moving a higher capacity of passengers per trip.

Figure 2. Transit Mode Options

1.4 STUDY AREA

Figure 3 illustrates the general study area for this effort. It spans from Provo to Santaquin in a north-south manner, generally following I-15 and the rail corridors east of I-15. This is a narrow area of study, located at the southern edge of Utah Lake and along the Wasatch Mountains, which form a natural area of constraint, particularly near Springville. This is important to note, as this constricts transportation connectivity options in this region of Utah County, forcing trips onto a limited number of routes. The primary communities of focus in this memo are Provo, Springville, Spanish Fork, Payson, and Santaquin. The communities of Mapleton and Salem are also discussed as adjacent communities that would be served by a future high-capacity transit investment.

1.5 MEMO PURPOSE

The purpose of this memo is to document the findings that describe the existing and future conditions in the study area. The findings are not intended to document conditions in detail; however, they will emphasize describing conditions that directly support the development of Purpose and Need and yield information specific to defining and evaluating alternatives in future steps of this study. The intent is that data collection will be ongoing as the study evolves and is warranted, and this memo may be updated as needed.



The study area includes a variety of choices for travel including some local bus service, freeways, and other facilities. The communities across southern Utah County have been preparing for additional transit through policies, development, and engagement. As the population grows, demand on existing transportation facilities will increase and contribute to congestion, increased travel times, and unreliable travel.

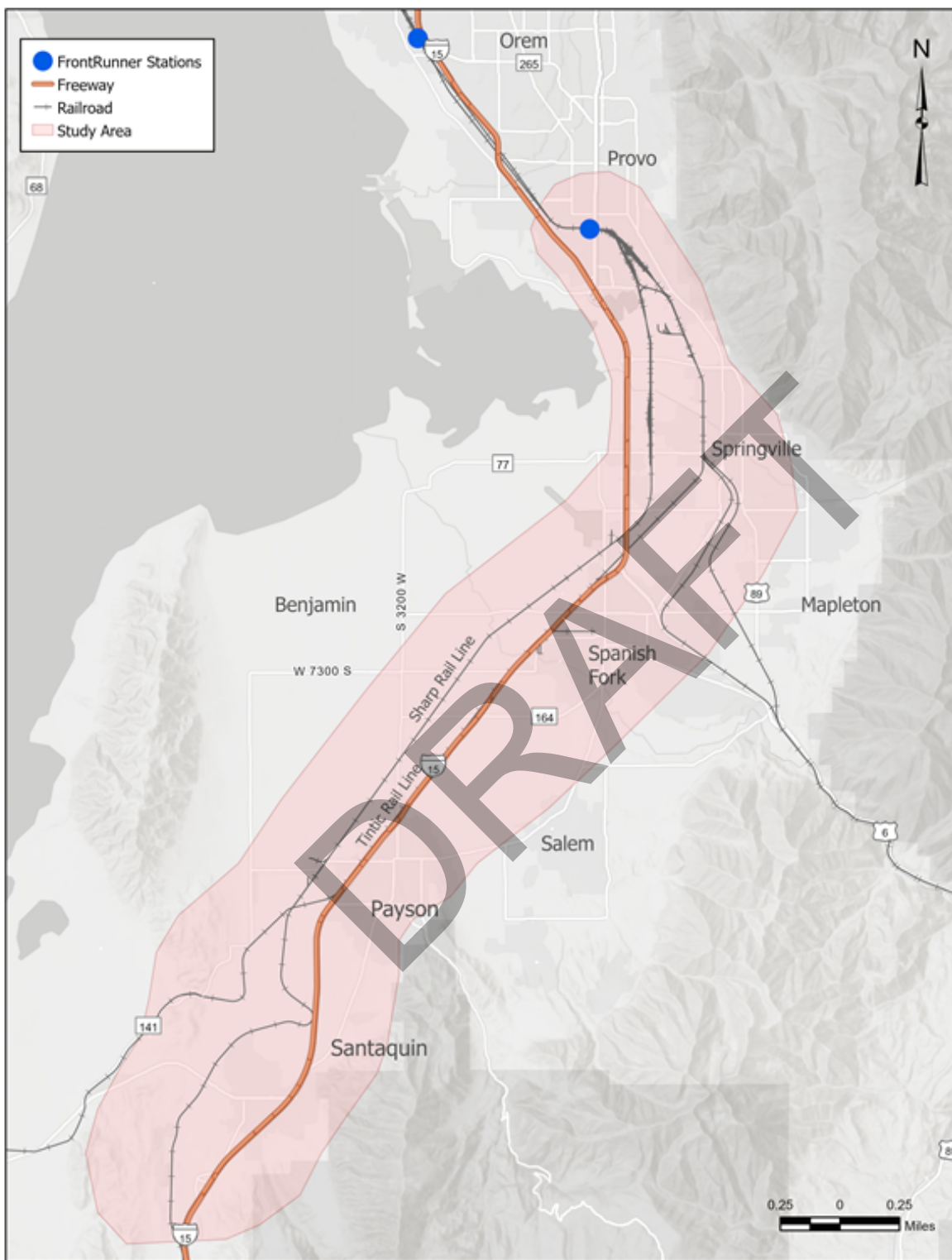


Figure 3. Study Area

2. TRANSPORTATION CONDITIONS

This section includes a discussion of travel demand as well as existing conditions and planned improvements in the South Valley study area for roadway, transit, multimodal, and freight rail facilities.

Only readily available transportation data was collected and reviewed. More detailed information will be analyzed in support of Purpose and Need development and during the alternatives evaluation process. At this point in time, this inventory does not include any field surveys, modeling, or otherwise extensive data collection methods. Transportation characteristic information reflects major roadways likely to be considered in the alternatives analysis.

2.1 TRAVEL DEMAND

The WFRC/MAG Travel Demand Model base year 2019 and 2050 Regional Transportation Plan models were used to produce a summary of travel patterns for trips originating in south Utah County. Destination areas were aggregated based on county boundaries outside of Utah County and split by south, north and west areas within Utah County. Travel from south Utah County to areas north of Salt Lake County and to west Utah County made up less than 1 percent of overall trips in both the base and future year so they have been excluded from analysis below. Data summarizing travel to Utah County (split geographically between north and south) and Salt Lake County from the WFRC/MAG Travel Demand Model are summarized in Table 1. For purposes of making observations of travel in south Utah County, the geographic split between north and south Utah County was made at the southern boundary of Provo. Observations from this data reveal:

- Total trips more than double between 2019 and 2050, likely due to expected rapid growth and subsequent socioeconomic changes that reflect this in the model.
- Majority of all South Utah County trips (over 75%) in both 2019 and 2050 start and end in south Utah County.
- Majority of home-based work trips in both 2019 and 2050 (49% and 53% respectively) also have both trip ends in south Utah County. A larger share of work-based trips have a trip end in north Utah County and Salt Lake County compared to all trips. This pattern is similar in 2019 and 2050, with the notable difference of a higher share of home-based work trips with a trip end in Salt Lake County in 2050 compared to 2019.
- Existing transit trips are limited in 2019, however the largest share of transit trips that originate in South Utah County are going to north Utah County (62%) and the remaining trips are split between south Utah County and Salt Lake County (15% and 21%, respectively).
- Transit trips increase over six-fold from 2019 to 2050. This is likely due to the substantive increase in transit service envisioned in the MAG RTP.
- 74% of all transit trips in 2050 are leaving south Utah County and are destined to north Utah County (55%) or Salt Lake County (19%)

Trip lengths were also evaluated and summarized in Table 2 for 2019 and 2050 from the WFRC/MAG Travel Demand Model. Trip lengths from 2019 to 2050 are similar for all trips as a whole. Home-based work trips increase in length slightly as do transit trip length.

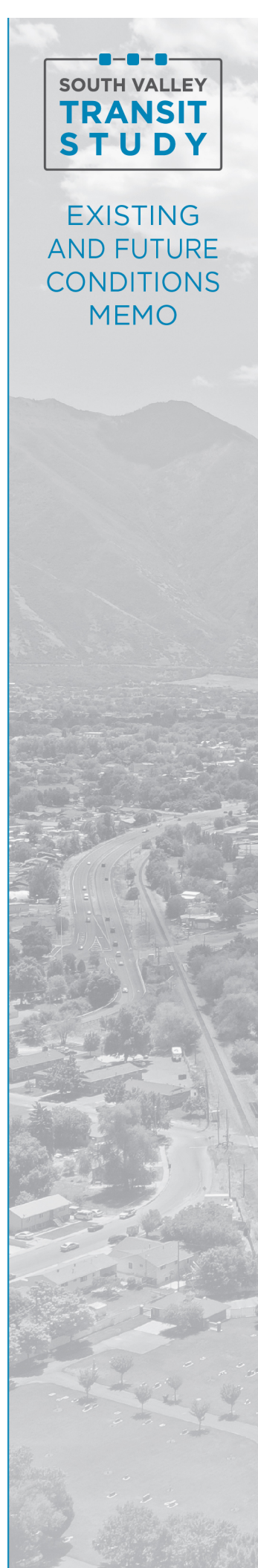


Table 1. Travel Demand Summary

	Trips to South Utah County		Trips to North Utah County		Trips to Salt Lake County		Total
	# of trips	% of total	# of trips	% of total	# of trips	% of total	
2019							
All Trips	480,399	75%	135,466	21%	15,747	2%	636,423
Home Based Work Trips	48,244	49%	43,141	44%	7,000	7%	98,916
Transit Trips	233	15%	976	62%	337	21%	1,578
2050							
All Trips	1,342,253	81%	241,019	15%	50,953	3%	1,659,980
Home Based Work Trips	144,722	53%	91,602	33%	30,589	11%	274,887
Transit Trips	2,375	23%	5,765	55%	1,995	19%	10,233

Table 2. Trip Length (miles)

	Trips to South Utah County	Trips to North Utah County	Trips to Salt Lake County	All Trips
2019				
All Average Trip Length	3.20	16.99	50.08	7.72
Home Based Work Average Trip Length	5.36	15.80	49.98	13.29
Average Transit Trip Length ¹	3.82	14.27	54.12	22.42
2050				
All Average Trip Length	3.63	15.46	49.12	7.35
Home Based Work Average Trip Length	5.70	17.55	49.07	15.39
Average Transit Trip Length ¹	3.93	14.04	49.83	19.55

¹Transit distance used the same distance matrix as all trips so it does not exactly match routing people might have taken for their trips but maintains a consistent metric across scenarios since a comparable transit distance matrix is not available.

2.2 EXISTING AND FUTURE ROADWAY CONDITIONS

2.2.1 EXISTING ROADWAY CONDITIONS

This study area, unique due to its narrow geographic constraints, has one major north-south connection, I-15, that moves most traffic at a regional scale. That corridor is supplemented by US-89 (which also doubles as Springville’s Main Street and Mapleton’s 1600 West) from Provo through Springville, to Mapleton. SR 198 serves as a key arterial through Spanish Fork and Payson. No other major north-south facilities exist currently, solidifying the need for a parallel transit facility that compliments the existing north-south roadway network.

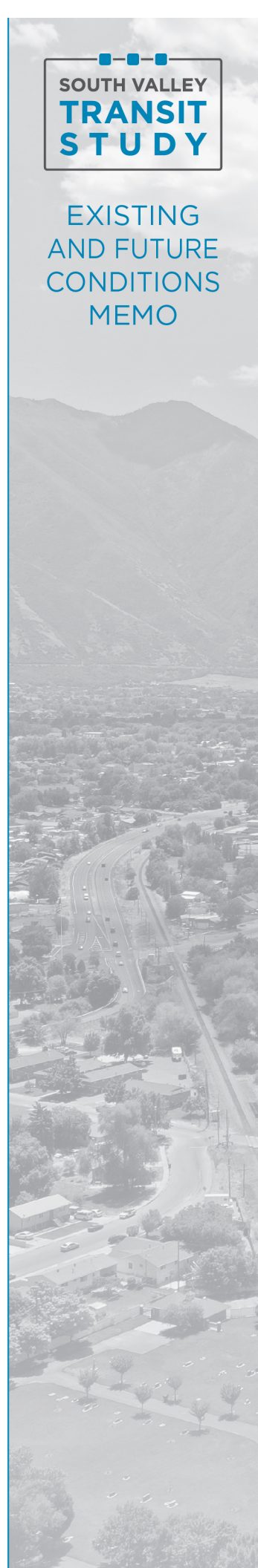
More specifically, the MAG Regional Transportation Plan (RTP) defines a major choke point in the transportation network between Provo and Springville. This area is anticipated to become the most congested area in the county, with only two existing regional connections (I-15 and State Street/US-89) and limited alternatives due to geography.

In addition to the limited north-south corridors, as Utah County has grown and towns began adjoining one another, the proper sizing and spacing of regional highway connections did not occur. Therefore, the local street network is not complemented by a regional grid (Source: MAG TransPlan50). In cooperation with the local government jurisdictions, MAG is planning to expand Utah County’s grid network with an additional 1,000 miles of new lanes. Creating these connections can remove localized trips from I-15 and US-89. A *Utah County Grid Study* is currently underway, and improvements to the roadway network will continue to be developed (described further in Section 5.2.2).

In the MAG RTP, travel demand modeling was conducted to understand level of service on roadways in the future both with and without implementation of planned projects. By 2050 with no additional roadway improvements in place, severe congestion will occur on I-15 and State Street/US-89. Arterial-to-arterial intersections will also be extremely constrained. Even with buildout of the underlying arterial grid network and planned improvements, congestion is projected to still remain on I-15, US-89, and Hwy 6, as freeways reach capacity (Figure 4).

Thus, additional travel options are warranted. Modeling was conducted on new facilities (e.g., various interchange improvements, I-15 widening between Payson and Santaquin, a grade separated Hwy 6 at Spanish Fork), with the greatest need identified for additional north-south travel choices, east and south of the lake.

Solutions to these challenges, as anticipated in the MAG RTP, includes adding a combination of new lanes to I-15, a potential new freeway from American Fork to Payson, implementing core bus service, conducting local roadway improvements, and expanding FrontRunner and other planned transportation improvements.



