

**AGE of Central Texas:
Senior Transportation Research Project**

February 2015

Produced for Austin Groups for the Elderly



Table of Contents

TABLE OF CONTENTS	3
LIST OF FIGURES	5
LIST OF TABLES	7
INTRODUCTION	8
REVIEW OF NATIONAL BEST PRACTICES	9
MARIN ACCESS MOBILITY MANAGEMENT CENTER, NORTHERN CALIFORNIA	9
<i>Origins and Current Status</i>	9
<i>Current Operational Service</i>	10
<i>Funding Sources</i>	13
<i>Vehicles</i>	14
<i>Highlights</i>	15
RIDE CONNECTION, NORTHWEST OREGON	15
<i>Origins and Current Status</i>	15
<i>Operations</i>	16
<i>Funding Sources</i>	18
<i>Vehicles</i>	18
<i>Highlights</i>	18
NORTHEAST TRANSPORTATION SERVICE, TARRANT COUNTY, TEXAS	18
<i>Origins and Current Status</i>	19
<i>Current Operational Status</i>	20
<i>Funding Sources</i>	21
<i>Vehicles</i>	21
<i>Highlights</i>	21
OATS TRANSPORTATION, MISSOURI.....	22
<i>Origins and Current Status</i>	22
<i>Operations</i>	22
<i>Funding Sources</i>	24
<i>Vehicles</i>	25
<i>Highlights</i>	25
ITNAMERICA, NATIONWIDE	25
<i>Origins and Current Status</i>	25
<i>Operations</i>	26
<i>Funding Sources</i>	27
<i>Vehicles</i>	29
<i>Highlights</i>	29
ASSET INVENTORY	32
BACKGROUND.....	32
METHODOLOGY	32
OUTREACH.....	33
SUMMARY OF FINDINGS.....	34
<i>Availability of Senior Transportation Service</i>	35
<i>Function of Senior Transportation</i>	36

<i>Free or Subsidized Senior Transportation Service</i>	37
<i>Finance of Senior Transportation Service</i>	38
<i>Eligibility Criteria of Senior Transportation</i>	39
<i>Drivers</i>	39
<i>Trip Purpose of Senior Transportation</i>	41
<i>Asset Inventory</i>	41
<i>Vehicles</i>	43
<i>Suggestions</i>	46
TRANSIT NEED IN CENTRAL TEXAS	48
METHODOLOGY	48
MAPPING TRANSIT NEED INDICES	49
ADDITIONAL DEMOGRAPHIC ANALYSIS OF AGING POPULATION IN CENTRAL TEXAS	51
POPULATION CHANGE IN CENTRAL TEXAS	57
<i>Population Growth Forecast Methodology</i>	57
<i>Population Growth Calculation and Forecast</i>	57
SUMMARY OF FINDINGS	59
FINDINGS AND RECOMMENDATIONS	61
SHORT-TERM RECOMMENDATIONS	61
MEDIUM-TERM RECOMMENDATIONS	62
LONG-TERM RECOMMENDATIONS	62
REFERENCES	64

List of Figures

Figure 1. Marin Access Logo.....	9
Figure 2. Marin Access Demand Response Transit Services	10
Figure 3. Inter-County Paratransit Fare Zones (Source: Marin Access Paratransit Rider’s Guide)	11
Figure 4. Marin Access Travel Navigators and Travel Training (Source: Marin Access Website)	13
Figure 5. Marin Access Paratransit and Mobility Management Center Funding Sources	14
Figure 6. Marin Access Service Vehicle.....	14
Figure 7. Ride Connection Logo (Source: Ride Connection Website).....	15
Figure 8. Ride Connection RideAbout Van	18
Figure 9. NETS Logo.....	18
Figure 10. NETS, DART, and the T Service Areas	19
Figure 11. NETS Contract Flow	20
Figure 12. OATS, Inc. Logo	22
Figure 13. OATS at Early State (Source: OATS website).....	22
Figure 14. OATS Service Area and Regions	23
Figure 15. ITNAmerica Logo	25
Figure 16. ITN Affiliate Locations (Source: ITN Website).....	26
Figure 17. 5-Year Arc to Sustainability (Source: ITNAmerica).....	28
Figure 18. Major Elements of Inventory Hierarchy.....	32
Figure 19. Asset Classes under Asset Categories	33
Figure 20. AGE Inventory Invitation Email	34
Figure 21. Service Area Coverage in Travis and Williamson Counties by Zip Code	35
Figure 22. Zip Codes That Are Not Served in Travis and Williamson Counties	36
Figure 23. Function of Senior Transportation.....	37
Figure 24. Access to Free or Subsidized Transportation	37
Figure 25. Funding Sources of Agencies	38
Figure 26. Whether Charge a Transportation Service Fare.....	39
Figure 27. Status of Eligibility Criteria of Agencies.....	39
Figure 28. Drivers for the Agency’s Vehicles	40
Figure 29. Status of Driver Recruitment Difficulties.....	40
Figure 30. Percentage of Drivers Trained for People with Disabilities	41
Figure 31. Possession Status of a Comprehensive Inventory of Fleet and Transit Stations	42
Figure 32. Status of Agency-Wide Asset Assessment.....	42
Figure 33. Methods of Determining Asset Condition.....	43
Figure 34. Vehicle Ownership by Vehicle Type.....	43
Figure 35. Number of Vehicles by Vehicle Type	44
Figure 36. Transit Need Index—GIS Analysis Results	50
Figure 37. Transit Need Compared to Density of Population That Is 65 and Older.....	52
Figure 38. Percent of Total Population That Is 65 or Older—2012.....	53
Figure 39. 65 or Older Population Compared to Disability Status of 65 or Older Population—2012	54
Figure 40. 65 or Older Population Compared to Poverty Status of 65 or Older Population—2012.....	55

Figure 41. 65 or Older Population Compared to Number of Households without Access to Motor Vehicle—2012	56
Figure 42. Comparison of 2012 Actual and 2020 Forecast – 65 and Over Population	59

List of Tables

Table 1. Mobility Management Grants	14
Table 2. Demographics of Cities Participating in NETS	20
Table 3. OATS Funding Sources in Fiscal Year 2013 (15)	24
Table 4. Potential Funding Sources	28
Table 5. Summary of Case Studies	30
Table 6. Frequency of Service to Seniors by County.....	35
Table 7. Ways to Provide Free or Subsidized Transportation	37
Table 8. Trip Purpose of Senior Transportation and Their Frequency	41
Table 9. Vehicle Purpose by Vehicle Type.....	45
Table 10. The Frequency of Using a Certain Type of Vehicle	46
Table 11. Status of Whether the Vehicle is Compliant to ADA Requirements by Vehicle Type	46
Table 12. Population of CAMPO Counties – 2000 vs. 2012.....	57
Table 13. Population Growth for Total Population and 65+ Population – 2000 to 2012	58
Table 14. Average Annual Population Growth for Total Population and 65+ Population – 2000 to 2012	58
Table 15. Forecasted Total Population and Forecasted 65+ Population, 2020	59

Introduction

In an effort to help Austin Groups for the Elderly (AGE) of Central Texas better understand the transportation related challenges facing the aging population in Central Texas, the Texas A&M Transportation Institute (TTI) evaluated current and future transit service and need in the region.

Researchers at TTI first reviewed national best practices, with an emphasis on case studies with qualities that are potentially applicable to Central Texas. TTI designed the research project in order to support the recommendations of the Mayor's Task Force on Aging and the Vision and Values of AGE. The research includes best practices in the provision of transportation for older adults, lessons learned, and successes at a national level. To achieve this, the research includes case studies where successful senior transportation programs have been implemented that could potentially be piloted in the Austin area.

Researchers then conducted an asset inventory of the region's existing transit service in partnership with AGE of Central Texas. An asset inventory questionnaire was distributed to over 70 providers of senior transit in the Central Texas region. Finally, a transit needs inventory of the region was conducted to assess locations and populations with the greatest need for transit services for seniors. Findings from these three research activities were shared with stakeholders at a meeting in January 2015. The final chapter of this report outlines the recommendations derived from research, analyses, and ideas generated at the stakeholder meeting.

Review of National Best Practices

Researchers at TTI reviewed examples of demand response transit agencies throughout the United States to establish the best practices for providing transit service to the United States' aging population. The following demand response transit services were chosen as case studies:

- Marin Access Mobility Management Center (Marin Access), California.
- Ride Connection, Oregon.
- Northeast Transportation Service (NETS), Texas.
- OATS Transportation, Missouri.
- Independent Transportation Network (ITN) America.

Each of the following case studies includes a discussion of the history of the demand response transit service, the current operational practices, funding sources, vehicle usage and concludes with a summary of the service's innovative strategies.

Marin Access Mobility Management Center, Northern California

The Marin Access Mobility Management Center (Marin Access, logo shown in Figure 1) provides transit services to the aging population, persons with disabilities and low income residents of Marin County and the surrounding region. Marin Access is a program that is administrated by the Marin County Transit District (Marin Transit) in Northern California.



Figure 1. Marin Access Logo
(Source: Marin Access Website)

Origins and Current Status

In September 2007, Marin Transit contracted with a consultant (IBI Group) to conduct a study to identify opportunities for enhanced taxi services to supplement and support existing and potential future demand response transit services including public-paratransit service, transit services for low income persons, and transit services for older adults. The final report recommended the establishment of a Marin Transit Mobility Manager Office within Marin Transit. The Mobility Manager Office's suggested role was to centrally administrate and coordinate taxi services and to eventually coordinate a broader range of social service and non-transit commuter services (1).

In spring 2009, with the hiring of the Mobility Manager and the allocation of the Federal Transit Administration (FTA) Section 5307 New Freedom Funds of \$115,850 as start-up funding, Marin Transit started the efforts to develop a mobility management program in the District (2, 4, 5). Leveraging additional paratransit investment, the idea of creating a Mobility Management Office was expanded to create a Marin Access Mobility Management call center and associated interactive website in 2010 (4). Until then, two major functions of the Marin Access Mobility Management Center—mobility management and paratransit—had been established. In May 2010, the roles of Marin Access were put into the Senior Mobility Action and Implementation Plan, which was completed by the Marin County Division of Aging & Adult Services and Marin Transit with the assistance of a consultant (Nelson\Nygaard) (3).

In June 2010, the Marin Mobility Consortium, comprised of over 50 community stakeholders and advocates, was formed to offer advice on Marin Access' services right after the Marin Transportation Coordination Summit led by the United We Ride Ambassador and the Marin Transit Mobility Manager.

In 2010, Marin voters approved the passage of Measure B to add \$10 vehicle registration fee for every vehicle registered, of which 35 percent would go to senior/disabled mobility through Marin Transit. This provides a dedicated and ongoing source of funding for Mobility Management in Marin County (5).

Current Operational Service

Currently, Marin Access provides a range of demand response transit services (shown in Figure 2), including paratransit service, the Catch-A-Ride program and the Volunteer Driver program.



Figure 2. Marin Access Demand Response Transit Services
(Source: Marin Access Website)

In addition, Marin Access provides informational and training programs (called Travel Navigators and Travel Training), which are aimed to provide their customers with easily accessible resources to learn about Marin Access' travel options. The following is a description of Marin Access' demand response transit services.

Marin Access Paratransit Program

The Marin Access paratransit program is a joint effort among Marin Transit (which provides local transit service within Marin County) and Golden Gate Transit (which provides regional transit service throughout the North Bay region). Marin Transit is responsible for providing door-to-door paratransit services within Marin County and Golden Gate Transit is responsible for inter-county paratransit services between Marin, Sonoma, San Francisco, and western Contra Costa counties. Marin Access paratransit services are operated by Whistlestop Wheels, which is an organization that provides a range of services for aging and disabled residents within Marin County, including transportation. According to Marin Access's Monthly Monitoring Program Report from May 2014, Marin Access Paratransit ridership totaled 11,182 persons in 2014.

Marin Access' intra-county paratransit program serves customers who are located within a ¾ mile service area surrounding fixed transit routes in Marin County (this is the minimum service area required by the ADA) and areas outside the mandated service area but within Marin County. Rider priority is given to

customers located within the service area mandated by the American Disabilities Act (ADA) and service is provided to customers outside of the ¾ mile buffer on a space-available basis. Additionally, there is no priority given for specific trip purposes. The inter-county paratransit program only serves customers who are located within the ¾ mile service area surrounding fixed transit routes.

The Marin Access paratransit program uses an eligibility determination process where potential riders must submit an application to verify their health condition prior to being a registered rider. Rider’s level of eligibility is also determined through the application process as either permanently or temporarily eligible. Temporarily eligible riders are only allowed to ride paratransit whenever specific health conditions exist. Rider’s eligibilities are reviewed periodically. Temporarily eligible riders are reviewed based on the length of their expected recovery. The eligibility of permanent riders is reviewed every three years.

Eligible riders can contact Marin Access paratransit services by calling a single service line from 8:00 a.m. to 5:00 p.m., seven days a week. The trip must be scheduled at least one day in advance but can be scheduled no more than seven days ahead of the reservation. The fare of intra-county paratransit service is \$2 per one-way, and riders need to pay an additional \$0.50 if requesting a trip outside the ADA mandated service area. The inter-county paratransit service charges a zonal fare, shown in Figure 3. Marin Access paratransit service will accept tickets purchased through Marin Transit or cash upon boarding.



Figure 3. Inter-County Paratransit Fare Zones (Source: Marin Access Paratransit Rider’s Guide)

Marin Access allows riders to be accompanied by one companion and one attendant per ride for free. Additionally, Marin Access provides assistance from the Paratransit Fare Assistance Program (also known as the Low-Income Rider Scholarship Program) to subsidize fares for elderly or ADA eligible riders currently receiving Supplemental Security Income. This program is funded by Marin County’s

Measure B (vehicle registration fee) and provides eligible riders with 20 rides within Marin County per quarter free of charge.

In addition to providing local and regional door-to-door trips, Marin Access' paratransit program can coordinate trip transfers for trips that go outside of Golden Gate Transit's regional paratransit service area with joint operators.

Marin Catch-A-Ride (CAR) Program

In 2012, Marin Access launched the Catch-A-Ride (CAR) program that allows eligible riders to receive discounted door-to-door rides from taxis and other vehicles registered with the agency. According to Mr. Paul Branson, the Mobility Manager of Marin Access, the CAR Program has the biggest impact in the region and now has 1,300 registered drivers. To be considered an eligible rider for the CAR Program, riders must be one of these:

- Over 80 years old.
- Over 60 years old and unable to drive.
- Eligible riders in the Marin Access paratransit program.

The CAR Program is a completely paperless and voucher less program. Riders call the CAR Program center as opposed to the taxi companies. From there, Marin Access staff schedule trips and track rider usage through an access database because taxi rides do not require extensive route mapping when dispatching. Riders must schedule rides 3 hours in advance and are subject to provider availability. Riders are also limited to using the CAR Program eight times per month. The CAR Program fares are calculated based on the mileage of the trip with the CAR program paying for the first \$14 of each one-way trip. The CAR Program increases the subsidized amount for low-income riders to cover the first \$18 of each one-way trip. Riders are required to pay difference between the amount that the CAR Program covers and the total cost of the ride directly to the vehicle operator.

Volunteer Driver Programs

There are two volunteer driver programs under the umbrella of Marin Access, the Safe Transport and Reimbursement program (STAR), which serves Eastern Marin County, and the West Marin TRIPtrans Volunteer Driver Program, which serves Western Marin County. The volunteer driver programs allow eligible riders to arrange rides with trusted volunteer drivers (often family members, caregivers, friends, neighbors or other community members) who are reimbursed for providing transportation.

In order to qualify for the STAR program riders must be over the age of 60 and disabled or under the age of 60 and an eligible rider in the Marin Access paratransit service. Volunteer drivers must fill out an application and be approved by the STAR program's operator, Whistlestop Wheels. Once volunteer drivers have been approved, eligible riders submit monthly mileage reports for a range of trip purposes including medical appointments, shopping, meals, or even a night out. The STAR program will reimburse the eligible rider \$0.35 per mile, for up to 100 miles per month. The eligible rider is then responsible for passing the reimbursement on to their volunteer driver.

In order to qualify for the West Marin TRIPtrans program, riders must be at least 60 years of age and complete an application. If riders are disabled and under 60 years of age they can contact TRIPtrans

directly to see if they can qualify for the volunteer driver program. The West Marin TRIPtrans program is administered by West Marin Senior Services, which is an organization that provides a range of services to seniors and people with disabilities, including transportation services. Similarly to the STAR program, eligible riders arrange rides with volunteers and submit monthly mileage reports. Reimbursements are sent directly to the riders who will pay their volunteer drivers directly. TRIPtrans reimburses \$0.35 per mile for up to 300 miles per month. The monthly ridership for STARS and West Marin TRIPtrans is approximately 1,000 trips per month.

Travel Navigators and Travel Training

Marin Access also provides educational and training resources to their customers through the Travel Navigators and Travel Training Program (shown in Figure 4). The Travel Navigator Program provides riders with information about Marin Access' range of transportation programs plus information for other demand response transit programs. The Travel Navigators Program surveys prospective riders to determine their ridership eligibility and then notifies riders of the programs that they are eligible for. Prospective riders only need to sign a form to start the application process. Additionally, Marin Access gives presentations to senior centers and taxi drivers to educate clients about their programs through the Travel Training program. The Travel Training program also provides interested older adults with tours of their transit options.



Figure 4. Marin Access Travel Navigators and Travel Training (Source: Marin Access Website)

Funding Sources

In 2012, Marin Transit (the parent organization of Marin Access) paid for services using a combination of funding sources. The majority of funding comes from Measure A and Measure B Funds. Measure A funds are generated through a half cent sales tax measure that Marin County voters passed in 2004 to provide local funding and investment for transportation infrastructure and programs. Measure B funds are generated from a \$10 vehicle registration fee that Marin County voters approved in 2010. In addition to Measure A and Measure B funds, Marin Transit is funded through State Transportation Development Act Funds, property taxes, Federal Section 5311 rural transit funds, and rider fares (4). Of these funds, approximately 21 percent went to Marin Access to fund paratransit services and the operation of the Mobility Management Center. As shown in Figure 5, 51 percent of the funding comes from Measure A, 19 percent of the funding comes from Measure B, 19 percent of the funding comes from Golden Gate Transit, 6 percent of the funding comes from rider fares, and the final 5 percent comes from other funding sources. The CAR Program and volunteer driver programs are funded entirely through Measure B funds.

