

# CLEARFIELD CONNECTED EXISTING CONDITIONS ANALYSIS

## BACKGROUND

The Clearfield FrontRunner Station is a place of connections and linkages, where people arrive and depart on their way to destinations near and far. Located in the economic heart of Davis County, the station provides access to many workplace and residential destinations, while facilitating access to countless destinations along the Wasatch Front.

The Clearfield Station is a vital component of the FrontRunner system and Clearfield City's overall infrastructure. Encompassing approximately sixty acres of vacant land, the Clearfield FrontRunner Station TOD site represents a significant opportunity to meet the transit and placemaking needs of Clearfield City and its residents, as well as those of UTA and transit riders throughout the region.

The purpose of the updated Clearfield FrontRunner Station Area Plan (2023) is to establish a clear vision, goals, and urban design principles that will govern development of the Clearfield Station site over the next 10 years and beyond.

## CONTEXT

### Planning Context

The *Clearfield Connected Station Area Plan (2023)* is an update to the recently adopted *Clearfield Connected Station Area Plan (2019)*, which established a clear vision for the station area. This vision was further refined in 2021 in the *Clearfield Station Master Development Plan (MDP)*, which builds upon the area plan, providing further detail for development. Additionally, in 2021, Clearfield City adopted the *North Davis Active Transportation Plan*, which identifies important pedestrian and cyclist infrastructure improvements around the station area.

**Figure 1: Clearfield Station Illustrative Master Plan from the MDP**



Recent changes in Utah State planning codes require the *Clearfield Connected Station Area Plan (2019)* be amended to address a wider service area and to incorporate options for affordable housing. This updated plan will embrace previous efforts, translating the energy underpinning those plans into an updated and comprehensive version that also addresses the new elements required by state code.

The updated *Clearfield Connected Station Area Plan* will incorporate the following additions and modifications:

- Assessment of prior studies and the existing conditions of the study area, focusing on the expanded station area “zone of influence,” changing development patterns, and recent demographic and socio-economic changes.
- Incorporation of statewide objectives for moderate-income housing, environmental conditions, and transportation choices and access.
- Updated design guidelines that better align with the MDP.
- Assessment of the market potential of the station area and the synergies of commercial and multi-family residential uses, as part of a mixed-use transit district.
- Assessment of the access to and from the station area for vehicles, transit, and active transportation modes, including pedestrians and bicyclists.

## Historical Context

Clearfield was settled in 1877 as an agricultural community. The city’s structure began to change in the 1940’s, when major defense facilities such as Hill Air Force Base and the Clearfield Naval Supply Depot were built within and adjacent to the city. The air force base quickly became a significant employer in the region and has grown to become one of the largest employers in the state.

The Clearfield Naval Supply Depot was constructed adjacent to the railways that line the west edge of the FrontRunner station today. This depot was also a major employer until it was decommissioned in 1962. The depot's remnant facilities eventually became the Freeport Center, which is now a major manufacturing, warehousing, and distribution destination.

The Clearfield Station TOD site has historically been used for light industrial uses. More recently a portion of the site developed into a park-and-ride lot for transit riders.

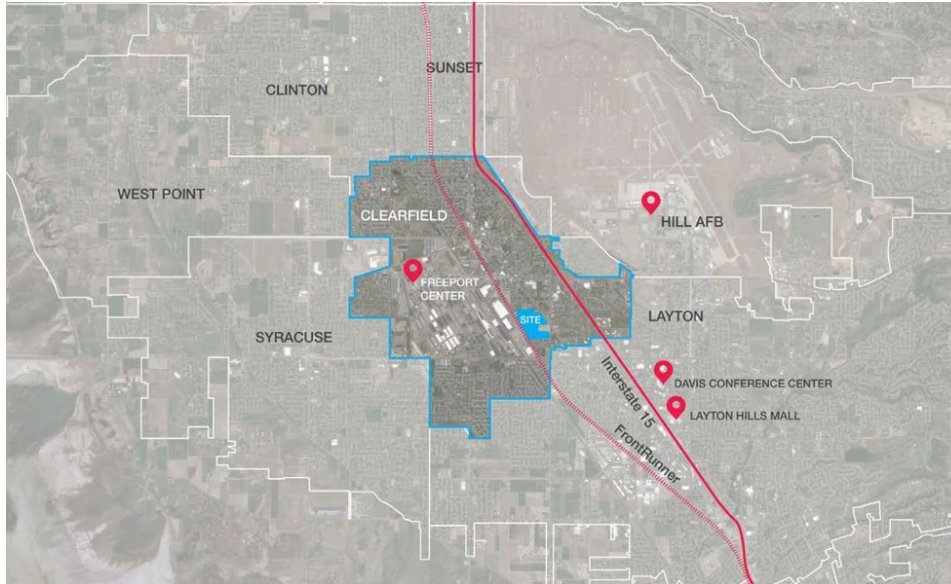
## Demographic Context

Utah is one of the fastest growing states in the country and is expected to grow another 50% by 2040. This growth has led to a lack of housing, which has resulted in skyrocketing housing costs and unprecedented demand for affordable housing in recent years. These conditions have created demand for a wider range of housing options throughout the region, with a particular focus on more compact and efficient multi-family development models. Areas in proximity to transit such as the Clearfield Station site are particularly well-suited for multi-family housing as part of a high-quality, mixed-use development.

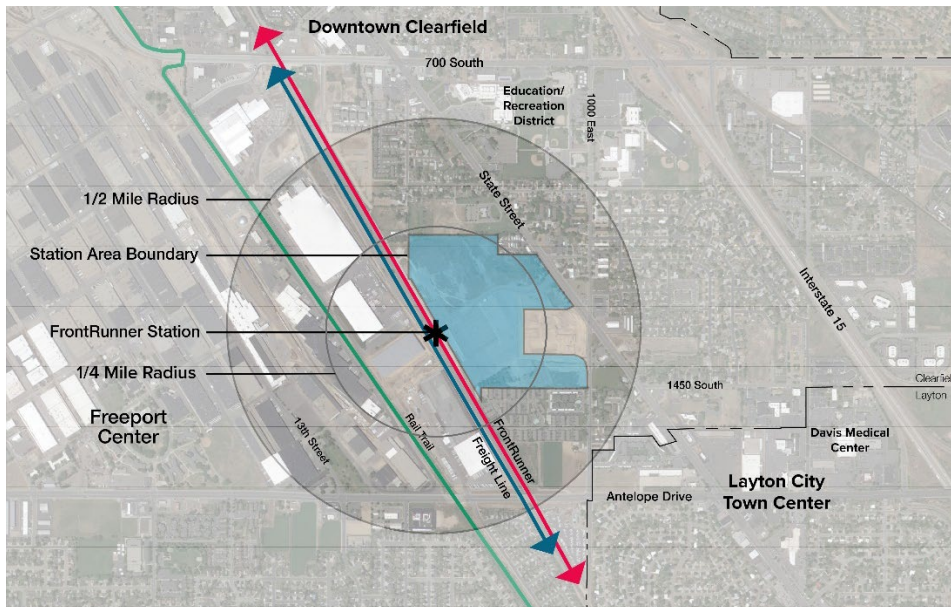
## Physical Context

Clearfield is located in Davis County, approximately 28 miles north of Salt Lake City, situated between the Great Salt Lake to the west and the Wasatch Mountains to the east. The Clearfield FrontRunner Station is located across the railroad tracks from the Freeport Center near the Clearfield-Layton border. As shown in Figures 2 and 3, the station area is close to Hill Air Force Base (northeast), Davis Medical Center (southeast), Downtown Clearfield (north), the planned Layton City Town Center (south), and a education/recreation district composed of three public schools and a park (northeast).

**Figure 2: Regional Context Map**



**Figure 3: Local Context & Zone of Influence Map**



## Station Zone of Influence

The State of Utah requires the Station Area Plan to include a half-mile radius “zone of influence” when assessing opportunities and constraints emanating from the station. As shown in Figure 3, this area includes the master-planned Frontrunner TOD property; a large portion of the Freeport Center to the west; commercial properties along State Street to the east; and existing residential neighborhoods to the north, south, and east.