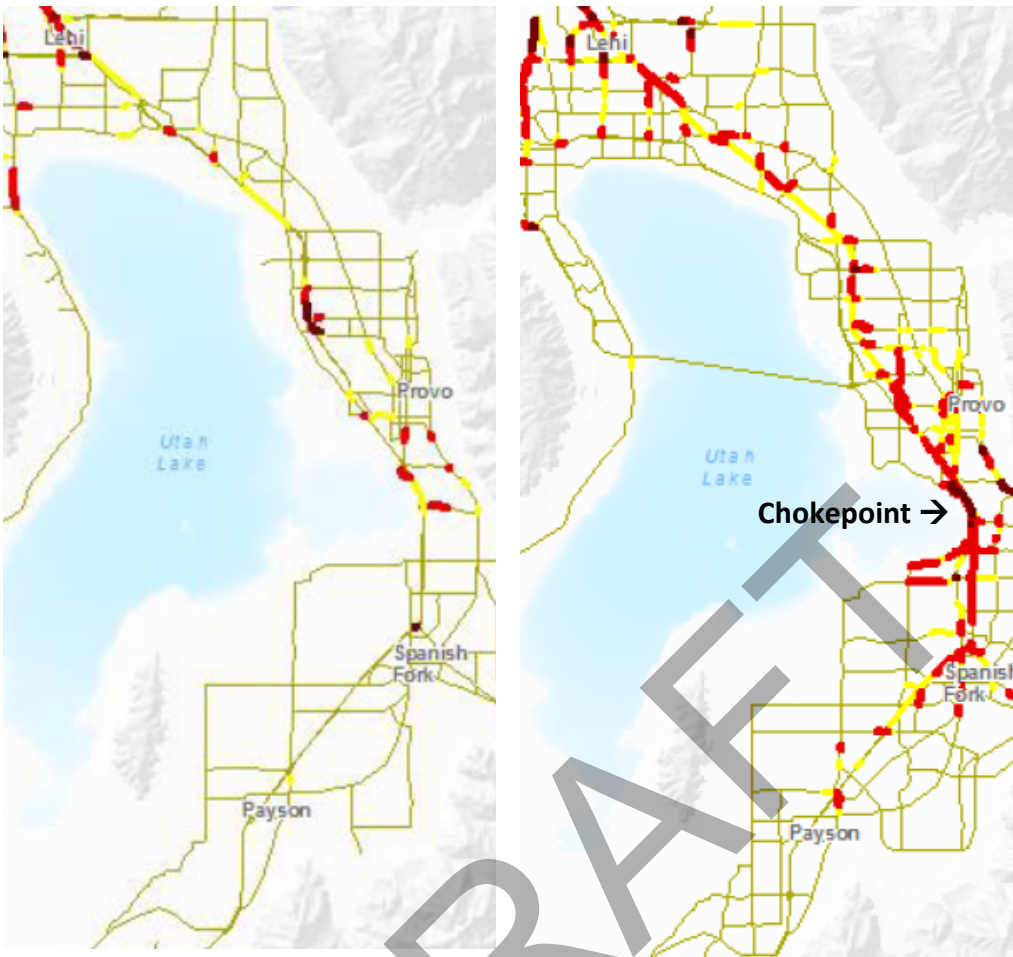


Figure 4. 2015 Congestion (left); 2050 Congestion with Financially Constrained Plan (right) (Source: MAG TransPlan50 Appendix A)

2.2.2 PLANNED TRANSPORTATION IMPROVEMENTS

Future planned and programmed roadway projects in the southern portion of Utah County are aimed to improve capacity and connectivity and are planned in a way that reinforces the projected travel demand and geographic constraints in this area (Figure 5). For example, today there is more traffic entering and exiting I-15 at US-6 at freeway volumes than there is continuing south on I-15 toward Payson. Some of the improvements intended to address the travel demand (shown in Figure 5) include:

- **New interchanges**, notably at I-15/1600 South/2700 North in Springville/Spanish Fork, I-15/Center Street in Spanish Fork, I-15/Main Street in Payson, and at 12400 South in Utah County between Payson and Santaquin)
- **Additional east-west connections** like a grade-separated Hwy 6 in Spanish Fork, and a new Nebo Belt Road in Payson
- **Widening of I-15** in some areas
- And **additional lanes** added to existing east-west facilities

An interactive map depicting details information about planned roadway improvements can be found [here](#).

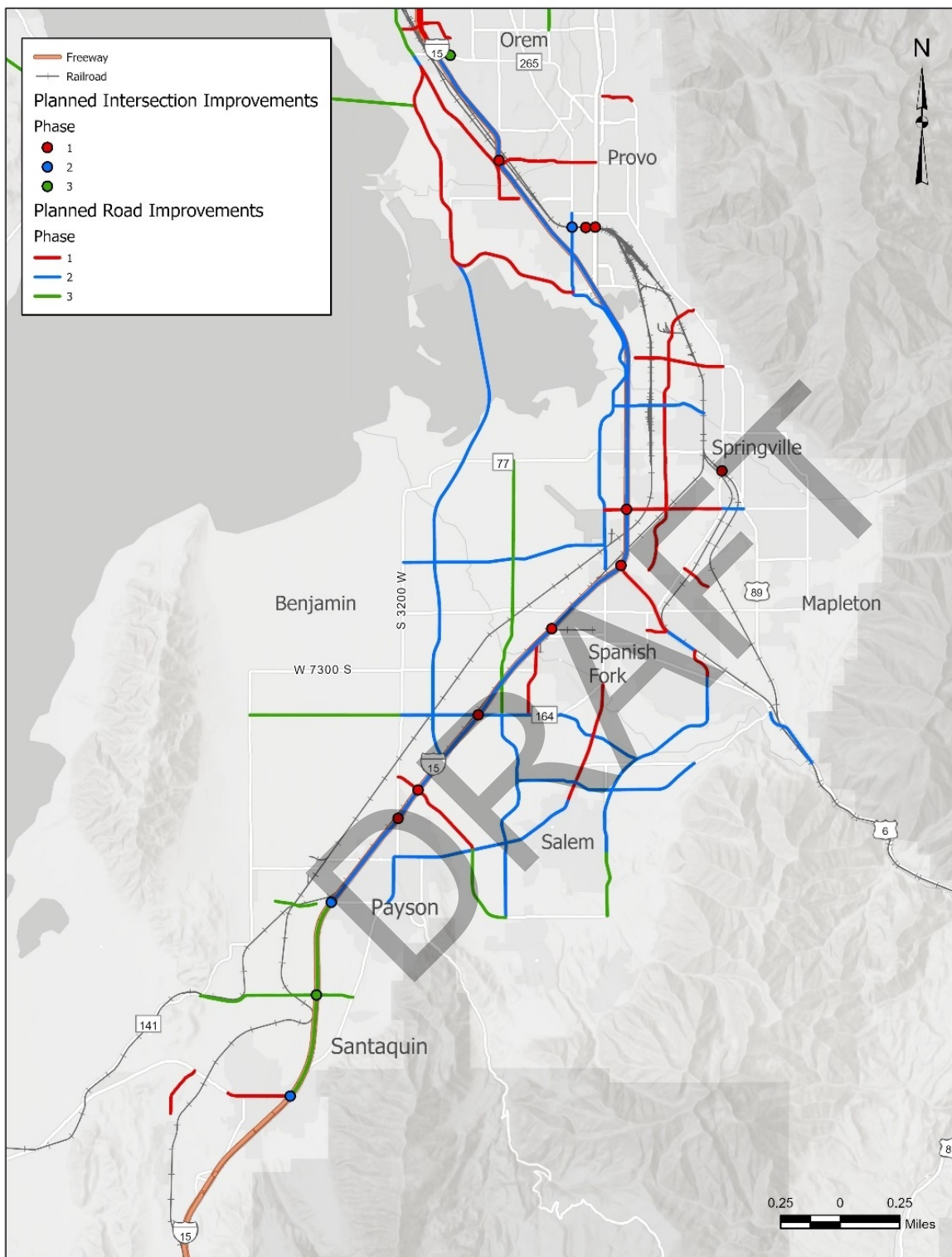


Figure 5. Planned and Programmed Roadway Improvements

2.3 EXISTING AND FUTURE TRANSIT SERVICES AND FACILITIES

2.3.1 EXISTING TRANSIT CONDITIONS

Figure 6 illustrates the existing transit network in the study area. More robust transit service exists in the northern part of the County between Lehi and Provo, than exists between Provo and Santaquin.

FrontRunner commuter rail, paralleling I-15, has 30-minute headways (frequencies) during the morning and afternoon peak travel periods and 60-minute headways during off-peak times, terminating in Provo. This service sees approximately 20,000 boardings per day. Daily boardings at the stations in the study area range from approximately 900 to 2,200 depending on location.

UVX is the only bus rapid transit route partially within the study area, and maintains frequent service between Orem and the Provo FrontRunner station throughout most of the day (6-minute headways), with 10- to 30-minute headways in the early morning and late evening. Service on this route is currently free through the end of 2021, with fares covered by a Congestion Mitigation and Air Quality (CMAQ) grant. BYU and UVU have separate contract agreements to provide subsidized fares for students across the UTA system. UVX typically sees approximately 12,000 boardings per day. Daily boardings at the stations in the study area range from under 100 to approximately 800.

Implementation of the UVX BRT service increased ridership by six times what the existing bus routes 830 and 383 were experiencing.
(UTA)

Three bus routes currently link the southern portion of the County with the Provo area and broader region. The 805 bus route links the cities adjacent to I-15, (Spanish Fork, Payson, and Santaquin) to Utah Valley University in Provo, with the option to transfer to access Brigham Young University. It offers 1-hour headways from the southern part of the valley northbound-only in the morning, and 1-hour headways southbound-only in the afternoon. This service averages 167 boardings per day. The other two routes, 821 and 822 connect the communities east of I-15 (Salem, Spanish Fork, Springville) north with Provo and Brigham Young University with the option to transfer to access Utah Valley University. These services offer similar headways and average 590 boardings per day and 172 boardings per day, respectively.

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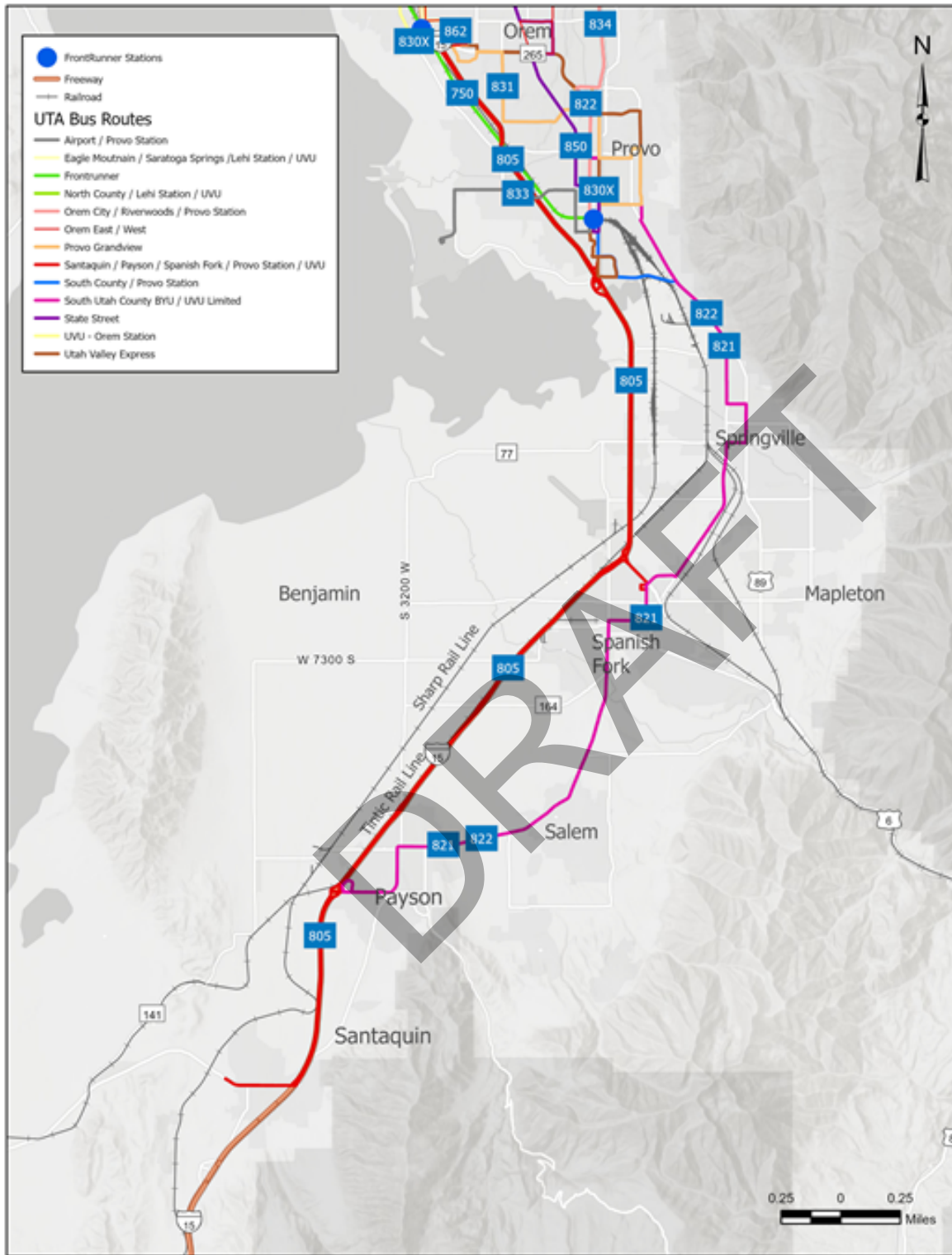


Figure 6. Existing Transit Service



Current study area transit options include:

- Local bus (Routes 821, 822)
- Express bus (Route 805)

Most high frequency transit options are on the north end of the study area, and include FrontRunner and UVX (bus rapid transit).

