Changing Customer Landscape

White Paper

Demographic Shifts and the Impacts on the Transportation System

How can TxDOT prepare for changing demographics and the mobility needs of the state population?

It is commonly understood that Texas is experiencing rapid population growth, with projections depicting significant growth well into the coming decades. The population demographics shift resulting from more people moving to the state will have lasting implications for the state's economic outlook, socio-cultural contexts, and the functioning of the transportation system. Urbanization, aging, and diversification are the three trends associated with this growth that have been identified as having the potential to impact the state's transportation system. All three trends present unique challenges and opportunities, together raising questions for transportation and innovative investment planning. TxDOT must be aware of and proactively plan for population demographics shifts to ensure that a high quality of life is maintained for all Texans. This white paper will explore urbanization, aging, and diversification through a case study approach that assesses their collective impact for current and future residents of Texas.

Changing Customer Landscape

White Paper

Demographic Shifts and the Impacts on the Transportation System
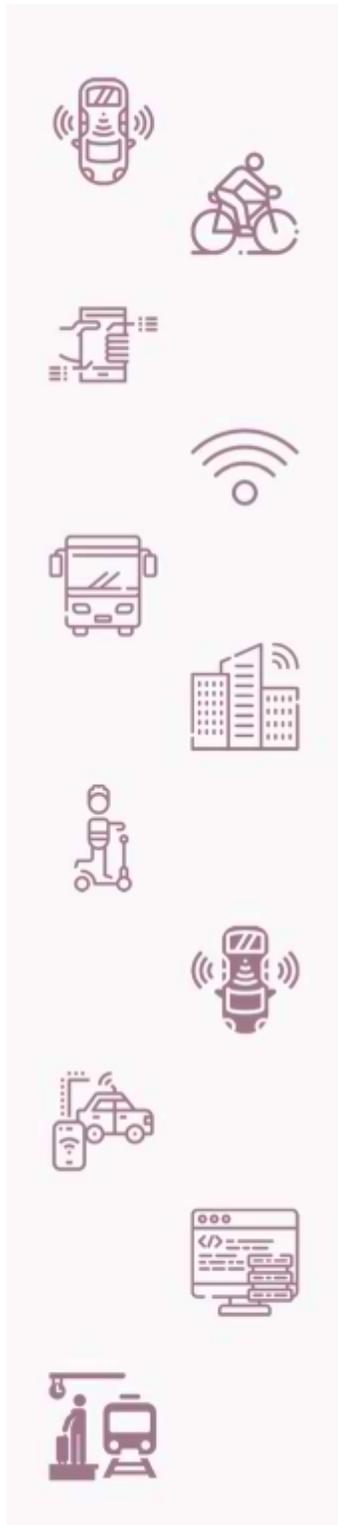
KEY STRATEGIES

01

Expand efforts to integrate demographics research into planning and decision-making processes. The operations and reputation of TxDOT will only be strengthened with a deeper understanding of the state's emerging customer landscape.

02

Explore different transportation planning methods and understand the role of data when planning for dynamic communities. Advancements in planning strategies and data applications have the potential to expand the accuracy and effectiveness of the state's transportation and innovative investment planning efforts.

03

Strengthen multi-scalar collaborations and information - sharing opportunities for rapidly urbanizing regions. Communities facing similar challenges should be able to rely on TxDOT to assist in sharing out problem-solving techniques that better account for population shifts and needs.

04

Investigate the role of broadband and digital literacy education to provide access to transportation services for an increasing older adult population. TxDOT should focus its efforts on providing access to communities despite differences in geographic location or level of resources.

05

Respond to the needs of a diversifying population by encouraging localized mobility solutions through enhanced community engagement strategies and intergovernmental partnerships. An equitable transportation system starts with a comprehensive and inclusive engagement process.

Changing Customer Landscape

Demographic Shifts and the Impacts on the Transportation System

INTRODUCTION

When assessing the extent of urbanization across Texas, it is important to first look at one key indicator: a population projection. The Texas Demographic Center projects that if the population continues to grow at present rates then the total population for the state could grow from 29.1 million, as of 2019, to 47.4 million by 2050.[1] There are regional differences to where this growth has occurred. A significant majority of Texas residents live along or east of the I-35 corridor, with growth concentrated in the Texas Triangle comprised of the major urban centers of Dallas-Fort Worth, Austin, San Antonio, and Houston as well as adjacent suburbs and smaller cities with I-35, I-10, and I-45 as approximate borders.

Outside of the Texas Triangle, growth is occurring but in a less concentrated and less rapid manner. The urban and suburban areas of West Texas and the Lower Rio Grande Valley are experiencing moderate levels of growth, with cities such as El Paso, Lubbock, Odessa, Midland, and McAllen seeing smaller but significant population growth. Population drivers for these regions differ from those in the Texas Triangle and may include specific economic draws like the oil industry or jobs associated with border control as well as familial ties and more affordable housing options.

