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Transportation Access and Individuals with Disabilities' Community Integration

FINAL REPORT

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16. Abstract

This study examined the relationship between transit service patterns and the spatial organization of individuals with disabilities' activities of daily living residing within Utah's Wasatch Front region to provide recommendations to improve the design, planning, and management of the Utah Transit Authority's public transportation system. The study objectives included an accessibility Index of Transit Provision to represent fixed-route bus and light-rail service capacity, and an Index of Transit Need representing the spatial organization of individuals with disabilities' activities of daily living and indicators of transportation disadvantage.

The findings suggest that 58.7% of individuals with disabilities living within the Wasatch Front Region do so in areas with greater than average transit disparity. The results identify 26 areas with very high transit disparity. Addressing those areas of higher transit disparity through prioritizing new transit investment or the reallocation of existing transit services will contribute to greater equity in individuals with disabilities' access to activities of community living across the Wasatch Front Region.

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ACRONYMS

ADL – Activity of Daily Living

CBG – Census Block Group

ITN – Index of Transit Need

ITP – Index of Transit Provision

ITD – Index of Transit Disparity

UTA – Utah Transit Authority

EXECUTIVE SUMMARY

Transportation is fundamental for individuals' need to engage with their community for employment, goods and services, health, education, and socializing; with individuals with increased access to transportation reporting greater quality of life and lower levels of social isolation. Individuals with disabilities, who often lack private transportation options, are frequently more dependent on public transportation systems. Therefore, it is imperative that public transportation systems be planned to better meet the transportation needs of individuals with disabilities, who represent a significant 9.9% of the total population of Utah, and other disadvantaged populations.

The purpose of this study was to spatially and analytically assess the transportation needs and behaviors of individuals with disabilities, and other disadvantaged populations, residing within Utah's Wasatch Front region to provide recommendations to improve the design, planning, and management of the Utah Transit Authority's public transportation system. The study objectives included; developing a topological accessibility Index of Transit Provision to represent fixed-route bus and light-rail service patterns and capacity, developing an Index of Transit Need representing the spatial-temporal organization of individuals with disabilities' activities of daily living and indicators of transportation disadvantage, and using these two measures comparatively to develop an Index of Transit Disparity between transit Need and Provision to identify under-served areas within the Wasatch Front from the perspective of individuals with disabilities.

The findings suggest that 58.7% of individuals with disabilities living within the Wasatch Front Region do so in areas with greater than average transit disparity, or both less than average access to public transit and above average need based on socioeconomic factors. The results identify 26 areas with very high transit disparity, 92 with high transit disparity, and 516 which are above average. Addressing those areas of higher transit disparity through prioritizing new transit investment or the reallocation of existing transit services will contribute to greater equity in individuals with disabilities' access to activities of community living across the Wasatch Front Region.

1.0 INTRODUCTION

1.1 Background and Significance

A substantial body of evidence indicates that community integration is important for a person's physical and mental well-being. In addition to many other disadvantage populations, community integration is especially important for individuals with disabilities. Individuals with disabilities continue to be marginalized by social, economic, political, and environmental structures. Full community integration is dependent on the extent to which an individual participates in activities of daily living (ADL) in the normative community physical environment.

The physical community environment encompasses many of the identified supports key in promoting the community integration of individuals with disabilities; access to public accommodation and services (such as recreational, educational, commercial, and civic and social activities), employment opportunities, appropriate housing, and convenient transportation access (Cox, Stewart, & Rosenbaum, 2003; Cooper, O'Hara & Zovistowski, 2011; Reinhart et al., 2011; NCD, 2004). These elements of the physical community environment support opportunities for integration into the community, facilitating participation in activities typical to daily life (Church et al., 2000; Maisel, 2006; Páez & Farber, 2012). Careful planning and coordination of these elements are necessary in order to ensure individuals with disabilities have equitable access to the services and supports needed for participating in the daily activities of community living, and to prevent the isolation, discrimination, and difficulties that can occur in communities where these elements are poorly connected or spatially dispersed (Gilderbloom & Rosentraub, 1990; Kochtitzky, 2011; Wilson, Hutson, & Mujahid, 2008).

Access to transportation is not only an activity of daily living itself, but supports participation in activities typical to daily life, or ADLs. Transportation disadvantaged populations, such as individuals with disabilities, experience lower rates of access to employment, education, health service, and other community resources associated with daily living (USDOT, 2003).

Due in part to the dispersed development pattern of many communities, transportation is increasingly seen as one of the critical factors in community integration, with housing and

employment. Transportation is fundamental for individuals' need to engage with their community for employment, goods and services, health, education, and socializing; with individuals with increased access to transportation reporting greater quality of life and lower levels of social isolation. Transportation access may be considered a basic right of a democratic society. Indeed, the disability community recognizes increased transportation access as a primary way to improve individuals with disabilities' independence, self-determination, and community integration. Understanding the relationship between transportation access and individuals with disabilities' transportation needs is a necessary first step to support the full community integration of this, and other, disadvantaged populations.

Transportation disadvantaged populations need special consideration by communities when transportation systems are planned and implemented or existing systems are expanded, yet they are often forgotten. Demand is the principal objective in traditional planning methods for transportation systems, and aspects related to socioeconomic or spatial equity are not often adequately considered (Jaramillo et al., 2012). The way community integration and transportation are linked depends on the ADLs from which a person is excluded and the degree to which transportation is integral to the ADLs. The spatial-temporal organization of the ADLs, defined according to household characteristics, define transportation need and should be included in transportation systems planning for disadvantaged populations, such as individuals with disabilities.

1.2 Objectives

The purpose of this study was to examine the relationship between UTA's bus and light-rail service patterns in the Wasatch Front and the spatial-temporal organization of individuals with disabilities' activities of daily living. The objectives included; (1) developing a topological accessibility Index of Transit Provision to represent fixed-route bus and light-rail service patterns and capacity, (2) developing an Index of Transit Need representing the spatial-temporal organization of individuals with disabilities' activities of daily living and indicators of transportation disadvantage, and (3) using these two measures comparatively to develop an Index of Transit Disparity between transit Need and Provision to identify under-served areas within the Wasatch Front from the perspective of individuals with disabilities.