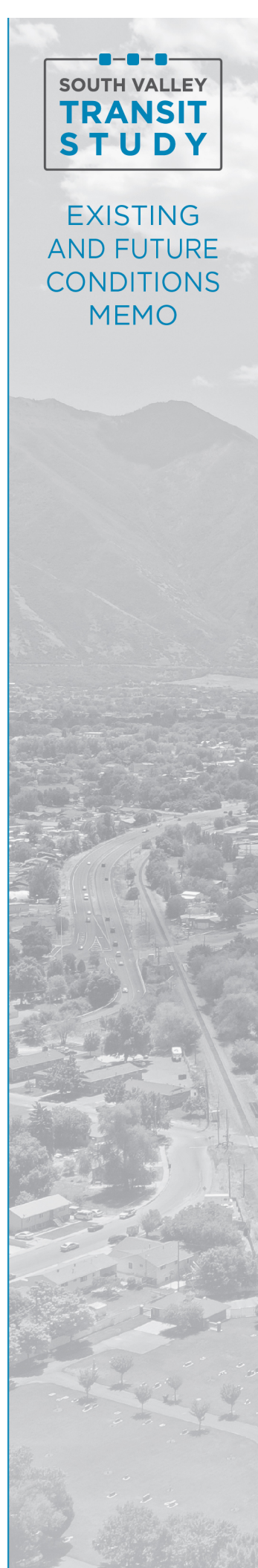
The FrontRunner terminus in Provo is one of the top five highest boarding stations system-wide.

2.3.2 PLANNED TRANSIT IMPROVEMENTS

Proposed transit improvements programmed in the MAG TransPlan 2050 RTP within the study area include the following, also illustrated on Figure 7:

- **South Commuter Rail** – extension of FrontRunner from Provo to Payson.
- **Maple Core Bus Route** – bus service between Spanish Fork and Provo, creating a new connection serving those east of I-15.
- **Nebo Core Bus Route** – bus service between Payson and Provo.
- **Sharp – Tintic Railroad Realignment** – realignment and construction of rail track to accommodate a future FrontRunner extension through Springville.
- **North Commuter Rail Electrification and Double Track** – this effort would electrify FrontRunner service, moving away from diesel-powered engines, and create double track from Provo to Salt Lake City to allow for more frequent headways.
- **South Light Rail Line** – extending light rail service from Provo to Spanish Fork, and ultimately on to Payson.
- **South Bus Rapid Transit** – new bus rapid transit connecting Payson to Spanish Fork, east of I-15.

An interactive map depicting details information about planned transit improvements can be found [here](#).



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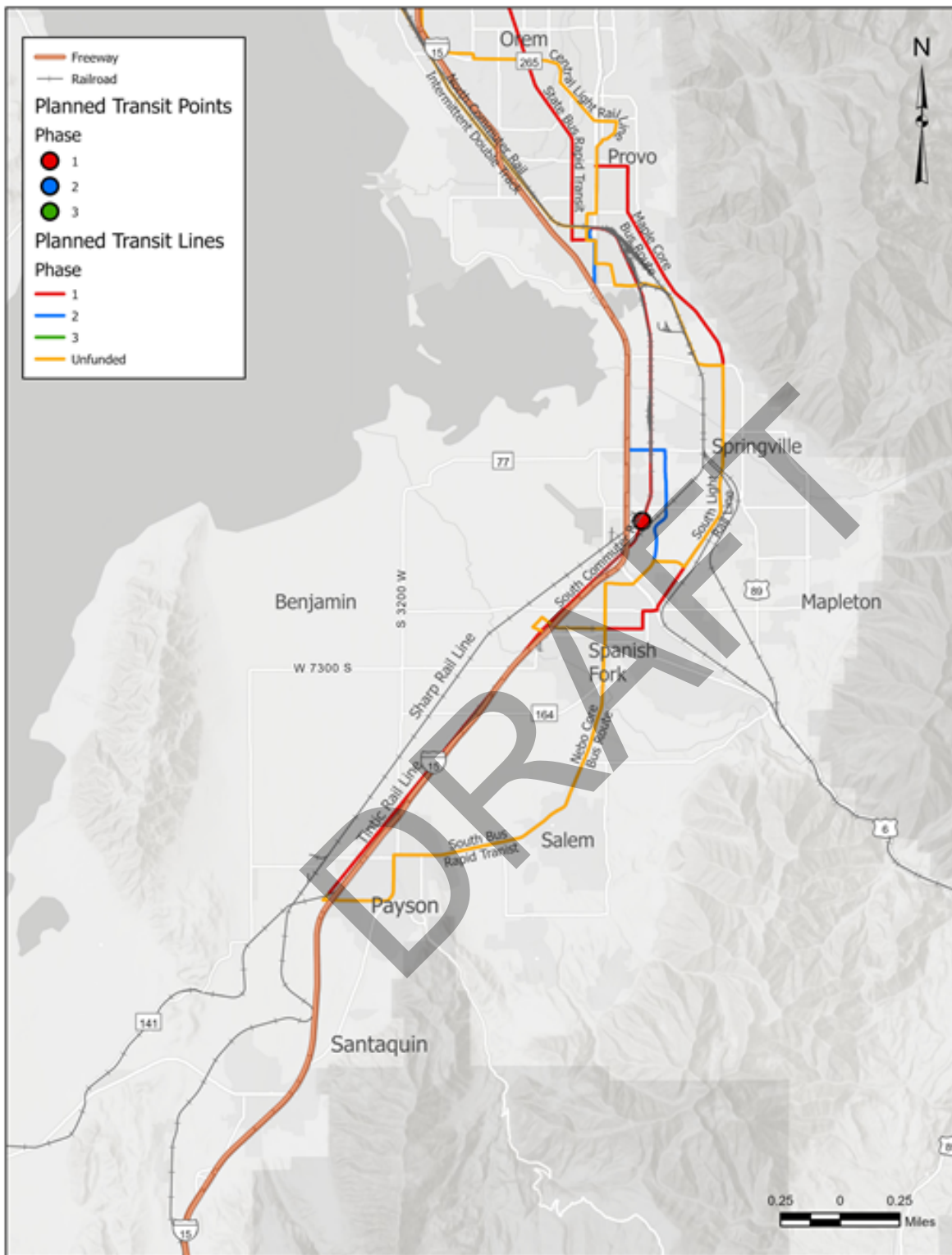


Figure 7. Planned Transit Improvements

A summary of existing and future transit boardings from the WFRC/MAG model for both the FrontRunner system as well as all transit boardings in south Utah County are displayed in Table 3.

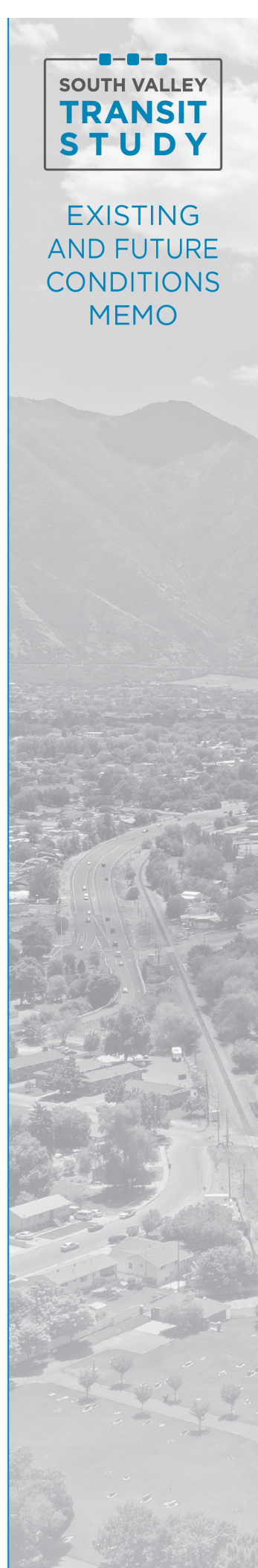
Table 3. WFRC/MAG Model Average Weekday Total Boardings, by Station

FrontRunner Station Boardings ¹	2019	2050
Provo FrontRunner Station		
Bus ²	1,520	3,738
FrontRunner	1,602	5,694
Total	3,123	9,433
Springville FrontRunner Station		
Bus	-	434
FrontRunner	-	1,562
Total	-	1,996
Spanish Fork FrontRunner Station		
Bus	-	300
FrontRunner	-	1,452
Total	-	1,752
Payson FrontRunner Station		
Bus	-	163
FrontRunner	-	495
Total	-	658
All Stations		
Bus	1,520	4,635
FrontRunner	1,602	9,203
Total FrontRunner Station	3,123	13,838
South Utah County Total Transit Boardings		
	2019	2050
Bus serving FrontRunner station areas	4,017	4,635
All other bus	2,497	7,701
FrontRunner	1,602	9,203
Total	5,619	21,539

Notes:

¹ Service frequency assumptions for both 2015 and 2050 FrontRunner are 30 minute peak and 60 minute off-peak service

² Bus includes both BRT and local bus, as applicable

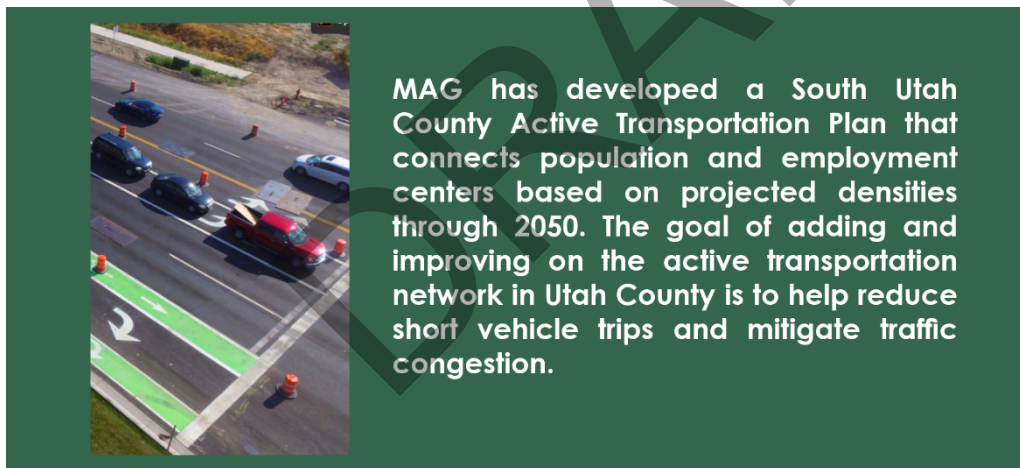


As shown in Table 3, with planned projects envisioned in the MAG RTP, as well as expanded local transit service, transit boardings increase across the FrontRunner system as well as total boardings in south Utah County. In 2050, FrontRunner sees approximately 9,200 total boardings in south Utah County, with 5,700 boardings in Provo, and 3,500 boardings at the proposed future Springville, Spanish Fork, and Payson FrontRunner stations. For all FrontRunner boardings, a little less than 15% of boardings are drive access in both 2019 and 2050. An additional approximately 12,000 local bus trips brings the total transit boardings in south Utah County to 21,500 in 2050.

2.4 NON-MOTORIZED TRAVEL

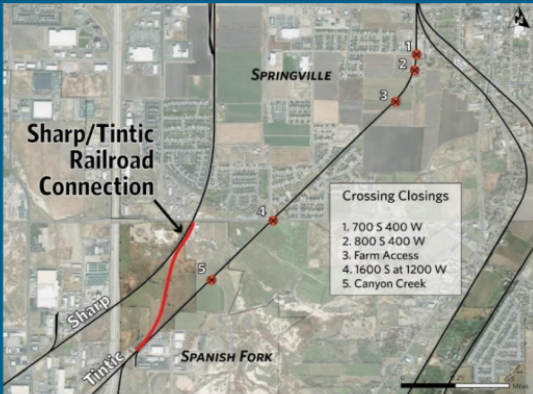
Non-motorized transportation is an integral part of improving air quality, reducing congestion, and lowering travel costs. Non-motorized travel, also known as active transportation, includes sidewalks, multi-use paths, trails, and on-street bike lanes.

As urbanized areas continue to grow, providing active transportation connections to transit are often low-cost and low-impact (particularly if included in other roadway construction/resurfacing projects), and provide safe connections for community members. These options are great for shorter trips, typically under two miles, and support transit well as options for “first/last mile connections” – how a traveler gets to/from their final destination from a high-capacity transit route. MAG facilitated the development of a *South Utah County Active Transportation Plan* in 2016.



2.5 FREIGHT RAIL

Sharp-Tintic Railroad Connection



This project will build approximately 7,000 linear feet of new railroad tracks connecting the Sharp and Tintic Railroad corridors within the Cities of Springville and Spanish Fork, Utah. This connection will enable key public transit objectives while improving local community accessibility and safety.

Project partners include UTA, UDOT, Union Pacific Railroad with support from Springville and Spanish Fork cities.

This study area is unique in that some locations along the existing Union Pacific Railroad corridor are still serviced by freight rail. While the frequencies are generally low, transit plans and schedules need to accommodate the movements of goods along this corridor.

As shown in Figure 3, two rail corridors of note in the study area include the Tintic Industrial Lead (hereafter referred to as the Tintic Line) and the Sharp Subdivision (hereafter referred to as the Sharp Line). UTA currently operates FrontRunner through Provo on the Sharp Line, which terminates at the Provo Intermodal Hub. The Sharp Line continues to the south on the east side of I-15 to Springville and points south. The Tintic Line parallels the Sharp Line leaving the Provo Intermodal Hub and heads south on a trajectory that is east of the Sharp Line.

UTA owns the Sharp Line right-of-way through Springville. UTA ownership on the Tintic Line begins in Springville and terminates in Payson where the two rail lines intersect. The Sharp Line services freight customers through Springville with higher freight volumes and daily service. The



The Tintic Line has active freight users through Spanish Fork with lower freight volumes and freight service up to two times a week.

3. LAND USE AND SOCIOECONOMIC CONDITIONS

This section provides a high-level overview of existing and planned land uses within the study area, as well as describes socioeconomic conditions. Additional and more detailed land use analysis of potential transit station locations will accompany future tasks as part of this study.

3.1 EXISTING LAND USE

The existing land use throughout the study area varies between each community (Figure 8). Overall, the primary land uses within each community are low density, single-family residential development. Many schools, churches, and parks are dispersed through each community, with commercial, mixed use, and industrial land uses focused along major arterial streets and along the I-15 corridor. This land use pattern is typical of suburban development patterns. Land uses becomes more rural and agricultural in the south and east portions of the county. Many of the cities within the study area have strong agricultural roots and have grown quickly from smaller rural communities.