Paratransit and Mobility Management Funding

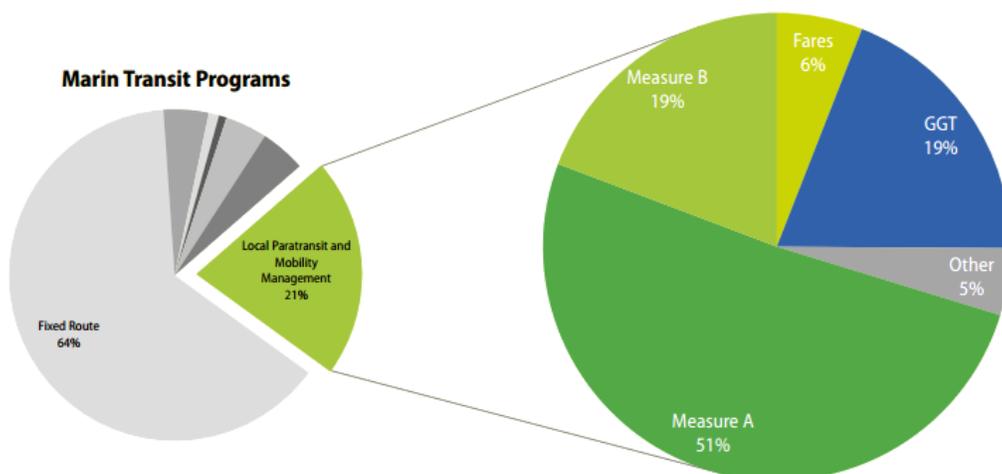


Figure 5. Marin Access Paratransit and Mobility Management Center Funding Sources
(Source: (2) Mobility Management – Program Review)

Additionally, between 2006 and 2013, Marin Access received \$985,832 in federal grants. Table 1 details the grant year, grant amount, grant source, and the project that the grant was allocated to.

Table 1. Mobility Management Grants

Year	Amount	Source	Project
2006	\$89,661	MTC	Taxi Study
2009	\$115,850	New Freedom	Mobility Management Start Up
2011	\$91,875	New Freedom	Volunteer Driver
2011	\$171,730	New Freedom	Mobility Management Expansion
2012	\$143,881	New Freedom	Premium Paratransit
2012	\$22,835	New Freedom	Transportation Guide
2013	\$350,000	JARC	MM Technology

(Source: (2) Mobility Management – Program Review)

Vehicles

Marin Access does not directly own any service vehicles. All vehicles that provide Marin Access' direct response transit services belong to the agencies' service partners and operators. Vehicles under the umbrella of the Marin Access are painted consistently to brand the service, as shown in Figure 6, and all meet or exceed the ADA accessibility requirements.



Figure 6. Marin Access Service Vehicle

Highlights

Following are some highlights of this case study:

- Marin Access is a joint effort of multiple specialized providers in Marin County, and it combines all available resources to provide more convenience and efficient services to seniors, people with disabilities, low-income residents in Marin County.
- Marin Access created an innovative discounted taxi program that is less costly, more convenient than traditional paratransit program, and offers flexibility in a large manner to riders in the volunteer driver programs.
- Marin Access developed several customer-oriented programs, such as travel training and travel navigator to educate non-transit users to get familiar with the service and then use it.
- Detailed rider guidebooks can be easily accessed through the Marin Transit website.

Ride Connection, Northwest Oregon

Ride Connection is a non-profit organization that coordinates and provides demand response transit in the Tri-County area (Clackamas County, Multnomah County, and Washington County) in Northwest Oregon (logo shown in Figure 7). Ride Connection coordinates the transportation operations of over 30 community-based providers of disabled, low-income, and elderly transportation throughout the Tri-County region. In addition, Ride Connection provides a variety of support services to their service partners, and in locations where there is a need for demand response transit, but there are no non-profit partners, Ride Connection acts as the provider by hiring operators and providing transportation services. Ride Connection fills the gaps within the Tri-County area to complement the fixed-route and ADA paratransit services provided by the Tri-County Metropolitan Transportation District of Oregon (TriMet) (8).



Figure 7. Ride Connection Logo
(Source: Ride Connection Website)

Ride Connection was then selected because the network was evolved from a few volunteer transportation services and the majority of clients and services are directed primarily for older adults.

Origins and Current Status

In the mid-1980s, TriMet recognized the need to coordinate the numerous existing volunteer transportation programs into one network to better serve the mobility needs of older adults and people with disabilities in the Tri-County Area. Ride Connection began as a TriMet special program in 1986, and then in 1988, the special program incorporated as Volunteer Transportation, Inc. (VTI) because it was eligible for funding that TriMet could not access as a nonprofit agency. VTI assumed the coordination role and also began directly providing demand response transit service within the region. Targeted customers were citizens of the TriMet service area who did not qualify for ADA paratransit service and did not have fixed route service available, but still needed transportation assistance. In 1999, the organization changed its name to Ride Connection (9, 10).

In the early stage of Ride Connection, a major funding source was TriMet and the Oregon Department of Transportation (11). Now, the funding sources are more diversified and Ride Connection becomes a

major partner in the provision of transportation services to older adults and people with disabilities in Clackamas, Multnomah, and Washington Counties in Oregon.

Operations

Ride Connection provides a variety of support to their service partners in addition to the transportation services they (with the support of their service partners) provide to elderly, low-income, and disabled members of the Tri-State region. In their role in providing support and coordination to their service partners, Ride Connection provides assistance in areas such as identifying funding sources, collaborative opportunities for future service planning, driver training, quality customer service practices, community public relations, contract management, reporting tasks, fiscal monitoring, and volunteer driver management support. Ride Connection's goal in providing this wide range of support is to assist in ensuring that their service partners can efficiently and effectively focus on providing transportation services (8).

The following is a description of the services that Ride Connection provides both directly and through service partners.

RideWise

RideWise is a travel training program that teaches older adults and people with disabilities how to use accessibility features in transit vehicles and stations, and how to plan trips through Ride Connection. Travel trainers provide one-on-one and group training and also provide Riders Club trips where fun activities are planned using transit services in order to increase customer's comfort level with riding transit. All training is provided free of charge and is available for adults over 60 years old or persons with disabilities.

Door to Door Services

Door to Door services is a demand response transportation service for older adults and people with disabilities living in the entire Tri-County area. Door to Door is available for a wide range of needs including medical, shopping, recreational, and work-related trips. The service is free of charge (although donations are appreciated) and is available for adults 60 years of age or older and persons with disabilities. Door to Door service is only available Monday through Friday, and hours of service vary within each community based on the service partner.

RideAbout

RideAbout is a community-based transportation program that provides door-to-door service for people who need a little extra help getting around. Each RideAbout service is unique based on the community that it serves. RideAbout programs are designed with feedback from local neighbors and the community itself to meet the needs of its residents. RideAbout provides transportation and support for riders to perform essential services, such as going to grocery stores and local neighborhood centers. RideAbout drivers and concierges are available to assist riders with shopping bags and transportation. RideAbout is available to riders who are over the age of 60 or persons with disabilities.

Washington County Bus Service

The Washington County Bus Service (a Ride Connection program) is a rural transportation program that serves the general public in rural Washington County. The fixed-route service connects citizens of Forest Grove, Banks, and North Plains (located in Washington County) to the Hillsboro Transit Center, where riders can connect to transit services provided by GroveLink (additional service for Forest Grove) and the WAVE (service for the coastal region). The service is available Monday through Friday in the morning and evening, is available to all residents, and is provided free of charge (though donations are appreciated).

Work Link

The WorkLink program serves low income job seekers and wage earners in Multnomah and Washington County, helping them plan a commute using the TriMet system and/or other transportation options, such as bicycles, carpools, and vanpools.

Urban Job Access

The Urban Job Access program serves low income job seekers and wage earners in Tigard and Forest Grove. Riders must meet the income requirements, and trip purposes must be employment related and originate and end within Tigard and Forest Grove. The service area is limited in Tigard and Forest Grove. For trips end outside the service area, Ride Connection provides transportation to the nearest transit stop. The Urban Job Access program is free to riders who qualify.

Veterans Helping Veterans Transportation Program

The Veterans Helping Veterans Transportation Program is a volunteer-based program that was developed for veterans and their families who have mobility needs in the Tri-County area. Veterans are recruited to provide transportation to other veterans at no charge. Mileages will be reimbursed to volunteer drivers by Ride Connection and/or the service partners.

RideTogether and FareShare

In addition to the previously discussed programs, Ride Connection offers two new programs, RideTogether and FareShare. RideTogether is a volunteer driver service where riders find their own trusted driver and schedule their rides with the driver directly after Ride Connection's approval process. This program complements the regular door-to-door service offered by Ride Connection in terms of capacity and the hours of service. The FareShare program provides funds to human service agencies and community non-profit partners to assist older adults and people with disabilities who are not able to pay transit fare.

Customers can reach all Ride Connection services through a single phone number provided by the Ride Connection Service Center. Intake staff can provide information on all available travel options, and refer customers to programs that can most appropriately address their needs. After taking trip requests, staff in the center will schedule and then dispatch trips. Rides must be scheduled in advance. Ride Connection may deny a customer's trip request due to the limitation of capacity, in which case customers are asked to call back two days prior to their scheduled ride to check if the trip can be provided.

Funding Sources

Ride Connection receives funding from TriMet and through federal grants (JARC, New Freedom, and Section 5311) and state grants from Oregon Department of Transportation (Special Transportation Funds, Aging and Disability Services). TriMet provides approximately \$1 million a year to Ride Connection to support the provider network. Ride Connection also receives other private foundation grants and both corporate and individual donations (8). Additionally, 46,941 volunteer hours were contributed in Fiscal Year 2013 (12).

Fare revenue for Ride Connection is limited. With the exception of rural Washington County, most of the services are free of charge to customers. However, donations are warmly accepted.

Vehicles

Ride Connection owns a fleet of 113 accessible vans, small buses, and sedans, in addition to volunteer-owned vehicles (8). Figure 8 shows a RideAbout van. When it collaborates with partner organizations, Ride Connection provides vehicles that are purchased with grants and preventive maintenance funds. The partners pay for the driver and other operating costs.



Figure 8. Ride Connection RideAbout Van

Ride Connection shares vehicles with agencies and groups when vehicles are not in use, primarily on evenings and weekends, to maximize the opportunities to serve communities. The borrowing agencies only need to provide a driver and cover the fuel expense. Ride Connection offers retired vehicles for government entities and non-profit organizations to use to provide transportation to people over 60 years old and people with disabilities. The titles of retired vehicles are retained by Ride Connection (8).

Highlights

Following are some highlights of this case study:

- Ride Connection has a partnership network with over 30 community transportation providers.
- Ride Connection services are greatly supported by volunteers. Approximately 2/3 of its 600 drivers are volunteers. Volunteers have the option of using their own car and receiving mileage reimbursement.
- Ride Connection shares unused vehicles and retired vehicles with other organizations to maximize the opportunity to serve communities. At the same time, Ride Connection always provides trainings on how to use these vehicles properly.

Northeast Transportation Service, Tarrant County, Texas

Northeast Transportation Service (NETS) is a small urban transportation provider serving the NETS Urban Transit District, which is comprised of seven cities in northeast



Figure 9. NETS Logo
(Source: NETS Website)

Tarrant County, Texas, including Bedford, Euless, Grapevine, Haltom City, Hurst, Keller, and North Richland Hills (logo shown in Figure 9). NETS provides door-to-door demand response service to residents of its member cities who are disabled or who are 55 years or older.

TTI researchers considered NETS due to the elderly population increases in the cities the agency serves and having a similar geographic setting to Travis County with a mix of cities/suburbs.

Origins and Current Status

Located in the Dallas-Fort Worth urbanized area, NETS is adjacent to two metropolitan transportation authorities, the Fort Worth Transportation Authority (The T) and the Dallas Area Rapid Transit (DART). Figure 10 shows the service areas of The T, DART, and NETS. In 2002, the seven partner cities voted to form the Northeast Transportation Service Urban Transit District (NETSUTD) to provide affordable transportation services to elderly and disabled residents. The Board of Directors of the NETSUTD is comprised of the city manager of each member city and meets every other month. NETS, as a limited eligibility transit provider, have the federal transportation authorization that permits use of Section 5307 for operating expense, which was the seed money of the agency.

Currently, the eligible population within the NETS service area is growing rapidly, and over 75 percent of clients are seniors. The population of persons 55 and older in the service area soared from 2000–2010, increasing 55.3 percent from 46,859 to 72,756. As of 2010, NETS has an eligible population of 80,767 within its service area, which is a quarter of the total population of the seven cities, as shown in Table 2.

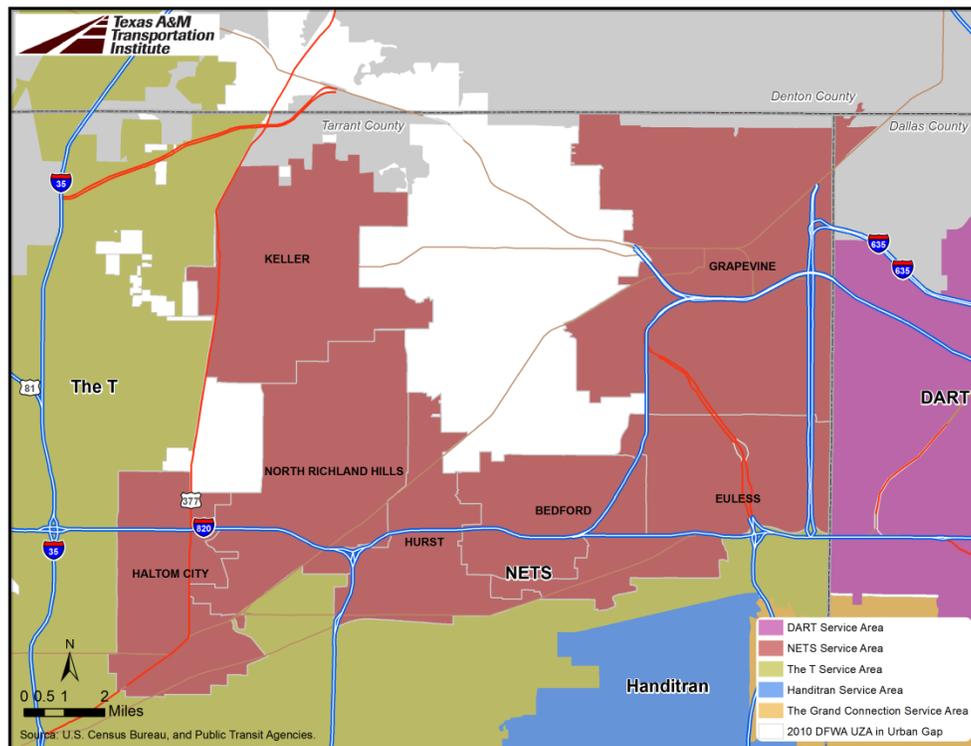


Figure 10. NETS, DART, and the T Service Areas

Table 2. Demographics of Cities Participating in NETS

City	Population Total	Population (Age 55+)		People with Disabilities (Age 5–54)		Eligible Population	
	<i>number</i>	<i>number</i>	<i>percent</i>	<i>number</i>	<i>percent</i>	<i>number</i>	<i>percent</i>
Bedford	46,979	13,082	28%	1,290	3%	14,372	31%
Eules	51,277	9,100	18%	1,610	3%	10,710	21%
Grapevine	46,334	9,121	20%	1,141	2%	10,262	22%
Haltom City	42,409	7,956	19%	781	2%	8,737	21%
Hurst	37,337	9,948	27%	820	2%	10,768	29%
Keller	39,627	7,878	20%	608	2%	8,486	21%
North Richland Hills	63,343	15,671	25%	1,761	3%	17,432	28%
Total	327,306	72,756	22%	8,011	2%	80,767	25%

Source: 2010 U.S. Census, 2010 ACS 3-Year Estimates

Current Operational Status

NETS provides demand-response service through a partnership with The T through an inter-local agreement. The T then contracts with Catholic Charities of Fort Worth (CCFW) (a 501(c)(3) non-profit organization) to provide NETS customers with demand-response transit service and to maintain NETS vehicles. Figure 11 shows this contract flow.



Figure 11. NETS Contract Flow

In addition to operating NETS service, the CCFW Transportation Program operates the five other transportation services in Tarrant County: the CCFW internal transportation service, HEB Transit, Medical Transportation, Tarrant County Transportation Services (TCTS), and Arlington Ride2Work. The CCFW Transportation Program acts as a mobility manager to arrange rides with the best resources available. The program has a single call-in number for all service requests. From 7 a.m.–5:30 p.m. Monday through Friday, a client can call to request trips for at least two business days later. Intake staff first determines clients’ eligibility and then matches riders with the services that can best accommodate their needs. When appropriate, the CCFW Transportation Program may schedule a NETS client on one of the vehicles from the other five services. In November and December 2013, the CCFW transportation program reported that over 800 additional trips were provided for NETS clients by other service providers (13).

NETS service uses a hierarchy system of trip purposes when placing rides. Trip requests are prioritized as follows: medical, work, social service, senior center, education, shopping, and others. Although NETS informs clients that NETS may cancel a prescheduled trip, the CCFW Transportation Program is currently

applying a zero denying policy. According to NETSUTD board meeting minutes from January 2014, refusals were at zero percent for the past seven months.

Drivers are automatically assigned through Ride Match software. The CCFW Transportation Program currently employs 24 full-time and 4 part-time drivers and started a volunteer driver system in January 2014. The Ride Match software is used for managing paid drivers and occasionally used for volunteer drivers. The program is seeking more appropriate software to manage its volunteer drivers.

Funding Sources

Funds for NETS operations and vehicles are provided from FTA Section 5307 funds apportioned to the Dallas–Fort Worth–Arlington urbanized area and allocated by the North Central Texas Council of Governments (NCTCOG) acting as the Metropolitan Planning Organization (MPO). NETS also receives funds from the State of Texas public transportation program, allocated by formula by the Texas Department of Transportation Public Transportation Division (TxDOT-PTN). Local share funds are provided from the general revenues of each of the member cities. According to the TxDOT-PTN 128 report (14), in Fiscal Year 2013, total funding distributed to NETS was \$705,392.

NETS charges a flat fare for the demand-response service. The fare for service is \$1.50 per one-way trip (\$3.00 round trip). In fiscal year 2013, NETS earned a revenue of \$33,238 from passenger fares (14).

Vehicles

NETS owns five vehicles, including buses, vans, and minivans. All of the five are ADA accessible vehicles. NETS purchased these vehicles using either state grants or federal grants and then provided the vehicles to the CCFW Transportation Program for daily operations.

All NETS vehicles are exclusively used for NETS services, and each NETS vehicle is painted with the NETS logo. NETS vehicles are not shared with other services under the CCFW Transportation Program.

The CCFW Transportation Program allows volunteer drivers to use their own vehicles when the vehicle goes through insurance requirements, is road compatible, and recorded by the fleet manager. However, CCFW does not allow NETS drivers to use their own vehicles due to specific requirements listed in the contract.