It is important to note that while a large portion of the state is experiencing explosive growth there are areas in Texas that are losing population. Population decline is largely occurring in areas outside of the Texas Triangle, primarily in rural communities. These communities face their own unique
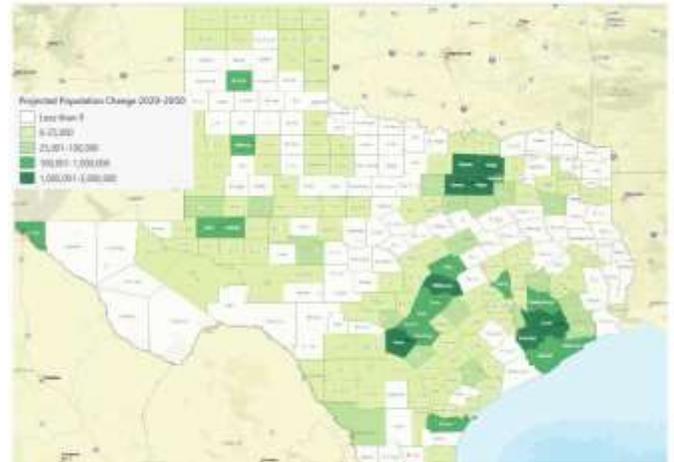

Figure 1: Projected Numeric Population Change 2020-2050, Texas Demographic Center

challenges not directly addressed in the scope of this white paper.

A population projection considers three main factors: births, deaths, and migration. Birth rates in Texas have decreased steadily since 2007, indicating that much of the state's population growth over the past few years cannot be attributed to natural increase. International migration has been decreasing since 2016 so it is also a more limited factor to consider unless a significant immigration policy shift were to occur. That leaves domestic migration as the driving force behind Texas's population growth. Over the last decade California has been the top contributing state in terms of domestic migrants to Texas, followed by Illinois and New York.[2] Demographics reports show that many people migrating to Texas are highly educated and part of a skilled labor force. Many are moving to Texas's urban areas, drawn by white collar jobs in cities. There are also other reasons beyond employment that are drawing people to the state; quality of life, affordability (although this may fluctuate by region and origin of new resident), warmer climate, and diversity have been cited as

Changing Customer Landscape
White Paper

Demographic Shifts and the Impacts on the Transportation System

other contributing factors.[3] Regardless of reason, migration to Texas cities is projected to continue into the future, indicating additional strain on the transportation system if these changes are not accounted for.
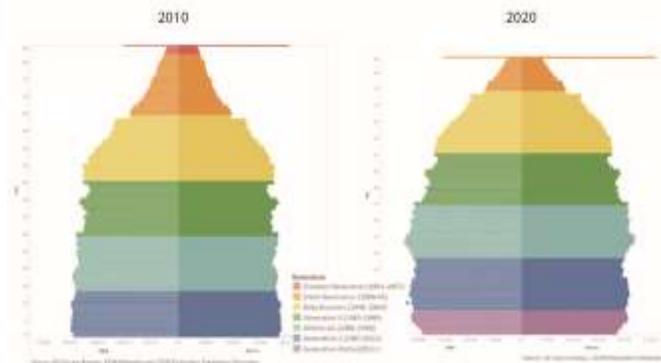

Figure 3: Generational Population Pyramid, Texas Demographic Center

In addition to urbanization, the percentage share of the older adult population is another key demographic trend to monitor. In the coming years the US will be experiencing a massive wave of retirements due to the sizable Baby Boomer generation (the age cohort born between 1946–1964) aging out of the workforce. This is a concern both nationally and locally because cities and regions will need to grapple with the changing and oftentimes increasing needs of an older population. The Texas Demographic Center projects that by 2030 almost 20 percent of the state's population will consist of the aging Baby Boomer generation.[4] Texas is unique in this consideration because although it is a young state when compared to others in the US, due to the sheer size of its population, the state will still need to prepare for the emerging needs of an aging population just as urgently as other communities. In Texas this trend is occurring in both urban and rural areas, which presents additional

complexity due to the differing levels of resources available to rural versus urban residents. Older adults typically need transportation or disability services and often have additional care needs compared to younger generations. This indicates a shift in how resources will need to be allocated in the future as the state's population continues to age.

