

White Paper – Regional Accessibility Benefits Associated With Implementation of the Albuquerque Rapid Transit on Central Ave

MID-REGION COUNCIL OF GOVERNMENTS
PLANNING TECHNOLOGIES
DECEMBER 2015



Albuquerque Rapid Transit and Central Ave

The Albuquerque Rapid Transit (ART) project represents a major reinvention of Central Ave and a rethinking of how travel can take place along the corridor. As a result of ART's use of dedicated transit lanes, prioritized signaling at intersections, pre-boarding ticketing, and level boarding platforms, transit travel times along Central Ave will be improved by 15 percent over existing Rapid Ride services.¹ ART will be comprised of two overlapping routes: the first will run every 15 minutes from Unser Blvd to Tramway Blvd; the second will run every 15 minutes along Central Ave from Tramway Blvd to Louisiana Blvd, where it will continue north to the Uptown district. The routes will be offset so that combined service for most of the 13.5 mile corridor will operate every 7.5 minutes. Rapid Ride buses currently operate every eight minutes between Downtown and Louisiana Blvd, as the Green Line does not continue west of Downtown while the Red Line turns north at Louisiana Blvd. ART therefore represents a significant increase in the frequency of service between Downtown and Unser Blvd. Furthermore, travel time reliability for transit users will be greatly improved compared to current conditions because of the predictability in travel conditions resulting from dedicated infrastructure.

Central Ave is a crucial transit corridor, carrying more than 18,000 passengers per day. However, the benefits of ART for transit users will extend beyond those living and traveling along Central Ave as the corridor also intersects with 32 of the 37 ABQ Ride routes (aside from the three already operating on Central Ave). While a large number of trips originate and terminate at points along Central Ave, the corridor is crucial for thousands of travelers making connections to other destinations across the region.

Purpose of Study

A common criticism of the ART project is that it provides additional investment in a transit corridor that is already well-served rather than improving service in other locations. One under-evaluated component of the ART project, therefore, is the impact investments on Central Ave will have across the rest of the system. As a planning agency concerned with issues across the entire Albuquerque metropolitan area, the Mid-Region Council of Governments (MRCOG) is particularly interested in the regional impacts and benefits of such transportation projects.

This report analyzes the benefits as a result of the improvements in travel times along Central Ave and reliability compared to the existing public transit system. The improvements in reliability along Central Ave are especially critical because of the assurances for users that they will arrive at their destination at the projected time. It is this reduction in uncertainty and greater predictability in travel time that can be expected to impact ridership and the overall performance of the system.

¹ Central Ave is currently served by two Rapid Ride buses (Route 766 Red Line and Route 777 Green Line) which stop approximately every mile, and a local service (Route 66) that stops approximately every two blocks.

This will allow transit users to more confidently plan their travel and to transfer to other routes (e.g., those running north-south such as San Mateo Blvd or Eubank Blvd that intersect with Central Ave) with as little wait time as possible in between.

Methodology

This analysis uses the MRCOG Transportation Accessibility Model (TRAM) to compare current levels of accessibility via public transit to the levels anticipated once ART is operational. In particular, TRAM assesses the distances that can be traveled via different modes to create spatial contours. The resulting contours can be contrasted between scenarios to quantify the differences between one set of transportation conditions (e.g., the current ABQ Ride system) and one subject to additional investments or meaningful changes (e.g., the transit system after ART implementation).

This analysis does not calculate total time savings for all transit users. Rather, it depicts the increased distances individual residents can travel across the region within a timeframe (in this case 45 minutes) under an ART implementation scenario. Thought of another way, it shows how many residents can travel to a destination or how many additional jobs are accessible within a timeframe. In so doing, the analysis demonstrates that improved conditions along Central Ave do impact access to destinations across the region.

The report was produced by MRCOG with support from Planning Technologies, an Albuquerque-based transportation planning and modeling firm.