Highlights

Following are some highlights of this case study:

- NETS does not operate the service directly; in turn, it contracts with Catholic Charities of Fort Worth to coordinate the service with other similar services within Tarrant County.
- NETS created a hierarchy system of trip purpose in response to soaring demand from the rapidly growing senior population in the cities the agency serves.
- The contractor, CCFW Transportation Program, started the volunteer driver system this past January and is willing to develop a robust volunteer driver system to reduce operational costs.

OATS Transportation, Missouri

OATS, Inc. is a non-profit corporation providing specialized transportation for anyone with mobility needs in 87 of 114 Missouri counties (logo shown in Figure 12). OATS provides demand-response service and deviated fixed-route rural transportation to people with disabilities, elderly, and low-income persons for essential shopping, nutrition, personal business, recreation, employment, and medical purposes. OATS is the only system in Missouri with lifts for people with disabilities. TTI researchers are interested in OATS because this agency was originally developed as a transit provider solely for older adults and then grew to serve the majority of counties in Missouri.



Figure 12. OATS, Inc. Logo
(Source: OATS Website)

Origins and Current Status

In early 1970s, a group of seniors in Missouri realized that transportation was a barrier for many seniors in rural areas after attending a White House Conference on Aging. They founded the Cooperative Transportation Service (CTS) with funding from Missouri's Office on Aging, and with technical assistance from the University of Missouri's Extension Division.



Figure 13. OATS at Early State (Source: OATS website)

By 1973, the CTS had expanded their service area to include over 80 Missouri counties and expanded their targeted clients to include the rural general public due to high demand for transportation. The organization became a 501(c)(3) non-profit organization in that year and changed its name to Older Adults Transportation Service, or OATS.

Today, OATS, Inc. is the leading provider of public transit in rural Missouri. According to their website, OATS' transportation services are available to everyone, "regardless of age, race, gender, color, religion, or national origin." Their mission is to provide reliable transportation for transportation disadvantaged Missourians so they can live independently in their own communities. In fiscal year 2013, OATS served 31,059 Missourians, provided 1,598,584 one-way trips, and traveled 14,800,499 miles.

Operations

OATS operates in an entrepreneurial management model with a flexible framework. TCRP Web Document 7 stated that OATS is very flexible in its service provision rather than using a one-size-fits-all approach. OATS staff considers their goal to be to move people, rather than focusing on a particular mode of transportation, while the Board of Directors is willing to take risks and adapt to changing circumstances to present diversified delivery options to potential customers. According to OATS' annual

report of fiscal year 2013 (15), 32 percent of its funding came from special service contracts, which is proof of the success of its flexible entrepreneurial management model.

OATS divides its service area into seven regions, shown in Figure 14. Each region is responsible for operating local service tailored to local needs. Regional directors meet monthly at OATS headquarters in Columbia to discuss the service provided and how to better serve their customers. In many of the counties which OATS serves, volunteers form a County Support Committee comprised of 8–24 people, which is in charge of fundraising, scheduling of rides, and publicity. The Committee organizes hundreds of volunteers to attend a legislative advocacy day every year to express the importance of OATS to their communities, which plays a positive role in bringing political support to OATS services.

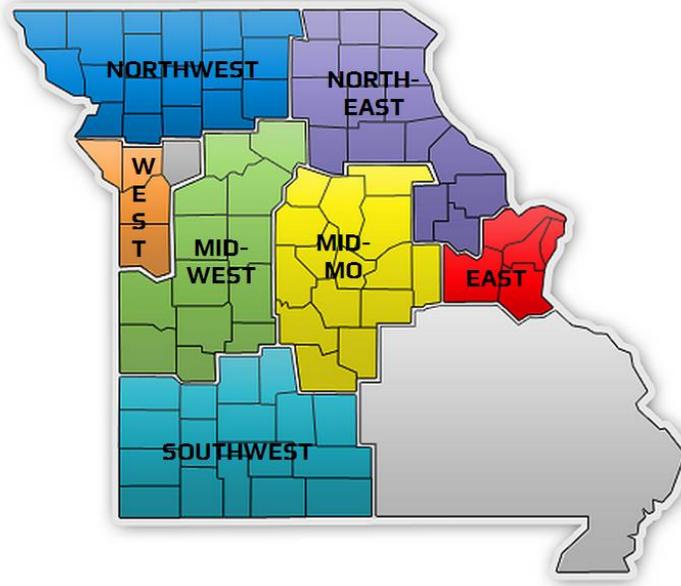


Figure 14. OATS Service Area and Regions
(Source: OATS Website)

To understand the operational details of OATS service, TTI researchers selected the East OATS Region for in-depth study. The East Region is the largest region of OATS and covers the St. Louis metropolitan area, which is similar to Travis County, with urban and rural environments and a comparable population. The East Region includes Franklin, Jefferson, St. Charles, and St. Louis Counties. According to the 2010 U.S. Census, the total population of the East Region is 1,679,664.

In the East Region, OATS provides demand-response service within the county limits. At the same time, OATS operates a deviated fixed-route in Jefferson County connecting the cities of Desoto and Arnold. The route will deviate up to 1 mile upon request. The hours of operation for OATS services vary from place to place. Most services are available weekly or bi-weekly. For example, from Augusta to Washington in Franklin County, OATS service is available on the 1st and 3rd Wednesdays of each month. There is no service on the weekend or on national holidays.

OATS East Region does not employ a unified call-in number. Instead, each route has an intake staff with unique phone number. Trips must be scheduled three to five business days in advance by calling the related numbers for a reservation. Services are available to the rural general public with priority given to

people who are elderly and people with disabilities. Trip purposes for senior transportation are currently limited to medical, essential shopping, and nutrition. Public information about OATS is available by information posted on the web page or by a quarterly publication produced by OATS, The Wheel, which is available to recent riders and volunteers.

The OATS East Region also participates in a joint effort to provide better curb-to-curb demand-response service to individuals, agencies, and corporations with mobility needs in the St. Louis area. The East Region is one of the four key members of the St. Louis Transportation Management Association (TMA). The St. Louis TMA serves the City and County of St. Louis and adjacent St. Charles County. Demand-response service operations are coordinated using an up-to-date reservation and dispatching system. Participants of the St. Louis TMA use a unique communication network that enables the agencies to book trips for their customers on vehicles operated by other providers, thereby maximizing the utilization of vehicles.

Funding Sources

OATS serves most Missouri counties and covers a wide range of clients, and there are many different projects and funding opportunities. OATS’s funding sources includes FTA grants, Social Security Block grants, Medicaid, Missouri Elderly and Handicapped Transportation Assistance Program (MEHTAP), County governments, and city governments. To receive these funds, OATS contracts with Area Agencies on Aging, and the MO Department of Mental Health, the MO Health Net’s Non-Emergency Medical Transportation broker, and other agencies (16).

OATS used Section 5311 non-urbanized area formula grants to expand transportation service to about 30 communities where it currently operates, Section 5309 grants under SAFETEA-LU to purchase the East Region and the Northwest Region facilities, and recently, Section 5337 grants under MAP-21 to build a new Southwest Region facility. In addition, OATS received Section 5316 JARC funds and Section 5317 New Freedom funds, of which both have been merged with Section 5310 under MAP-21, to support and expand work trips in the service area (17). Table 3 shows OATS’s funding sources for fiscal year 2013.

Table 3. OATS Funding Sources in Fiscal Year 2013 (15)

Funding Source	Percent of Total
Federal Transit Administration Grants	33%
Special Service Contracts	32%
Medicaid	17%
Area Agencies on Aging	8%
Other	6%
State Funding	3%
Rider/Local Contributions	1%

Specific to senior transportation in the East Region, OATS contracts with the Mid-East Area Agency on Aging to provide non-dialysis medical trips every week, grocery shopping every other week, and nutrition trips to senior centers. Fare varies depends on the geographic setting, urban or rural, and trip purposes, ranging from \$6 to \$15 per unit one-way trip.

Vehicles

OATS owns a fleet of 866 vehicles, including vans/buses, specially equipped vehicles, and automobiles. In fiscal year 2013, OATS received a total of 98 new vehicles. Among them, 92 were federally funded through grants administered by the Missouri Department of Transportation (15).

East Region currently owns and operates over 200 wheelchair accessible vehicles. Vehicles may be shared with clients of Medical Transportation Management and Care Cab Transportation Service through the linked dispatch centers coordinated by the St. Louis TMA. Vehicle maintenance and repair are managed by Penske through a service contract.

Highlights

Following are some highlights of this case study:

- There is no one-size-fits-all approach in addressing mobility needs in changing circumstances. OATS designs diversified local services tailored to local needs, which also optimizes the utilization of available local funding.
- OATS delegates important functions of their operations to the County Support Committees, in a way that creates a sense of ownership for volunteers and stimulates their enthusiasm for serving.
- OATS participates in a joint effort between planning agencies, public transit providers, and private transit providers to maximize existing resources and better serve transportation disadvantaged populations in the St. Louis metropolitan areas.

ITNAmerica, Nationwide

Independent Transportation Network® (ITN) America is a nationwide non-profit organization focusing on providing community-based transportation service to older adults (logo shown in Figure 15). ITNAmerica can operate in urban, suburban, and rural environments. The agency primarily serves seniors and people with visual impairments. More than 90 percent of clients are 60 years and older, though age criteria may vary among affiliate communities. ITNAmerica distinguished itself from other agencies because it provides three models of service that can potentially be applied anywhere in the United States, whether urban or rural.



Figure 15. ITNAmerica Logo
(Source: ITNAmerica Website)

Origins and Current Status

ITNAmerica was created by Ms. Katherine Freund in 1995 in Portland, Maine. The decision was first motivated by a sudden accident in which Katherine's 3-year-old son was seriously injured by an 84-year-old driver, and then strengthened by her experience studying senior transportation at the Edmund Muskie School of Public Service. When creating the ITNAmerica, Ms. Freund and her colleagues explored several innovative models and programs to meet the transportation needs of an aging population.

ITNAmerica coaches communities that affiliate with ITNAmerica to bring together all available community resources and to operate the service sustainably. ITNAmerica currently has 25 affiliates across the country and 1 pre-affiliate in North Jersey. shows the locations of all ITN affiliates and pre-affiliate.

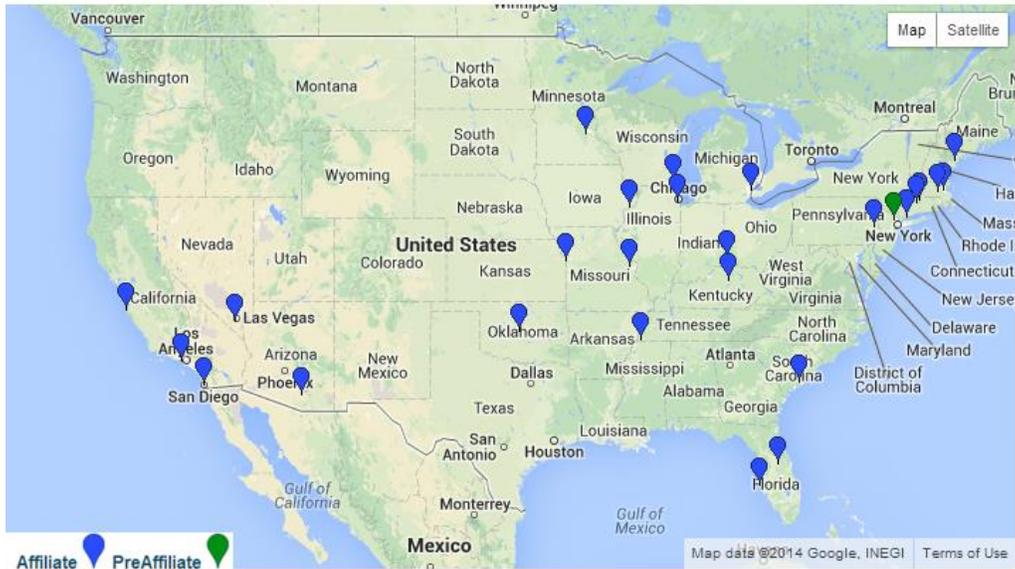


Figure 16. ITN Affiliate Locations
(Source: ITN Website)

Operations

ITNAmerica operates in an affiliate- and membership-based business model. Being an affiliate of ITNAmerica is the prerequisite for a local community to receive ITNAmerica’s coaching service. For any community willing to start an affiliate, ITNAmerica provides a pre-affiliate representative to communicate with the applicant. The initiative of establishing an ITN affiliate may come from a non-profit organization, an Area Agency on Aging, a faith-based organization, an existing transportation provider, a government organization, an individual, or a mix of above. ITNAmerica offers two types of affiliation:

- **Full Affiliation:** ITNAmerica provides a wide range of support to its full affiliates. Services include plotting a business plan, developing tools and budget models for staff and fundraising, sharing ITN custom built ITNRides software system, setting up website and email systems, and managing marketing and promotional materials.
- **PreAffiliation:** PreAffiliation is designed for communities that are not ready to make the commitment of full affiliation. The PreAffiliation Program can provide assistance in raising the start-up funds for these communities and allows communities to use the ITN brand to market the service.

According to the demographics of a particular community, ITNAmerica works with the community to determine a suitable operation model. Generally, three operation models are available. The first two are currently utilized by many ITN affiliates; the third model is under development but will be implemented soon. The three models include the following:

- **ITNClassic:** this model typically operates in a community with an area within 600 square miles and with more than 200,000 people. The area and population threshold may change as long as there are sufficient senior riders to keep the service sustainable.

- **ITN*Multi-branch***: this model is designed for communities located in metropolitan areas. It services seniors in large urbanized areas through seamless cooperation between more than one branch.
- **ITN*Everywhere***: this model is exclusively designed for rural communities, but was not yet available at the time of writing. The program and related software is underway.

Similarly, being a member of a local ITN is the prerequisite for clients to obtain its transportation service and for volunteer drivers to help. The membership lets clients get access to ITN's unique one-to-one door-to-door service. The service is available 24 hours a day, 7 days a week, which is more than most general demand-response services. ITN*America* members can schedule a trip by calling one number. ITN*America* accepts trip requests at any time but encourages riders to schedule 24 hours in advance by offering a discount; in this way, dispatchers are able to effectively manage resources. Intake dispatchers enter the request into the scheduling software, and then place the rider with the most suitable driver. ITN members also can request a family member or friend to drive them if the family member or friend is a listed volunteer driver. ITN service is supported by many volunteer drivers, of whom most are younger seniors aged in late 60 to 70 years old. Paid drivers are primarily responsible for trip requests that could not be covered by volunteer drivers, such as late night ride requests.

ITN riders do not pay when they ride, and drivers do not accept tips. Each ITN rider is given a Personal Transportation Account™, receives a monthly statement, and makes the due payment. Volunteer drivers get credit reimbursement into their Personal Transportation Account™ through the Transportation Social Security™ program. The credits can be stored for future use, used to pay for rides of their family members, or donated to other riders in need through the Road Scholarship Program™.

Funding Sources

ITN*America* sees itself as a complementary mode to public transportation and avoids using public funds. It primarily relies on funding from private sponsors, donations of individual and community organizations, ride fares, and membership fees. Figure 17 depicts the arc to sustainability, ITN*America*'s ideal trend of capital investment and revenue.

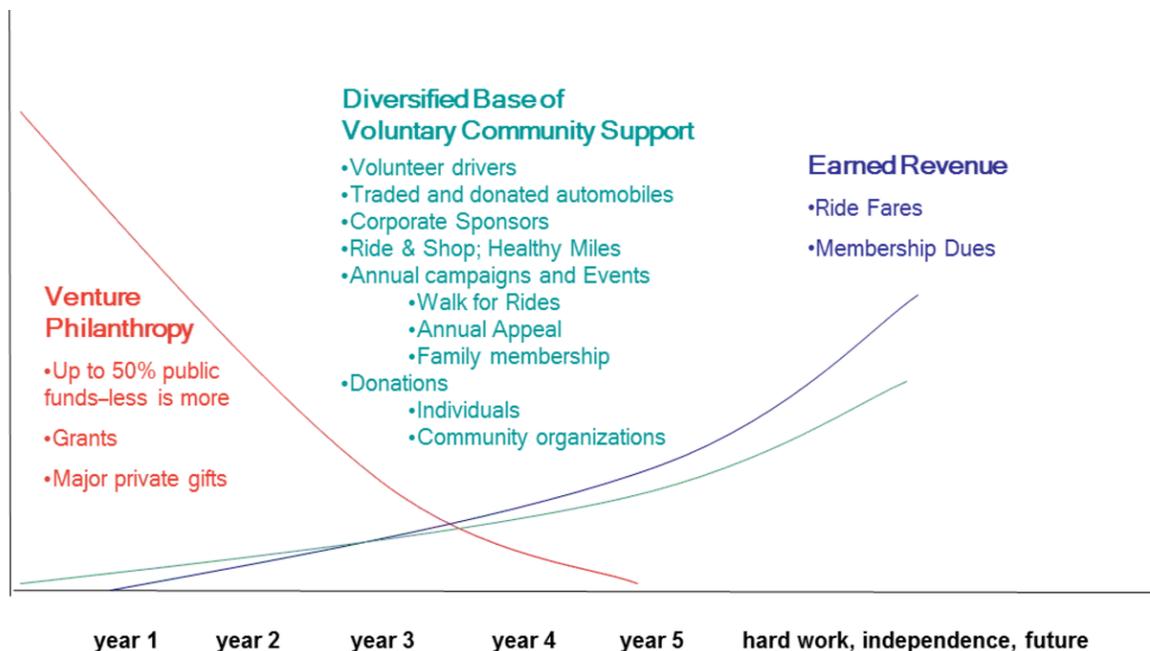


Figure 17. 5-Year Arc to Sustainability (Source: ITNAmerica)

In the first 5 years of start-up, ITN used up to 50 percent of funds from general municipal, state DOT, mobility management reserves, New Freedom Funds, and other public funds. After the initial start-up period, ITNAmerica helps local communities seek local funding opportunities, which may come from local businesses, medical centers, foundations, and other organizations (see Table 4). Since ITNAmerica offers fare-based service to ITN members, the local affiliates gain revenues year after year. Annual membership varies among affiliates, ranging from \$35 to \$100. Fare structure varies among affiliates as well, but according to ITN’s July 2010–June 2011 ridership data, the average fare is \$10.89 (19). Merchants and health providers may elect to help pay for rides through Ride & Shop™ program and Healthy Miles™ program if they are the trip destinations.