## Clearfield Station Site

The boundary for the Clearfield Station Area Plan is shown in Figure 3. The TOD site encompasses 60 acres of land, most of which is undeveloped, and represents the largest area of UTA-owned-vacant-land adjacent to a FrontRunner or TRAX transit station in the entire UTA system. The station is situated between the railroad/Frontrunner tracks to the west and State Street to the east. Currently, the site is used as a park-and-ride lot for transit riders but is otherwise vacant. Since the last station plan was adopted in 2019, significant development activity has taken place in the station area, primarily the road and parking lot design and construction within the site.

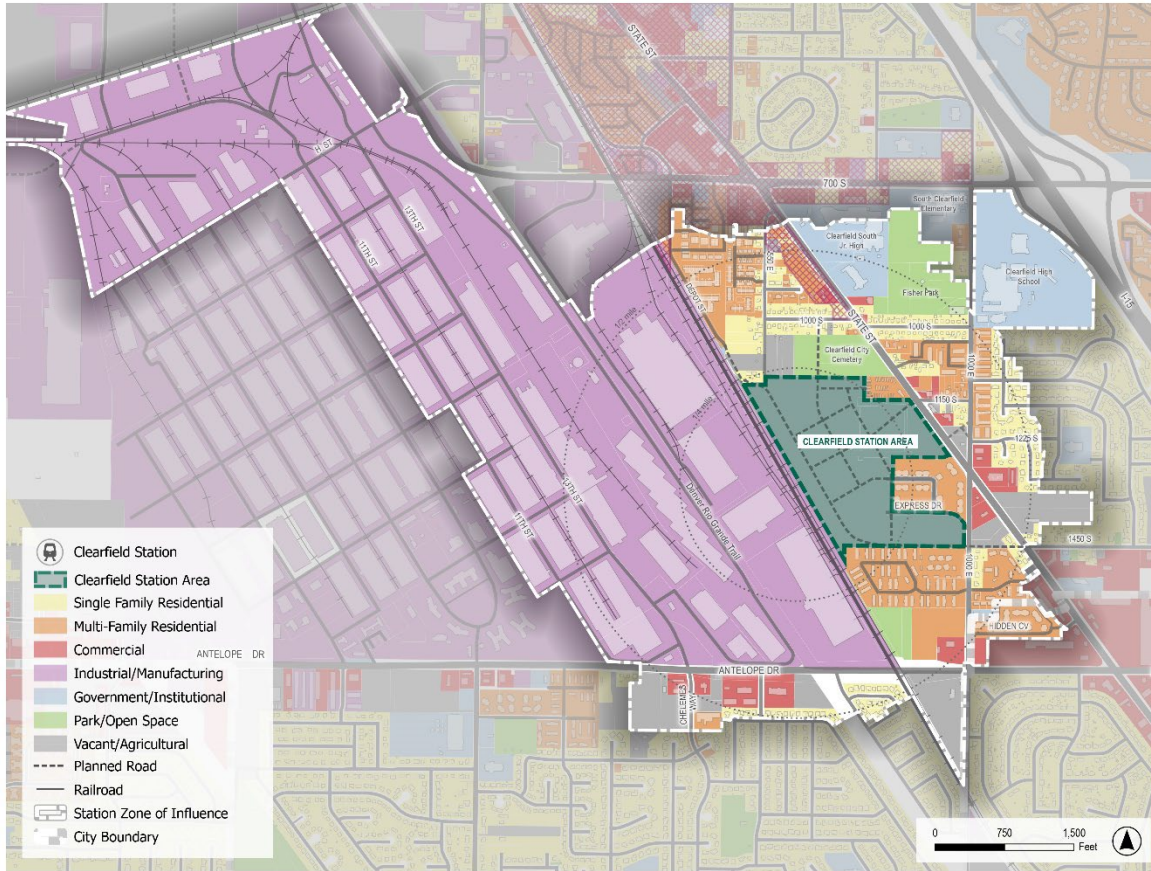
Nine apartment buildings consisting of 216 units were built on ten acres on the southwest corner of State Street and 1000 East. This project was incorporated into the station design of the 2019 Station Area Plan, which identified connections between the station site and internal roadway networks. At buildout, the Clearfield Station TOD is envisioned to be a cohesive neighborhood that includes the existing 10-acre apartment site.

## LAND USE

A thorough site documentation and analysis process was conducted to ensure the planning and design concepts that emerge are aligned with the opportunities and constraints that currently exist. As described and illustrated below, key land use conditions were reviewed and investigated as part of understanding the structure and relationships between land uses in the study area.

Figure 4 shows the general land-uses of parcels within ½ miles of the station. Current land uses surrounding the site are primarily single family and medium density multifamily residential housing. East of the site is the State Street commercial corridor. West of the site is the Freeport Center that consists of industrial uses, including processing, assembling, manufacturing and warehouse storage. As indicated in Table 1, the total area included within the half-mile zone of influence encompasses 899 acres.

**Figure 4: Existing Land Use Map**



**Table 1: Existing Land Use**

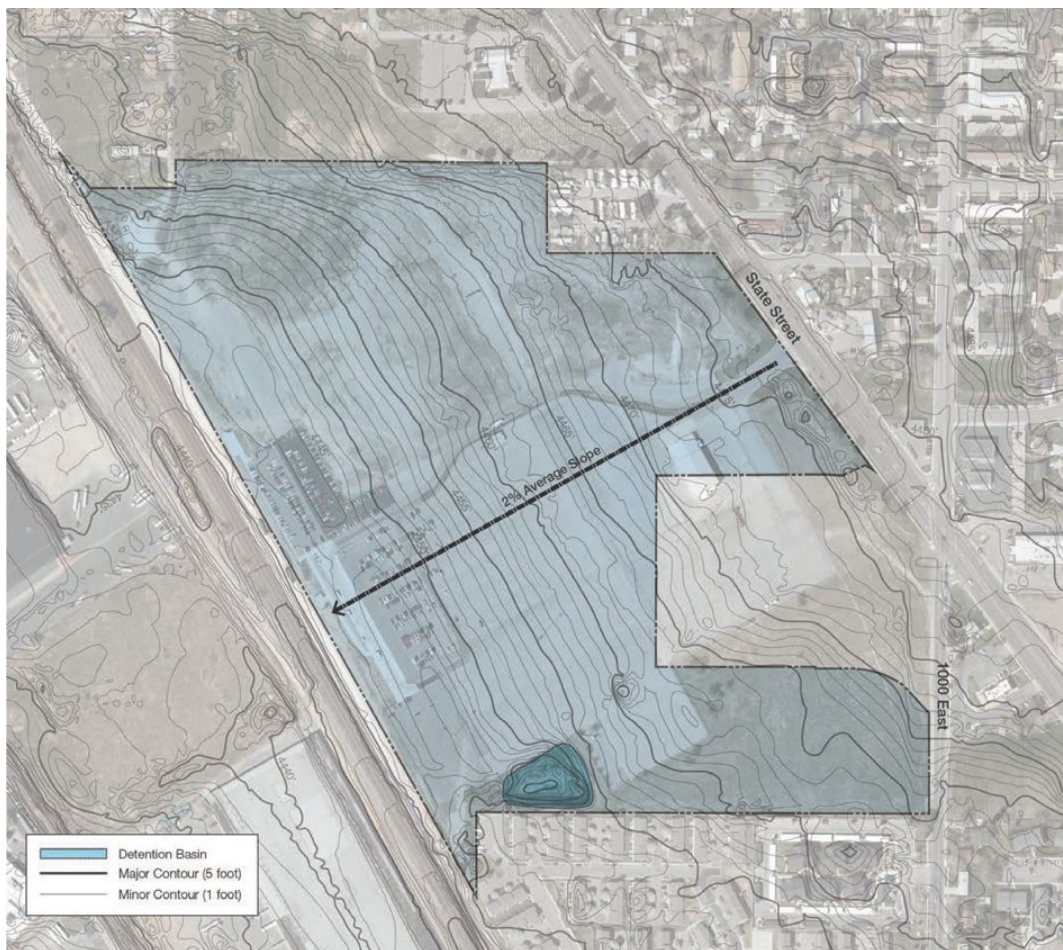
Name	Acres	Percent
<b>Clearfield Station Area Site</b>	56	6%
<b>Single-Family Residential</b>	41	5%
<b>Multi-Family Residential</b>	88	10%
<b>Commercial</b>	19	2%
<b>Industrial/Manufacturing</b>	534	59%
<b>Government/Institutional</b>	49	5%
<b>Park/Open Space</b>	30	3%
<b>Vacant/Agriculture</b>	44	5%
<b>Roads &amp; Utilities</b>	38	4%
<b>Total</b>	<b>899</b>	