Assumptions

- Transit travel time under the ART scenario is on average 15 percent faster than the Rapid Ride buses currently operating on Central Ave. The existing conditions scenario assumes speeds based on the publicly-available transit schedules prepared by ABQ Ride.
- For all trips originating west of Louisiana Blvd, ART is assumed to run at a combined frequency of a 7.5 minute headway. For trips originating east of Louisiana Blvd, a frequency of 15 minutes is assumed. The existing conditions scenario assumes that Rapid Ride buses operate every 8 minutes between Downtown and Louisiana Blvd and every 16 minutes east of Louisiana Blvd and west of Downtown.
- Transit users will coordinate their arrival at their first transit stop based on the posted schedule to avoid wait times.
- The analysis reflects weekday travel conditions but is not specific to a particular time of day. Rather, it is a general representation of the accessibility provided by the current transit system and the benefits provided as a result of ART.
- Rail Runner was not considered as part of this evaluation because it operates on a fixed schedule at certain times of the day, rather than at regular intervals like the majority of

ABQ Ride bus routes. Logically, Rail Runner passengers who first connect to the train via Central Ave buses will see their travel time reduced for the trips to and from the Alvarado Transportation Center in Downtown Albuquerque.

- Commuter routes that operate in peak periods only were also excluded from this analysis.
- Under the ART scenario, the wait time when making a transfer to a route that intersects with Central Ave is assumed to be five minutes. Under the current system, the wait time when making a transfer is equal to one half of the average time between buses (which can be up to 60 minutes for certain routes). The improved reliability of travel along Central Ave resulting from ART means that users may time their trips to reduce the amount of waiting they must endure for their second bus to arrive and can better predict the time at which they arrive at their desired destination (i.e., transfer point).²
- There are no additional services added alongside ART. It is unclear what will happen to the existing stock of Rapid Ride buses following implementation of ART. If those buses are repurposed and new routes are created, the results of the ART scenario in this analysis can be considered conservative.

Results

The combined effect of increased service frequency, reduced transit travel times, and greater reliability results in substantial improvements in access to destinations by public transit across Bernalillo County. Some key findings are that nearly 150,000 additional residents could access the University of New Mexico and Nob Hill areas respectively within 45 minutes by public transit as a result of ART than at present. Similarly, someone departing from Coors Blvd and Central Ave could access more than 50,000 additional jobs within 45 minutes once ART is implemented than they could today (see the Table 1 and the Figures at the end of the report for more details).

The following are the primary benefits resulting from the implementation of ART:

- Reduced travel times mean users can reasonably expect to get to their ultimate transit stops faster, meaning they also have more time to walk or bike to their final destinations.
- More frequent service, particularly west of the Rio Grande, means that residents of the southwest mesa have greater access to employment sites and services along Central Ave, including Downtown Albuquerque, Presbyterian Hospital, and the University of New Mexico.

² Further benefits could be realized if the timing points for buses that intersect with Central Ave were structured so that no buses depart on north-south routes before the time listed on the schedule. Such an approach could further reduce the assumed wait time of five minutes.

- Greater predictability in travel can reduce the wait times for transfers, leading to substantial improvements in access to north-south running corridors that intersect with Central Ave.

Figures 1 through 8 below contain images depicting the increases in accessibility for trips starting at proposed ART stops along Central Ave. **Figures 9 and 10** depict increases in accessibility for trips starting in other locations around the region. Note that the travel time used for comparison in Figures 9 and 10 is 60 minutes, whereas the travel time used for comparison for trips originating along Central Ave is 45 minutes.

These maps, and the summary statistics contained in **Table 1**, represent the residential and employment sites that can be reached from a starting point in a given amount of time. The inverse is also true, in that the maps and summary statistics represent the number of people who can access that point within a certain amount of time from across the region. For example,

Table 1: Jobs and Residents Accessible Within 45 Minutes: Before and After ART Implementation³

Starting Location	Current Transit System		ART Implementation		Percent Increase	
	Residents	Jobs	Residents	Jobs	Residents	Jobs
Central & Unser	145,246	89,139	195,744	107,966	35%	21%
Central & Coors	212,141	111,892	307,982	180,163	45%	61%
Central & Rio Grande	263,391	178,336	417,820	242,210	59%	36%
Central & 1st	268,127	208,181	419,572	254,946	56%	22%
Central & Cedar	244,277	200,683	399,999	245,660	64%	22%
Central & Yale	255,771	216,566	402,740	257,532	57%	19%
Central & Bryn Mawr	257,569	206,080	411,303	262,811	60%	28%
Central & Juan Tabo	261,006	184,909	328,622	219,638	26%	19%
98th & Dennis Chavez	155,589	86,635	202,800	109,636	30%	27%
Eubank & Academy	300,855	210,714	325,843	228,744	8%	9%