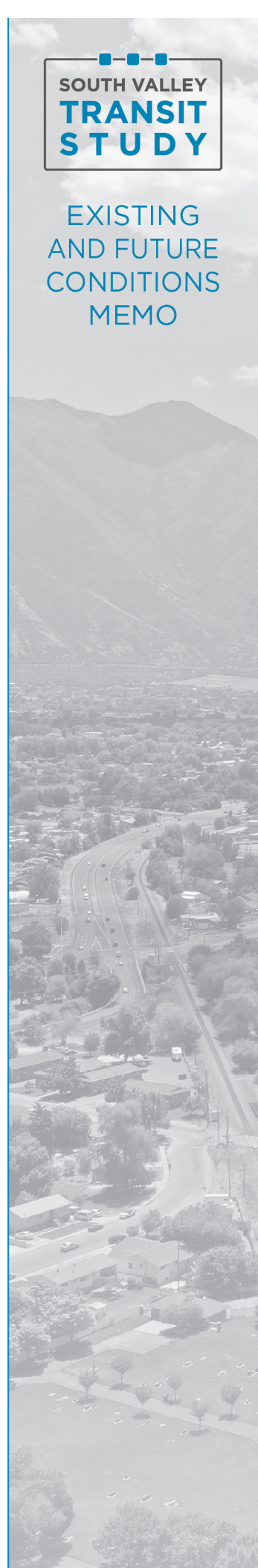
More specifically, at the north end of the study area, Provo has a higher density of both commercial and residential development, compared to cities farther south. Provo has existing FrontRunner service in the transit-oriented district south of Downtown Provo, where the City expects continued investment to expand transit-oriented housing and employment.

Moving south, almost half of all developed land in Springville City is for residential use. Spanish Fork, Payson, and Santaquin are similarly residential in character. Commercial and mixed-use development is focused along major arterials and interchanges with I-15. Mapleton is predominantly residential, mostly comprised of large-lot single family with a rural character.

Many destinations for south Utah County residents exist in north and central Utah County, including Utah Valley University and Brigham Young University, as well as several large-scale hospitals and medical centers.

3.1.1 TRANSIT-ORIENTED DEVELOPMENT ZONING

Zoning categories in most study area communities are consistent, allowing for careful organization and development of land uses in a compatible manner. Planning ahead for potential transit implementation, most communities include a transit-oriented development (TOD) zoning district or overlay, allowing for more compact and pedestrian friendly development along transit corridors and/or in planned station areas with the intent to create a cohesive mix of transit-supportive land uses. These TOD overlays are summarized as follows. For reference, locations of future FrontRunner stations that have been identified previously are shown on Figure 8.



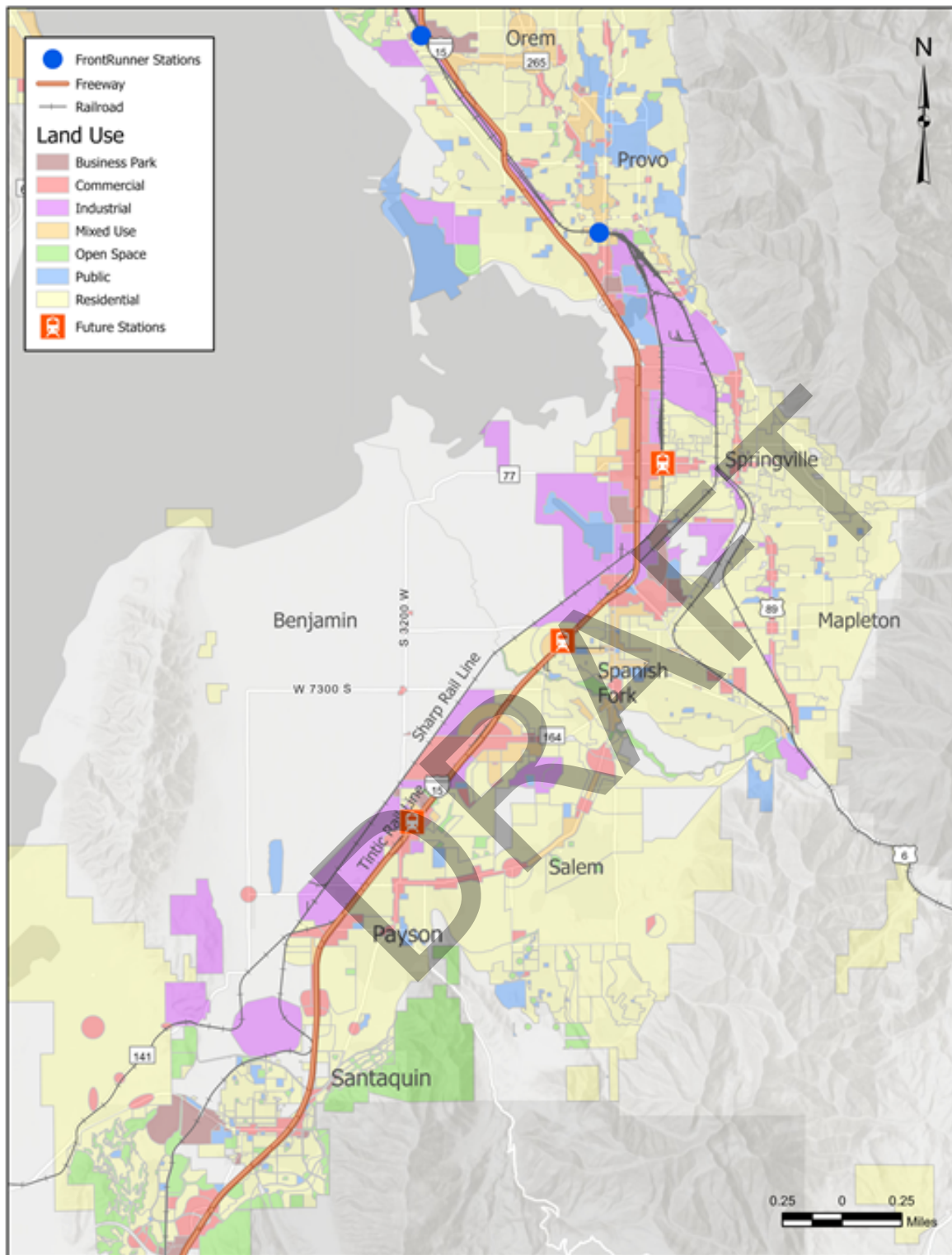


Figure 8. Existing Land Use

Provo: An interim transit-oriented development (ITOD) overlay zone is included in Provo’s zoning code while more comprehensive planning for TOD is formulated, located around the existing FrontRunner station. The General Plan identifies the TOD district located immediately south of downtown for higher density residential and commercial development, served by commuter rail (existing FrontRunner service) and Bus Rapid Transit in the future.

Springville: Springville City has two “Center” zoning districts, Village Center and Town Center, both intended to provide locations for pedestrian-oriented, vertical mixed-use development throughout the City. The Village Center located near 1500 West and 400 South is intended for the future FrontRunner station.

Mapleton: The City does not have transit-oriented zoning, and the updated General Plan focuses on continued low-density residential growth.

Spanish Fork: Areas identified in the General Plan for the future FrontRunner transit center is outside current city limits, so the area will be given a zoning designation when it is annexed. The City intends to implement form-based code, which could be applied to this new area.

Salem: The City’s zoning code does not include a transit-oriented district but does include a mixed-use zone that allows for medium density residential neighborhoods mixed with commercial properties. This zoning designation requires a Master Planned Development, which considers land uses, circulation, and access, as well as open space, landscaping, design standards, and other urban amenities. Maximum residential density is 10 dwelling units per acre (for the residential areas), and heights are allowed up to 6 stories. The mixed-use zone is not currently applied to the growth area identified as “New Salem” along the 1-15 corridor.

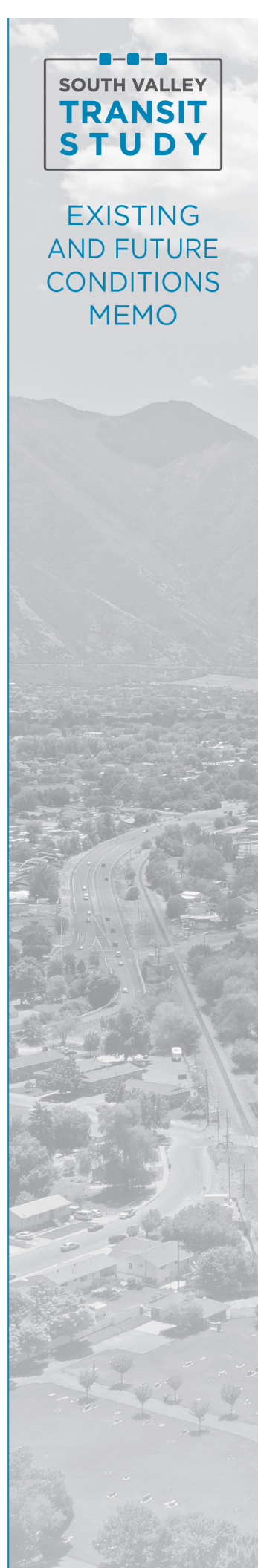
Payson: The Payson City zoning code includes a Transit Station Overlay, whose purpose is to establish and promote transit-oriented development within ½ mile of high-capacity or rapid transit stations. Development should be walkable and include a diverse mix of uses, including higher densities and flexible arrangements. Urban design and land use should serve transit and pedestrian access and activity. Transit Station Overlays are identified in proximity to the Main Street and 800 South interchanges.

Santaquin: Santaquin zoning does not establish transit-oriented or mixed-use districts or overlays; however, mixed-use development is an allowed use in the two commercial zones, C-1 (Interchange Commercial) and PO (Professional Office).

3.2 PLANNED LAND USE AND EMERGING GROWTH AREAS

This section describes city-level planning for future land use and areas identified by the Cities for higher intensity growth. South Utah County is experiencing remarkable growth, and each of the Cities in the study area expect significant growth in housing, and many will see employment growth as well. Provo is expected to see the largest share of employment growth, and Spanish Fork will see a secondary node of employment growth, with smaller centers in Springville and Payson.

Provo: The Provo area has four opportunity zones within the study area, designated by the Governor’s Office of Economic Development. These zones are designated for an



incentive program to encourage investors to re-invest their unrealized capital gains into dedicated Opportunity Funds and provide tax incentives to do so. Provo has continued to develop steadily, and with limited areas for new growth, the City is looking to redevelopment and infill to meet demand for housing and employment.

Provo has identified two districts for the highest intensity mixed-use development: Downtown and the TOD district just south of Downtown (Figure 9). The City is looking to increase redevelopment and infill to meet demand, as the City has limited open land for greenfield development.

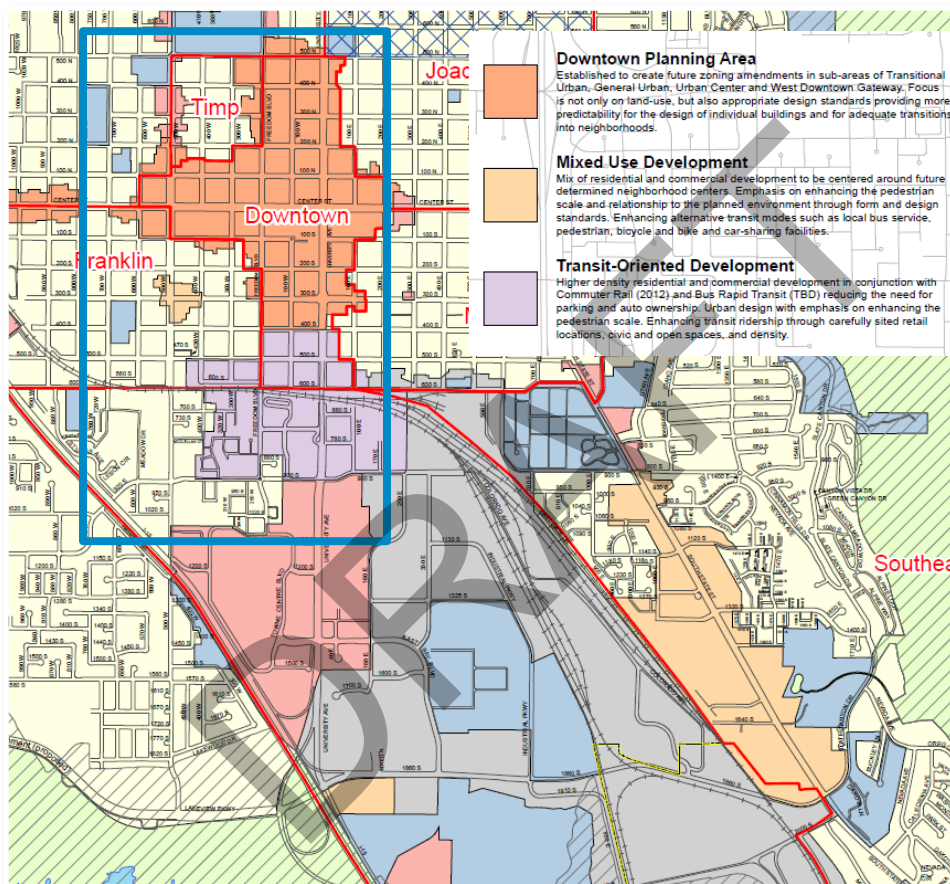


Figure 9. Provo General Plan Land Uses (Downtown and TOD area highlighted)

The Cities of Provo and Springville each have a Redevelopment Agency (RDA), separate from the municipality, to encourage private investment in areas of the community with a demonstrated need for economic development, or in blighted areas.

Springville: The Springville General Plan prioritizes redevelopment and infill growth in the City’s downtown, which will continue to be a walkable, mixed use district including employment, retail, high-density residential and civic uses. The City’s annexation plans show a major growth area at the western edge of the City, extending north and south of Hwy 77. Additional smaller annexation areas are located along the edges of the City’s current boundary.

The Westfields Community Plan (2002) envisions transit-oriented uses and a transit center along the Tintic Rail Line, just west of the Village Center Figure 10).