## Environmental Conditions

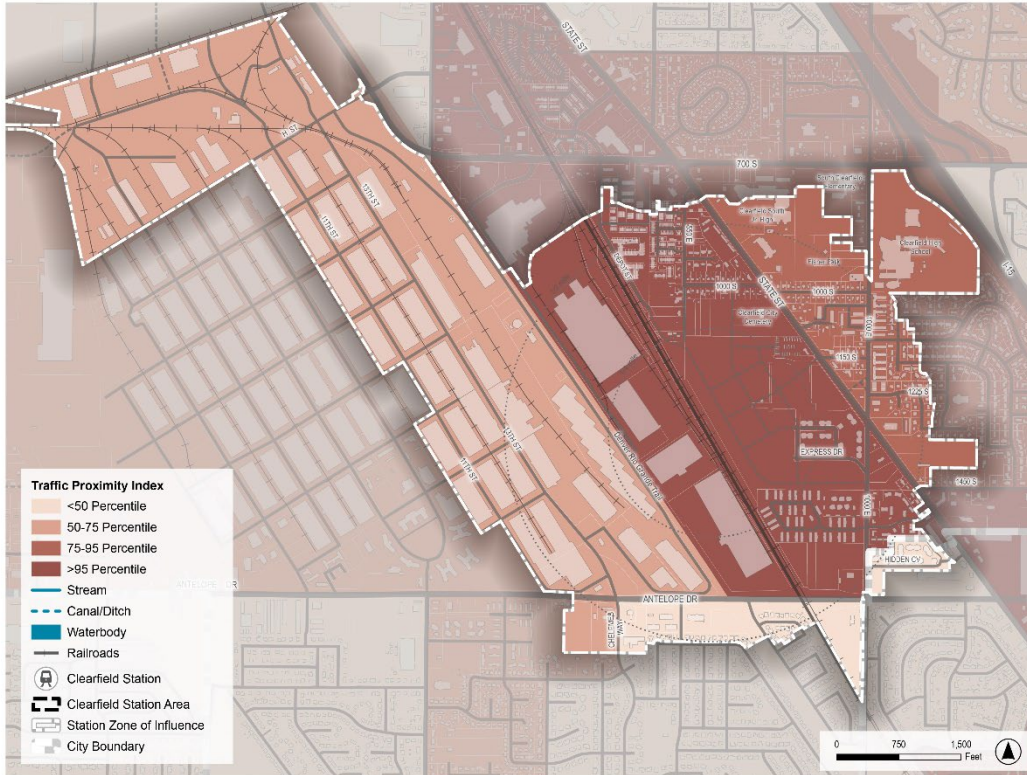
As illustrated in Figure 5, there are no negative environmental conditions known on the site, which provides optimal conditions for development and good access to existing utilities. The primary environmental conditions that impact the site are noise generated by jets taking off from Hill Air Force Base, in addition to noise, vibrations, and emissions resulting from rail lines and major arterial roads adjacent to the site.

The typical slope across the site is approximately 2% which is generally flat and provides adequate surface drainage. An existing detention basin is located on the south end of the site and at present provides adequate storage for surface drainage of the site. Figure 6 indicates that the site is significantly impacted by traffic. High traffic volumes can be beneficial for regional connection and visibility for the station, but can also hinder local access, particularly for pedestrians and cyclists.

**Figure 5: Station Site Environmental Conditions**



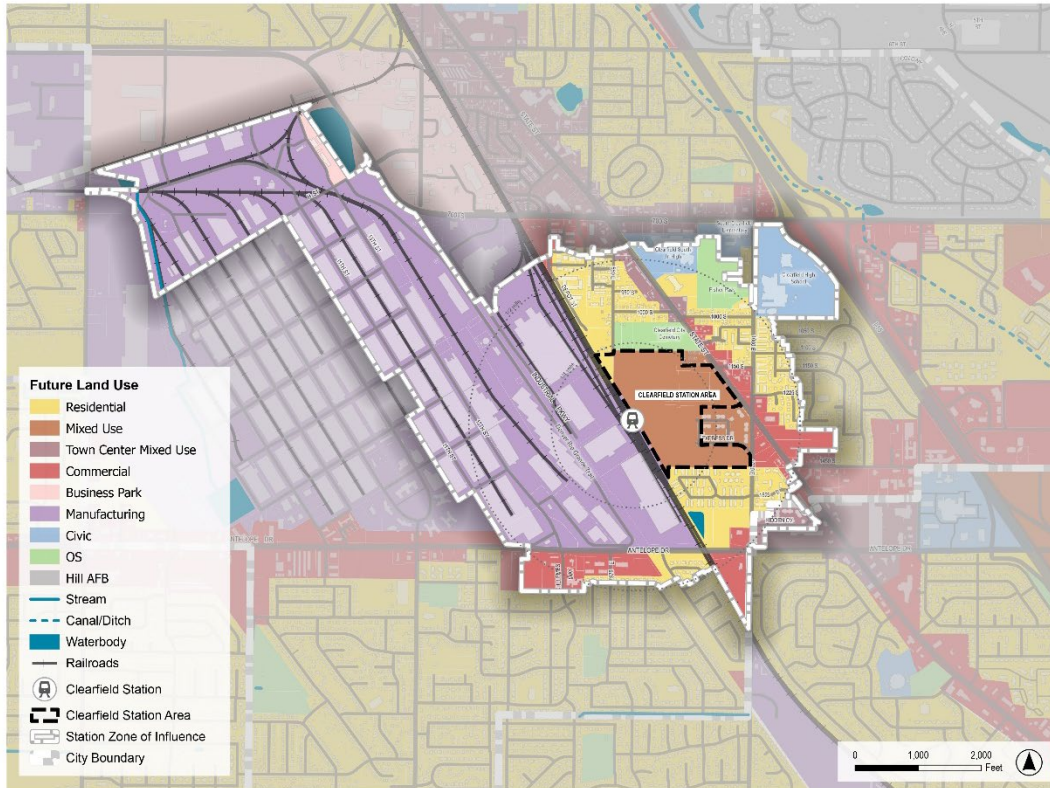
**Figure 6: Utah Traffic Proximity Index**



## Future Land Use

The *Clearfield City General Plan (2017)* identifies future land uses for the station area in a simple and straightforward manner (see Figure 7). The Frontrunner station site is designated as a mixed-use site, with residential uses to the north and south, industrial use to the west, and commercial use dispersed along State Street to the east. The plan also indicates a connection between the station area and downtown Clearfield, as part of an extension of mixed-use development along State Street ending at 1000 South. Since most existing uses on State Street between 700 South and 1000 South are unlikely to change from their civic and residential uses in the short-term, the station area is likely to remain somewhat detached from downtown Clearfield for the next ten years and beyond.

**Figure 7: Future Land Use Map**



The *Clearfield Station Master Development Plan (2021)* proposes a mix of land uses and new street connections within the Fronrunner Station TOD site (see Figure 8). Proposed land uses include mixed-use residential and retail along Station Boulevard, office development concentrated along Depot Street, additional mixed-use residential along 1450 South, and townhouses along the northern property line – all with accompanying parking areas and a network of connected open spaces.



**Figure 8: Clearfield Station Site Future Land Use**



## TRANSPORTATION

### Transit

Clearfield Station is located just west of State Street and north of Antelope Drive. The most recent ridership data from UTA (March 2023) show 434 average daily boardings and 375 average daily alightings. This is similar ridership to that of nearby Layton, Farmington, and Woods Cross stations, and about half that of Ogden Station. Figure 9 shows the transit network within the station area and stop-level ridership.