1.3 Literature Review

Transportation disadvantage is a complex, multi-dimensional phenomena correlated with various interrelated factors including disability, income, vehicle ownership, caregiver roles, employment/school/medical obligations (Litman, 2002), development patterns, age, education, culture, and others. These factors can be categorized as (1) infrastructure-based indicators of capacity and level of service primarily for transit supply measures, (2) activities/land use-based indicators of activity opportunities' temporal and/or spatial distribution, and (3) people-based indicators that consider the restrictions of an individual reaching activities (Bocarejo et al., 2012). While people-based indicators may be spatial-temporal characteristics of travel time and travel costs, they may also represent individual socioeconomic characteristics associated with transportation disparities.

Traditional public transportation planning methods focus primarily on satisfying demand. Most commonly demand is estimated within the four-step transportation planning model using a utility function considering travel time and travel cost, assuming individuals choose their travel mode based on their travel time and costs. As a result, individual socioeconomic characteristics related to transportation disadvantage and transit dependence are not often adequately considered (Jaramillo et al., 2012).

In response, Steiss (2006) deviated from the demand utility approach to more fully include transit-dependent populations by using census data for vehicle availability and the number of drivers for households. While this method has been widely used, it does not account for individual socioeconomic characteristics in its assumptions regarding transit-dependent populations. Other researchers have expanded or modified these assumptions to include populations between 12 and 15 years of age, those living in group quarters (Jiao & Dillivan, 2013; Jiao, 2017), and low-income levels (Guzman et al., 2017). Currie (2004; 2010; et al., 2003) proposed an extensive method for identifying transportation disadvantaged populations using the Australian Bureau of Statistics Index of Relative Socio-Economic Advantage/Disadvantage social indicators index or a less complex transport needs index. The transport needs index expanded the transportation disadvantaged measure to include younger children ages 5 to 9 years, students, the unemployed, individuals with disabilities, and those with

low incomes. Similarly, Jaramillo et al. (2012) included these numerous socioeconomic factors as well as a measure of population illiteracy.

Interestingly, much of the research surrounding public transportation equity has been conducted by both researchers in Australia and for Bogota, Columbia. The availability of data in the United States, and the Wasatch Front study area, had a profound influence on the index of public transit need developed for the U.S. context of this study. In addition to this study's people-based index of socioeconomic factors associated with transportation disparities, an infrastructure-based topological index of transit provision and a land use-based measure of activity opportunity accessibility are used to assess the transit-dependence of and provision for individuals with disabilities.

2.0 RESEARCH METHODS

2.1 Overview

The purpose of this study was to examine the relationship between UTA's bus and light-rail service patterns in the Wasatch Front and the spatial-temporal organization of individuals with disabilities' activities of daily living. The study objectives included; (1) developing a topological accessibility Index of Transit Provision to represent fixed-route bus and light-rail service patterns and capacity, (2) developing an Index of Transit Need representing the spatial-temporal organization of individuals with disabilities' activities of daily living and indicators of transportation disadvantage, and (3) using these two measures comparatively to develop an Index of Transit Disparity between transit Need and Provision to identify under-served areas within the Wasatch Front from the perspective of individuals with disabilities.

2.2 Study Context

The study was conducted within Utah's Wasatch Front, a metropolitan region comprised of Utah, Salt Lake, Davis, and Weber counties (Figure 1). The Wasatch Front region, among the fastest growing areas in the United States, possesses a population of approximately 2.17 million, or 75% of Utah's 2015 population (Lauer & Houtenville, 2019), which is expected to grow by nearly 1.5 million people in the next 30 years. The region encompasses 3,620 square miles of land area reflecting development and land use patterns consistent with typical urban and suburban U.S. communities with an average population density of 601 persons/square mile. According to the 2015 U.S. Census definition of disability, the Wasatch Front region is home to 192,413 individuals with disabilities, or 8.8% of the population (Lauer & Houtenville, 2019). The physical community environment of the Wasatch Front region appropriately represents the diversity of key supports effecting the community integration of individuals with disabilities; access to public accommodation and services (such as recreational, educational, commercial, and civic and social activities), employment opportunities, appropriate housing, and convenient transportation access.

The Wasatch Front region's unique geographic settings, constrained by mountain ranges on the east and west, foster a narrow north-south orientation of the multimodal transportation system that is vital to the region's economy and the welfare of the residents. The primary

automobile components of the transportation network run north-south down the center of the Wasatch Front region. Bus and light rail services access most urban areas along the Wasatch Front region, as well as a commuter rail line running north south. The regional public transportation provider is Utah Transit Authority (UTA). All UTA's fleet (bus and rail) complies with the American with Disabilities Act (ADA). UTA also manages a curb-to-curb paratransit service reserved for people with physical, cognitive or visual impairments who are functionally unable to independently use the general UTA services. Paratransit services operate during the same hours and within the same service area as the bus, light rail, and commuter rail systems. However, paratransit will not be considered as this study is fundamentally about the gaps in the fixed-route transit system which paratransit is provided to fill.