Table 4. Potential Funding Sources

Public Funds	Private Funds
General Municipal	Corporate:
State DOTs	<ul style="list-style-type: none"> • Large businesses • Corporate foundations
Mobility management funds	Medical:
New Freedom Funds	<ul style="list-style-type: none"> • Local hospitals, medical groups, rehab facilities, dialysis centers • Hospital/insurance conversion foundations
	Foundations:
	<ul style="list-style-type: none"> • Mission-oriented • Community organizations • Faith-based organizations
	Other Organizations:
	<ul style="list-style-type: none"> • AARP • Area Agencies on Aging • Service agencies, i.e., Lions, Rotary • Religious groups

(Source: ITNAmerica)

Several annual community outreach events and campaigns are developed to prompt fundraising; two outstanding ones are the Walk for Rides™ program and the Family Membership Campaign™. The former is an annual spring fundraising event targeting the whole community; the latter targets adult children or other families of those ITN riders to provide support to ITN service.

Vehicles

ITNAmerica affiliates own vehicles, which are primarily sedans without a lift. Most automobiles are either traded or donated by members of the community. The CarTrade™ program is developed for seniors who no longer drive; they can trade in their automobiles for credits in their ITN Personal Transportation Account™.

ITNAmerica currently does not share vehicles with other agencies. The model ITNEverywhere, however, is developing software to coordinate unused vehicles with public transportation agencies and rideshare programs. Affiliates with ITNAmerica typically contract out their vehicle maintenance to a local dealer instead of conducting maintenance by the ITN affiliates themselves.

Highlights

Following are some highlights of this case study:

- ITNAmerica is the only nationwide non-profit organization addressing the transportation needs of seniors with minimal use of public funds.
- ITNAmerica provides diversified service models to local communities based on their geographic and demographic conditions, and connects every affiliate into one centralized national network via the ITNRides software system.
- Relying on volunteer drivers and donated or traded cars is a valuable cost-saving aspect of ITNAmerica's operation.
- ITNAmerica offers transferable credits for volunteer drivers' efforts, which encourages younger seniors and rider's family members to participate.
- ITNAmerica does not limit trip purpose and trip request time, but provides discounts to shopping, medical trips, and early requests through corresponding programs.
- ITNAmerica has a research team that analyzes data collected from application forms and ITNRides software and conducts satisfaction surveys every year.

Table 5. Summary of Case Studies

Agency/Program	Marin Access	Ride Connection	NETS	OATS, Inc.	ITNAmerica
Location	Marin County, California	Portland, Oregon	Ft. Worth, Texas	Missouri; Statewide. East Region: Bridgeton, MO	Based in Portland, Maine; Nationwide (No affiliate in Texas yet)
Agency Type	Public Transportation	Non-Profit	Public Transportation (limited eligibility provider)	Non-profit	Non-Profit
Services Offered	<ul style="list-style-type: none"> •Paratransit, •Discounted taxi service (Catch-A-Ride), •Volunteer Driver programs 	<ul style="list-style-type: none"> • Door to Door service • Community transportation • Rural transportation • Job access transportation • Veteran transportation 	<ul style="list-style-type: none"> •Demand response service •ADA paratransit 	<ul style="list-style-type: none"> • ADA paratransit • Demand response • Rural transit 	<ul style="list-style-type: none"> • <i>ITN Classic</i>: Suburban senior transportation • <i>ITN Multi-branch</i>: Urban senior transportation • <i>ITN Everywhere</i>: Rural transportation
Client Groups	<ul style="list-style-type: none"> • Older adults • People with disabilities • Low income residents 	<ul style="list-style-type: none"> • Older adults (60+) • People with disabilities • Rural General public • Low-income workers • Veterans 	<ul style="list-style-type: none"> • Older adults (55+) • People with disabilities 	<ul style="list-style-type: none"> • Older adults • People with disabilities • Rural general public 	<ul style="list-style-type: none"> • Older adults (local criterion) • People with visual impairments
Service Area Setting	Urban and rural	Urban and rural	Urban	Urban and rural	Urban and rural
Length of Service	6 years	26 years	12 years	43 years	19 years
Fare	Fare-based: <ul style="list-style-type: none"> • \$2–\$2.5 for paratransit program • The agency pays the first \$14 for the Catch-A-Ride 	No charge for most services	Fare-based. <ul style="list-style-type: none"> • Flat fare, one-way trip is \$1.50 	Fare-based: <ul style="list-style-type: none"> • \$6 to \$15 per unit one-way trip • Fare varies by urban or rural, and by trip purposes 	Fare-based <ul style="list-style-type: none"> • Average fare: \$10.89 • Fare Structures varies by affiliates
Contact Revenue	No	Yes	No	Yes	Yes
Funding Stream(s)	New Freedom, Section 5311, State Transportation Development Act Funds, Marin County Measure A (sale tax), and Measure B (vehicle	JARC, New Freedom, and Section 5311, Special Transportation Funds, Aging and Disability Services, private foundation grants, and both	Section 5307, state grants, Tarrant County grant, and local share funds	JARC, Medicaid, MEHTAP, County government, city governments, Department of Mental Health, service contracts, and rider	Private sponsors, ride fares, membership fees, and donations (individuals and community organizations). Avoids using public funds.

Agency/Program	Marin Access	Ride Connection	NETS	OATS, Inc.	ITNAmerica
	registration fee)	corporate and individual donations		contributions	
Provider	Whistlestop and TRIPtrans	Ride Connection, community partners, and taxicab companies	Catholic Charities Fort Worth (CCFW)	OATS	ITNAmerica
Partners	20 partners, including paratransit providers, senior centers, faith-based organizations, health centers, Red Cross, etc.	Over 30 partners, including nursing homes, senior centers, community centers, Chambers of Commerce, elders in action, City of West Lynn, and taxicab companies	10 partners. Cities of Hurst, Bedford, Euless, Grapevine, Haltom City, Keller, North Richland Hills, NCTCOG, Ft. Worth (The T), Catholic Charities	Area Agency on Aging	8 partners, including Regeneron Pharmaceuticals, Inc., Liberty Mutual Insurance, AARP, Atlantic Philanthropies, FTA, TRB, AAA, and Great Bay 31Foundation
Coordination Method	Centralized information via Marin Call Center	Centralized information via Ride Connection Service Center	Catholic Charities' single call-in number	Divides service area to regions and operates in a flexible entrepreneurial management model	Through standard models and ITNRide software
Prioritize Trip by Trip Purpose?	No	No	Yes, medical > work > social service > senior center > education > shopping > other	No	No
Number of Riders Limitation	Yes, 8 times per month for the Catch-A-Ride program	No	No, but considering	No	No
Volunteer Drivers	Yes	Yes	Yes	No	Yes
Self-found Drivers	Yes, encouraged	Yes, encouraged	No	No	Yes, as long as the driver is registered
Vehicle Ownership	No	Yes, 113 accessible vans, small buses and sedans	Yes, 6 ADA accessible buses, vans, minivans	Yes, 866 accessible buses, vans, and automobiles	Yes, non-wheelchair-accessible automobiles
Vehicle Share	No	Yes, via the Shared and Retired Vehicle Program	No	Yes, under the St. Louis TMA's coordination	Yes, with public transportation agencies and rideshare programs

Asset Inventory

As defined by the U.S. FTA (20), “transit asset management is a strategic and systematic process through which an organization procures, operates, maintains, rehabilitates, and replaces transit assets to manage their performance, risks, and costs over their lifecycle to provide safe, cost-effective, and reliable service to current and future customers.”

Background

In an effort to learn from other agencies’ real-world experiences for preparing asset inventory or asset management framework, several reports were studied. While many findings and practices associated with asset management projects were not directly applicable to this study due to differences in scope and depth of project, useful information was derived.

The asset inventory forms a structured foundation of baseline information that an agency can use to assess condition of assets, prioritize investment, and develop its overall performance plan. It is necessary to ensure the accuracy of inventory and to identify attributes applicable to the system under study (2).

Methodology

The inventory hierarchy common to most all transit organizations is comprised of five major elements (see Figure 18): vehicles, facilities, stations, guideway elements, and systems (21). Since this project was aimed toward identifying innovative and leveraging strategies to improve transportation for seniors, the asset inventory questions were carefully crafted to record the vehicles and service types offered by the transit agencies to older adults. Figure 19 shows asset classes recorded for each asset category (vehicles, service facilities).

There were two asset categories considered for this data collection effort: vehicles and services. Each asset category was sub-divided into asset classes. The vehicles category was sub-divided into the types the vehicles used by the agency and the services category was sub-divided into purpose of types of vehicles, frequency of use, ADA compliance, driver training, services for older adults and fare. Figure 19 shows asset classes recorded for each asset category (vehicles, service facilities).



Figure 18. Major Elements of Inventory Hierarchy

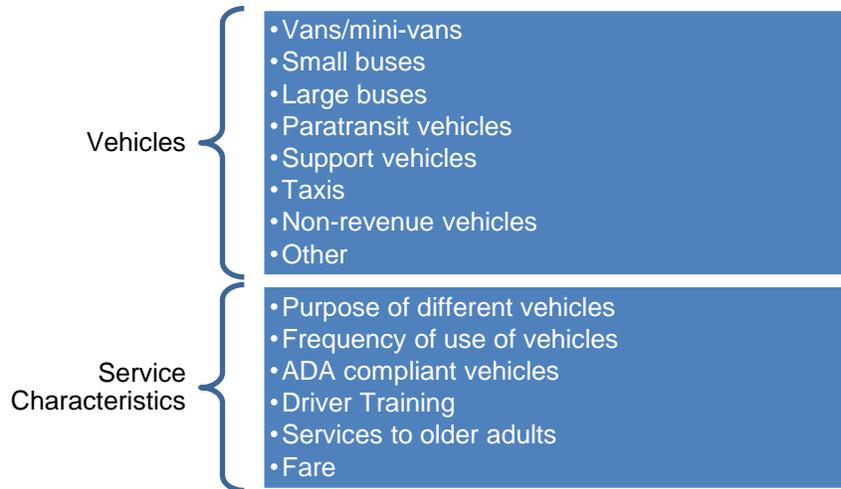


Figure 19. Asset Classes under Asset Categories

The primary sources of the transportation assets data vary among the transit agencies, so the transit agencies were first asked to answer if an asset inventory is prepared periodically. The transit agencies were asked to give best estimates on numbers when the question category (asked in current study) did not fall into their agency’s asset attributes.

The asset inventory survey asked transit agencies to specify if asset inventory was prepared by the transit agency on a regular basis and if the condition of assets is recorded in such inventories. The majority of asset inventory questions asked about the types and number of vehicles and services offered by the agency. Due to the project’s focus on improving transportation for seniors, the questions in the survey aimed toward affordability (fare) and comfort or ease associated with the transit service. Keeping in mind that many older adults may use wheelchairs while taking transit, there were a few questions about ADA compliance of vehicles and driver training for operating ADA lifts and ramps.

Outreach

From September to November 2014, TTI researchers sent out the invitation email of AGE inventory (see Figure 20) to 50 agencies in the Central Texas and followed up through two rounds of reminder emails and two rounds of telephone calls.

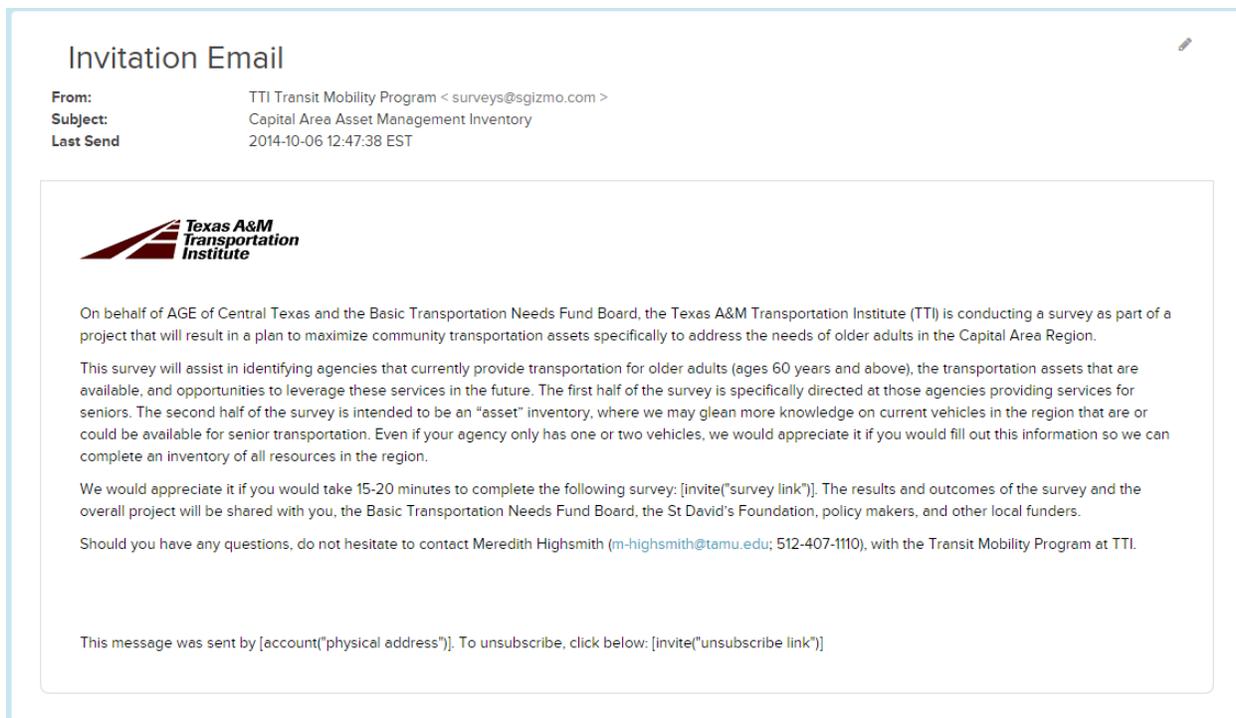


Figure 20. AGE Inventory Invitation Email

The effort resulted in 17 completed responses and 1 partially completed response. Agencies that responded and filled in the inventory include the following:

- Helping the Aging, Needy and Disabled, Inc. (H.A.N.D).
- City of Round Rock.
- Capital City Village.
- Capital Metropolitan Transportation Authority – MetroAccess Program.
- Capital Area Rural Transportation System.
- The Care Communities.
- Meals on Wheels and More.
- Easter Seals Central Texas.
- Interfaith Action of Central Texas.
- ARCIL, Inc.
- AGE of Central Texas.
- Drive a Senior – Southwest Austin.
- Drive a Senior – West Austin.
- Drive a Senior – Northwest.
- Drive a Senior – Senior Access.
- Drive a Senior – North East.

Summary of Findings

Of the agencies that responded to the inventory, all currently provide transportation service to the population 60 years and above, who are referred in this study as older adult or seniors.

Availability of Senior Transportation Service

Service Frequency

Table 6 displays that seniors in the Travis County are provided the most frequent service being often served by 16 out of 17 (94.1 percent) agencies. The frequency of service in Williamson County is in second place with 57.1 percent of agencies often providing services to seniors living there, followed by Hays County with 26.7 percent of agencies often providing services and 13.3 percent of agencies sometimes providing. Seniors in Fayette County lack of access to senior transportation service the most; only 7.7 percent of agencies often provide service to seniors living there and 84.6 percent of agencies never serve the county.

Table 6. Frequency of Service to Seniors by County

	Often	Sometimes	Rarely	Never
Travis County	94.1%	0.0%	0.0%	5.9%
Hays County	26.7%	13.3%	20.0%	40.0%
Williamson County	57.1%	0.0%	14.3%	28.6%
Burnet County	15.4%	0.0%	15.4%	69.2%
Bastrop County	21.4%	7.1%	21.4%	50.0%
Lee County	15.4%	0.0%	7.7%	76.9%
Fayette County	7.7%	0.0%	7.7%	84.6%
Caldwell County	15.4%	0.0%	7.7%	76.9%
Blanco County	16.7%	0.0%	8.3%	75.0%

% of total agencies that provide senior transportation at a certain frequency:

Lowest Highest

Service Coverage in Travis and Williamson Counties

Respondent agencies provide the most complete coverage to the Travis County; 47.1 percent of them cover all zip codes in the Travis County and another 23.5 percent cover a portion of zip codes in Travis County. In the Williamson County, the option of the county-wide senior transportation service is available in only 29.4 percent of agencies, but additional 41.2 percent of agencies provide service to a portion of zip code areas (see Figure 21).

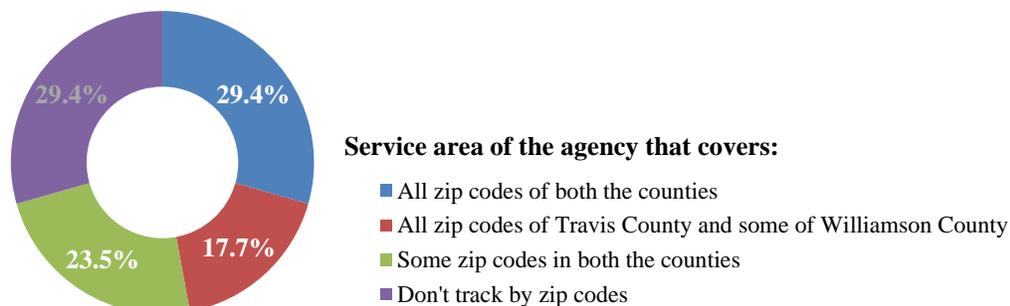


Figure 21. Service Area Coverage in Travis and Williamson Counties by Zip Code

Figure 22 shows the spatial locations of zip codes that are not served by respondent agencies in Travis and Williamson Counties. The red color represents that a zip code area is not served by a higher

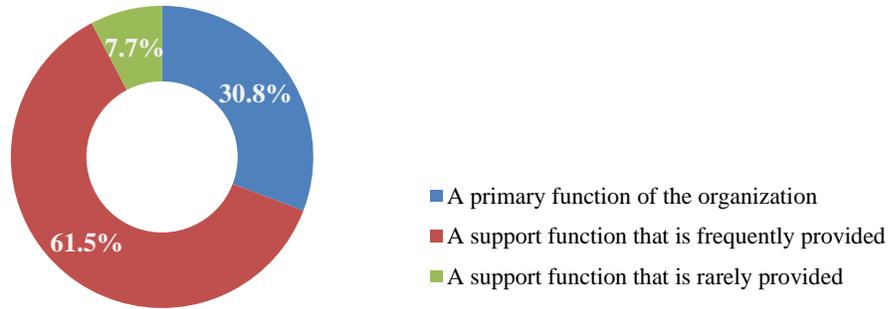


Figure 23. Function of Senior Transportation

Free or Subsidized Senior Transportation Service

Asked whether they provide or provide access to free or subsidized transportation for seniors in the counties they serve, 81.3 percent of agencies (14 out of 17) gave a positive answer (see Figure 24).