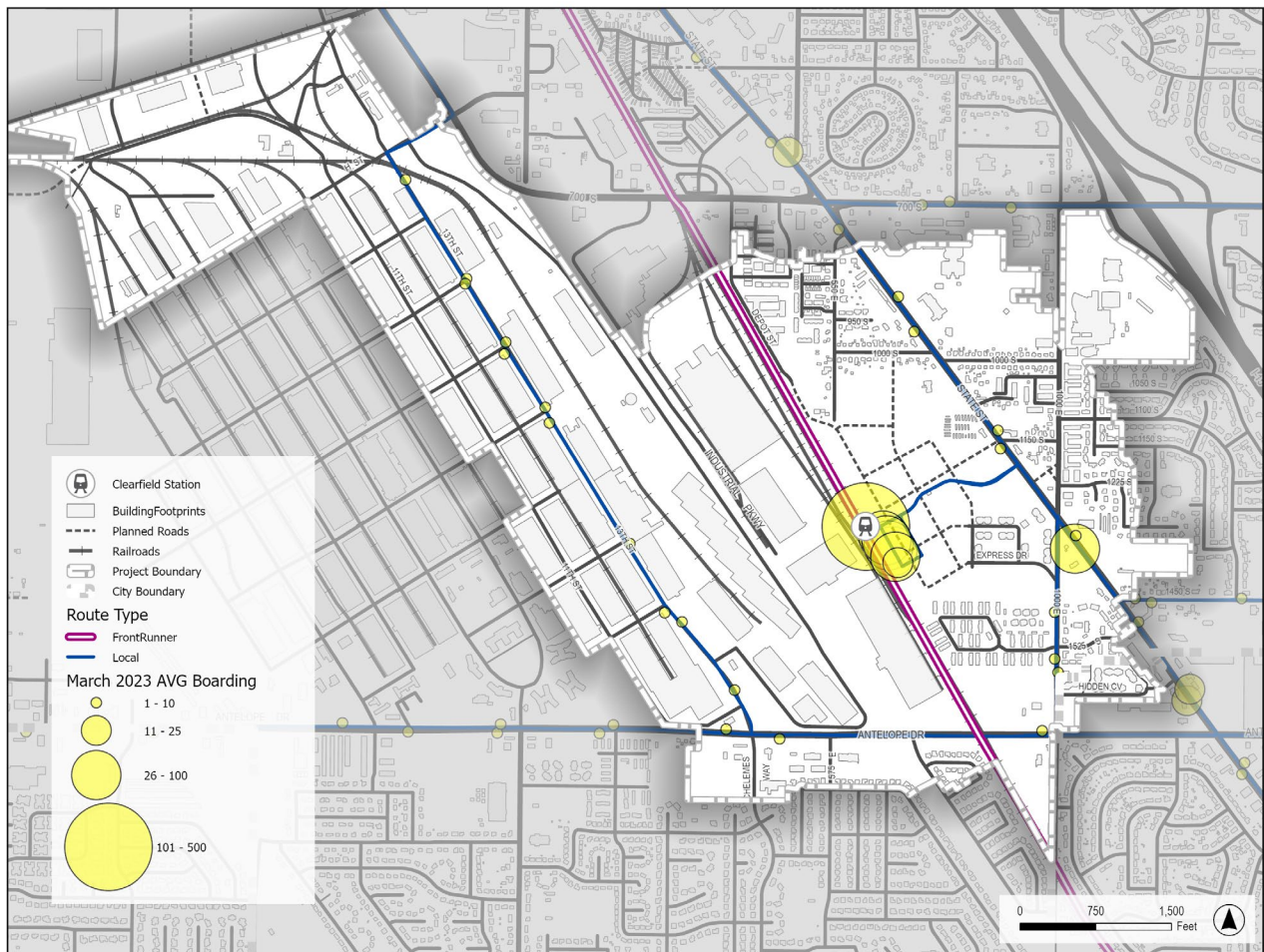
Clearfield Station is served by four local bus routes:

- **470 | Ogden-Salt Lake Intercity | 30-minute peak service:** Connects downtown Salt Lake City to Ogden Station with a transfer stop at Clearfield Station. The Clearfield Station stop for this route has 86 daily boardings and 86 daily alightings.
- **626 | West Roy – Clearfield Station | 30-minute peak service:** Connects West Roy to Clearfield Station through Syracuse. The Clearfield Station stop for this route has 38 daily boardings and 39 daily alightings.

- **627 | WSU Davis – DTC | 30-minute peak service:** Connects Davis Technical College to Clearfield Station with a transfer stop at Weber State University Davis Campus. The Clearfield Station stop for this route has 48 daily boardings and 39 daily alightings.
- **640 | Layton Hills Mall – WSU Ogden Campus | 30-minute peak service:** Connects Layton Hills Mall to Weber State University with a transfer stop at Clearfield Station. The Clearfield Station stop for this route has 58 daily boardings and 48 daily alightings.

According to UTA's 2019 On-board Survey the primary mode of access/egress to Clearfield Station is walking, following by driving alone and being picked up or dropped off. Combined, the vehicle-oriented modes comprise a majority share of access/egress modes at 61% and 57% respectively. Table 2 shows all modes of access and egress to the station.

**Figure 9: Clearfield Station Transit**



**Table 2: Clearfield Station Mode of Access/Egress**

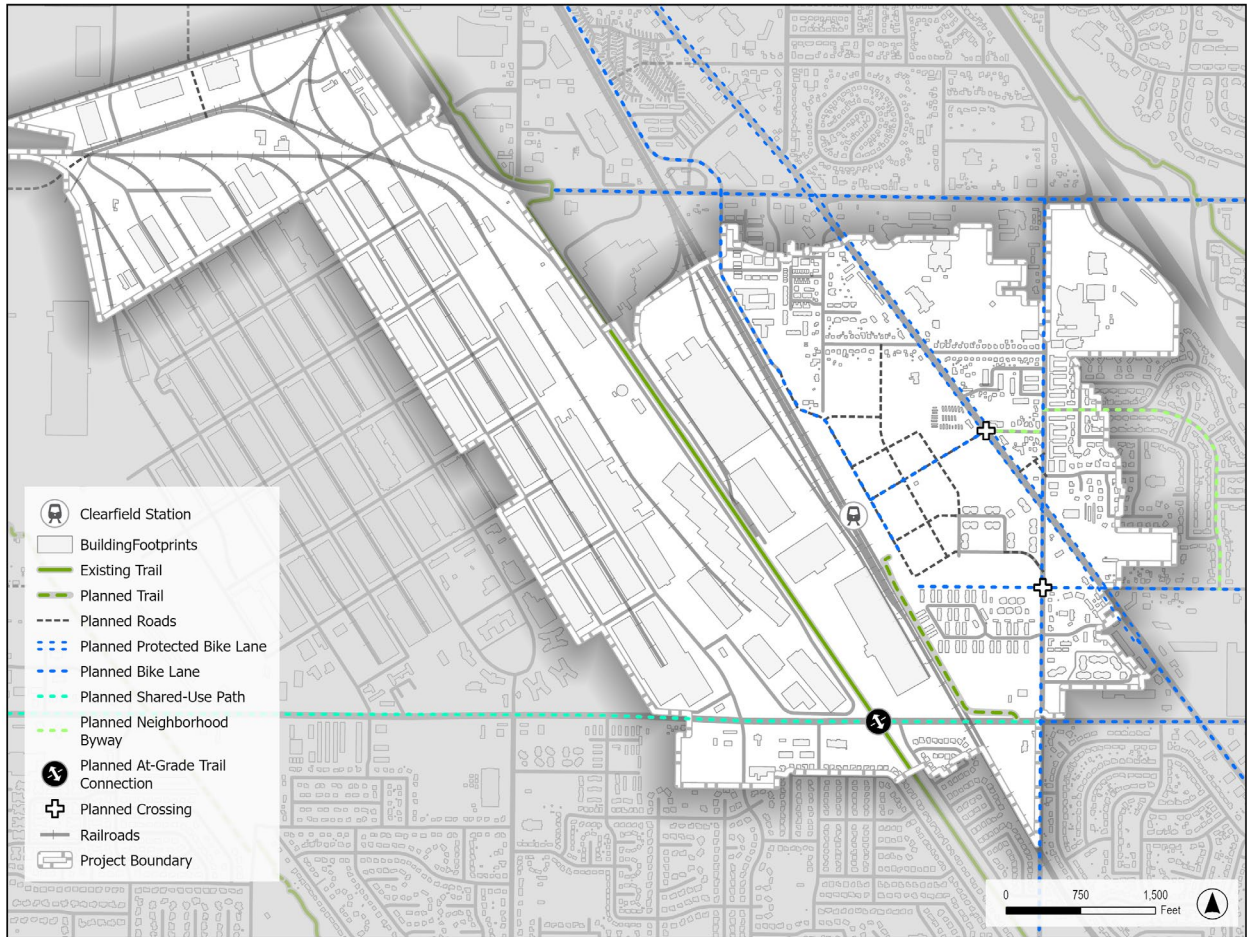
<b>MODE</b>	<b>ACCESS</b>	<b>EGRESS</b>
<b>WALK</b>	35%	41%
<b>DROVE ALONE</b>	34%	31%
<b>PICKED UP/DROPPED OFF BY SOMEONE</b>	22%	21%
<b>DROVE / RIDE WITH OTHERS</b>	5%	3%
<b>PERSONAL BIKE</b>	3%	2%
<b>SKATEBOARD / LONGBOARD</b>	1%	0%
<b>BIKE SHARING (E.G. GREEN BIKE)</b>	1%	0%
<b>SHUTTLE</b>	0%	1%
<b>UBER, LYFT, ETC.</b>	0%	1%