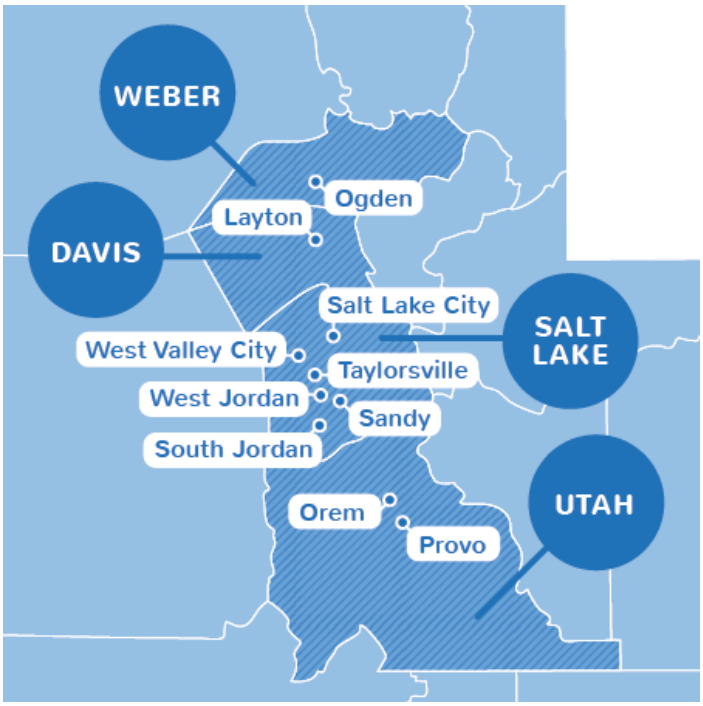

Figure 1. The Wasatch Front Region of north-central Utah (WFRC, 2014).

The measures for this study, described in the following three subsections, are based on the 1,255 U.S. Census block groups (CBG) within Weber, Davis, Salt Lake, and Utah counties of UTA's Wasatch Front service area, as shown in Figure 1.

2.3 Index of Transit Provision

The Index of Transit Provision (ITP) is an index of topological accessibility based on infrastructure. For each district considered it represents the portion served by transit weighted by the frequency of transit service availability and excess transit service capacity; the district's service area by availability and capacity. The measure considers the number of passengers each stop is capable of absorbing in relative terms. The ITP was determined as follows:

1. A 2017 database of bus and light rail stops was obtained from UTA. Using GIS a 400 meter or .25 mile network buffer with a depth of 50 meters was calculated for each stop. The buffer distance was selected to best represent the populations' likely walking distance to public transit (Daniels & Mulley, 2013). The buffer depth was chosen to ensure that land use along the network would be included, but that land not readily accessible from the pedestrian network would not be (Oliver et al., 2007). For each census block group the area within the network buffer was divided by the total area for the block group to determine the percent of each block group within walking distance of bus and light rail stops (*D*).
2. Using 2017 daily ridership by stop data provided by UTA, the mean frequency of transit mode stops per day was calculated for each census block group using the statistical software *R*. The result (*F*) is in vehicles per day.
3. Again, using the 2017 daily ridership by stop data provided by UTA, the mean passenger load per day was calculated for each census block group using *R* for January-April, May-August, September-December, and for the year to allow for the examination of seasonal variations in ridership. The mean passenger load divided by the mean stop frequency (*F*) was subtracted from UTA's bus capacity, 44 passengers, to determine the mean excess passenger capacity for each census block group in (*P)* persons per vehicle.
4. The ITP, person trips per day, was then calculated for each census block group according to the following formula:

$$ITP = D * F * P$$

which represents the current additional transit capacity of individual census block groups. The measure accounts for the spatial coverage of a block group within the pedestrian catchment of

transit, including overlaps in catchments without double counting these areas. However, the measure assumes even spatial distribution of residents within the census block group and does not address travel destinations. As the approach is a somewhat simplistic quantification of transit provision, relatively easy to measure, the result should not be understood in absolute terms as the number of people the transit system can effectively carry. Therefore, for this study the ITP was then standardized as a z-score based on the mean and standard deviation to be a relative term (ITPz) for comparison of transit provision across the study area.

2.4 Index of Transit Need

The Index of Transit Need (ITN) represents a people-based index of socioeconomic factors associated with transportation disparities and a land use-based measure of activity opportunity accessibility to assess the transit-dependence of each census block groups' population. Being focused on the population of individuals with disabilities, the socioeconomic factors are those shown to be prevalent among individuals with disabilities, such as unemployment, low income, etc. The formula for calculating transit need, person trips per day, is as follows:

$$ITN_{cbg} = \sum (d + e + y + u + s + i + v) * (1 - E) * T$$

where the percent of census block group's population are; *d* individuals with disabilities, *e* 65 years of age and older, *y* 8 years of age and younger, *u* unemployed, *s* possess a high school education or less, *i* whose income is below the Federal Poverty Line ($11,880 annually per person), and *v* households without access to a private automobile multiplied by the mean number of individuals per household for the study area (3.19). The socioeconomic data is taken from U.S. Census American Community Survey 2016 records. *T* is the daily trips per person for the Wasatch Front Region (3.63; WFRC, 2013) used to make the result equivalent to the number of person trips the transit-dependent population require daily. The land use-based measure of activity opportunity accessibility is determined as an entropy score (*E*) describing the diversity of the distribution of six land use categories for each census block group determined according to the following equation:

$$\text{entropy} = -\left(\sum_{k \in K} p_k ln p_k\right) / lnK$$

where K is the set of land use types and p_k is the percentage of each land use type $k \in K$. The equation results in a normalized value between 0 and 1 (where each land use is 1/6th of the total), the larger value representing greater diversity of land use. The six land use types considered are single family residential, multi-family residential, retail and services, professional office, commercial/industry, and institutional/educational. These land use types, and their description by entropy score, have been found to be a significant predictor of pedestrian behaviors (Brown et al., 2005; Brown et al., 2009) in suburban/urban environments, and represent the potential to access activity opportunities without transportation. As the larger value represents higher potential, the entropy score is subtracted from 1 to use the inverse.

Similar to the ITP, as the approach is a general quantification of transit need, based on the available data, the result should not be understood in absolute terms as the number of person trips needed by the area's population. Therefore, for this study the ITN was then standardized as a z-score based on the mean and standard deviation to be a relative term (ITNz) for comparison of transit need across the study area.