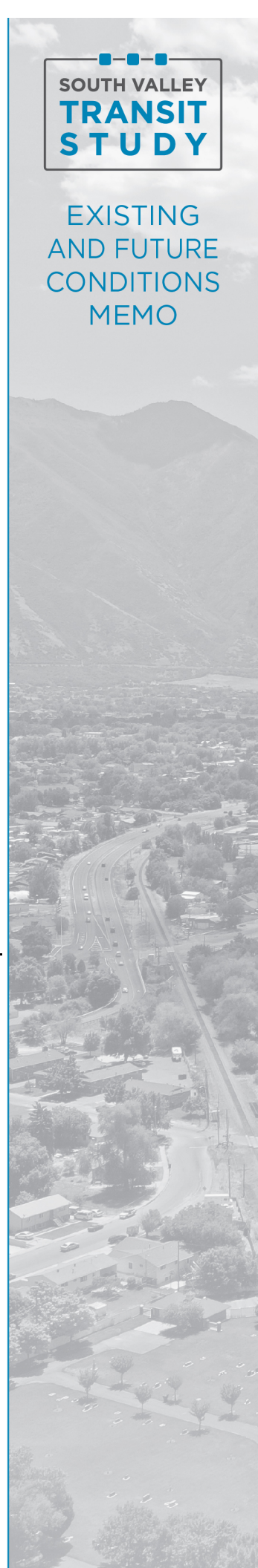


Figure 10. Springville General Plan Land Uses (Village Center/Community Core highlighted)

Mapleton: Mapleton’s future land use continues the City’s trend of low density single-family residential growth. Mapleton recently completed their General Plan update, and the City plans to continue a focus on low-density residential growth, including conservation subdivisions. Higher density residential growth, which the City defines as lots up to one-third acre, is expected in areas west of US-89. The City has no plans for transit-oriented development or transit districts currently.

Spanish Fork: The Spanish Fork General Plan (2018) has broadly applied mixed use development across the City’s major east-west corridors and Main Street, the north-south central spine. Additionally, the General Plan also identifies a priority to implement form-based zoning to more effectively integrate commercial uses near residential areas.

The Spanish Fork General Plan identifies an area just west of the I-15 corridor at Center Street where the City expects mixed use development in conjunction with urban density residential, and the City intends to create an area plan to promote the development of a transit-oriented development district surrounding the planned Center Street I-15



interchange (Figure 11). Similarly, the General Plan identifies another new center, with mixed use, commercial, and urban density residential uses, located at the southwest corner of the City, along both sides of the I-15 corridor.

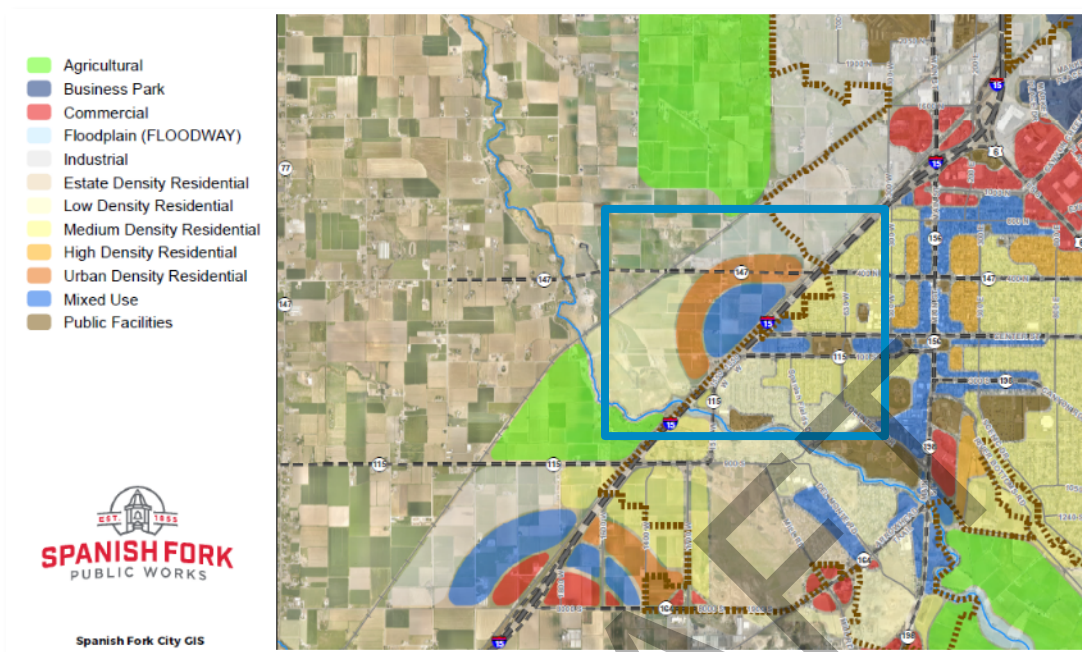


Figure 11. Spanish Fork General Plan Land Uses (future Center Street Interchange area highlighted)

Salem: Salem City updated the General Plan in 2019, which guides growth for the next 20 years and prioritizes new higher-density residential and the need for local and regional commercial nodes. The Plan identifies the “New Salem” area along the 1-15 corridor as an area of substantial future growth, which is currently undeveloped. Plans for this northwest corner of the City include higher-density and mixed-use development, which will include a wider range of building types.

Payson: Payson City’s recently updated General Plan map (2020) anticipates much of the City’s growth will be single family residential, expanding and annexing to the west of I-15. The plan also identifies two major transit-oriented development nodes along the 1-15 corridor, as well as two major mixed-use development districts, one at the southern end of the I-15 corridor, and one at the City’s eastern edge along Hwy 198.

Payson’s General Plan update includes two Transit Oriented Development Nodes along the 1-15 corridor, positioning the City for increased mixed-use development in these future station areas (Figure 12). The Northern TOD district is along 1-15 at a future interchange north of Bamberger Road. This node of expected to include the MTECH and UVU campuses. The Southern TOD district is along 1-15 at the W 800 S interchange.

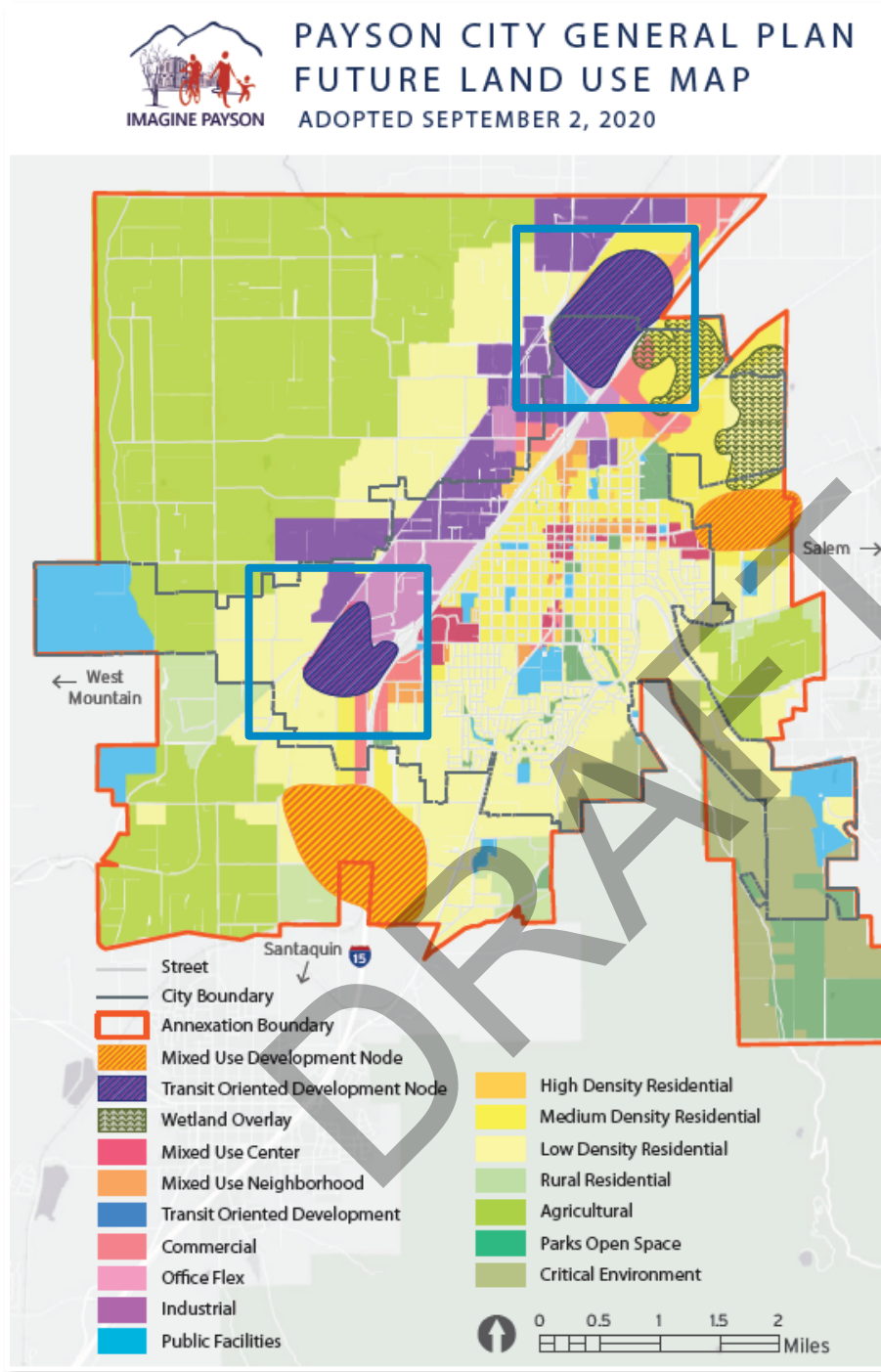


Figure 12. Payson General Plan Land Uses (with TOD nodes highlighted)

Santaquin: Santaquin expects a full range of uses for future growth. Residential growth will be significant, and the City prioritizes infill and contiguous growth to make best use of existing infrastructure and avoid leap-frog developments. The General Plan anticipates a mix of uses to serve the city, including commercial, business parks, agriculture, and mixed-use residential and mixed-use commercial. Compact, mixed use development is planned for the central downtown corridor and for a large area in the southwest portion of the City (Figure 13).

Santaquin owns a 35-acre site adjacent to I-15 at exit 242 with plans for a transit-served district. The location could serve as a park and ride facility for commuters from as far south as Fillmore. The City is interested in this area developing with destinations for agricultural tourism and high-tech agricultural opportunities.

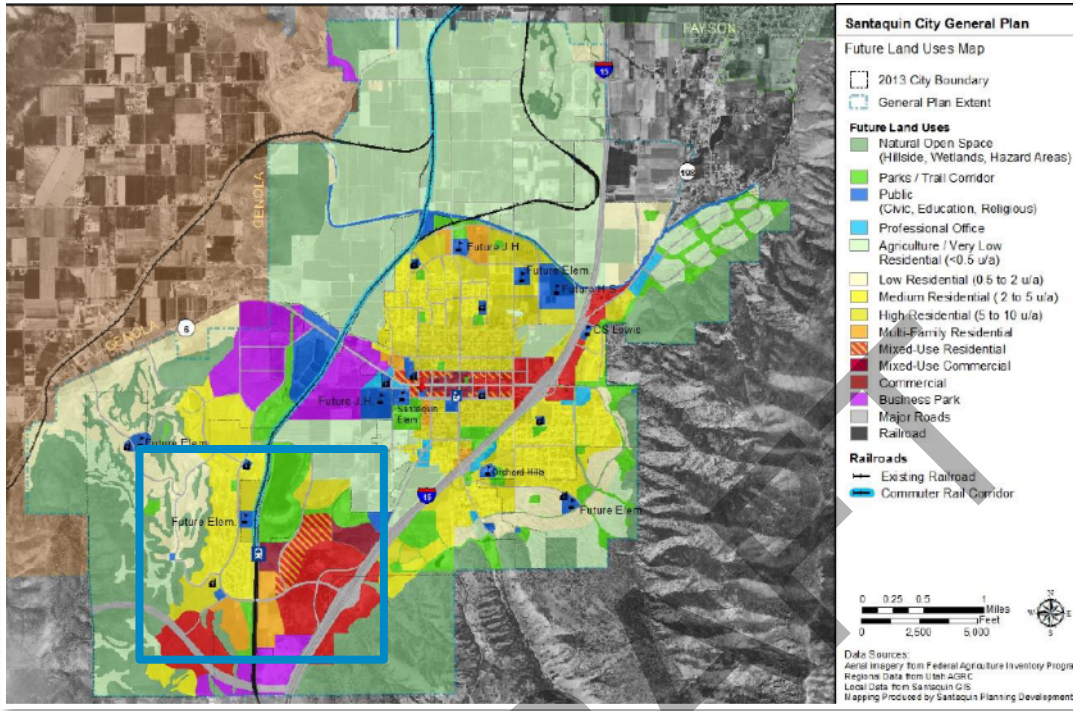


Figure 13. Santaquin General Plan Land Use (with transit supportive zoning areas highlighted)

3.3 SOCIOECONOMIC ANALYSIS

The following sections describe a series of socioeconomic characteristics to gain an understanding of the expected population and employment growth and potential transit-dependent population in the study area. This includes an overview of general population and employment characteristics and projections, as well as recent census data pertaining to underserved populations. Additional detailed analysis of socioeconomic conditions will be performed during alternative evaluation.

3.3.1 POPULATION AND EMPLOYMENT GROWTH

Population and employment are forecast to grow significantly in Utah County over the next few decades, which will create additional transportation demand in the geographically constrained area.

Historically, population growth in Utah County has been steadily increasing, rising by 40 percent each of the last two decades. By 2050, Utah County will double in population, rivaling the population of Salt Lake County. The southern portion of Utah County is the largest area geographically, and densities today are mostly considered rural, but is forecasted to grow from 161,000 people to nearly 382,000 people in 2050. Current and



projected population and employment are presented in Table 4 for the state, Salt Lake and Utah counties, and within the study area.