## Active Transportation

### Existing Facilities

There is only one dedicated active transportation facility within the station area, the Denver and Rio Grande Western Rail Trail. This paved facility is part of the Golden Spoke Route and US Bike Route 77, with connectivity north to Ogden and south all the way to Provo. There are several planned active transportation line and point projects in the area, identified from the North Davis Active Transportation Plan and the 2023 WRFC RTP. Bike lanes are planned for Depot Street, 1000 East, 1450 South, 700 South, on Antelope Drive west of 1000 East, and the future road to the Clearfield FrontRunner Station. Additional planned line projects include a protected bike lane on State Street, a trail connection from the FrontRunner Station south to Antelope Drive, a shared-use path on Antelope Drive west of 1000 East, and neighborhood byways on 1150/1100 South. Planned point projects include at-grade pedestrian/bike crossings at 1150 South State Street and at 1000 East and Antelope Drive, and a planned at-grade trail connection between the Denver and Rio Grande Western Rail Trail and the planned shared-use path on Antelope Drive.

**Figure 10: Active Transportation Facilities**



## Activity

Activity data is derived from self-report trips recorded on the fitness platform Strava. This app is popular with recreational and competitive bicyclists, hikers and runners to track their training progress. Although this group of users tends to be comfortable riding on busier roadways than more casual users, their presence can indicate the frequency of use of certain routes.

Figure 11 shows the recorded run, walk, and hike trips in 2022. The most popular place to log these activities within the study area is the Denver and Rio Grande Western Rail Trail, with close to 3,000 recorded activities. Antelope Drive is also a relatively popular corridor. Few people record these types of trips while accessing the FrontRunner station.

**Figure 11: Pedestrian Activity 2022**

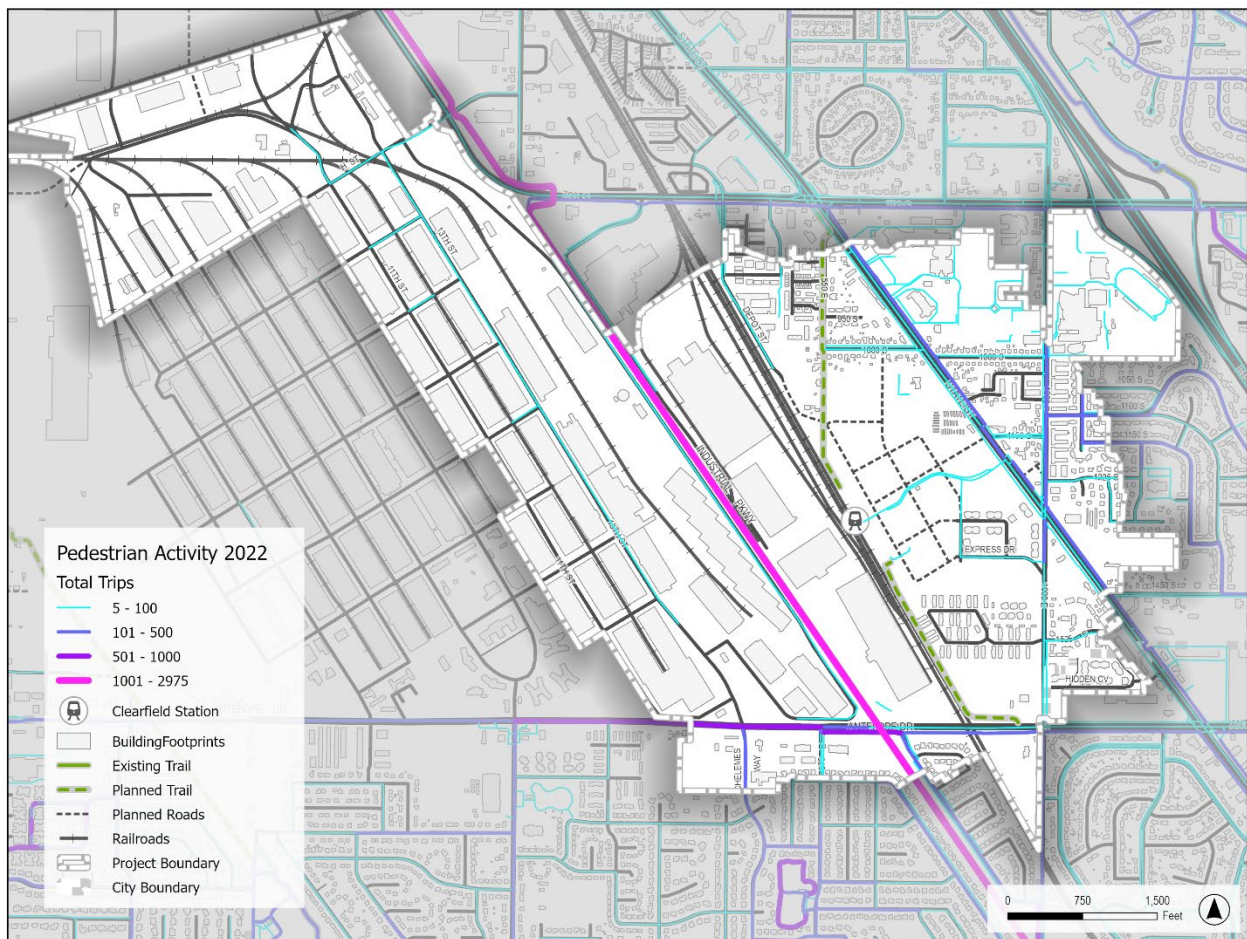
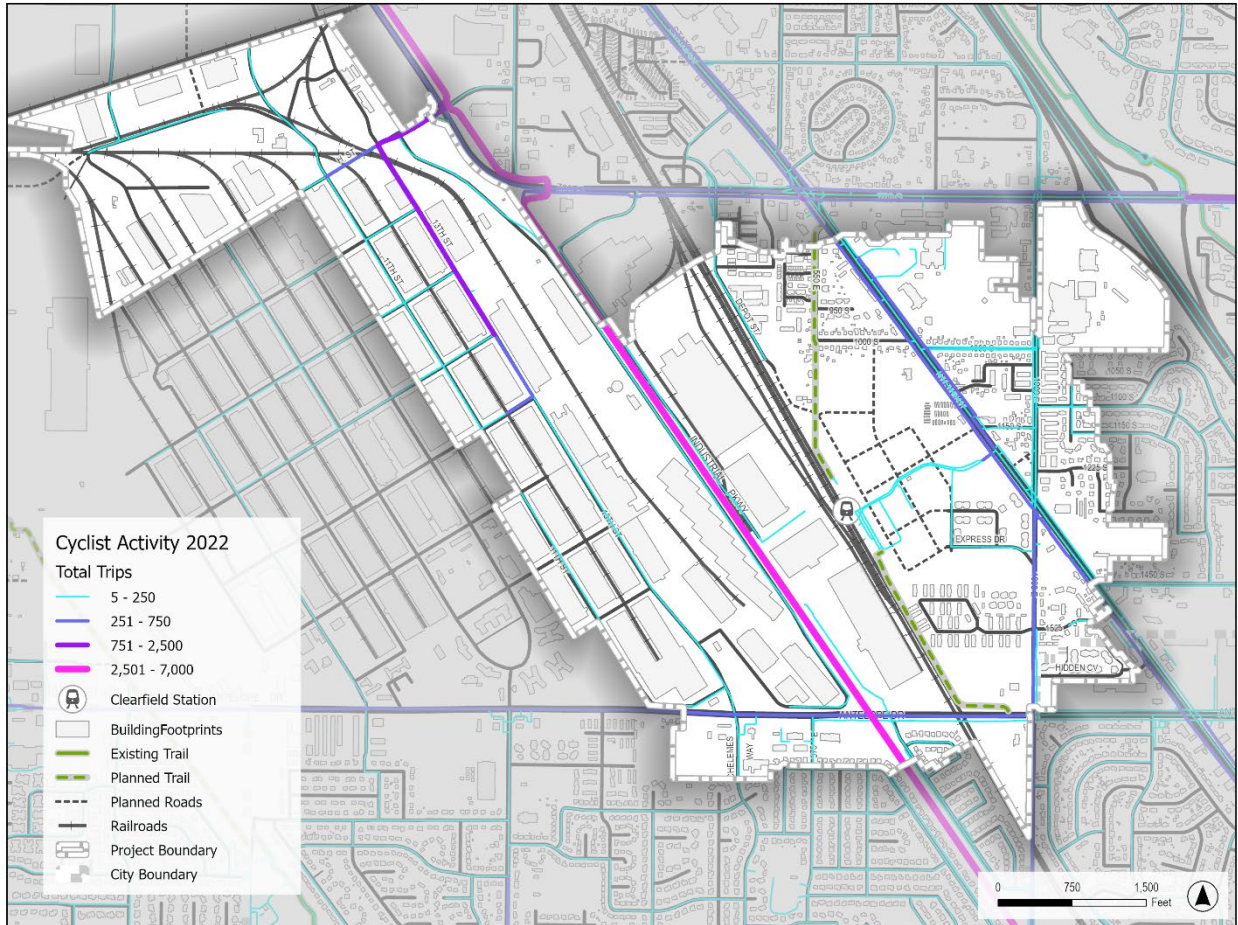