While many residents along Central Ave will simply be able to reach their destinations faster, those beginning their trips in other locations around the region can expect to see meaningful benefits as well. The most significant differences can be found when passengers must travel first to Central Ave via a north-south route, then transfer to ART. These users not only benefit from improved speeds, but also from reduced transfer times and increased frequency west of Downtown. Figure 9 demonstrates that improvements from ART mean that Southwest Mesa residents could access 27 percent more jobs within 60 minutes than is possible at present. From the Northeast Heights, several additional miles of destinations along Central Ave are now accessible, including Nob Hill, Presbyterian Hospital, the main entrance to UNM, East Downtown and the emerging Innovate ABQ district, and even portions of Central Ave west of the Rio Grande.

³ The analyses conducted for 98th & Dennis Chavez and Eubank & Academy allow for 60 minute travel times, rather than 45 minutes as used for all analyses of starting locations along Central Ave.

Figure 1: Differences in Accessibility for Trips Starting from Central Ave & Unser Blvd (Central & Unser Transit Center)

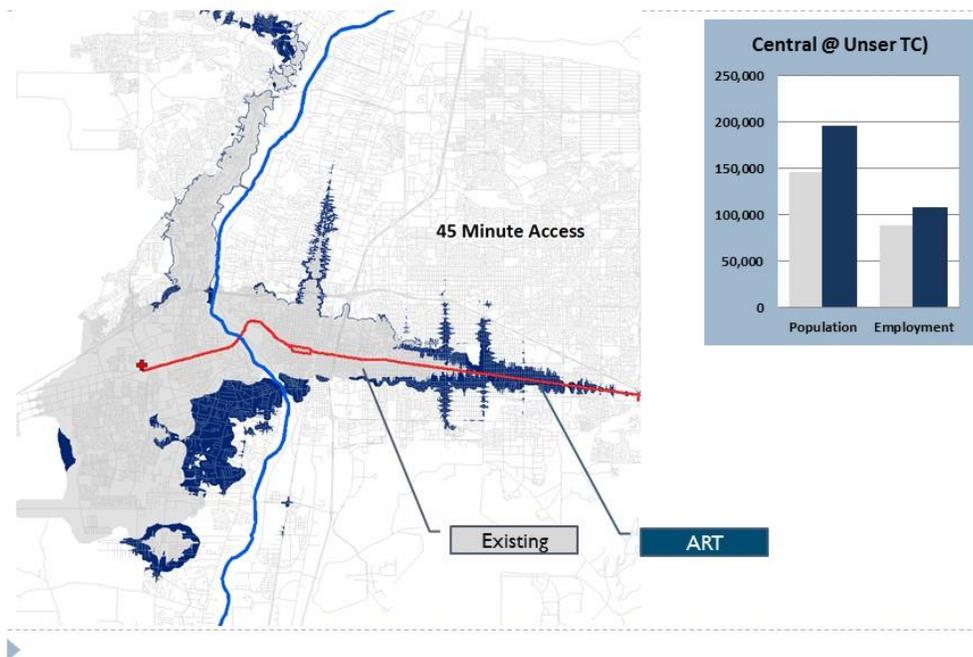


Figure 2: Differences in Accessibility for Trips Starting from Central Ave & Coors Blvd