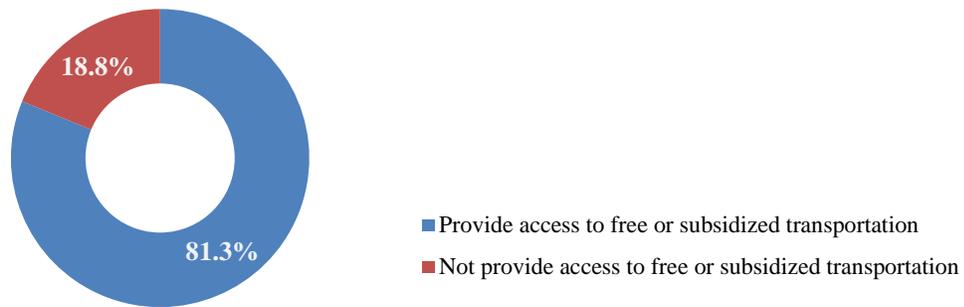


Figure 24. Access to Free or Subsidized Transportation

Common practices adopted by respondent agencies to offer free rides or subsidize riders include driving the vehicles of volunteers, driving the agency-owned vehicles, offering taxi vouchers and bus passes, and contracting for transportation service. Some limitations may apply on the subsidized transportation, such as taxi vouchers are only provided for medically related appointments when volunteer drivers are not available. Among the practices, using volunteers’ vehicles and agency-owned vehicles are the two most common practices, which respectively gain the votes from 69 percent and 54 percent of agencies (see Table 7).

Table 7. Ways to Provide Free or Subsidized Transportation

Practice	Count of Agencies	% of Total Agencies
Vehicle of volunteer	8	69%
Agency-owned vehicles	7	54%
Taxi vouchers	4	31%
Bus passes	3	23%
Contract for transportation	1	8%

Finance of Senior Transportation Service

Funding Sources

Despite funding sources varying from agency to agency, there are three sources of funds that have been used in over 50 percent of the agencies. They are fundraising (used by 84.6 percent of agencies), donations (by 69.2 percent of agencies) and the federal funds (by 53.9 percent of agencies). The federal funds typically come from the following programs:

- Section 5310 Enhance Mobility of Seniors and Individuals with Disabilities Program.
- Section 5311 Non-Urbanized Area Formula Program.
- Section 5307 Urbanized Area Formula Program.
- Office of Refugee Resettlement – Refugee Resettlement Program.

Contract revenue is also an importance source of funds, which is applied in 46.2 percent of agencies. Other funding sources (displayed in Figure 25) include revenue income, local county funds, local municipal funds, foundation, and state funds (e.g., the State Public Transit Fund).

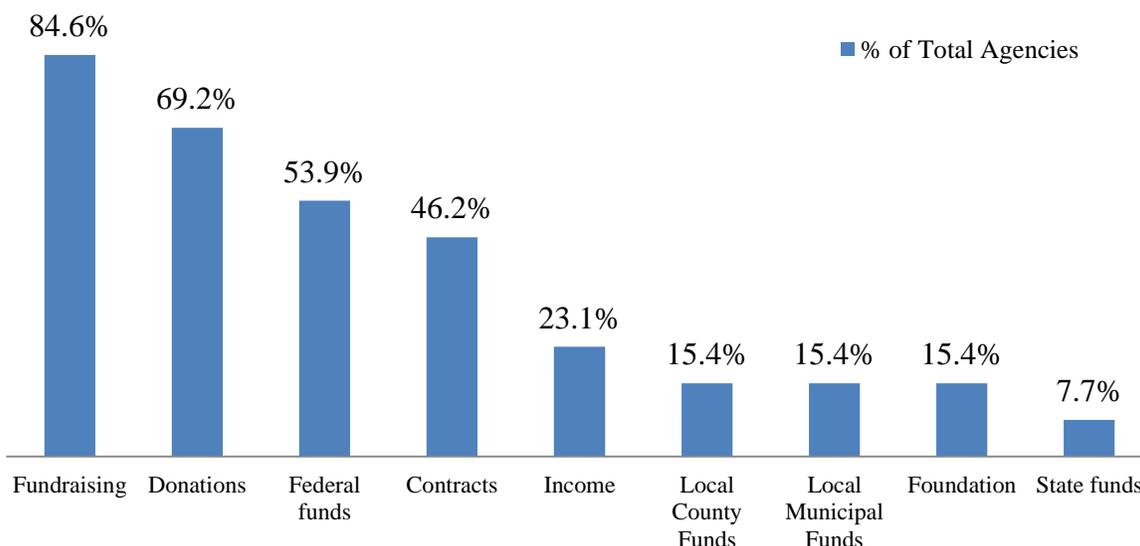


Figure 25. Funding Sources of Agencies

Fare

Fare-free senior transportation service is offered in 64.7 percent of respondent agencies. Only 17.7 percent of agencies charge for the service (see Figure 26). Among those that charge, 75 percent charge a flat rate fare ranging from \$1.75 to \$3.00; the remainder applies variable fare standards. Fare payment can be purchased in advance in the format of tickets or bus passes in 75 percent of agencies that charge; the remaining 25 percent of agencies allow riders to pay by cash when boarding.

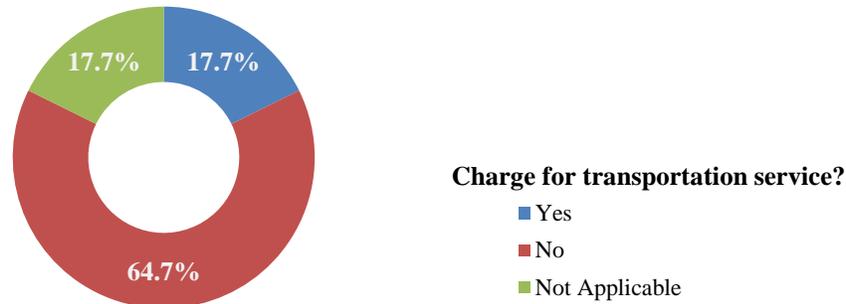


Figure 26. Whether Charge a Transportation Service Fare

Eligibility Criteria of Senior Transportation

Figure 27 displays the results of whether the agency has eligibility criteria. Over 70 percent of total respondent agencies have established eligibility criteria for riders to qualify for transportation services.

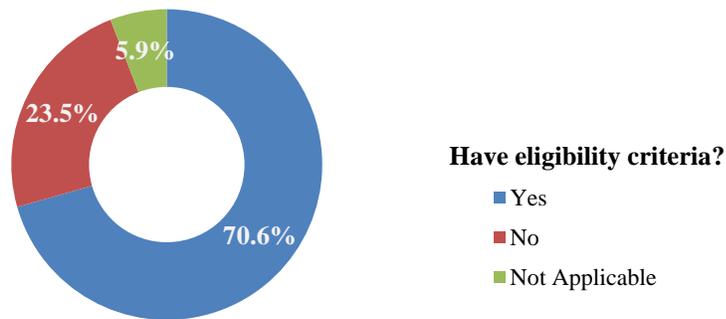


Figure 27. Status of Eligibility Criteria of Agencies

Eligibility criteria for the senior transportation riders typically consist of one or more of the following:

- Age criteria:
 - Must be 60 years or over.
- Boundary criteria:
 - Live within the agency’s service area.
- Physical condition criteria:
 - Must have a documented disability.
 - Must be self-ambulatory/mobile (can use walker, cane).
 - Able to make own arrangement.
 - Live independently or have appointed person taking responsibility.
 - Non-driving for a physical issue.
- Other:
 - Must attend ESL classes.
 - Current client of partner organizations that focus on providing senior transportation.

Drivers

Drivers and Vehicles

The inventory surveyed the status of drivers for vehicles, and Figure 28 shows the distribution. Volunteer drivers tend to drive their own vehicles more, while organization staff tends to drive the organization

vehicles more. Of respondent agencies, 50.0 percent confirmed that volunteers drive their own vehicles in practice, while 11.1 percent of agencies stated that volunteers drive the organization owned vehicles. Similarly, organization staff driving organization vehicles was found in the practice of 44.4 percent of agencies, while only 5.6 percent of agencies stated organization staff driving their own vehicles. In addition, contractors such as taxi drivers were noted as drivers by 33.3 percent of agencies.

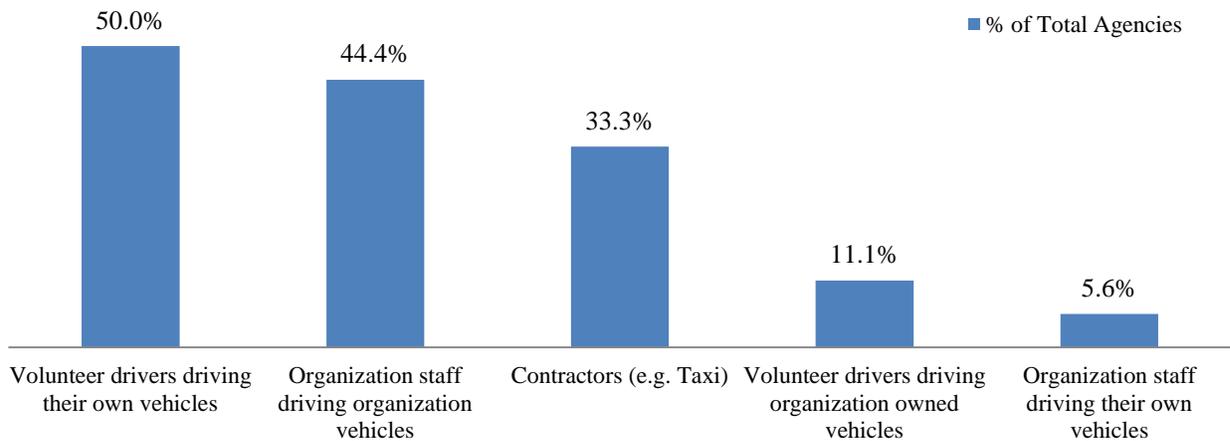


Figure 28. Drivers for the Agency’s Vehicles

Driver Recruitment

Of all respondent agencies, the wage of drivers ranges from \$9.75 to \$23 per hour. One agency filled in the mileage compensation option and the rate is \$0.55 per mile.

Recruitment difficulties are faced by 47.1 percent of respondent agencies (see Figure 29). In contrast, there are 35.3 percent of agencies that do not or no longer encounter problems in finding drivers, especially after increasing numbers of volunteer drivers by almost 100 percent. However, one agency mentioned that they are experiencing difficulties in retaining drivers instead of finding.

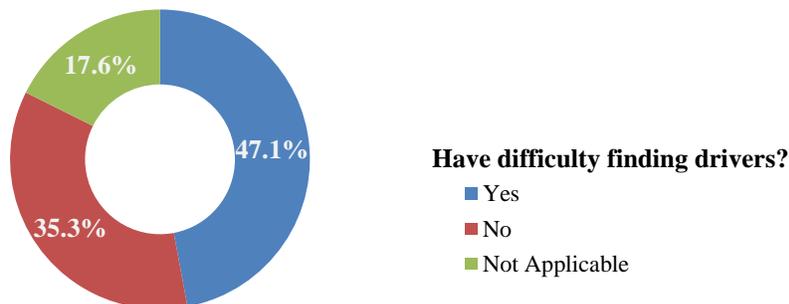


Figure 29. Status of Driver Recruitment Difficulties

Driver Training

Figure 30 shows how many drivers are trained to operate the ramp or lift for wheelchairs and assist the handicapped passengers in fastening boarding. Over 30 percent of agencies stated that they have all

drivers trained for being aware of people with disabilities and offering appropriate assistance. Meanwhile, 46.7 percent of agencies do not offer any trainings for drivers to better serve people with disabilities.

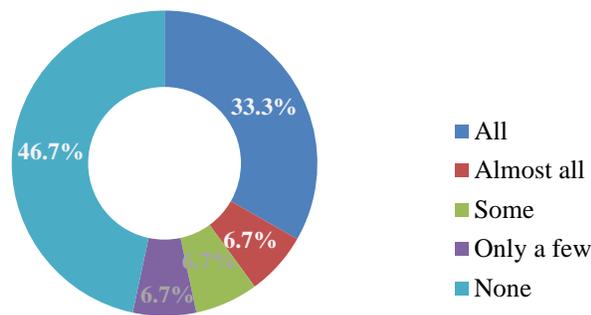


Figure 30. Percentage of Drivers Trained for People with Disabilities

Trip Purpose of Senior Transportation

Over 50 percent of agencies provide senior transportation for various trip purposes at a weekly frequency (see Table 8). For example, all respondent agencies often serve trips associated with medical appointments, 85 percent often serve trips associated with social services appointments, and 71 percent often serve trips associated with social/recreational activities.

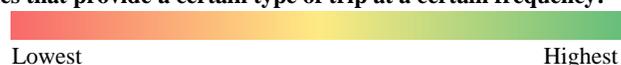
Fewer agencies provide senior transportation at a frequency of 2–3 times per month than at a weekly frequency. Medical appointments are not an active trip purpose under this frequency. Instead, the most frequently provided trip purpose is personal business/errands, followed by grocery shopping. Even fewer agencies provide senior transportation at a frequency of 3–4 times per year. Fourteen percent of respondent agencies serve trips associated with social/recreational activities, which is the highest referred trip purpose under this frequency.

Trip purpose is not limited in most agencies, especially for those providing ADA paratransit service, because it is unlawful to limit or prioritize trip purpose. However, some agencies limit the number of trips such as offering free rides/bus passes twice a month.

Table 8. Trip Purpose of Senior Transportation and Their Frequency

	Often (Weekly)	Sometimes (2 - 3 times in a month)	Rarely (3 - 4 times in a year)	Never
Medical appointments	100%	0%	0%	0%
Grocery shopping	67%	20%	7%	7%
Social/recreational activities	71%	7%	14%	7%
Personal business/errands	57%	21%	7%	14%
Social services appointments	85%	8%	8%	0%
Other	70%	0%	10%	20%

% of total agencies that provide a certain type of trip at a certain frequency:



Asset Inventory

Possession of Fleet and Station Inventory

Figure 31 illustrates that half of the respondent agencies currently possess a comprehensive inventory of the fleet and transit stations. Among these that possess a comprehensive inventory, 87.5 percent maintain the inventory on a periodic basis and 100 percent update the asset inventory as changes occur.

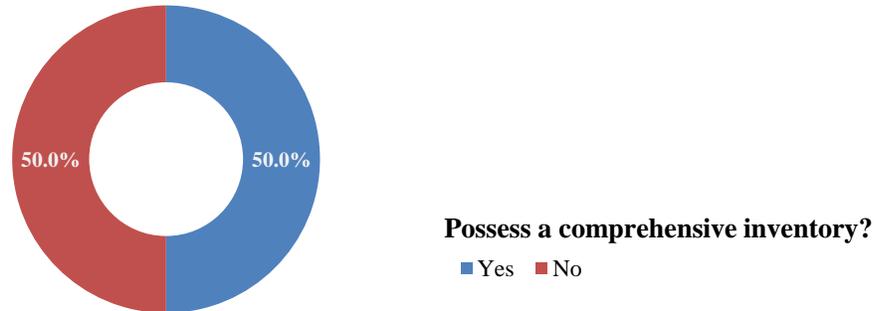


Figure 31. Possession Status of a Comprehensive Inventory of Fleet and Transit Stations

Asset Condition Assessment

Figure 32 shows the status of whether agencies assess the condition of assets agency-wide. Agencies that evaluate all assets' condition at the agency level account for 31.3 percent; agencies that only evaluate a portion of the assets at the agency level account for 37.5 percent; and the rest do not assess the condition of assets agency-wide.

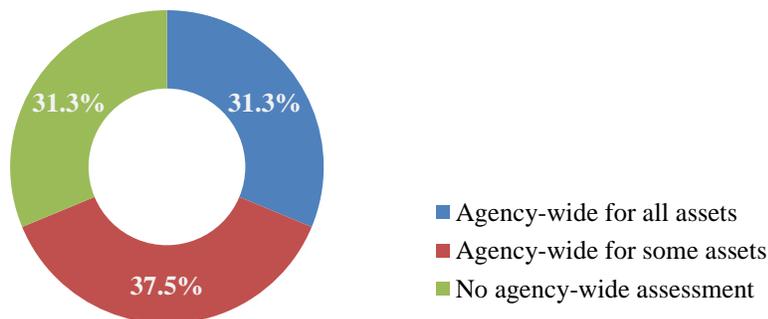


Figure 32. Status of Agency-Wide Asset Assessment

In terms of methods used in agencies to determine asset condition, 81.8 percent of respondent agencies use a combination of age and condition inspection. Figure 33 illustrates the percentage of total agencies using other methods.

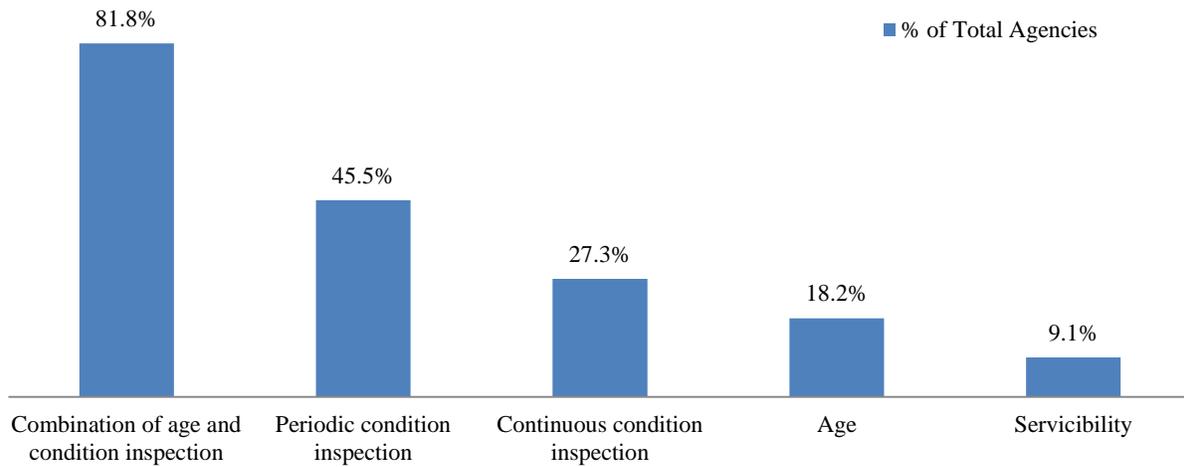


Figure 33. Methods of Determining Asset Condition

The frequency of updating the asset condition database is similar to but a little more regular than that of the asset inventory. Eighty percent of respondent agencies update the asset condition database as change occurs, while 20 percent of them update the database periodically.

Vehicles

Vehicle Ownership

Vehicle type owned by respondent agencies is primarily vans/mini-vans. Over 55 percent of agencies own at least one van/mini-van and 22.2 percent of them own at least one non-revenue vehicle. Figure 34 displays the details.