2.5 Index of Transit Disparity

The Index of Transit Disparity (ITD) compares the standardized ITNz and ITPz to identify under and over served areas within the Wasatch Front Region from the perspective of transit-dependent individuals with disabilities. This Index of Transit Disparity (ITD) is calculated by transit need minus transit provision as shown in the following equation for each census block group across the Wasatch Front case study area;

$$ITD = ITNz - ITPz$$

The resulting Index of Transit Disparity provides an empirical measure of disparity, focused on individuals with disabilities, which may be compared according to absolute and relative gaps, but is compared according to relative gaps in this study.

3.0 RESULTS & ANALYSIS

The findings of this study of transit disparity using the methods described are shown in Figures 2-4 and Tables 1-4. Each index was grouped into seven groups; the mean or zero disparity, three categories above, and three below zero disparity with categories defined by standard deviation (the third above and below being all values beyond 2 standard deviations).

Table 1. Descriptive statistics of each index.

Index	Min	Max	Mean	SD
ITP	0	116793.6	3594.11	6940.94
ITN	0	17225.8	2815.45	1962.15
ITPz	-0.52	16.32	0	1.0
ITNz	-1.44	7.35	0	1.0
ITD	-17.08	7.64	0	1.46

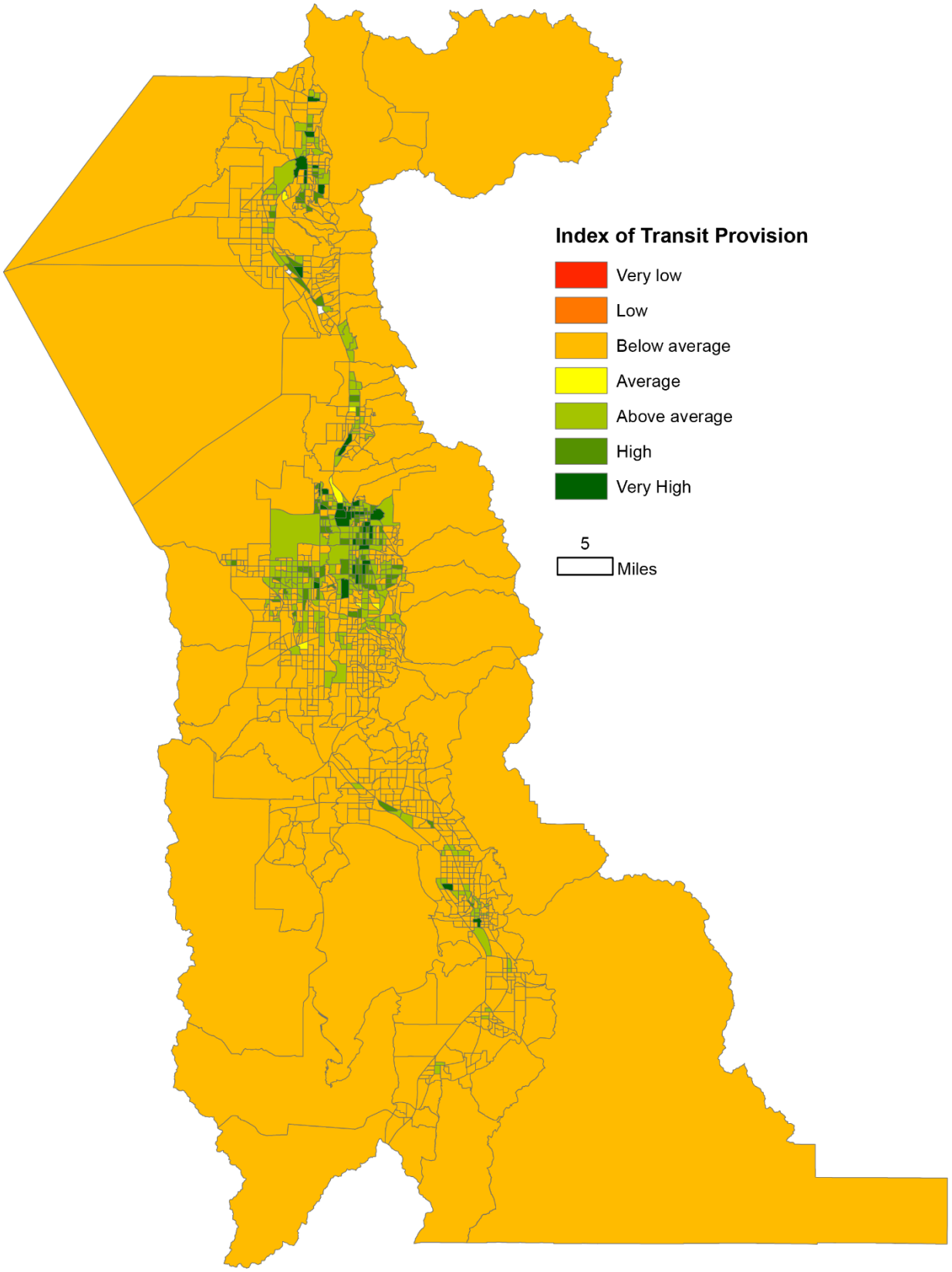

Figure 2. Index of Transit Provision.

Table 2. Distribution of Transit Provision.