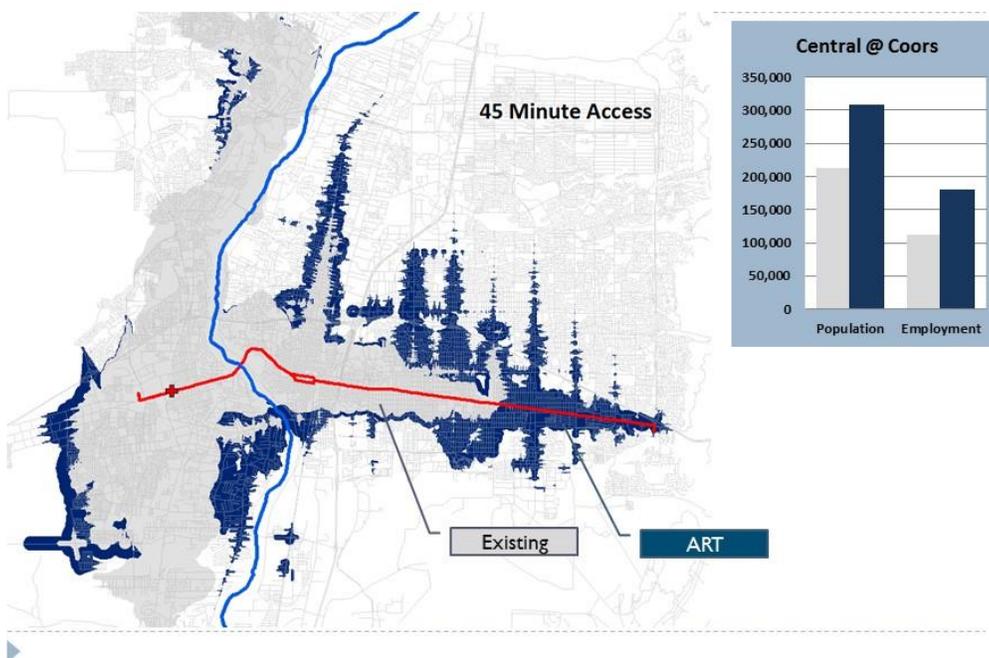


Figure 3: Differences in Accessibility for Trips Starting from Central Ave & Rio Grande Blvd (Old Town Albuquerque)

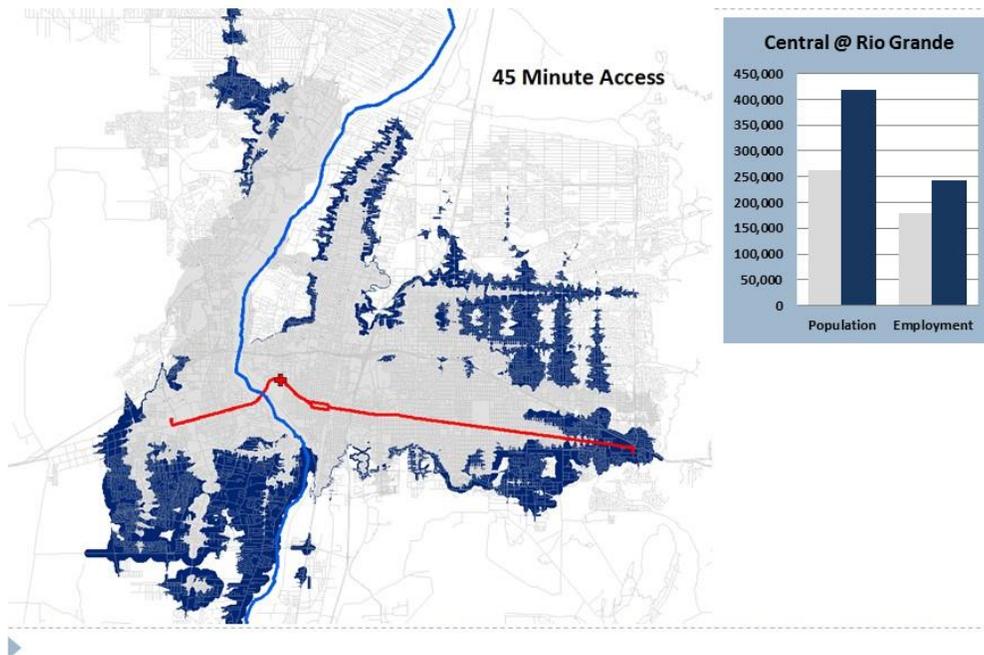


Figure 4: Differences in Accessibility for Trips Starting from Central Ave & 1st St (Downtown Albuquerque)