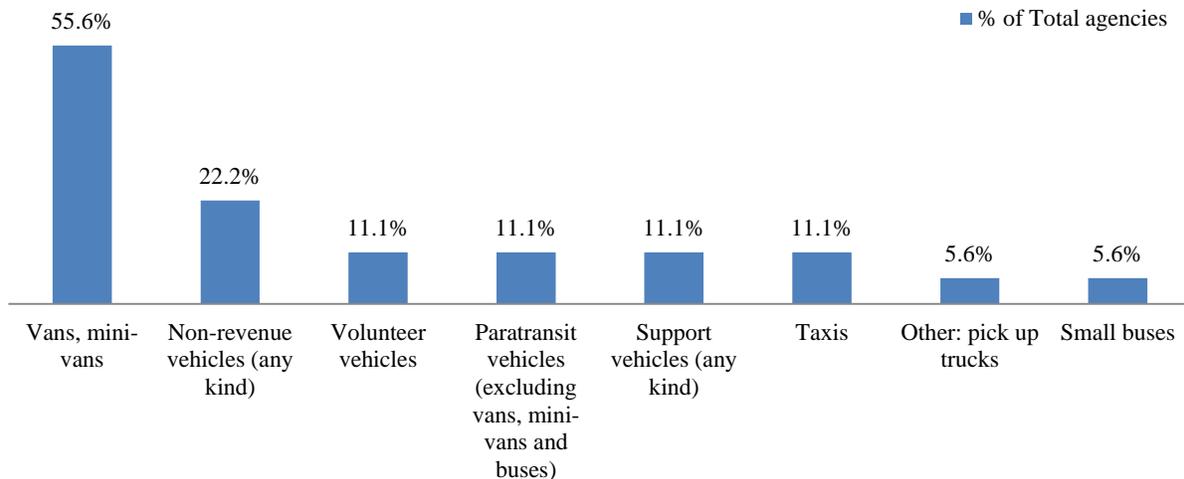


Figure 34. Vehicle Ownership by Vehicle Type

Vehicle Numbers

In total, there are over 593 vehicles in use among respondent agencies, including 176 paratransit vehicles, 125 vans/mini-vans, 100 volunteer vehicles, over 80 taxis, 19 support vehicles, 8 non-revenue vehicles, 8 pick-up trucks, and 5 small buses (see Figure 35).

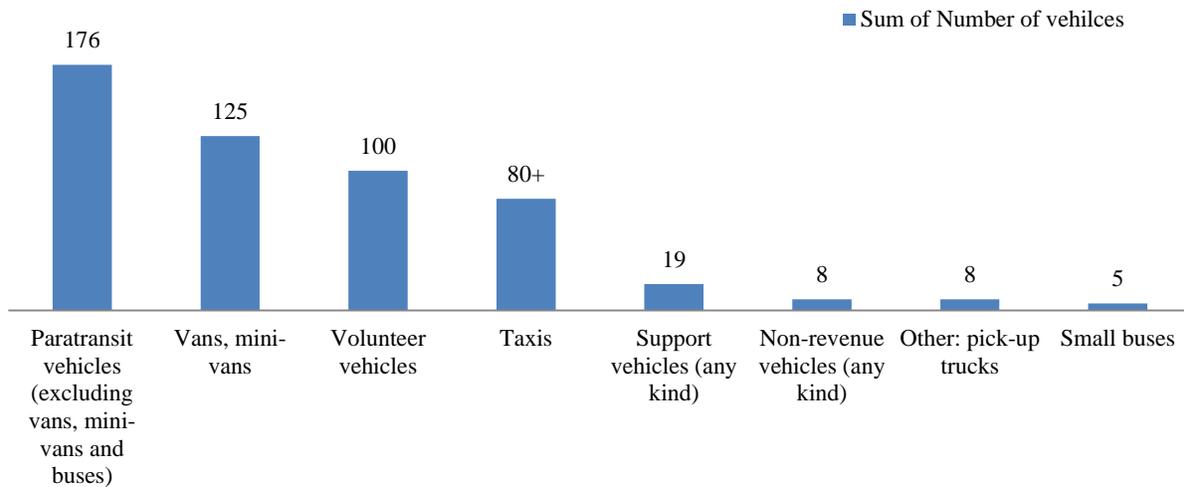


Figure 35. Number of Vehicles by Vehicle Type

Vehicle Purpose

Table 9 summarizes the purpose for which the specific type of vehicles are used. Agencies use *vans/mini-vans* to cover the widest variety of purposes, including all purposes except the vanpool service. The two most common purposes of vans/mini-vans are demand-response service and paratransit service.

Paratransit vehicles serve the second widest variety of purpose. All respondent agencies use paratransit vehicles for providing demand-response and paratransit service and half of them use paratransit vehicles for fixed-route service, or flex-route service, or commuter service. The purpose of *taxis* is in third place; all agencies use taxis to provide demand-response service and half of them use taxis to provide either flex-route service or paratransit service.

Table 9. Vehicle Purpose by Vehicle Type

	Fixed Route Service	Flex-Route Service	Demand-Response Service	Paratransit	Car-Pool/Ride Share	Work commute Service	Van-Pool	Shuttle Service
Paratransit vehicles (excluding vans, mini-vans and buses)	50%	50%	100%	100%	0%	50%	0%	0%
Vans, mini-vans	20%	10%	60%	50%	10%	10%	0%	10%
Volunteer vehicles (other)	0%	50%	0%	0%	0%	0%	0%	0%
Taxis	0%	50%	100%	50%	0%	0%	0%	0%
Support vehicles (any kind)	0%	0%	50%	0%	0%	0%	0%	0%
Non-revenue vehicles (any kind)	0%	25%	25%	0%	0%	0%	0%	0%
Small buses	0%	0%	100%	0%	0%	0%	0%	0%
Pickup Trucks (other)	0%	0%	0%	0%	0%	100%	0%	0%
Other vehicles (not mentioned above)	0%	50%	0%	0%	0%	50%	0%	0%



Vehicle Use Frequency

Table 10 displays the frequency of using a certain type of vehicle in the service. The vehicle type used by respondent agencies for frequent daily trips varies (including small buses, vans/mini-vans, paratransit vehicles, volunteer vehicles, taxis, and non-revenue vehicles) in order of the percentage of using by agencies. Non-revenue vehicle are used by 20 percent of agencies to provide daily trips at the frequency of once or twice. Small buses are the most popular vehicle type in providing trips at the frequency of once per 2–3 days. Some vehicles are also used based on the needs, such as paratransit vehicles, support vehicles, and vans/mini-vans.

Table 10. The Frequency of Using a Certain Type of Vehicle

	Daily (for a few hours)	Daily (once or twice)	Once in 2-3 days	Once in a week	Once in a month	Rarely	Variable or need based	Not Applicable
Paratransit vehicles (excluding vans, mini-vans and buses)	50%	0%	0%	0%	0%	0%	50%	0%
Vans, mini-vans	70%	0%	20%	0%	0%	0%	10%	10%
Volunteer vehicles (other)	50%	0%	0%	0%	0%	0%	0%	0%
Taxis	50%	0%	50%	0%	0%	0%	0%	0%
Support vehicles (any kind)	0%	0%	50%	0%	0%	0%	50%	50%
Non-revenue vehicles (any kind)	25%	25%	0%	0%	0%	0%	0%	0%
Small buses	100%	0%	100%	0%	0%	0%	0%	0%
Pickup Trucks (other)	0%	0%	0%	0%	0%	100%	0%	0%
Other vehicles (not mentioned above)	100%	0%	0%	0%	0%	0%	0%	0%



Vehicle Compliant to ADA Requirements

Respondent agencies pointed out that all of their paratransit vehicles and small buses are compliant to ADA requirements with an ADA ramp or lift. Only 30 percent of respondent agencies reported their vans/mini-vans meet the ADA requirements, while 30 percent of them stated none of their vans/mini-vans are ADA compliant. None of support vehicles, taxis, non-revenue vehicles, and other vehicles are ADA compliant in all respondent agencies.

Table 11. Status of Whether the Vehicle is Compliant to ADA Requirements by Vehicle Type

	All	Almost all	Some	Only a few	None
Vans, mini-vans	30%	10%	10%	20%	30%
Small buses	100%	0%	0%	0%	0%
Paratransit vehicles	100%	0%	0%	0%	0%
Support vehicles	0%	0%	0%	0%	100%
Taxis	0%	0%	0%	0%	100%
Non-revenue vehicles	0%	0%	0%	0%	100%
Other vehicles	0%	0%	0%	0%	100%

Suggestions

The following is the summary of suggestions for better providing senior transportation in Travis and Williamson Counties:

- Explore more funding sources.
- Break down liability barriers.

- Extend volunteer-based program to people with disabilities regardless of age.
- Collaborate between agencies.
- Improve public transportation accessibility.
- Establish a one-number call-in center.
- Promote driverless car.
- Plan marketing strategies for volunteers.
- Create neighborhood shuttles.
- Arrange group ride to popular destinations, such as medical centers.
- Create prioritized transportation standards for non-ADA riders.

Transit Need in Central Texas

In order to evaluate transit need for the aging population of Central Texas, TTI developed a demographic Transit Need Index (TNI). TNI uses demographic or other data to rank service area geographies for relative transit need. This chapter will discuss the methodology used to develop TNIs and the results of the demographic TNI analysis.

Methodology

In order to evaluate the transit need for the aging population in Central Texas, researchers at TTI used demographic data from the six county Capital Area Metropolitan Planning Organization (CAMPO) region, which includes Bastrop, Burnet, Caldwell, Hays, Travis, and Williamson Counties. TTI researchers developed eight demographic characteristics, focusing on the population that is currently 65 years or older and the population that is currently 55–64 years old in order to analyze the transit need specific to the aging population in Central Texas. The following are the eight characteristics that researchers established:

- Population Density (persons per square mile).
- Concentration of population that is 65 and over (% of population 65+).
- Concentration of population that is between the age of 55 and 64 (% of population 55–64).
- Concentration of population that is 65 and over and lives below the poverty line (% of population 65+ and living below the poverty line).
- Concentration of population that is aged 55–64 and lives below the poverty line (% of population 55–64 and living below the poverty line).
- Concentration of population that is 65 and over and disabled (% of population 65+ and disabled).
- Concentration of households with no vehicles available (% of population with no vehicles).
- Median household income.

Data for each of the eight characteristics were retrieved from the United States Census Bureau (2012 American Community Survey one year estimates) at the census tract level. At the time of this analysis, this was the most up-to-date data set available to researchers.

After retrieving data for each of the above characteristics, researchers established a single TNI value for every census tract in the study area. The TNI value represents the relative transit need in comparison to all other census tracts in the study area. The process that researchers used to calculate the TNI value for each census tract consisted of the following steps:

- **Step One:** A mean value for each of the eight characteristics listed above was calculated for the entire study area (one mean value for each of the eight characteristics).
- **Step Two:** Researchers developed an index for each census tract in order to score individual census tracts against the area-wide mean (calculated in step one above). The index was developed by dividing the values of each census tract by the area-wide mean (from step one). The resulting index provides a value that represents the transit need in each census tract for each of the eight

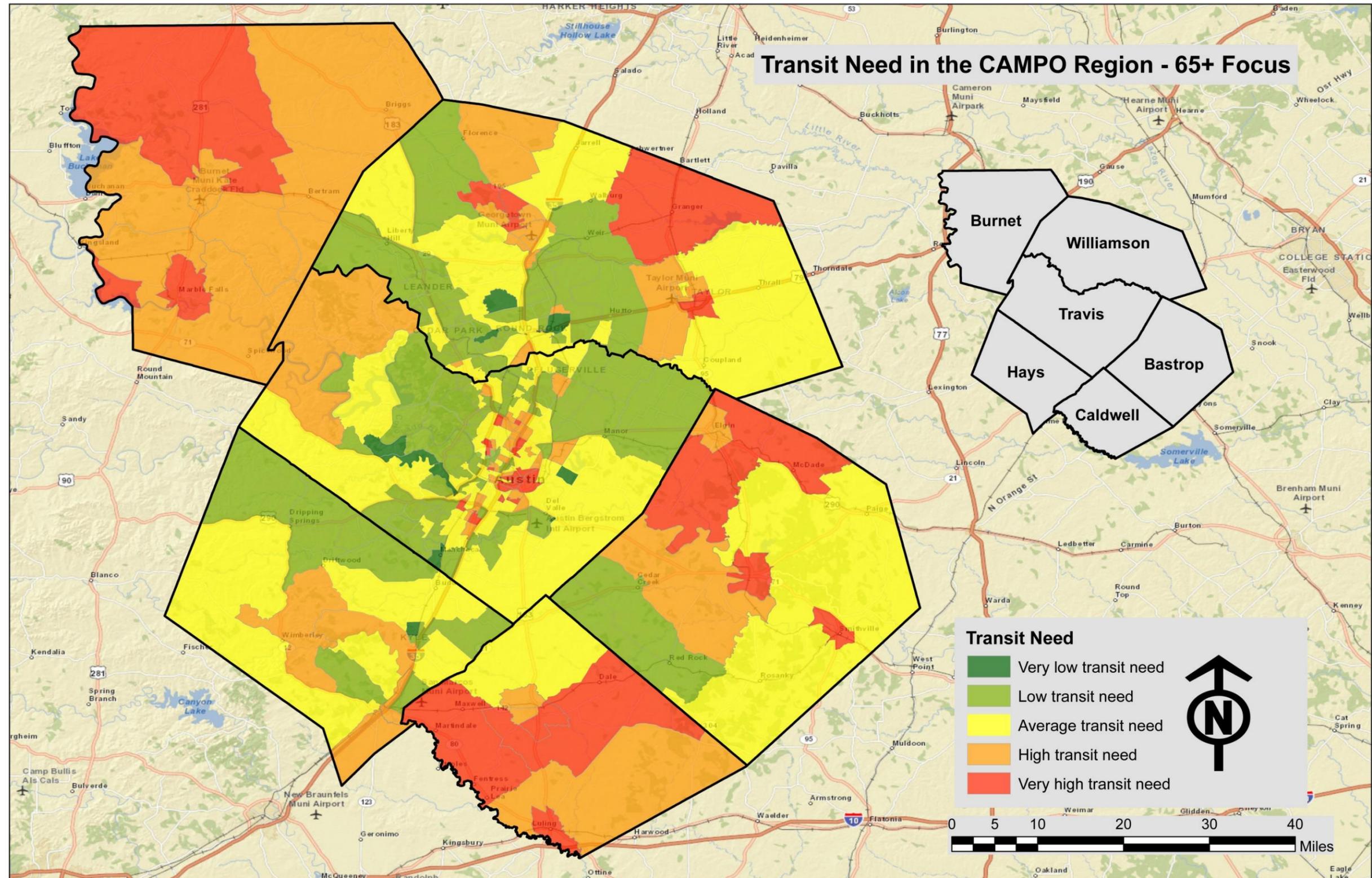
demographic characteristics. For example, if the population that is disabled in a census tract equaled the county mean, then the index developed in step two would be “1,” which indicates that relative to the area evaluated, the transit need for that census tract is on par with the area as a whole. If the index calculated for a census tract is “2,” this would indicate that the transit need for the census tract is double that of the area average.

- **Step Three:** Once the TNI values were developed for each of the eight characteristics, researchers developed a single TNI value for each census tract within the study area. The single TNI value was calculated by adding the eight individual indices for each of the demographic characteristics; the sum of the eight indices equaled the final TNI for each census tract. Some TNI analyses weight demographic characteristics differently. For this analysis, all of the demographic characteristics were weighted evenly when calculating the final TNIs for each census tract.

- **Step Four:** Once TNI values were developed for each census tract, researchers developed five thresholds of transit need based on the range of the calculated TNI values (very low, low, average, high, very high). Researchers determined the five transit need thresholds by calculating the mean and standard deviation of all TNI values. Once the mean and standard deviation were calculated, researchers categorized each census tract into one of the following five transit need categories:
 - Very High: TNI is more than 1.5 standard deviations above the mean.
 - High: TNI is between 0.5 and 1.5 standard deviations above the mean.
 - Average: TNI is plus or minus 0.5 standard deviations from the mean.
 - Low: TNI is between 0.5 and 1.5 standard deviations below the mean.
 - Very Low: TNI is more than 1.5 standard deviations below the mean.

Mapping Transit Need Indices

After determining the TNI value for each census tract within the study area, researchers produced a series of maps that spatially represent the transit need of the study area. Figure 36 presents transit need for the CAMPO region. Census tracts shown in red represent the greatest transit need and census tracts shown in green represent the lowest transit need for the aging population of Central Texas.



Source: US Census Bureau, 2012 and TTI
 Figure 36. Transit Need Index—GIS Analysis Results

Additional Demographic Analysis of Aging Population in Central Texas

In addition to developing a TNI analysis of Central Texas, researchers performed additional demographic analyses in order to further assist AGE in understanding how the aging population of Central Texas may need future transit service. In order to evaluate transit need by Central Texas' aging population, researchers developed a series of maps that spatially analyze the areas of the region that have high concentrations of populations 65 years and older. This includes maps that provide visual overlay analyses of vehicle availability, disability, and individuals living in poverty with concentrations of the population that are aged 65 and older.