Category	Number of CBGs	Population with Disabilities		Population	
		Number	% Total	Number	% Total
Very low	0	0		0	
Low	0	0		0	
Below average	860	151,193	57.0	1,613,774	72.5
Zero disparity	6	665	0.3	7,700	0.3
Above average	270	78,634	29.6	419,242	18.8
High	80	23,602	8.9	122,521	5.5
Very high	39	11,220	4.2	61,898	2.8
Total	1255	265,314		2,225,135	
Total below average	860	151,193	57.0	1,613,774	72.5

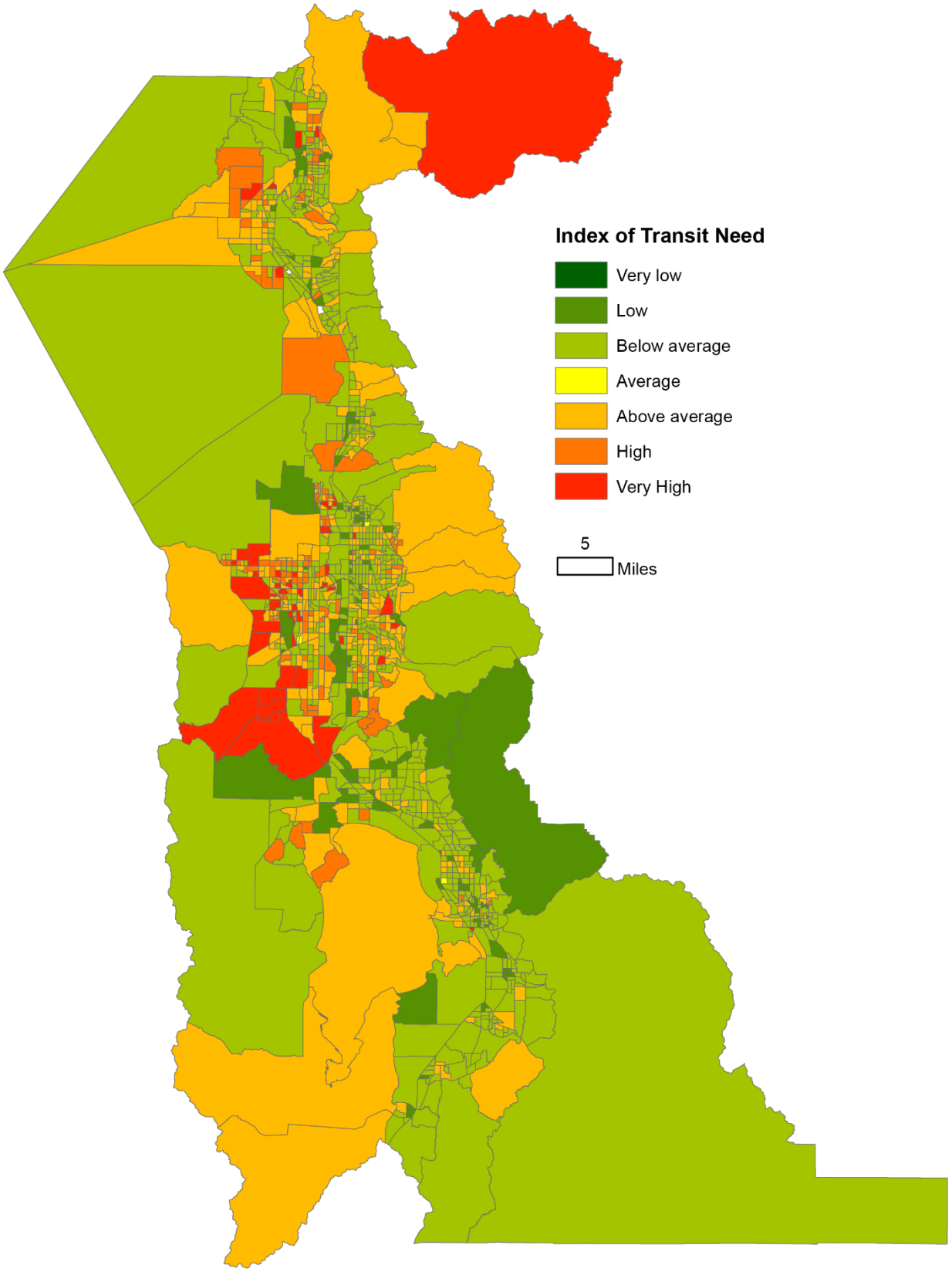

Figure 3. Index of Transit Need.

Table 3. Distribution of Transit Need.

Category	Number of CBGs	Population with Disabilities		Population	
		Number	% Total	Number	% Total
Very low	0	0		0	
Low	105	12,311	4.6	115,708	5.2
Below average	673	108,524	40.9	1,010,478	45.4
Zero disparity	4	1,460	0.5	7,420	0.3
Above average	308	81,492	30.7	598,836	26.9
High	115	39,932	15.1	288,023	12.9
Very high	50	21,595	8.1	204,670	9.2
Total	1255	265,314		2,225,135	
Total above average	473	143,019	53.9	1,091,529	49.1