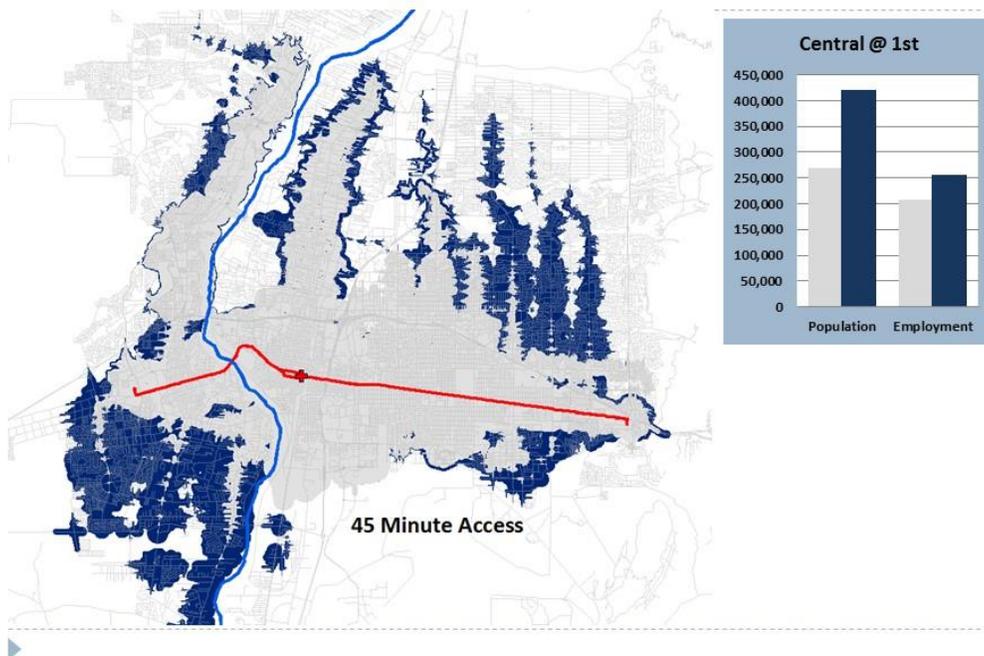


Figure 5: Differences in Accessibility for Trips Starting from Central Ave & Cedar Ave (Presbyterian Hospital)

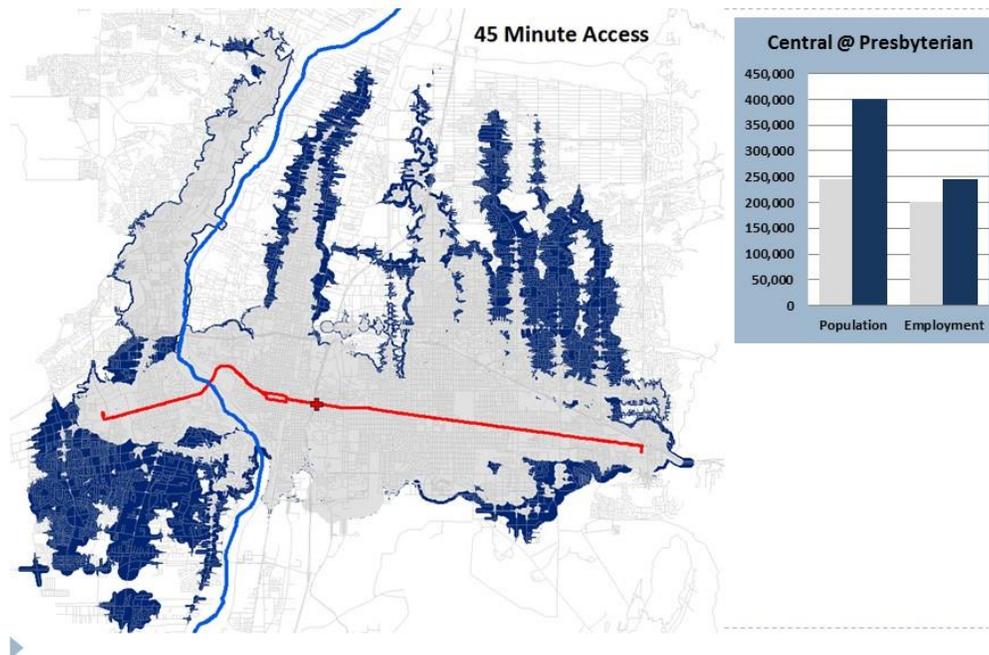


Figure 6: Differences in Accessibility for Trips Starting from Central Ave & Yale Blvd (University of New Mexico Main Campus)