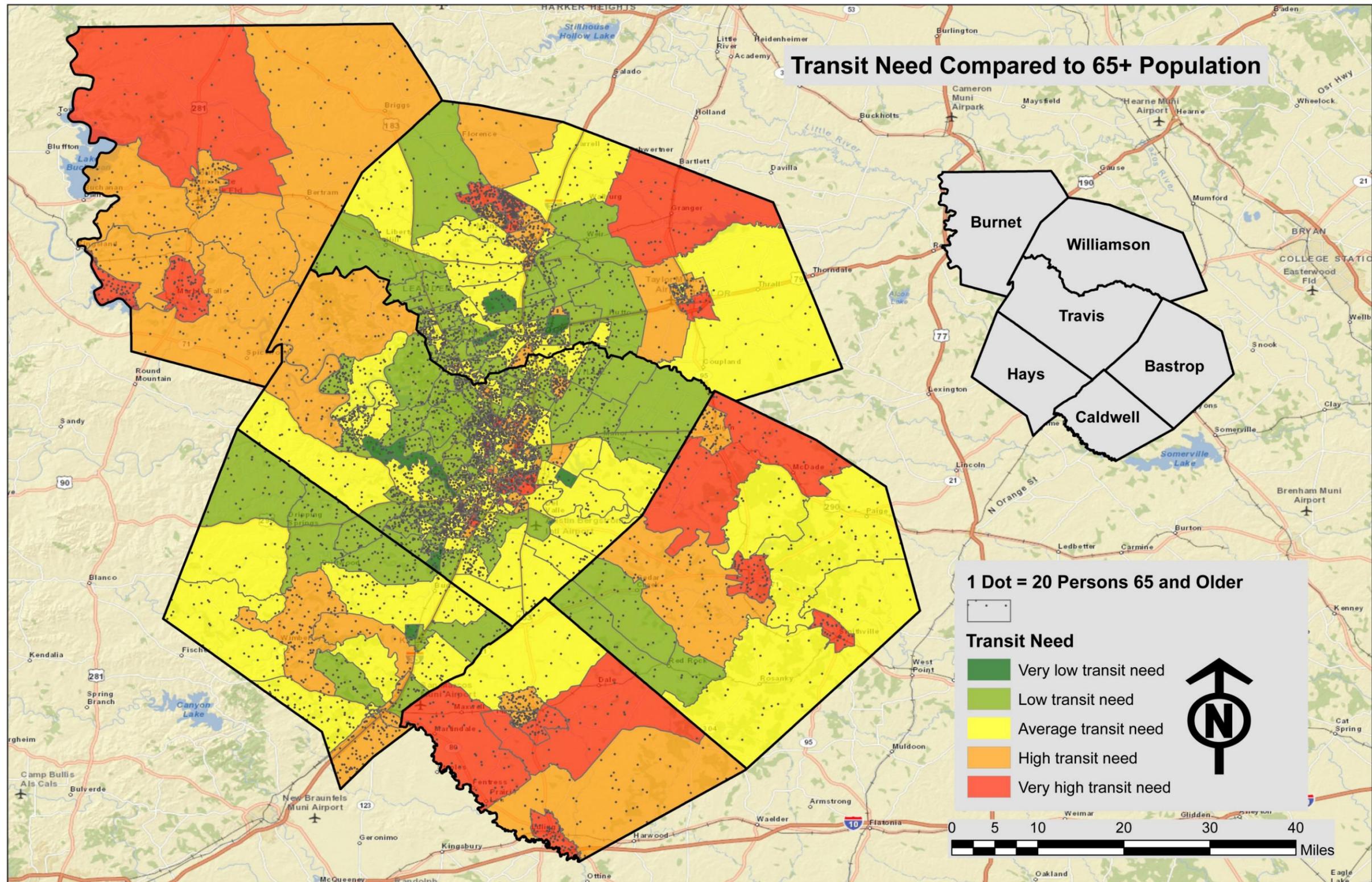
Census tracts with higher population density, greater percentages of persons over 65, between the ages of 55 and 64, 65 and over and living below the poverty line, between the ages of 55 and 64 and living below the poverty line, 65 and over and disabled, concentrations of zero-car households, and lowest median household income display the highest current and future transit need, which is depicted in the following maps in red. Figure 37 shows the transit need for the study area with the population aged 65 years or older represented as dots (each dot equals 20 persons). The dots in the map are not geographically specific; rather they are dispersed randomly throughout each census tract. As seen in Figure 37, each of the counties in the CAMO region has one or more census tracts with very high transit need. Within Travis County, the highest transit need areas are located on the east side of Austin and along the I-35 corridor. Additionally, several census tracts within Williamson, Burnet, and Caldwell Counties show greater numbers of persons 65 and older within the highest need tracts.

Figure 38 shows the percentage of the population that is 65 years or older within the study area. This map is used as the basemap for the following three maps. The highest percentage of persons 65 years and older are seen to be in the counties surrounding Travis County, including northwest Burnet County, southwestern Hays County, and southern Caldwell County. Several census tracts in Williamson County are home to Sun City, a popular retirement community for adults 55 and above located just northwest of Georgetown (22). This community of older populations is therefore visible on the following maps.

Figure 39 uses the basemap shown in Figure 38 and overlays the population within the study area that is over 65 years of age and disabled. Several notable clusters of populations both 65 years of age and disabled can be seen in central Travis County, northwest of Georgetown, and surrounding Lockhart, in Caldwell County.

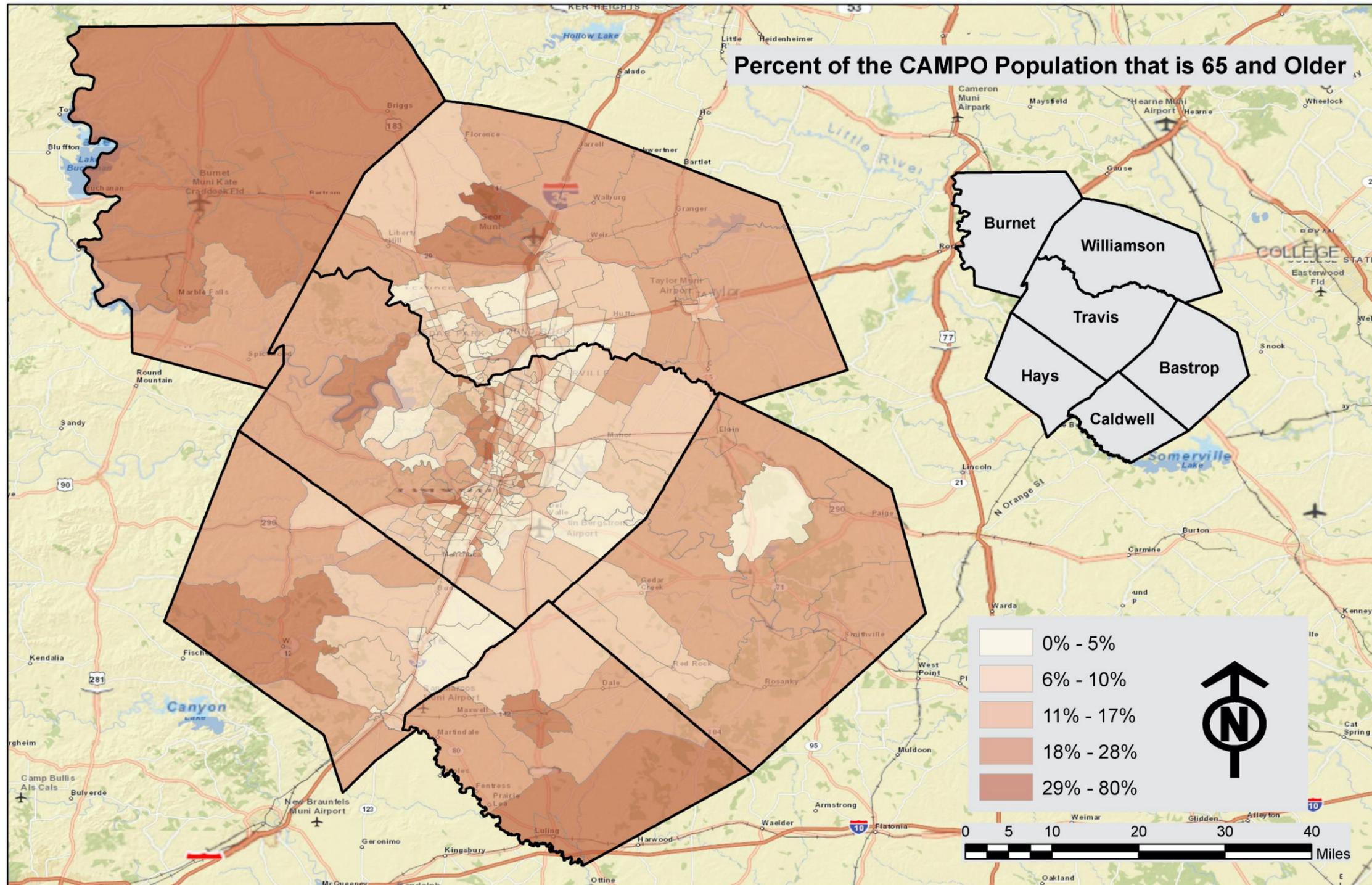
Figure 40 uses the basemap shown in Figure 38 and overlays the population within the study area that is over 65 years of age and living in poverty. Here, populations are located in even more distinct clusters, indicating the location of low-income neighborhoods or communities.

Finally, Figure 41 uses the basemap shown in Figure 38 and overlays the population within the study area that is over 65 years of age and lives in a household with no vehicles. As might be expected, the highest concentrations of households with no vehicles are in the more urbanized areas of the region, namely Central Austin. However, special attention should be paid to the mobility needs of those populations over 65 living in zero-car households in more rural counties.



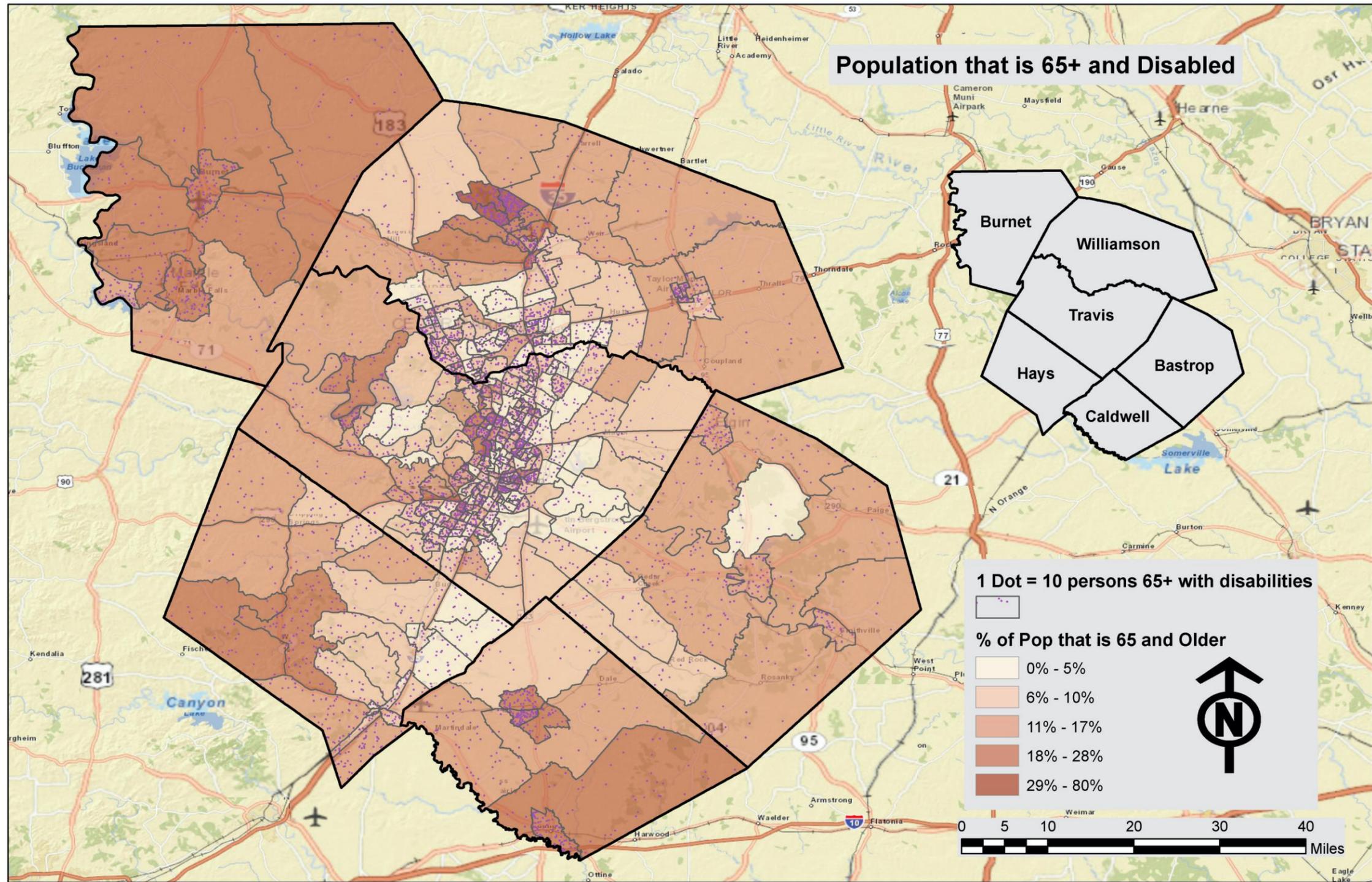
Source: US Census Bureau, 2012 and TTI

Figure 37. Transit Need Compared to Density of Population That Is 65 and Older



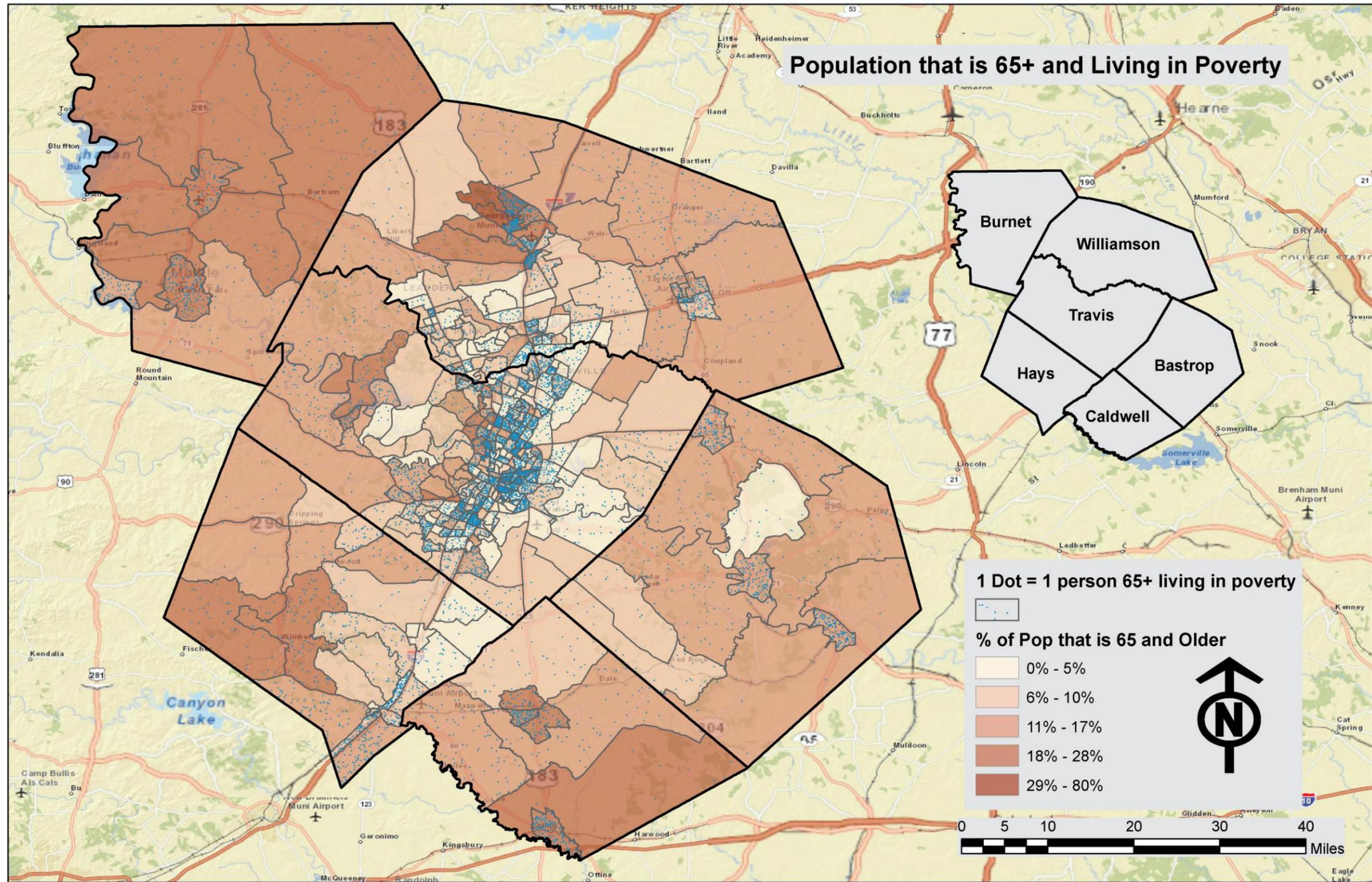
Source: US Census Bureau, 2012 and TTI

Figure 38. Percent of Total Population That Is 65 or Older—2012



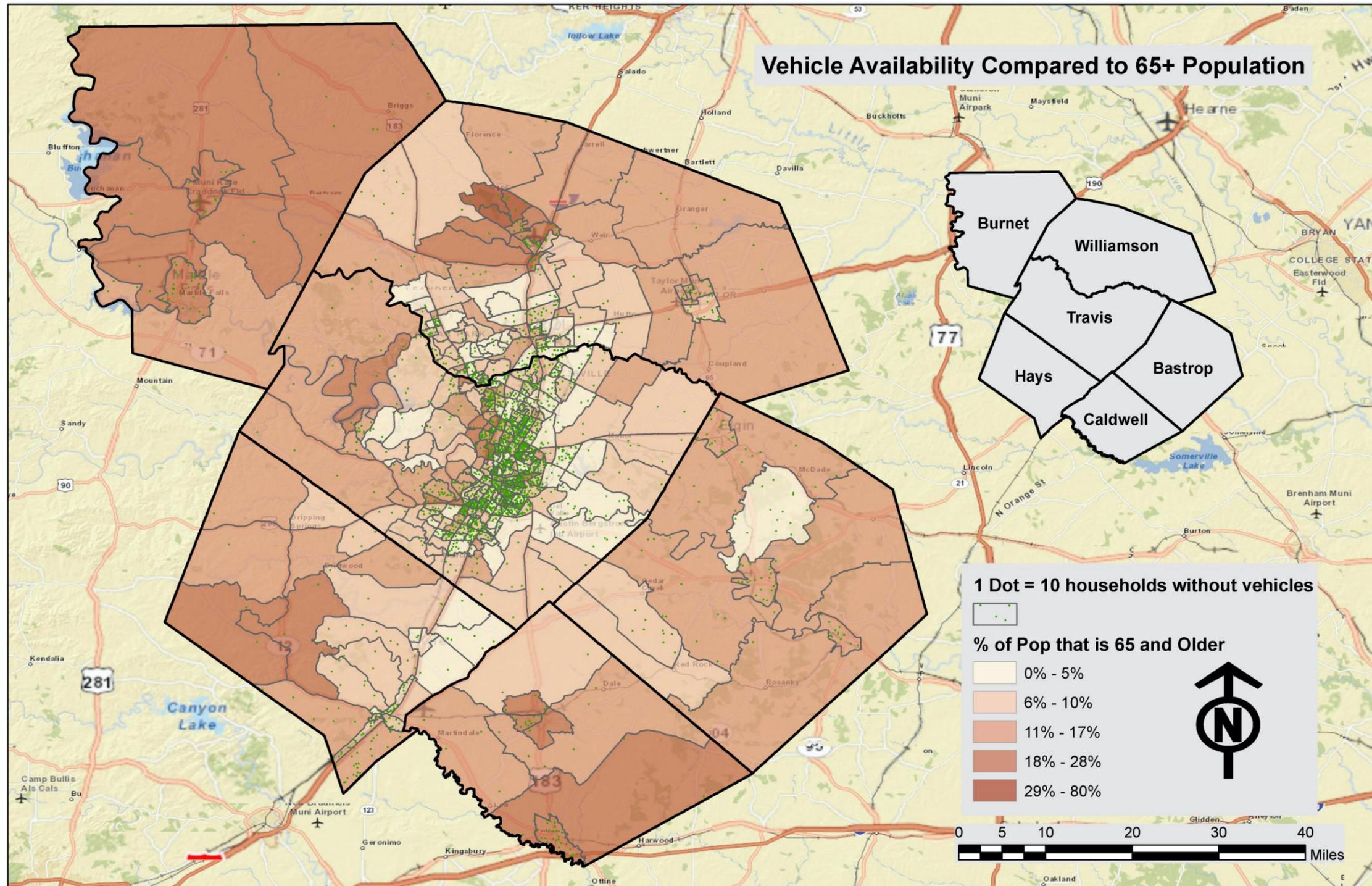
Source: US Census Bureau, 2012 and TTI

Figure 39. 65 or Older Population Compared to Disability Status of 65 or Older Population—2012



Source: US Census Bureau, 2012 and TTI

Figure 40. 65 or Older Population Compared to Poverty Status of 65 or Older Population—2012



Source: US Census Bureau, 2012 and TTI

Figure 41. 65 or Older Population Compared to Number of Households without Access to Motor Vehicle—2012

Population Change in Central Texas

Researchers also evaluated future population growth in Central Texas as it is widely believed that the aging population is expected to grow at unprecedented rates over the next 20 years as the baby boomer generation reaches retirement age (23). The potentially substantial growth in AGE’s target population may have significant impacts on the organization’s performance over the long term if the agency is not proactive in planning for this projected increase in demand. In order to help AGE get a clearer picture as to what the future holds for the aging population in Central Texas, researchers developed a population growth forecast to complement the transit need analysis presented. The following section describes the data and methodology used to produce the growth estimate, the results of the analysis, and the potential impact to demand throughout the CAMPO region.