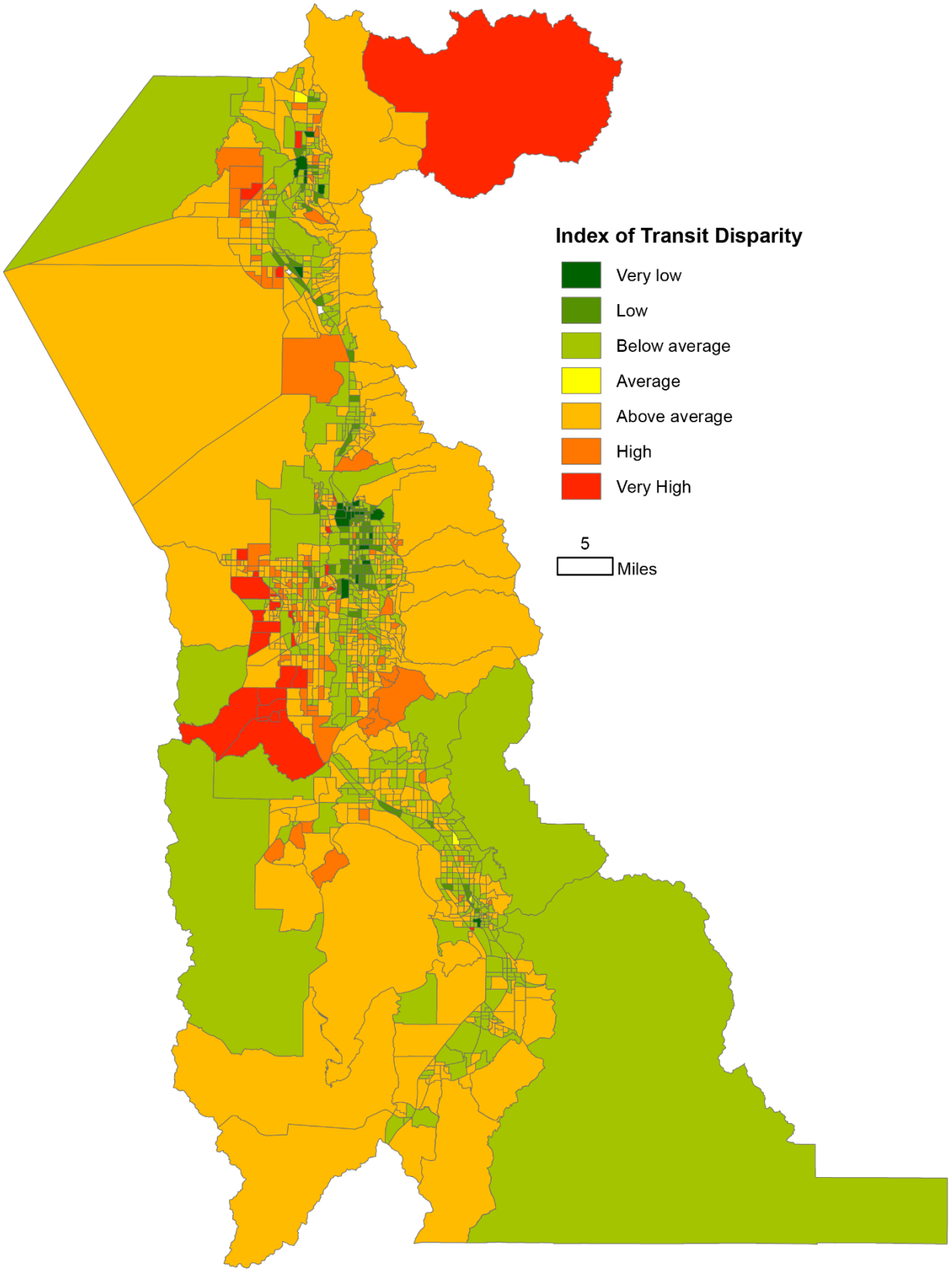

Figure 4. Index of Transit Disparity.

Table 4. Distribution of Transit Disparity.

Category	Number of CBGs	Population with Disabilities		Population	
		Number	% Total	Number	% Total
Very low	22	6,663	2.5	33,097	1.5
Low	96	23,502	8.9	128,595	5.8
Below average	500	78,987	29.8	696,191	31.3
Zero disparity	3	414	0.2	3,958	0.2
Above average	516	116,806	44.0	966,211	43.4
High	92	31,165	11.7	252,111	11.3
Very high	26	7,777	2.9	144,972	6.5
Total	1255	265,314		2,225,135	
Total above average	634	155,748	58.7	1,363,294	61.2

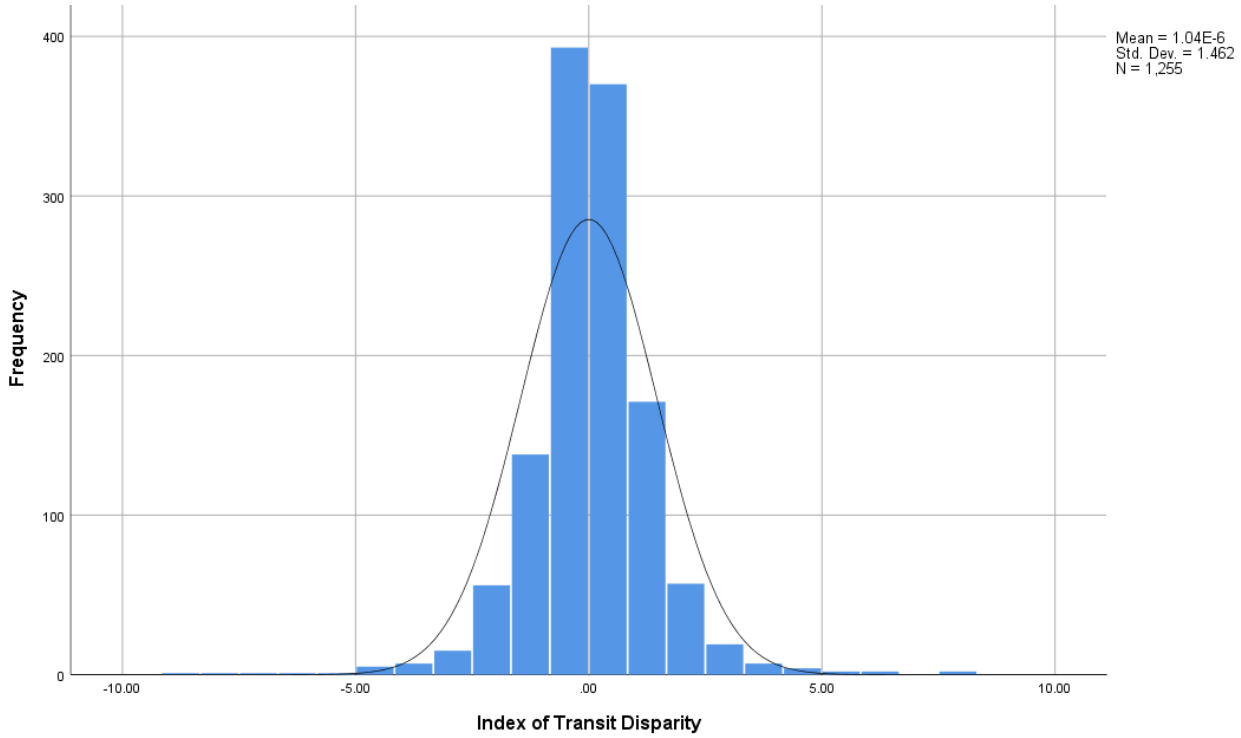

Figure 5. Distribution of Transit Disparity Index.