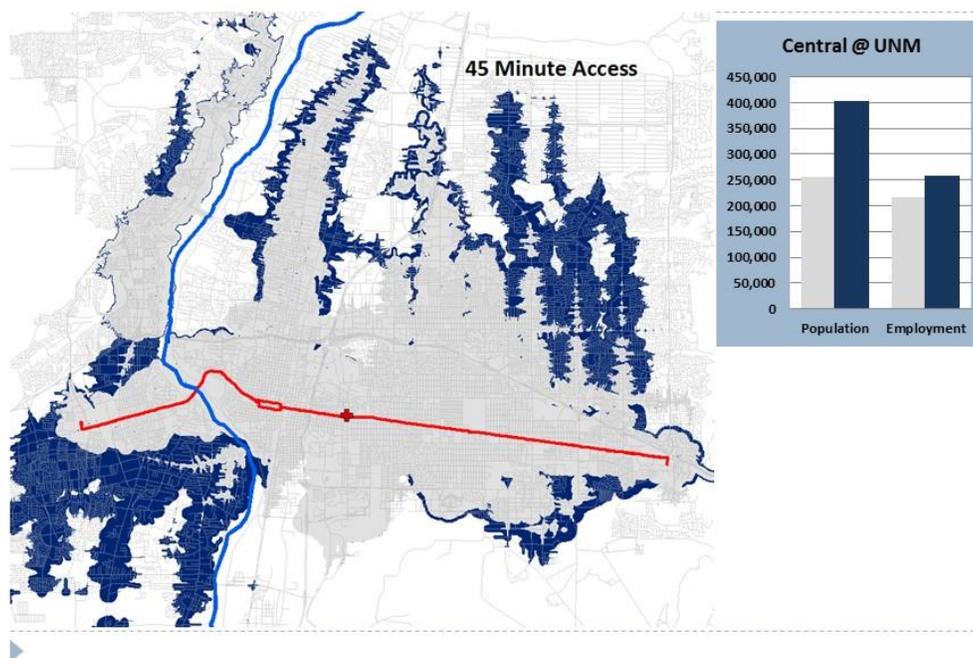


Figure 7: Differences in Accessibility for Trips Starting from Central Ave & Bryn Mawr Dr (Nob Hill)⁴

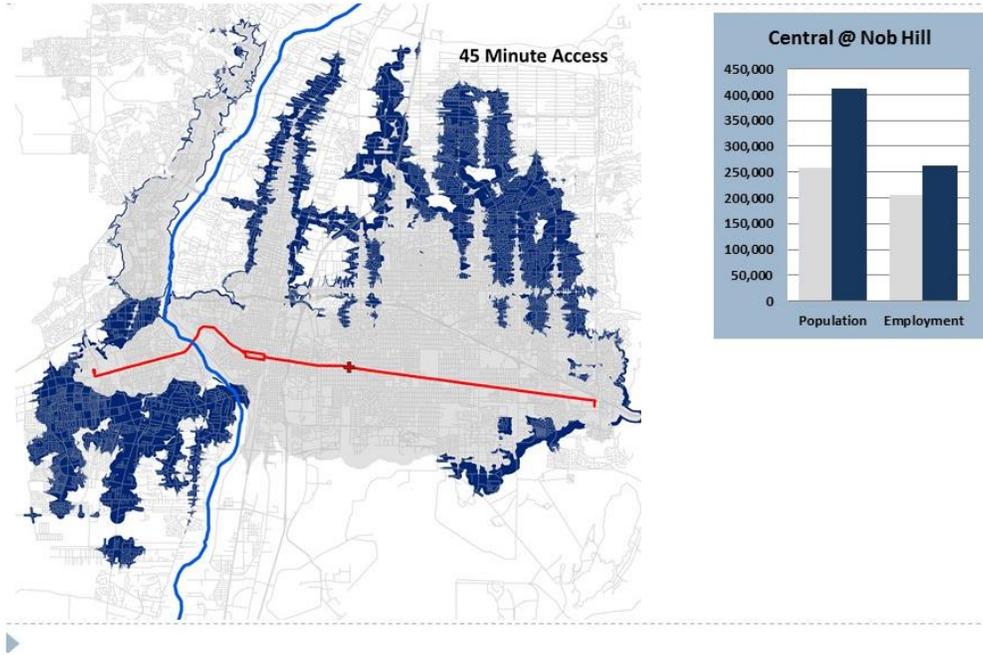
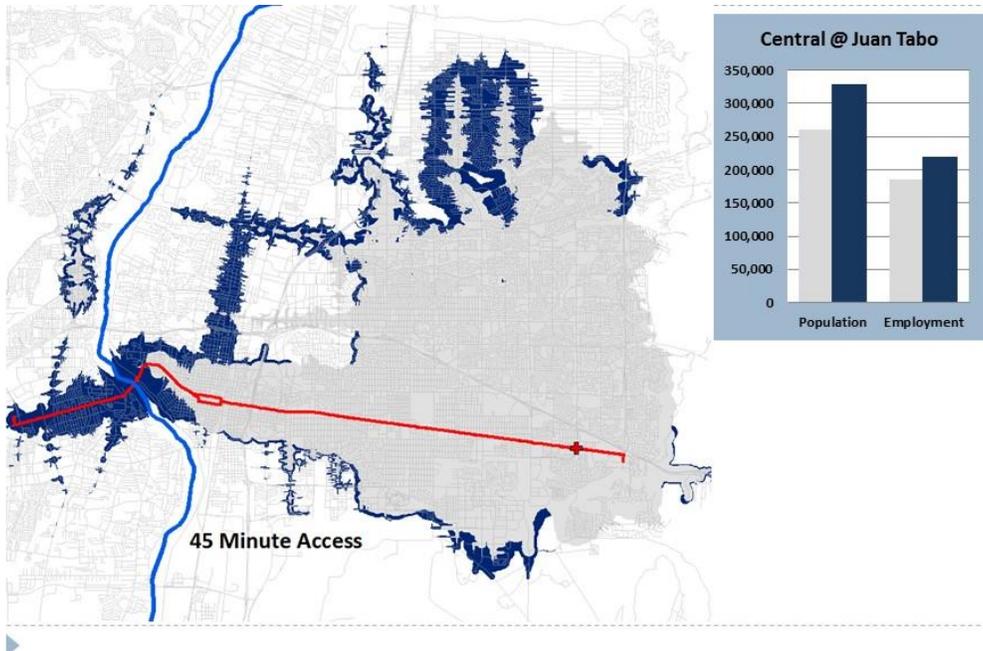