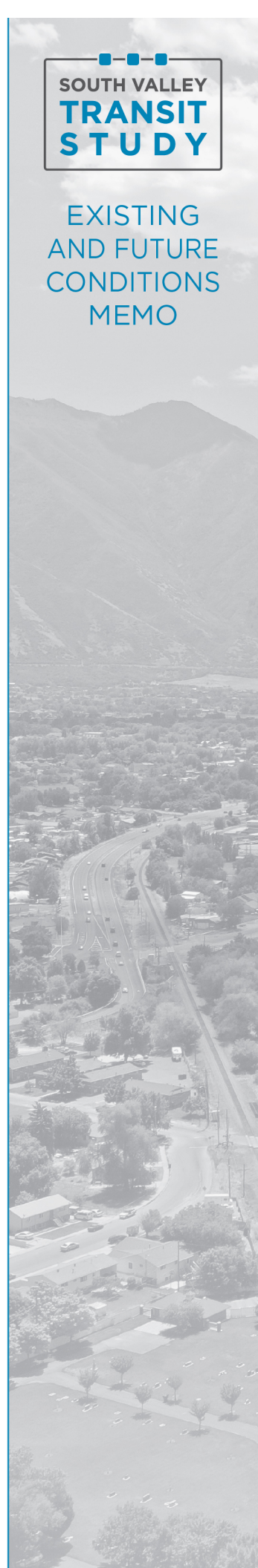
Employment patterns generally mirror population trends, and that holds true for all counties along the Wasatch Front. Overall, Utah County’s employment growth is expected to nearly double from 375,000 jobs to 690,000 jobs by 2050. Utah County’s significance in the region will continue to grow, as a new job growth will continue to attract additional residents. The Cities south of Provo will continue to densify with housing and suburban characteristics, spreading from the historic centers.

Figure 14 illustrates the geographic distribution of population and employment density for 2019 and 2050. In 2050, population densities in the study area (excluding the Provo area which shows the largest growth) are highest east of I-15 and clustered around the city centers of Springville, Spanish Fork, and Payson. Employment is more focused along the I-15 corridor; north of Spanish Fork, in Spanish Fork, and near the 800 South interchange in Payson.

Table 4. Population and Employment Growth

	Population			Employment		
	2020	2050	% change	2020	2050	% change
State of Utah ¹	3,325,425	5,017,232	51%	2,163,867	3,214,743	49%
Salt Lake County ¹	1,181,471	1,531,282	30%	970,805	1,341,790	38%
Davis County ¹	364,813	493,263	35%	197,304	289,191	47%
Utah County ¹	679,188	1,297,515	91%	375,334	689,992	84%
Study Area²	161,174	381,917	136%	77,600	164,069	111%

¹Kem C. Gardner Policy Institute; ²WFRC MAG Travel Demand Model



3.3.2 UNDERSERVED POPULATIONS

Certain demographic statistics are helpful to gain an understanding of the potential transit-dependent population in the study area as well understand potential impacts and benefits to expanded transit service. Using demographic data from the U.S. Census Bureau's American Community Survey 5-Year Estimates, the following findings may help inform locations and needs for a high-capacity transit investment:

Minority: Percent minority is a fraction of population, where minority is defined as all but Non-Hispanic White Alone. Compared to the national average, most of the study area has a minority population below 50 percent. The population densities for minorities in Utah County tend to cluster in Orem and Provo. However, the southern portion of the County has above the county average of minority populations in Spanish Fork and Payson.

Low Income: The prevalence of low-income households is assessed by the percent of households living in poverty. The U.S. Census Bureau measures poverty by total number of people in each household, with an average poverty threshold for a family of four at \$25,926. Much of the study area has a range of 30 to 40 percent residents below poverty. While most cluster in Provo and Orem, Spanish for and Payson see a higher than average low-income population compared to Utah County as a whole.

People with Disabilities: People with disabilities are identified as persons with mobility limitations. The region-wide average indicates a 7.7% population of disabled. Spanish Fork and Provo see the highest concentrations of disabled persons compared to the region's average.

Elderly: Persons aged 65 years and older are considered elderly. The U.S. census bureau indicates that 7.4% of the population in Utah County is elderly as of the 2017 American Community Survey efforts. The elderly populations in the county are generally centered in Provo and Orem, however, pockets of elderly populations exist in Payson, Spanish Fork, and Springville as well.

**EXISTING
AND FUTURE
CONDITIONS
MEMO**

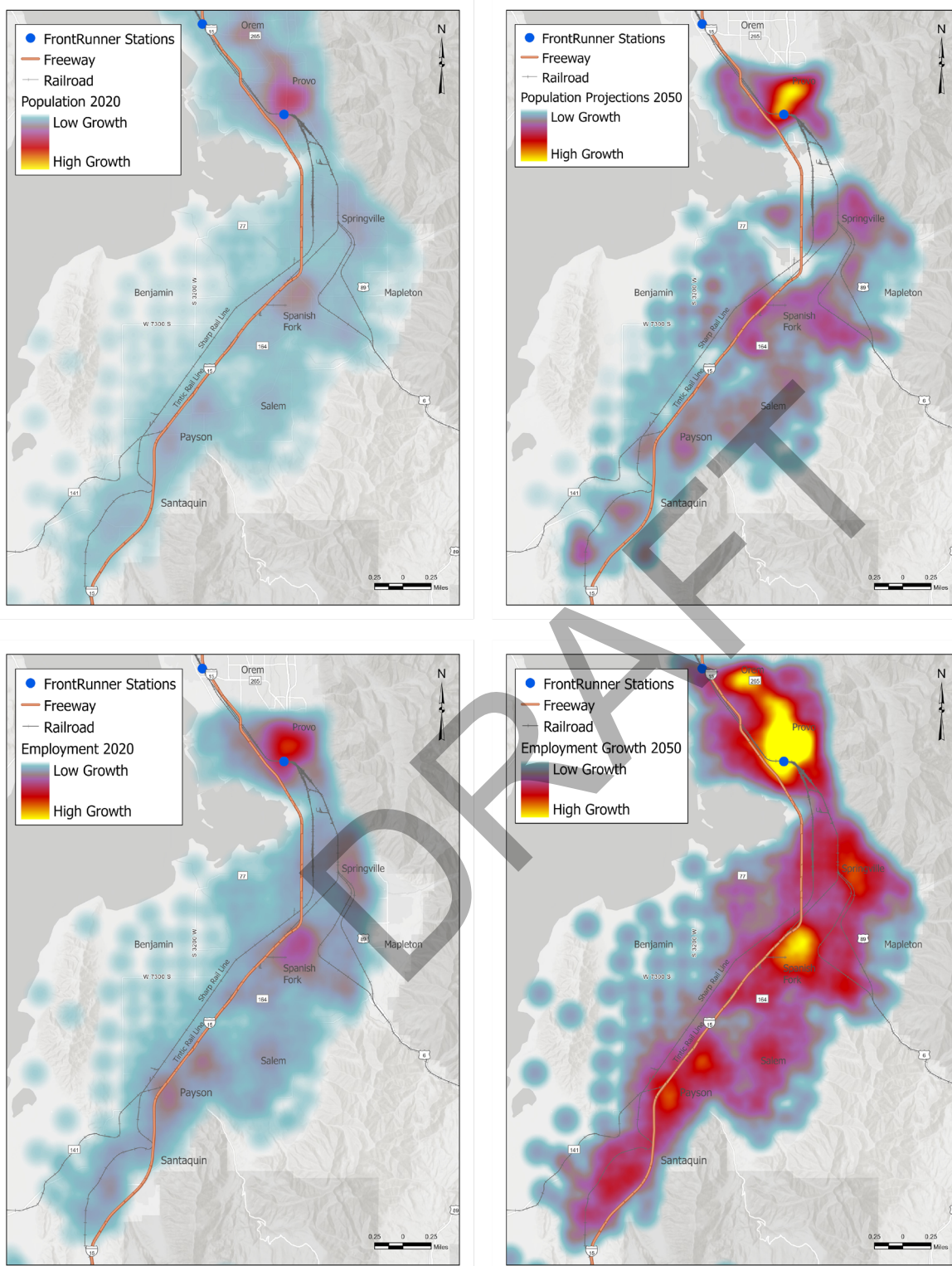
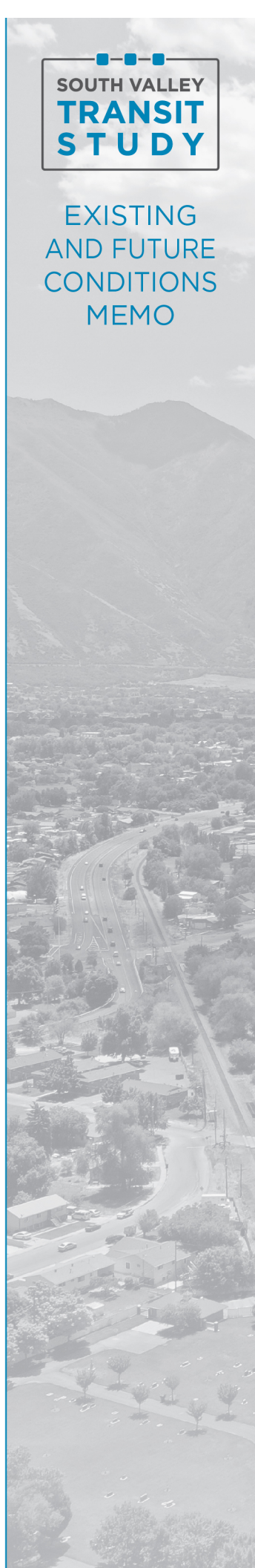


Figure 14. Existing and Future Population and Employment Densities



**EXISTING
AND FUTURE
CONDITIONS
MEMO**

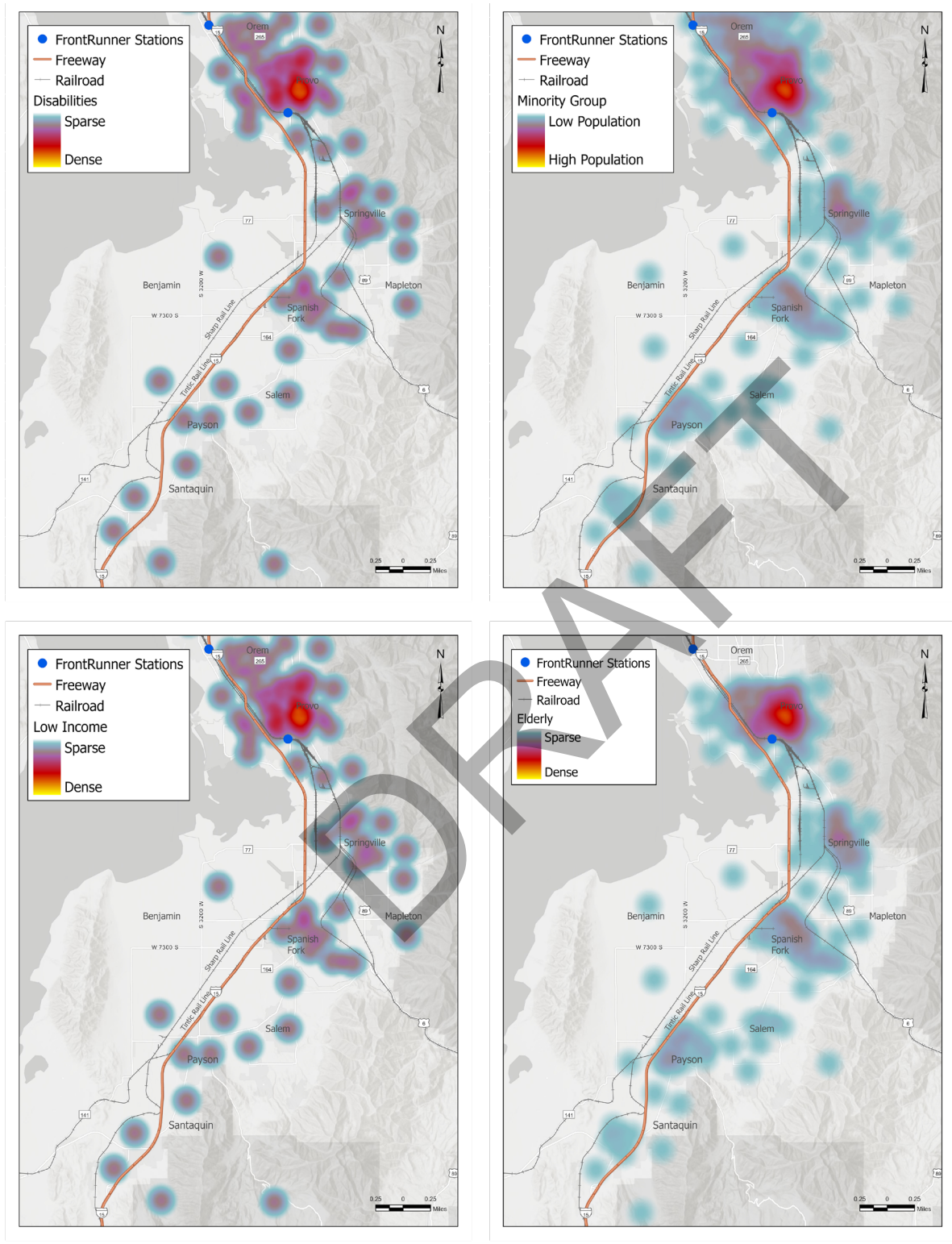
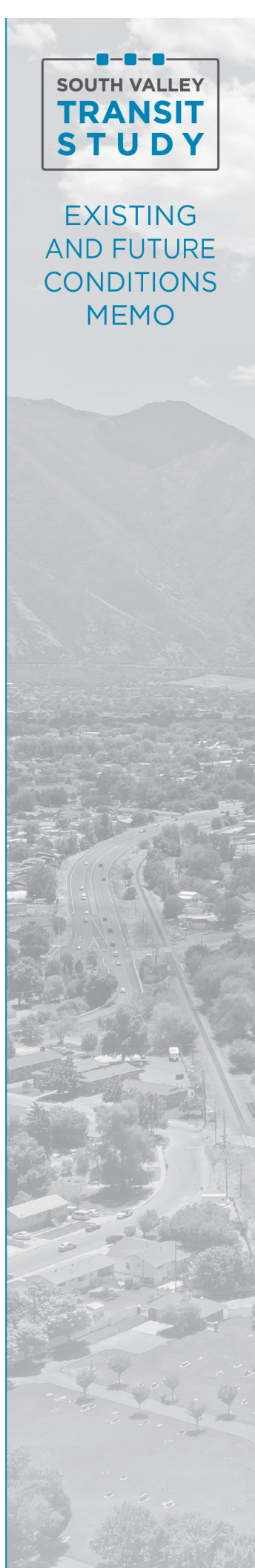


Figure 15. Underserved Populations



4. ENVIRONMENTAL CONSIDERATIONS

The following summary provides an overview of major environmental considerations. This review uses only readily available data to understand major constraints or fatal flaws that may impact the feasibility of broad corridor alternatives. A more detailed and exhaustive inventory of potential environmental resource impacts will be undertaken during future phases of project development, including a State Environmental Study or National Environmental Policy Act (NEPA) environmental document.