Figure 12 shows the bicycle trips recorded within the city during 2022. These trips largely follow the same pattern found with the pedestrian activity, but with greater magnitude. Here the Denver and Rio Grande Rail Trail has close to 7,000 recorded activities. 13<sup>th</sup> Street also shows relatively high activity with access from the north on H Street. Few people record these types of Trips while accessing the FrontRunner station.

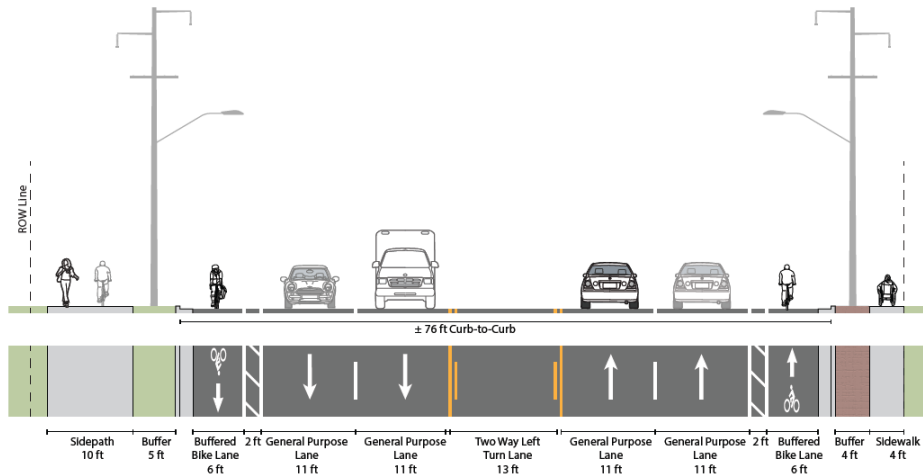
**Figure 12: Cyclist Activity 2022**



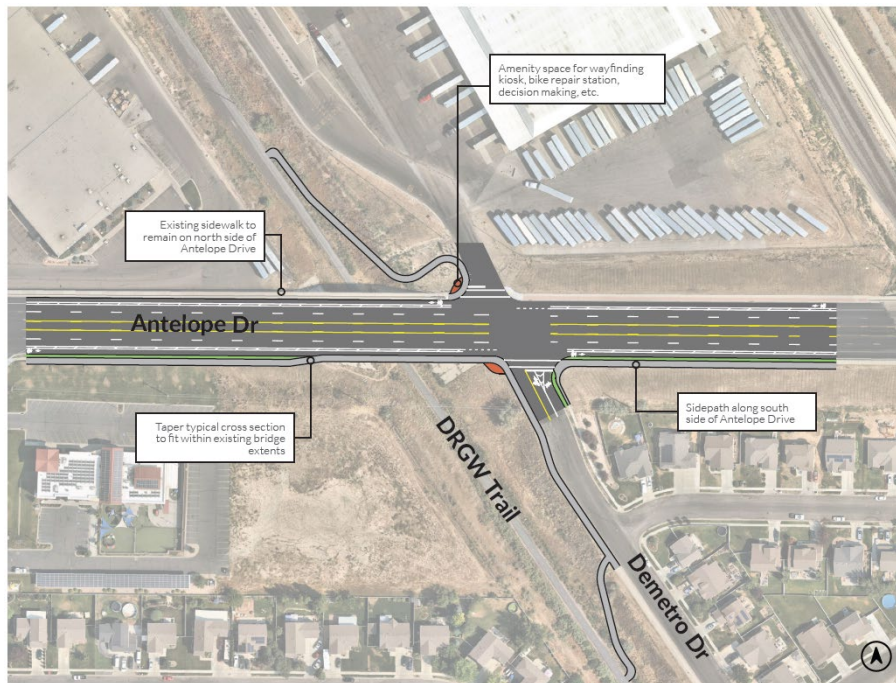
## Planned Improvements

The *North Davis Active Transportation Plan* identifies planned improvements for major corridors, including State Street, Antelope Drive, and 700 S. These improvements include a multi-use path and buffered bike lanes along Antelope Drive (Figure 13 & Figure 14), protected bike lanes on State Street (Figure 15), and enhanced street crossings, including at State Street and 1150 South (Figure 16).

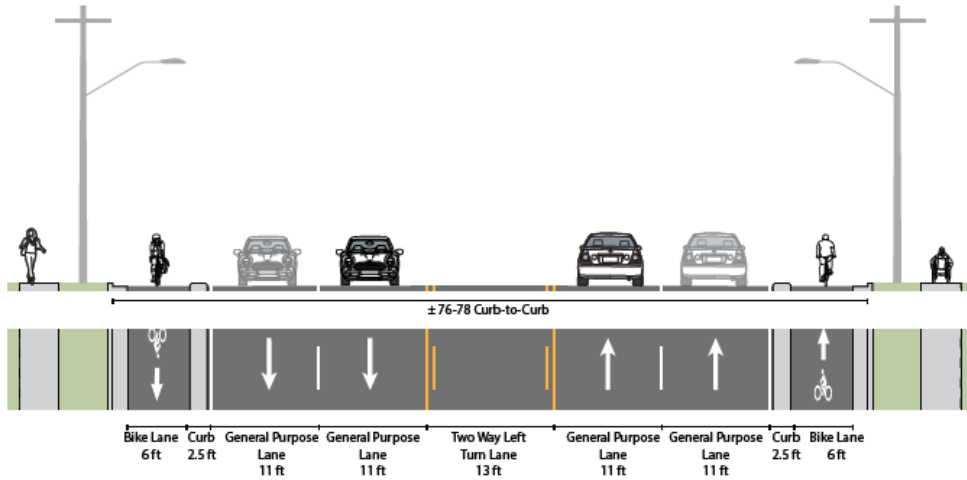
**Figure 13: Proposed Street Cross Section for Antelope Drive (1000 W to 1000 E)**