Figure 8: Differences in Accessibility for Trips Starting from Central Ave & Juan Tabo Blvd (East Central)



⁴ The Rapid Ride routes currently stop at Carlisle Blvd. This accessibility analysis considers the location of the proposed ART station at Bryn Mawr Dr in west Nob Hill as the starting point.

Figure 9: Differences in Accessibility for Trips Starting from 98th St & Dennis Chavez Blvd (Southwest Mesa)

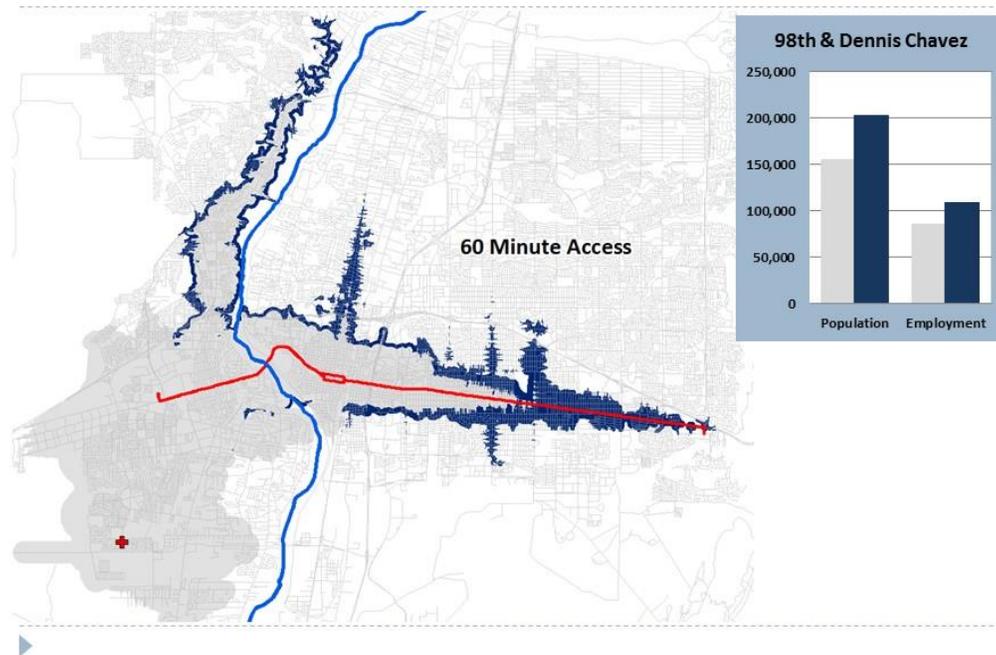


Figure 10: Differences in Accessibility for Trips Starting from Eubank Blvd & Academy Blvd (Northeast Heights)