Population Growth Forecast Methodology

Researchers gathered population data for the CAMPO region from the US Census Bureau for the year 2000 and 2012. Table 12 presents the population statistics for individual counties and the region as a whole for the years 2000 and 2012, as well as the population of individuals aged 65 and older. Table 12 also provides the percent of the total population that is 65 years and older for each county and for the entire CAMPO region.

Table 12. Population of CAMPO Counties – 2000 vs. 2012

Year	Total Population		Population 65 and Older		Percent of Population That Is 65+	
	2000	2012	2000	2012	2000	2012
Bastrop	57,733	74,023	5,927	8,674	10%	12%
Burnet	34,147	42,946	6,126	8,204	18%	19%
Caldwell	32,194	40,655	4,019	7,306	12%	18%
Hays	97,589	158,464	7,485	13,690	8%	9%
Travis	812,280	1,034,842	54,824	76,313	7%	7%
Williams on	249,967	426,296	18,389	38,617	7%	9%
CAMPO	1,283,910	1,777,226	96,770	152,803	8%	9%

Source: US Census Bureau

Population Growth Calculation and Forecast

Population growth presents the average annual change (growth or decline) of the population expressed as a percentage. The CAMPO region grew by 38 percent in the period between 2000 and 2012, while the population growth of individual counties was between 26 and 71 percent. During the same time period, the population of individuals aged 65 or older in the CAMPO region grew by 57 percent. The segment of the population that was aged 65 and older in individual counties within the region experienced a range of growth percentages, from 34 to 110 percent during period between 2000 and 2012. Table 13 presents the percent change in population for all six CAMPO counties and for the CAMPO region as a whole.

Table 13. Population Growth for Total Population and 65+ Population – 2000 to 2012

	Total Population	65+ Population
Bastrop County	28%	46%
Burnet County	26%	34%
Caldwell County	26%	82%
Hays County	62%	83%
Travis County	27%	39%
Williamson County	71%	110%
CAMPO Region	38%	58%

Source: US Census Bureau

Researchers calculated annual change in population by dividing the total population change by the number of years between data sets. During the period between 2000 and 2012, CAMPO’s population grew by an average of 3 percent annually, while the segment of population aged 65 and grew by 4 percent annually. Table 14 presents average annual growth rates for all CAMPO counties and the CAMPO Region overall.

Table 14. Average Annual Population Growth for Total Population and 65+ Population – 2000 to 2012

	Total Population	65+ Population
Bastrop County	2%	3%
Burnet County	2%	2%
Caldwell County	2%	5%
Hays County	4%	5%
Travis County	2%	3%
Williamson County	5%	6%
CAMPO Region	3%	4%

Source: US Census Bureau and TTI calculations

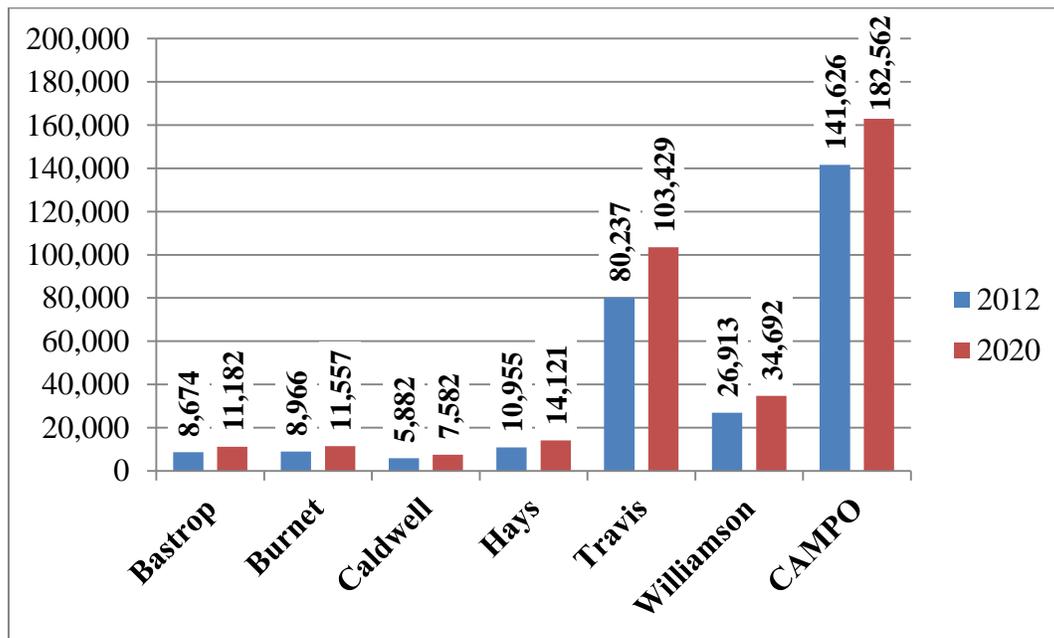
For this analysis, researchers assumed that the CAMPO region will continue to grow at the same annual growth rate as it did during the years from 2000 to 2012, though this assumption is only used for historical consistency as there are a range of factors that impact population growth that researchers cannot accurately or reasonably predict. Assuming a consistent growth rate, the total CAMPO population will be just under 2,000,000 (adding approximately 300,000 people) by the year 2020 and the population of people aged 65 and over will be nearly 183,000—about 40,000 more than in 2012. Table 15 presents the potential populations of each CAMPO county and the CAMPO Region as a whole in the year 2020 based on a growth rate consistent with the historical growth rate.

Table 15. Forecasted Total Population and Forecasted 65+ Population, 2020

County	Forecasted Pop.	Projected Pop. 65+	Projected % of Pop. 65+	% of Pop. 65+ in 2012
Bastrop County	87,363	11,182	12%	13%
Burnet County	51,672	11,557	19%	22%
Caldwell County	48,717	7,582	18%	16%
Hays County	147,674	14,121	9%	10%
Travis County	1,229,165	103,429	7%	8%
Williamson County	378,257	34,692	9%	9%
CAMPO Region	1,942,848	182,562	9%	9%

Source: US Census Bureau

Figure 42 displays 2012 and projected population in 2020 for each county and the CAMPO Region as a whole. This bar chart focuses on the population aged 65 and over, with historical data from 2012 represented in blue and forecasted population for 2020 represented in red.



Source: US Census Bureau

Figure 42. Comparison of 2012 Actual and 2020 Forecast – 65 and Over Population

Summary of Findings

If the population in Central Texas continues to grow at the same rate as it did between the years 2000 and 2012, the segment of the population aged 65 and over is on track to grow by 4 percent per year, on

average, between the years 2012 and 2020. Given this potential growth, AGE could experience as much as a 4 percent increase in demand for services per year. Using available data, it is not possible to determine whether areas that have the greatest density of individuals aged 65 and older will shift with time.

The maps developed through the TNI analysis show that Travis and Williamson Counties have high population densities of individuals 65 years and older who are also either disabled, living in poverty, or living without access to motor vehicles, who also reside in locations of high or very high transit need. With future population growth, as forecasted, it is likely that transit need in these areas will increase significantly and demand for AGE services in these locations will also increase.

Findings and Recommendations

Information gathered for this report was presented to a group of stakeholders at a workshop on January 29, 2015. Researchers presented a review of national best practices, the asset inventory and the transit need assessment for Central Texas to stakeholders in attendance. Stakeholders then participated in breakout sessions to outline short, medium and long-term goals for senior transportation in Central Texas, as well as the activities and measurable outputs that would help to achieve those outcomes. The following short, medium, and long-term recommendations reflect a synthesis of lessons learned from national best practices, the regional asset inventory, data from the transit need assessment, and stakeholder input:

Short-term recommendations

The following are short-term recommendations to improve transit service for the elderly population in Central Texas.

Improving access to transit

Building upon existing efforts to improve access to transit by increasing service options and improving access to all potential user groups is recommended as a near term goal for transit providers in the region. Specific recommendations to help achieve this outcome include increasing mobility options, increasing frequency and hours of operation, increasing weekend availability, and providing more flexible routes in the region. Increasing accessibility to transit for all, including people who speak other languages, is also recommended.

Coordinate and integrate unused and underutilized assets

Mobility options and transit service for seniors can be strengthened through the coordination and integration of assets that may be unused or underutilized. For example, in the greater Portland, Oregon region, Ride Connection coordinates with transit agencies, non-profits and community groups to share vehicles when they are not in use, primarily on evenings and weekends, maximizing the opportunity to serve the community.

Increase awareness to build support

Publicizing current availability of services with regional partners, including the City of Austin, Capital Area Metropolitan Planning Organization (CAMPO), and others, and publishing information on partner websites, will help to increase awareness and support for existing efforts. Other recommendations for strengthening marketing and awareness are improving point of contact and coordination between providers and targeting high transit need areas for publicizing current programs.

Further data analysis to identify specific transit needs

Leveraging existing and easily attainable data will help agencies to better understand and respond to service needs. For example, boarding and alighting data from transit agencies may be one easily attainable source of data that will help to answer specific questions regarding ridership and demand. Additional qualitative data gathering techniques such as polling, surveys, or focus groups can be utilized to reveal perceptions of transit and the mobility needs of actual users, complementing data collected previously for the asset inventory and transit need assessment, and helping to both validate and expand upon the understanding of transit need in the region.

Medium-term recommendations

The following are medium-term recommendations to improve transit service for the elderly population in Central Texas.

Improve coordination across jurisdictions

The review of national best practices provides examples where coordination between agencies and providers across jurisdictional boundaries increases efficiency and effectiveness of transit services. Ride Connection in the Portland metro area, for example, coordinates the services of over 30 providers and community agencies in three counties. Improved coordination across jurisdictional boundaries, program lines, and geographies, such as between urban and rural providers, will eventually allow for centralized ‘one-call, one-click’ ride coordination. The creation of a centralized database of services and the identification of a regional mobility manager who is not directly associated with existing transit agencies are two key recommendations that would enable coordination across agencies and jurisdictions. Integrating land use and transportation issues through better coordination of senior housing with transportation needs is also recommended. Seeking additional partnerships, for example between a national model such as ITNAmerica and the City of Austin’s Office of Innovation is also recommended.

Expanding and improving transit services

As evidenced in the transit needs assessment of this report, seniors are a growing segment of the population, and can be expected to drive increasing demand for transit services in the future. Service expansion and improvement, whether through service agreements and contracts, more timely and convenient service, improving access for employment and recreational trips, increasing door to door service, decreased notification time, or filling gaps between service providers, is therefore one of the primary desired outcomes at the medium-term time scale.

Education and outreach

Case studies of Marin County Transit and Ride Connection in Oregon demonstrate the important role that easily accessible educational materials can play in informing community members at all levels, from decision-maker to rider, about available services. Developing a comprehensive community education program, similar to the Marin Access Travel Navigator and Travel Training brochures or the online database provided by Ride Connection in Portland, which can be scaled up throughout the city is therefore recommended as a medium-term goal.

Long-term recommendations

The following are long-term recommendations to improve transit service for the elderly population in Central Texas.

Mobility and positive health outcomes

Full accessibility and mobility for seniors can lead to reduced health care costs by improving access to preventative healthcare and social and recreational activities. As such, a robust partnership with all organizations and a network of services where no seniors lack access to the doctor’s office due to transportation is a key long-term recommendation. Additionally, transportation options lead to increased independence. Full accessibility and mobility for all creates the opportunity for seniors to retain personal freedom and independence as they age in place.

Ongoing performance evaluation

Evaluation of program effectiveness and following through on the outcomes of existing studies is recommended, as well as developing measurable indicators of performance, such as a reduction in senior traffic-related deaths.

References

- ¹ IBI Group (2008). *Enhanced Taxi Services for Social Service Transportation & Public Transit Programs in Marin County – Marin County Enhanced Taxi Services Implementation Plan*. Marin County Transit District.
- ² The Board of Directors (2013). *Mobility Management – Program Review*. Retrieved from: http://www.marintransit.org/pdf/board/Mobility_Management_Presentation_020413.pdf.
- ³ Nelson\Nygaard Consulting Associates Inc. (2010). *Senior Mobility Action and Implementation Plan*. Prepared for Marin County Division of Aging & Adult Services and Marin Transit. Retrieved from: <http://www.marintransit.org/pdf/paratransit/MARIN%20Seniors%20AI%20FINAL%2005-06-2010.pdf>.
- ⁴ Marin Transit Staff (2012). *Marin Transit. 2012-2021 Short Range Transit Plan*. Retrieved from: http://www.marintransit.org/pdf/SRTP/FY2011-12/SRTP_3ServicePlan.pdf.
- ⁵ Marin Access Staff (n.d.). *Marin Access Mobility Management Center*. Retrieved from: http://web1.ctaa.org/webmodules/webarticles/articlefiles/BransonCTAA_AARP_presentation.pdf.
- ⁶ Branson P. (2014). *Senior Mobility in Marin: Past, Present, and Beyond*. Retrieved from: <http://www.tam.ca.gov/Modules/ShowDocument.aspx?documentid=7855>.
- ⁷ *Paratransit Riders Guide, Catch A Ride Riders Guide, Volunteer Driver Riders Guide*, <http://marinaccess.org/>. Accessed August 15, 2014.
- ⁸ Nelson\Nygaard. *Coordinated Transportation Plan for Elderly and People with Disabilities, prepared for TRIMET*. <http://trimet.org/pdfs/publications/elderly-and-disabled-plan.pdf>. Accessed August 15, 2014.
- ⁹ Potter C. and Mullin M. (2013). *I&R in the World of Community-based Transportation*. Retrieved from: www.airs.org/files/public/airs_conference2013_service_communitybasedtransportation.
- ¹⁰ Ride Connection Staff (2013). *Operation Manual for Transportation Managers*. Retrieved from: <https://www.rideconnection.org/ride/LinkClick.aspx?fileticket=mBLge3rEKB0%3D&tabid=97>.
- ¹¹ Ride Connection Staff (2004). *Ride Connection, Inc. Annual Report 2004*. Retrieved from: <http://www.rideconnection.org/ride/portals/0/documents/Annual%20report%202004.pdf>.
- ¹² Ride Connection Staff (2013). *Ride Connection, Inc. Annual Report 2013*. Retrieved from: <http://www.rideconnection.org/ride/LinkClick.aspx?fileticket=xFdG6eDjs3g%3d&tabid=67>.

- ¹³ NETUTD Board Meeting Minutes January 15, 2014 9:00 A.M., Retrieved from: <https://www.nrhtx.com/Archive/ViewFile/Item/968>.
- ¹⁴ NETS Ridership Data, retrieved from Texas Department of Transportation PTN-128 website: <https://ptn128.tamu.edu/>.
- ¹⁵ OATS (2013). OATS Annual Report Fiscal Year 2013. Retrieved from: http://media.wix.com/ugd/8c6f6f_17dba8a4128e4afe8941861804a6064f.pdf.
- ¹⁶ Morrison A., Sanders S., and Richter T. *Coordinated Public Transit Human Services Transportation Plan, prepared for the Jefferson City, Missouri Metropolitan Region*. <http://www.jeffcitymo.org/campo/documents/2012CoordinatedHumanServicesTransportationPlan-AdoptedOctober172012.pdf>. Accessed August 15, 2014.
- ¹⁷ KFH Group, Inc. *TCRP Web-Only Document 46: Rural Transit Achievements: Assessing the Outcomes of Increased Funding for Rural Passenger Services under SAFETEA-LU*. Transit Cooperative Research Program. National Academy of Science Transportation Research Board, Washington, D.C., 2009.
- ¹⁸ TranSystems Corporation, Center for Urban Transportation Research, Institute for Transportation Research and Education, and Planners Collaborative. *TCRP Report 105 Strategies to Increase Coordination of Transportation Services for the Transportation Disadvantaged*. Transit Cooperative Research Program. National Academy of Science Transportation Research Board, Washington, D.C., 2004.
- ¹⁹ Cocks, M. (2014). *Webinar: How to start the ITN in your community*. In *ITNAmerica Webinar Series*.
- ²⁰ Federal Transit Administration (FTA) Research. *Asset Management Guide*. Retrieved from: http://www.fta.dot.gov/documents/FTA0027_Research_Report_Summary.pdf.
- ²¹ American Public Transportation Association (APTA). *Defining a Transit Asset Management Framework to Achieve a State of Good Repair*. Retrieved from: <http://www.apta.com/gap/fedreg/Documents/Defining.a.transit.asset.management.framework.to.achieve.a.state.of.good.repair.pdf>.
- ²² Del Webb New Home Builders (2015). *Active Adult Retirement Communities*. <http://www.delwebb.com/communities/tx/georgetown/sun-city-texas/16369/index1.aspx#.VMvyVGjF98E>. Accessed January 30, 2015.
- ²³ Administration on Aging (2013). *A Profile of Older Americans: 2013*.