4.1 NATURAL AND WATER RESOURCES

Figure 16 shows basic topography and water resources as well as protected agricultural lands. As can be seen, Utah Lake is a large and constraining water feature to the north and west. The east edge of the study area contains large-scale mountain ranges – creating a valley and narrow strip of developable land in central Utah County. While the geographic constraints give way to the southern end of the County, additional geologic hazards including liquefaction in the event of a major earthquake exist in communities in the basin area. Because of the mountainous geography to the east, major drainage patterns form in a southwest nature, crossing the study area streets at diagonals. Many stream and wetland flows are funneled to a limited number of crossings beneath I-15 to manage drainage conditions on the freeway corridor.

Utah County has designated agricultural areas with legal protections. This study area includes a vast area of farmlands identified and mapped by United States Department of Agriculture as unique, important, and prime farmland areas with significance beyond local boundaries – even into national and international markets.



4.2 COMMUNITY RESOURCES

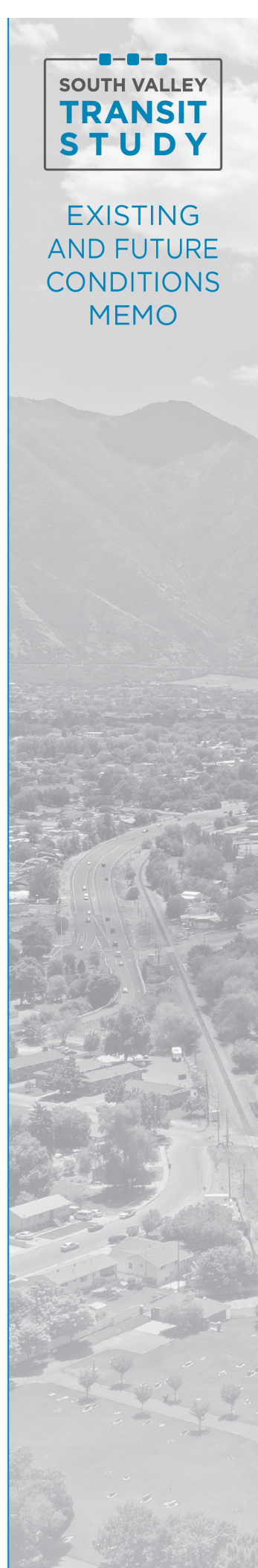
The South Valley study area has a broad offering of community facilities, civic operations, medical facilities, and cultural/recreational facilities. Figure 16 shows a sampling of these facilities. In general, these features are dispersed throughout the entire study area with clusters near the historic city centers. There is a likelihood for historic features being located along State Street, which serves as the “main street” for the eastern communities, with a large concentration (a historic district hosting over two dozen properties) in Springville.

Further evaluation of potential property impacts will occur during subsequent NEPA studies, which will review Section 4(f) properties. Section 4(f) of the U.S. Department of Transportation (USDOT) Act of 1966 prohibits the Federal Transit Administration (FTA) and other USDOT agencies from using land from publicly owned parks, recreation areas (including recreational trails), wildlife and waterfowl refuges, or public and private historic properties, unless there is no feasible and prudent alternative to that use and the action includes all possible planning to minimize harm to the property resulting from such a use.

4.3 AIR QUALITY

The National Ambient Air Quality Standards (NAAQS) were first established in 1970 under the Clean Air Act (CAA). Six pollutants were placed under regulation and limits placed on acceptable ambient concentrations.

The Clean Air Act Amendments (CAAA) of 1990 authorized the Environmental Protection Agency (EPA) to designate those areas that have not met the NAAQS as nonattainment. The project area lies within nonattainment areas for PM10 and PM2.5 and is a maintenance area for carbon monoxide. Major sources of carbon monoxide and PM10/PM2.5 include vehicular emissions, service stations, and resuspension of dust.



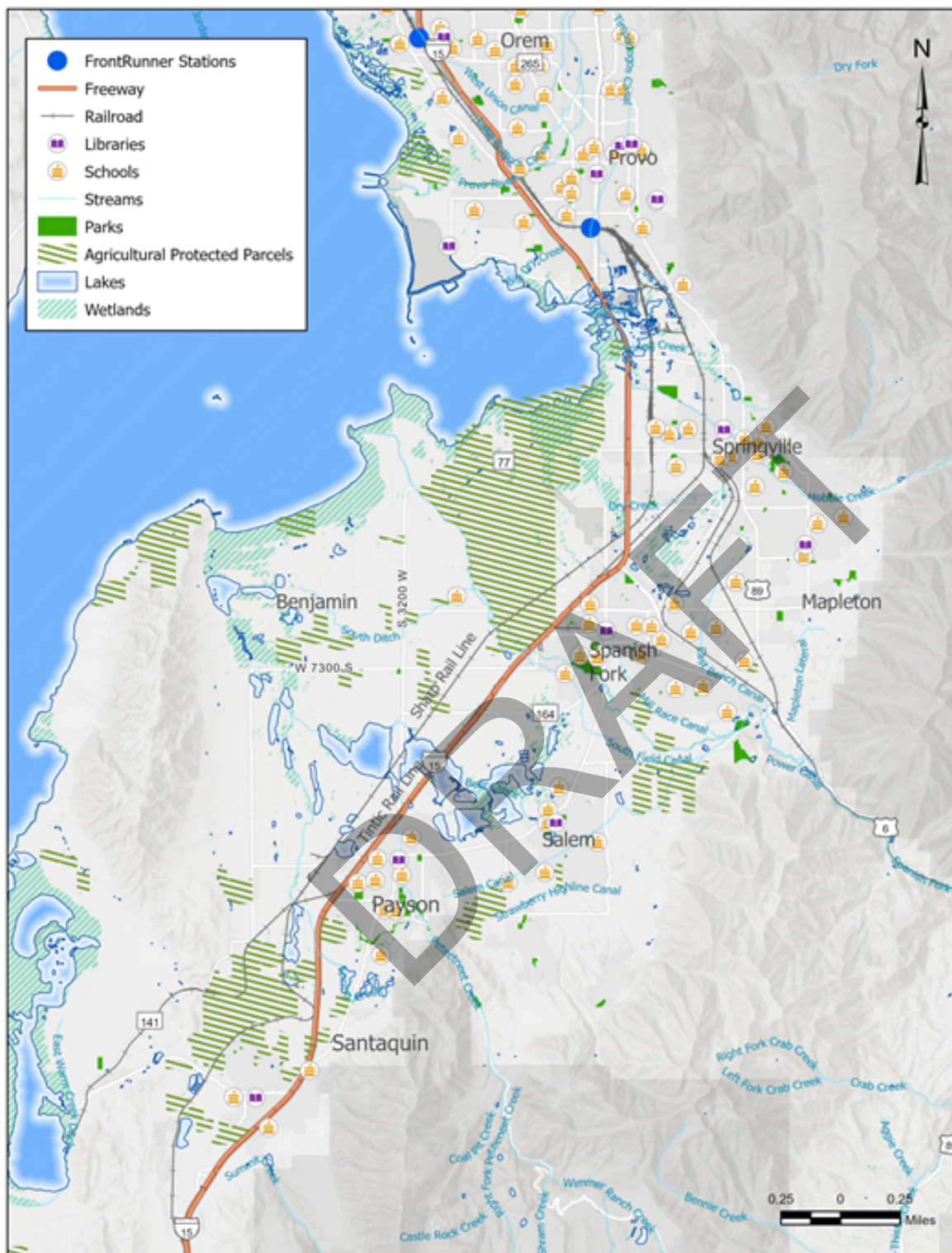


Figure 16. Topography, Water, Community, and Agricultural Resources

5. RELATED POLICIES AND PLANS

This section includes a review of related plans, reports, and studies that are pertinent to the South Valley Transit Study, including a discussion of relevant opportunities or recommendations to be considered in the alternatives development and analysis phase.

5.1 COMMUNITY PLANS AND POLICIES

The South Valley study includes seven communities in this transit analysis: Provo, Springville, Mapleton, Spanish Fork, Salem, Payson and Santaquin. The following tables present a review of these community’s general plan documents, citing relevant policies related to land use, transportation, and economic development. Tables also include other related plans, as relevant.

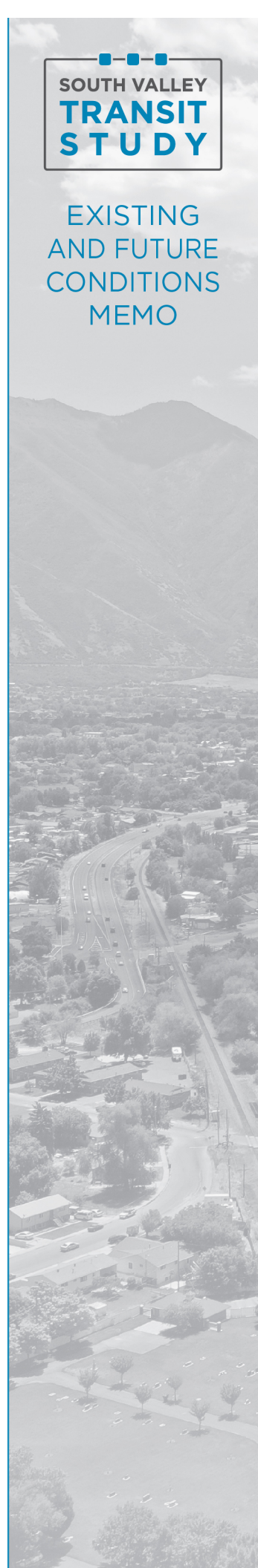
5.1.1 PROVO

Provo General Plan (2020)	
Land Use	<p>Goal: Prioritize areas within the city for economic development.</p> <p>Action: Consider amending zoning districts and regulations to encourage higher density uses in proximity to major transportation facilities. Discourage high-density development where transportation facilities cannot be developed to provide an acceptable level of service commensurate with the high-density development proposed.</p>
Transportation and Mobility	<p>Goal: Promote connectivity for all modes of transportation to key locations throughout the City.</p> <p>Actions: Focus mass transit options on commercial, business, health service, higher-education, and government destinations; cooperate with UTA, UDOT, MAG, and surrounding communities to implement regional transit connections.</p> <p>Goal: Augment and ensure proper maintenance of the current and future transportation opportunities in Provo.</p> <p>Actions: Design streets to favor mass-transit options; develop a congestion management plan that will encourage flex-time, rideshare programs, alternative methods of parking, and discourage driving to work and school.</p>
Economic Development	<p>Goal: Maintain well-functioning transportation routes throughout the city.</p> <p>Action: Ensure that all modes of transportation to, from, and within Provo are safe and efficient.</p> <p>Goal: Promote the Central Business District.</p> <p>Actions: Improve public transportation in the Central Business District; target land uses that bring more people to the downtown area.</p>

5.1.2 SPRINGVILLE

Springville General Plan (Shaping Springville 2011)	
Land Use	<p>Goal: To create a safe, functional, and attractive community that preserves the best of our past and shapes our future development in a way that benefits all people of our community.</p>

	<p>Actions: Create a vibrant and walkable town center, provide and maintain cohesive neighborhoods with broad housing types/densities, include appropriately located multi-family housing, provide convenient commercial and office nodes, provide land for manufacturing and industrial use, preserve open space.</p>
Transportation and Mobility	<p>Goal: To provide and maintain a vibrant, multi-modal transportation network that encourages flow, safety, and a consideration for the aesthetics of the community.</p> <p>Actions: Develop and maintain a connected circulation system, provide a circulation system for non-motorized travel, improve and expand public transportation operations and facilities, continue to improve maintenance for transportation facilities for all modes, promote and expand the Springville-Spanish Fork airport.</p>
Economic Development	<p>Goal: To encourage economic development that will focus on future growth while benefiting present and future residents; through an increased revenue base, employment opportunities, and business diversity.</p> <p>Actions: Promote jobs and quality of life, encourage economic development, continue to encourage commercial retail, and encourage compatible uses in development areas.</p>
Lakeside Community Plan (2016)	
Transportation and Mobility	<p>Goal: Create an interconnected system of streets and trails that serve all residents of the Community – bicyclists, pedestrians, and drivers – and prioritize keeping the Community safe, quiet, and walkable.</p> <p>Action: One strategy identified is to work with UTA to identify appropriate locations and accommodations for future bus stops in the Community, especially as population justifies such routes.</p>
Westfields Community Plan (2002)	
Transportation and Mobility	<p>Goal: Create a community that includes a core surrounded by residential neighborhoods and includes mixed housing types, open space, parks and public buildings</p> <p>Action: Develop and adopt a transit-oriented, mixed-use community core village center zone to accommodate development west of 1200 West in the village center.</p> <p>Goal: Provide transportation network and facilities that balance the needs of motorists, pedestrians, bicyclists, and transit users that is safe, efficient, environmentally responsible and attractive, while providing excellent internal circulation within the community and appropriate connection to the region.</p> <p>Actions: Utilize the Utah Power easement corridor, develop block size standards that support pedestrian and bicycle access, promote context sensitive design, include bus stops on collectors within ¼ mile of all residences, work with UTA and transit providers to develop an intermodal transit hub and focus traffic patterns there.</p>