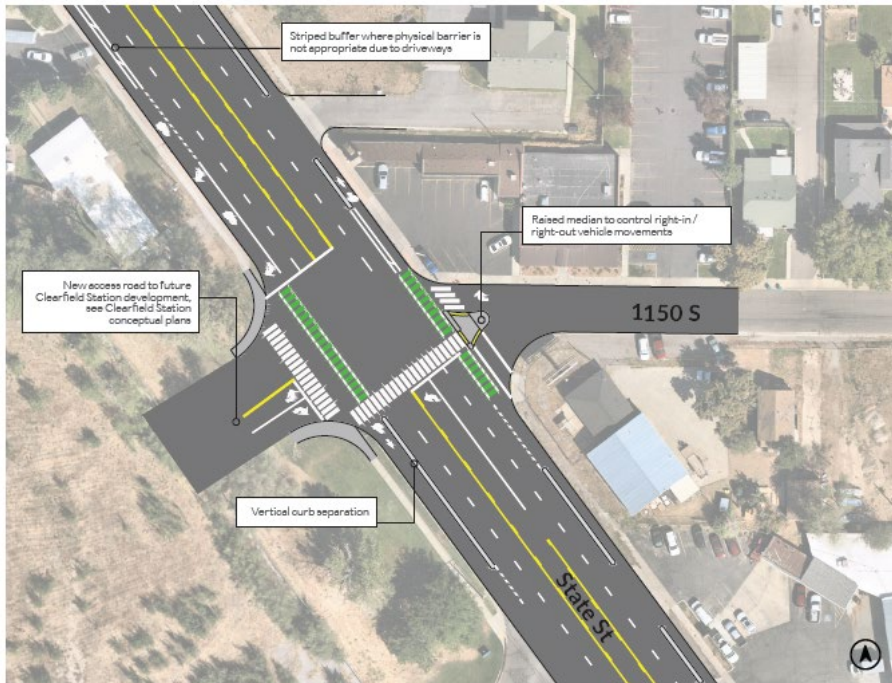
**Figure 14: Proposed Antelope Drive & DRGW Trail Connection**



**Figure 15: Proposed Street Cross Section for State Street (800 North to 1525 S)**



**Figure 16: Proposed Intersection Design at State Street and 1150 South**





## Vehicle Conditions

Figure 17 shows the vehicle classification of roadway in the vicinity of the station area. Additionally, it depicts the 2020 average annual daily traffic volumes (AADT) from UDOT and the intersection level of service (LOS) from the 2018 Clearfield Station Master Plan. State Street is a principal arterial and provides the primary access to the FrontRunner Station. As of 2018, the LOS of the intersection at State Street and the station access was a B in the AM and C in the PM peak periods, indicating a well-functioning intersection. Other intersections along State Street show worse LOS, with the intersection of 700 South having the worst in the area with a PM Peak of F.

**Figure 17: Vehicle Conditions**



## Safety

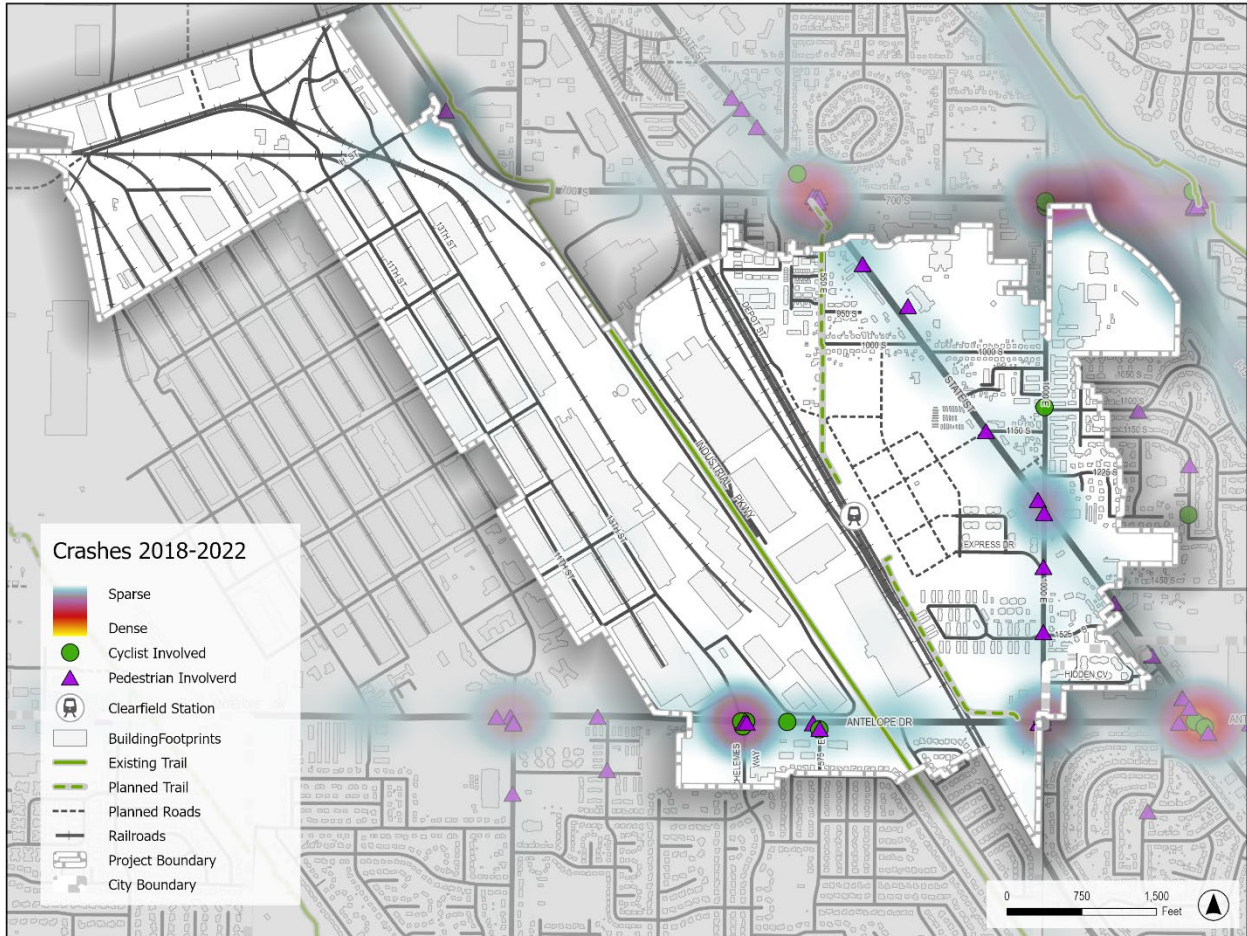
Figure 18 shows a heat map of all crashes between 2018 and 2022 with fatal and suspected serious injury crashes indicated separately. The largest concentration of all crashes within the station area is at 13<sup>th</sup> Street and Antelope Drive. Other hot spots occur at 1000 East and Antelope Drive, and 1000 East and State Street. While there are no fatal crashes within the station area, there are a number of suspected serious injury crashes, with four along the State Street corridor. One of these occurs at Station Boulevard, the primary access to the station.

**Figure 18: Severe Crashes 2018-2022**



Figure 19 shows both pedestrian and cyclist involved crashes between 2018 and 2022. In total there were 22 crashes, 13 pedestrian involved and 9 cyclist involved. The highest concentration of these crashes occurs at 13<sup>th</sup> Street and Antelope Drive with 3 bicycle involved and 2 pedestrian involved. The Antelope Drive corridor in general has the most of these crashes, with 13 in total. There were no fatal crashes, but three suspected serious injury crashes, all along the 1000 East corridor.