4.0 CONCLUSIONS, LIMITATIONS & RECOMMENDATIONS

The purpose of this study was to examine the relationship between UTA's bus and light-rail service patterns in the Wasatch Front Region and the spatial-temporal organization of individuals with disabilities' activities of daily living. Overall, the analysis identified a significant relationship between individuals with disabilities and greater than average transit disparity in the Wasatch Front region. The findings suggest that 58.7% of individuals with disabilities living within the Wasatch Front Region do so in areas with greater than average transit disparity, or both less than average access to public transit and above average need based on socioeconomic factors. This suggests that many individuals with disabilities residing in the Wasatch Front Region will experience some disparity in access to public transit to meet their activities of daily living. Such contributes to prior study findings that individuals with disabilities experience lower rates of access to employment, education, health services, and other community resources associated with daily living as a result of transportation disadvantages (USDOT, 2003). The correlation between each CBG's population with disabilities and its measure of transit disparity is positively significant, $r(1253) = .10$, $p < .001$, albeit with a very small effect explaining 1% of the variance.

Fifty seven percent (57%) of the total population with disabilities reside in areas with below average transit provision, and the correlation between each CBG's population with disabilities and its measure of transit provision is positively significant, $r(1253) = .19$, $p < .001$, albeit with a small effect explaining 3.6% of the variance. Comparison with U.S. Census population demographics suggests that there are proportionately more individuals with disabilities who live in areas with below average transit provision. Of the total population of the Wasatch Front Region 72.5% live in areas with below average transit provision, with the remaining quarter of the population in areas with above to very high transit provision. As depicted in Figure 2, there are 860 CBG areas of below average transit provision of the 1,255 CBGs, primarily found outside of central Salt Lake County (Salt Lake City, South Salt Lake, Millcreek, Murray, and West Valley City) and the I-15 corridor. There are no areas of low or very low transit provision. These findings suggest and can be explained by UTA providing an effective minimum level of service throughout the Wasatch Front Region that is slightly below average. The minimum level of service provision is correlated with population levels and reflect a demand utility approach to public transportation planning, that while providing a minimum

level of service for the general population does not often adequately considered the transportation disadvantaged equitably (Jaramillo et al., 2012).

The central Salt Lake County and I-15 corridor CBG areas show an overprovision with transit services of greater capacity and regularity. At the same time, these areas with higher development densities and greater diversity of proximity land uses have less need for public transportation in theory. The overprovision of transit services may be in part a response to traffic congestion driven by higher development densities and commercial access needs related to the greater concentration of business land uses (Currie, 2010; Nielsen et al., 2005). Those areas outside of central Salt Lake County and the I-15 corridor, where 72.5% of the population live, are characterized with more dispersed development patterns more difficult and costly for effective transit services. The difference in service delivery is not surprising from a typical public transportation planning perspective, although concerning from a social disparity perspective. While UTA's transit service delivery demonstrates an effective minimum level of service for the Wasatch Front Region's population, individuals with disabilities and other disadvantaged populations are less well served.

Fifty four percent (53.9%) of the population with disabilities reside in areas with above average transit need, where 49.1% of the total population reside. As expected, the correlation between each CBG area's population with disabilities and its measure of transit need is positively significant, $r(1253) = .34$, $p < .001$, with a moderate effect explaining 11.5% of the variance. This is to be expected, as individuals with disabilities are both a population included in the measure of transit need and are likely to be included in many of the other socioeconomic measures such a lower income and higher unemployment. These and other factors contribute to individuals with disabilities higher known reliance on public transportation (Bascom & Christensen, 2017). As depicted in Figure 3, the CBG areas with above average transit need are those outside of the central Salt Lake County and I-15 corridor. While these areas represent only 473 of 1255 CBGs, they are the majority of the Wasatch Front Region area. Moreover, these areas of above average transit need roughly align with those areas of below average transit provision; hence their higher measure of transit disparity as shown in Figure 4 and Table 4, described previously.

The practicality of considering individuals with disabilities, and other disadvantaged populations, can be addressed by the methods described for this study. Specifically, the results of this approach may be used to prioritize transit investment or reallocate existing transit service. This study identified 26 areas with very high transit disparity (for example those depicted in Figure 6), 92 with high transit disparity, and 516 which are above average. Public transportation planning prioritizing those areas with the greatest disparity, as described in Table 5, may be an effective means of addressing this disparity.

However, there are some limitations to this approach which require thoughtful interpretation in the context of public transportation planning. While relatively straightforward to develop, the transit needs measure should only be used as a relative indicator and not be understood in absolute terms. There is considerable correlation between the socioeconomic factors used in the people-based component of the index, which have not been weighted for their relative impact and likely contribute to an overassessment of the transit dependent population through double counting. Given the data available and the tradeoff between simplicity, ease of application, and accurate representation; as a relative indicator the approach is reasonable and acknowledges the needs of transportation disadvantaged populations to a greater extent than the demand utility approaches used most commonly at present. The people-based measure of individuals with disabilities included children, whose socioeconomic status is a complex milieu of their families' socioeconomic resources. Future application of this approach may examine limiting the inclusion of individuals with disabilities to those of employment age, although public transit also facilitates children's access to educational opportunities. There is considerable opportunity to examine and refine the people-based components of assessing population's transit need.

The purpose of this study was to examine the relationship between UTA's bus and light-rail service patterns in the Wasatch Front Region and the public transportation needs of individuals with disabilities to engage in activities of daily living, or "behave as the vast majority of society behaves" (Dodson J, Gleeson B, Sipe N 2004). In general, the study's approach was found to be relatively straightforward in the context of the data available to a metropolitan region and yields meaningful results that may be used to more fully consider individuals with disabilities, and other disadvantaged populations, in the planning and management of public

transportation systems. Such is true for the Wasatch Front Region where individuals with disabilities experience greater than average transit disparity for the region, but not in insurmountable contexts. Addressing those areas of higher transit disparity through prioritizing new transit investment or the reallocation of existing transit services will contribute to greater equity in individuals with disabilities' access to activities of community living across the Wasatch Front Region.