5.1.3 MAPLETON

Mapleton City General Plan (Land Use & Parks & Recreation 2020)	
Land Use	<p>Goals: Encourage a diverse and appropriate amount of commercial uses along Highway 89 to meet the needs of the community and motorists.</p> <p>Actions: Focus commercial uses at key intersections and nodes, encourage appropriate land use transitions,</p>
Mapleton City Master Transportation Plan (2011)	
Transportation and Mobility	<p>Goals: Establish and maintain a safe transportation system and street designs.</p> <p>Actions: Provide pedestrian safety enhancements, require developers to provide adequate access, maintain streets, adopt design standards for roadway and street development, and enhance street connectivity and circulation.</p>
Mapleton City Economic Development Strategic Plan (2015)	
Economic Development	<p>Goal: Ensure existing and future land use plans promote economic objectives of the city.</p> <p>Actions: Evaluate existing land uses, community visioning, ensure Land Use Plan zones support commercial property, conduct an Affordable Housing Analysis, evaluate and establish review processes and design criteria.</p>

5.1.4 SPANISH FORK

Spanish Fork General Plan (2011)	
Land Use	<p>Goal: To provide a safe, convenient and efficient system for transportation both people and goods.</p> <p>Actions: Follow provisions provided in the City's Transportation Element (see below), develop a corridor access management plan for State Road 164 near Salem/Benjamin I-15 interchange.</p> <p>Goal: Provide pleasant, safe, and functional non-motorized transportation routes.</p> <p>Actions: Follow provisions provided in the City's Transportation Element, provide more detailed provisions to promote the development of trails and other routes for non-motorized vehicles.</p>
Transportation and Mobility	<p>Goal: Design transportation facilities to assure efficient traffic flow throughout the City with compatible connections to regional transportation systems.</p> <p>Actions: The circulation system shall be designed to accommodate regional transportation, the system shall include a hierarchy of vehicle usage, the streets should be compatible with adjacent land uses.</p>
Economic Development	<p>Goal: To provide conveniently located commercial areas to service the residents of Spanish Fork and to expand the City's sales tax base, that are visually attractive and create a distinct sense of place.</p> <p>Actions: Plan for new commercial nodes, limit points of access onto streets in commercial areas, require sidewalks, require developments to be developed as integrated projects with shared parking, common</p>

	styling, and signage; adopt a set of design standards for non-residential development.
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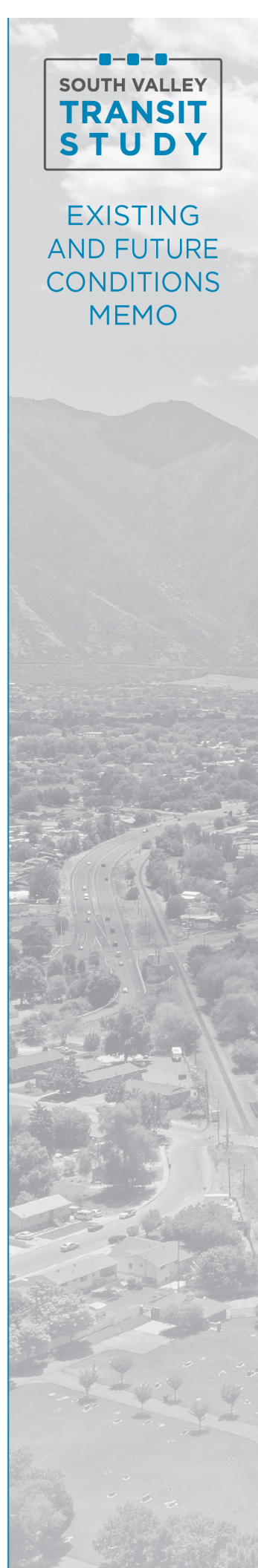
Spanish Fork Main Street Study (2019)	
Transportation and Mobility	<p>Goal: Incorporate transportation alternatives that enhance traffic flow and improve safety</p> <p>Actions: Include transit shelters to plan for the new Center Street Intermodal Center, increased ridership with FrontRunner, and addition of local bus routes that phase to BRT. Include bike lanes, and pedestrian amenities and safety improvements.</p>

5.1.5 SALEM

Salem General Plan & Land Use Update (2019)	
Land Use	<p>Goal: Encourage a wider range of residential uses and mixed uses to help meet projected future population growth requirements.</p> <p>Action: Modify existing ordinances and codes to allow a wide range of higher density residential uses.</p>
Transportation and Mobility	<p>Goal: Guarantee that the Salem trail system meets the public needs and expectations.</p> <p>Action: Work with Salem transportation and engineering departments to ensure all trails, bike/pedestrian routes and bike lanes/ routes are implemented as envisioned.</p>

5.1.6 PAYSON

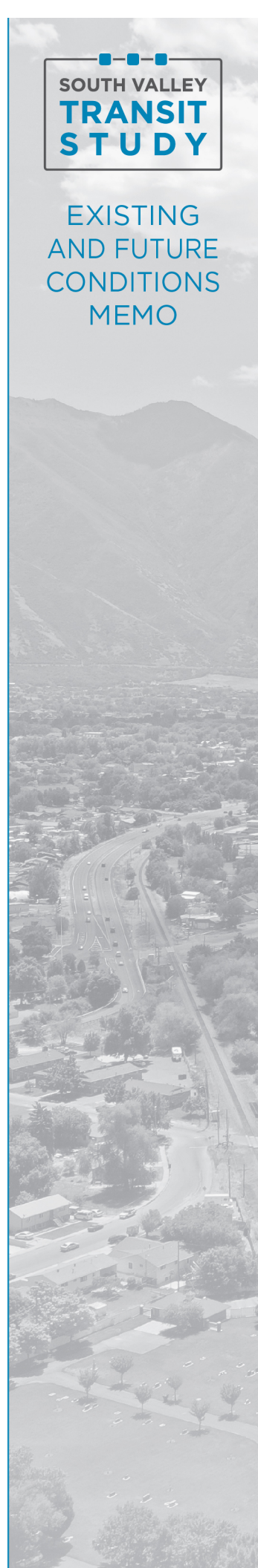
Payson City General Plan (2003)	
Land Use	<p>Goal: To provide a safe, convenient and efficient system for transportation both people and goods.</p> <p>Actions: Follow provisions provided in the City's Transportation Element (see below), develop a corridor access management plan for State Road 164 near Salem/Benjamin I-15 interchange.</p> <p>Goal: Provide pleasant, safe, and functional non-motorized transportation routes.</p> <p>Actions: Follow provisions provided in the City's Transportation Element, provide more detailed provisions to promote the development of trails and other routes for non-motorized vehicles.</p>
Transportation and Mobility	<p>Goal: To build and maintain a safe and efficient system of transportation to meet the needs of Payson residents now and in the future.</p> <p>Actions: Work with other agencies to improve the transportation system in and around Payson, continue to develop alternative modes of transportation, maintain and develop Streets Plan and Sidewalk Plan.</p>
Economic Development	<p>Goal: Encourage efficient and appropriate land use while preserving agricultural pursuits.</p>



	<p>Actions: Avoid leapfrog development, minimize urban sprawl, encourage efficient land use patterns.</p>
<p>Bamberger Ranch P-C Zone Plan (2011)</p>	
Land Use	<p>Goal: Explore land use characteristics for this area to help the city prepare for a regionally significant center and job and population growth in the area.</p> <p>Actions: Create land use characteristics that include interconnected network of walkable blocks, connect with existing streets, provide people with multiple transportation routes, mix of land uses, design standards, open space, a new TOD, and shortened commute times.</p>
Transportation and Mobility	<p>Goal: Work closely with MAG, UDOT, UTA in designing a grid network and preparing for a future transportation environment.</p> <p>Actions: Properly design land use near a future commuter rail stop to increase ridership and increase density and the value to the community. Allow for higher density mixed-use development around potential transit stations.</p>

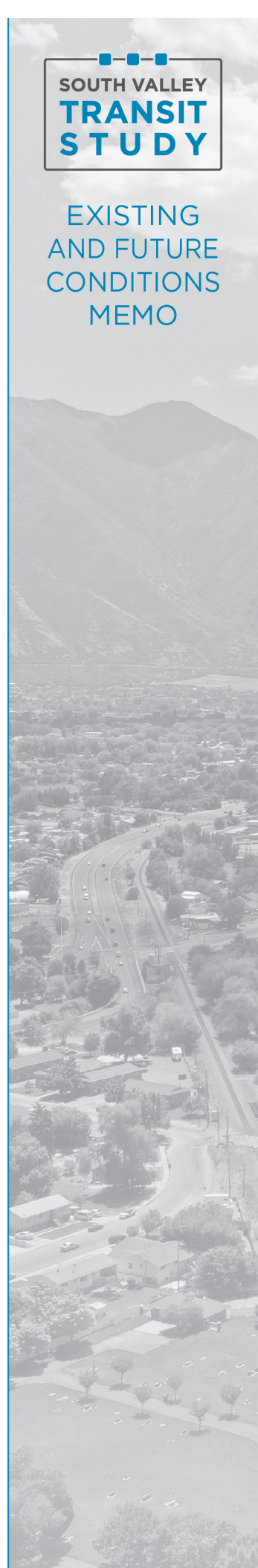
5.1.7 SANTAQUIN

<p>Santaquin City General Plan (2014)</p>	
Land Use	<p>Goal: To enable higher density residential developments which support local retail establishments, promote a walkable community, support transit development and provide housing options for varying income levels and lifestyles.</p> <p>Actions: Provide design standards, utilize TDR's to increase densities for TODs.</p> <p>Goal: To establish a regionally significant commercial area which will include mixed use and transit-oriented developments.</p> <p>Actions: Lands within ½ mile of proposed commuter rail station should utilize transit oriented and mixed-use development, it should accommodate multi-modal transportation, walkability, automobile and mass transit user needs should be incorporated.</p>
Transportation and Mobility	<p>Goal: To have a balanced circulation system which provides for safe and efficient movement of vehicles and pedestrians.</p> <p>Actions: Ensure roadways have properly designed surfaces, allow for pedestrian connectivity between blocks, provide safe and convenient bicycle and pedestrian movement, minimize non-local and commercial traffic in residential neighborhoods.</p> <p>Goal: To cooperate appropriately with other public and private agencies in the provision of convenient public transportation services within Santaquin, and between Santaquin and other nearby destinations.</p> <p>Actions: Coordinate with MAG for long range planning efforts, ensure goals and policies of this plan are incorporated with appropriate agencies, become part of regional transportation districts, support regional initiatives like commuter rail, bus rapid transit. etc., plan for commuter rail stations within Santaquin and work on ROW preservation with UTA.</p>
Economic Development	<p>Goal: To be a crossroads for southern Utah County characterized by its agricultural heritage, good parks and recreation facilities, and a strong business tax base.</p>



	Actions: Support all efforts to bring the proposed commuter rail line to Santaquin, establish development criteria, discourage leapfrog development, encourage highway service land uses along I-15 interchanges.
North Orchards Neighborhood Plan (Appendix D of Santaquin General Plan 2013)	
Transportation and Mobility	Goal: Improve transportation safety and connectivity in the area. Goal: Require dedication of corridor necessary for commuter rail.
South Interchange Neighborhood Plan (Appendix E of Santaquin General Plan 2013)	
Transportation and Mobility	Goal: Facilitate commuter rail expansion into the area

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5.2 OTHER RELATED TRANSPORTATION PLANS

5.2.1 CENTRAL CORRIDOR TRANSIT STUDY (ONGOING)

Seven cities in Utah County, in collaboration with UTA, UDOT, and MAG have conducted a study to evaluate options for faster and more frequent high-capacity transit service between Lehi and Provo. The participating cities are Lehi, American Fork, Pleasant Grove, Lindon, Orem, Vineyard, and Provo.

The study is building on the foundation of previous planning and is one of multiple efforts to enhance transportation and mobility in this area. The study has evaluated ridership, travel times, land use, economics and costs for a range of alternatives which has led to the development of a Preferred Alternative. The study has recommended a Preferred Alternative that includes BRT from Lehi to Provo, similar to the Utah Valley Express (UVX). The study will be completed in January 2021.

5.2.2 UTAH COUNTY GRID STUDY (ONGOING)

The recently launched Utah County Grid Study, led by MAG, will refine MAG's regional highway grid network model using standards, guidelines and recommendations from data, research, and modeling. An optimized roadway network that includes street classifications and lane requirements will be produced. An online mapping tool will demonstrate how connectivity and access will compare for walking, biking, transit, and vehicles, based on their location. The study will include robust stakeholder and community outreach, and help partnering cities understand the benefits of implementing a robust grid network for Utah County to reduce wear on existing roadways and alleviate the strain of congestion as the region continues to grow.

5.2.3 PAYSON 800 SOUTH CORRIDOR STUDY (ONGOING)

Payson City with support from MAG is launching (Fall/Winter 2020-2021) a corridor study to explore the feasibility of extending 800 South westward to better connect to 5600 West and West Mountain. This study will look at environmental impacts, roadway and creek crossing design, cross-section design, and the accommodation of transit and active transportation facilities. This project is slated to be completed in Summer 2021.

5.2.4 MAG TRANSPLAN50 RTP (2018)

The MAG RTP is a program of proposed projects that includes a series of capital-intensive roadway projects, transit improvements, and pedestrian/bicycle facilities needed over the next 30 years to serve the growing urban region of Utah County. Relevant projects are described in Chapter 2.

5.2.5 FUTURE OF FRONTRUNNER STUDY (2018)

The Future of FrontRunner Study is a long-range look at the UTA's FrontRunner commuter rail service. The study evaluated a broad range of FrontRunner improvement and expansion scenarios and used the results to identify the most effective scenario in terms of affordability, improved reliability, faster travel times, and additional service or a combination of incremental investments. Additional service includes improved

frequencies on the core systems between Provo, Salt Lake City, and Ogden as well as extension of service to Payson/Santaquin on the south end and Brigham City on the north end. The study analyzed five scenarios including a baseline scenario, a future low investment scenario, a future medium investment scenario, a future high investment scenario and a future high investment scenario with infill stations. Data on operating costs, diesel vs. electrification, travel time results, occupancy, double track feasibility, and other information was reported on.

5.2.6 SANTAQUIN CORRIDOR TRAFFIC STUDY

The purpose of this project is to evaluate transportation needs in and around Santaquin, include:

- A review of the current and future interchanges and transportation network performance
- Update of the MAG regional travel demand model (TDM) to further understand how the rapid rate of development is impacting the timing of the transportation need.
- Alternatives analyses
- Improvement recommendations through 2050

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