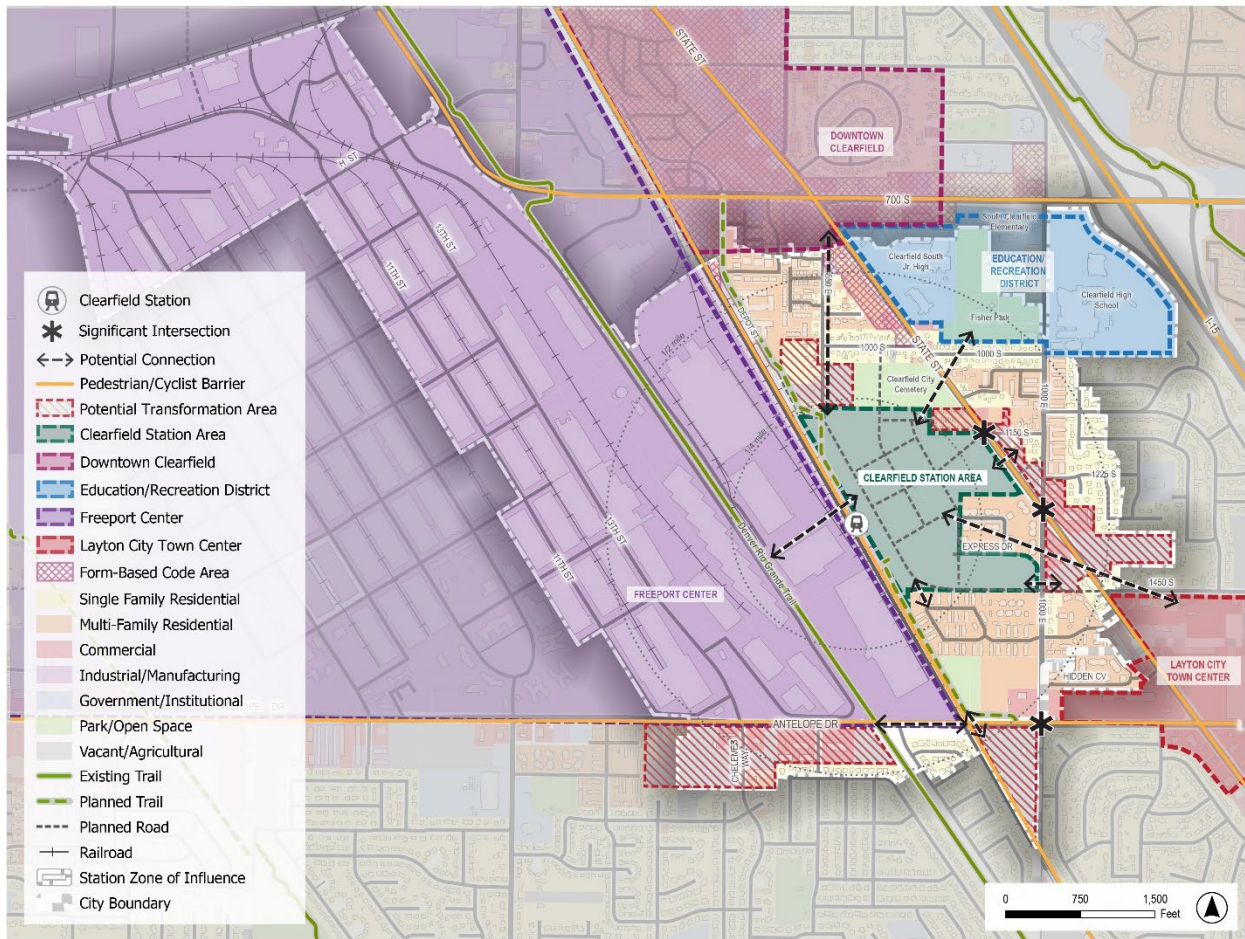
**Figure 19: Active Transportation Crashes 2018-2022**



# SITE ANALYSIS AND IMPLICATIONS

In response to the land use and transportation findings, a site analysis for the station’s area of influence (Figure 20) examines the opportunities and constraints for creating a well-connected, integrated, mixed-use station area. Key elements identified include potential connections, significant intersections, pedestrian/cyclist barriers, and potential transformation areas.

Figure 20: Site Analysis Map



## Potential Connections

The potential connections identified in Figure 21 indicate destinations in need of a stronger connection to the station. These destinations include:

**Adjacent Neighborhoods:** The multi-family development to the South is separated by a fence with no connections into the site. The neighborhood north of the site currently does not have any connections to the station, though the planned future Depot Street and trail will allow for vehicular, pedestrian, and bicycle connections to the north.

**Freeport Center and Other Areas West of the Tracks:** This area has very limited non-motorized access

to the station, as crossing the tracks is only possible along the City's major arterials, which currently include little to no pedestrian or bicycle facilities. However, a multi-use path and buffered bike lanes planned across the Antelope Drive bridge could significantly improve access for these areas.

The Denver & Rio Grande Western Rail Trail (D&RGW) is a multi-use, paved trail that runs 22 miles from West Bountiful through Roy. The trail runs north-south at the west of the station, but is separated by train tracks and warehousing facilities. Currently there is no access from the station to the trail, though the proposed improvements on Antelope Drive would improve access.

The UTA 640 bus route does provide a service connection between Freeport Center and Clearfield Station, but ridership demand is low and the service limited. If a transit connection is desired for Freeport Center, this might be better achieved through flex shuttles or other microtransit options.

**Davis Hospital and Neighborhoods to the East:** Residential neighborhoods and the Davis Hospital to the east of the corridor represent a significant population of potential ridership. The UTA 640 bus route does provide a transit connection to these areas. However, State Street itself is a significant barrier for any active transportation and will require improved crossings in order to encourage use of the station by these neighborhoods.

**Downtown Clearfield and Layton City Town Center:** Downtown Clearfield and one of Layton's Town Centers lie just outside of Clearfield Station's zone of influence. Adequately connecting the centers will be important to create a thriving and well-connected mixed-use district.

**Clearfield Education and Recreation District:** Clearfield High School, North Davis Jr. High, South Clearfield Elementary, the Clearfield Aquatic and Fitness Center, and Fisher Park are clustered together near the northeastern limits of the station's zone of influence. These important community nodes should also have a strong connection to the station area.

## Significant Intersections

Figure 21 also identifies significant intersections where key corridors meet within the zone of influence. These intersections should receive special design consideration to ensure they are safe and efficient for all modes of transportation.

## Pedestrian/Cyclist Barriers

The rail lines adjacent to the site are significant barriers to users west of the tracks, as they prevent easy linkages to the transit options and placemaking enhancements associated with the station. Similar access and crossing challenges exist along State Street, Antelope Drive, and 700 S due to heavy traffic and minimal bike and pedestrian infrastructure and street crossings. Roadway barriers can be more easily overcome through proactive design and planning than rail barriers can, which would require additional grade separated crossings.

## Potential Transformation Areas

The condition and age of existing uses within the station's half-mile zone of influence are variable at best. The Frontrunner station site is largely undeveloped, although a clear vision has been established that supports a significant transformation of the site into a new and important destination for the city and region.

The residential neighborhoods to the north and south include a significant amount of multi-family and townhome residential development, which are aligned with emerging housing demands and TOD profile of the station and its surroundings. Several commercial properties, particularly along State Street, are vacant/abandoned, in disrepair, or include low-land-value uses that typically relocate as an area urbanizes. Figure 21 identifies these areas as “potential areas of transformation”, indicating them as potentially ripe for development or redevelopment in the near future. These properties present an opportunity for additional transit-oriented development that would further support the station area.

## CONCLUSION

The Clearfield Station area has a number of opportunities and challenges in creating a well-connected, integrated, mixed-use station area. With a limited amount of vacant land remaining in the station’s area of influence, most development is expected to occur internally to the TOD site. However, a reasonable amount of opportunity exists for meaningful transition land uses at the station’s edges, which may help support the planned station development and/or buffer the station from existing residential neighborhoods.

The Clearfield Station site is currently very auto oriented, with little to no access to the adjacent land uses. Despite this, a high walk access/egress persists, even though there is little infrastructure to support it. Other modes, including bicycles, are not well represented. Of particular concern should be the intersection of 13<sup>th</sup> Street and Antelope Drive, which holds the highest concentration of both all crashes and bicycle/pedestrian involved crashes.

Planned trails connecting to the north and south of the station should help accommodate first and last mile journeys for active transportation users, while the greatest opportunity in this regard would be a direct connection to the Denver and Rio Grande Rail Trail, which sees the highest active transportation usage in the area and would provide excellent connectivity to surrounding land uses. In addition, overcoming active transportation barriers across State Street through well-planned crossings will be key to providing meaningful connections to areas to the east of the station.