Table 5. Areas of Very High Transit Disparity.

ITD Rank	CBG code	CBG population	ITP Category	ITN Category	County
1	490351135091	3076	Below Average	Very High	Salt Lake
2	490351151061	9962	Below Average	Very High	Salt Lake
3	490351130201	17538	Below Average	Very High	Salt Lake
4	490351131071	10047	Below Average	Very High	Salt Lake
5	490351143004	8699	Below Average	Very High	Salt Lake
6	490351134082	2539	Below Average	Very High	Salt Lake
7	490351138032	5060	Below Average	Very High	Salt Lake
8	490351131073	8920	Below Average	Very High	Salt Lake
9	490572105061	5418	Below Average	Very High	Weber
10	490351028012	2630	High	Very High	Salt Lake
11	490351131013	3431	Below Average	Very High	Salt Lake
12	490351135351	7590	Below Average	Very High	Salt Lake
13	490351139031	3256	Below Average	Very High	Salt Lake
14	490572003002	4736	Below Average	Very High	Weber
15	490351135341	4818	Below Average	Very High	Salt Lake
16	490572101001	3197	Below Average	Very High	Weber
17	490351131052	4290	Below Average	Very High	Salt Lake
18	490111254051	5863	Below Average	Very High	Davis
19	490351130191	8314	Below Average	Very High	Salt Lake
20	490351138012	1562	Below Average	Very High	Salt Lake
21	490351143001	4689	Below Average	Very High	Salt Lake
22	490351135252	6240	Below Average	Very High	Salt Lake
23	490351135142	1865	Below Average	Very High	Salt Lake
24	490351005005	2080	Below Average	Very High	Salt Lake
25	490490028011	2366	Below Average	Very High	Utah
26	490351131072	6786	Below Average	Very High	Salt Lake

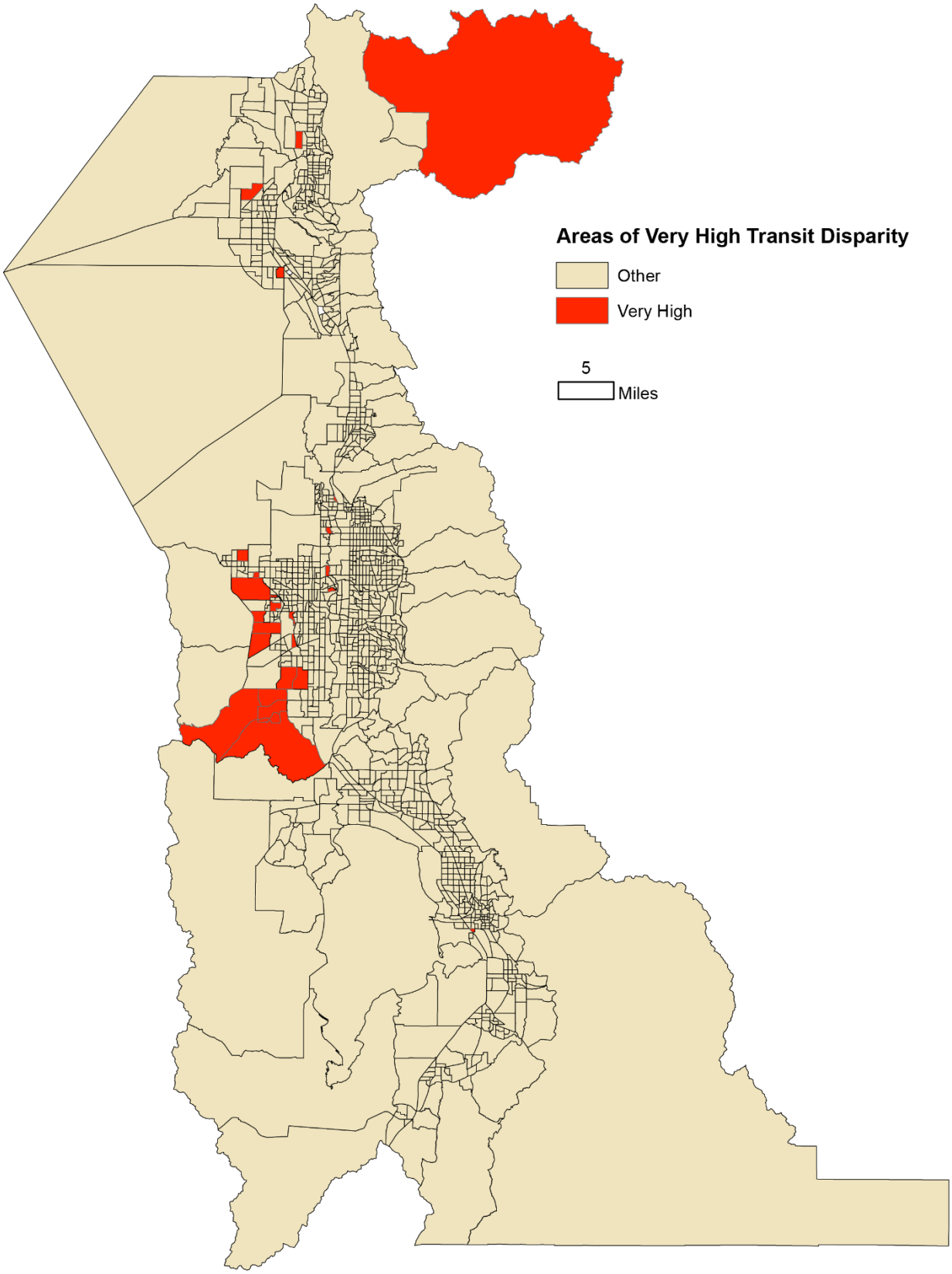

Figure 6. Areas of Very High Transit Disparity.

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