Increasing diversity is another key demographic trend to track. From 2010 to 2020, 95 percent of Texas's population growth could be attributed to populations of color, with the Hispanic ethnic population consisting of 49.5 percent of this figure.[5] Again, Texas is seeing a concentration of more diverse populations in cities and adjacent suburbs across the state, following similar patterns to areas experiencing rapid urbanization. The major cities in the Texas Triangle, El Paso, and cities in the Lower Rio Grande Valley are acting as hubs for these diverse populations. The transportation needs for new residents may be vastly different from populations traditionally established in those areas. For example, a new resident moving to Texas might have different mobility preferences to those that have been served by the existing transportation system. Conflicting mobility preferences will be a challenge for the state moving forward when it
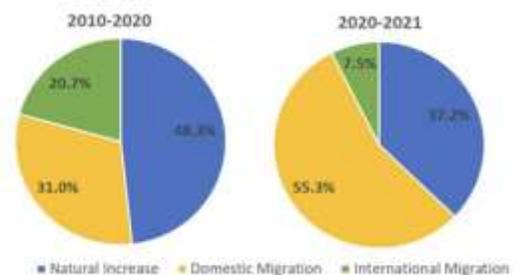

Figure 2: Texas' Population Change Components, Texas Demographic Center

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White Paper

Demographic Shifts and the Impacts on the Transportation System

comes to designing a transportation system that equitably supports all users.

The three trends (urbanization, aging, and diversification) highlighted above are not the only population shifts that Texas is experiencing. Other relevant trends include an increasing share of the youth population and changing levels in homeownership rates, to name a few; however, the three areas of focus have been highlighted as some of the most impactful due to their immediate and pressing influence on the transportation system. Issues with traffic congestion, shifting mobility needs, and equitable access are key concerns associated with these trends. A better understanding of the current and future population demographics for the state will assist TxDOT in moving forward with better plans and projects that cater to the most important component of Texas's transportation system—its users.

The Role of Demographics Research

Transportation Planning

Demographic research is a tool incorporated into many decision-making processes across numerous fields, and transportation planning is no exception. Transportation planners typically use demographic information to predict travel demand and inform forecasting models to help prioritize long range planning efforts like infrastructure improvements or expansion projects. TxDOT considers demographics research in many of its operations but it is most closely within the purview of the Transportation Planning and Programming Division (TPP). Broadly

speaking, TPP incorporates demographics research when conducting planning processes and when carrying out specific projects. The Texas Transportation Plan 2050 is the latest iteration of TPP's long range transportation plan for the state. This document considers the mobility needs and vision for the State's transportation system, highlighting population and demographics projections throughout the document. Other TxDOT efforts that demographics research informs include the Freight Mobility Plan, various corridor studies, and urban modeling to name a few.

An interagency contract between TxDOT and the Texas Demographic Center at The University of Texas San Antonio allows TxDOT to have access to data, reports, and staff expertise at the research center. This connection between the Texas Demographic Center and TxDOT provides a critical link to understanding the needs of current and future Texas roadway users. Given the dynamic nature of the state's population, finding ways to enhance this partnership is a proactive step TxDOT could take to design a transportation system that is both forward thinking and responsive to emerging population needs. An opportunity for strengthening this partnership could include introducing periodic training for TxDOT staff on most recent population projections or other related topics. Another opportunity could include a more systematic, high-level assessment of TxDOT to identify where program areas are lacking demographics analysis. Emphasizing alternative planning methods, such as scenario planning, is another method for utilizing demographics research and population projections to inform more proactive planning efforts. Scenario planning has been promoted by the Federal

Changing Customer Landscape
Demographic Shifts and the Impacts on the Transportation System

White Paper

Highway Administration (FHWA) and is a technique brought from the military and private sector to help organizations plan for an unknown future through the use of scenario building or storytelling. [6] The technique builds from current reality, projected forecasts, and major internal and external forces while diverse stakeholders make informed assumptions about plausible realities that could take form. [7] TxDOT should consider expanding its use of scenario planning given the dynamic nature of the state's population and other unknown factors the state is facing such as the shift to remote working habits, the increasing rate of severe weather events, among other influential factors. Given the variable landscape of potential challenges to the transportation network, developing a robust partnership between TxDOT and the Texas Demographic Center should be of high importance moving forward. With this partnership, TxDOT can make better informed decisions when directing public resources and making investments into the transportation system.

Technology and Innovative Investment

Due to the future-oriented nature of population projections and demographics research, it is important to consider these shifts in concert with the trends of emerging or advancing technologies. In addition to general planning efforts, emerging technology planning is another topic area that could benefit from additional demographics research. For example, TxDOT currently incorporates demographic data and population projections into planning documents such as the Electric Vehicle Infrastructure Plan and various autonomous vehicle (AV) and connected and autonomous vehicle (CAV) planning

efforts. These and other technology-focused plans could benefit from a more advanced understanding of future population projections.

One way to achieve a more advanced understanding of the future mobility landscape is using emerging datasets. While data is ubiquitous it is not always high quality or useful when applying it to transportation-related challenges. Biases and other limitations are important to consider in the data gathering process. For example, there were complications most recently when conducting the counts for the 2020 US Census. Reports show that there were inaccuracies for numerous state's population enumerations. Texas is reported to have had an undercount of 1.92%.[8] This miscount is likely most prevalent in communities traditionally hard to count, including nonwhite, homeless, and undocumented individuals. Despite these limitations, data is imbedded and relied upon throughout the transportation system. TxDOT should continue to track available datasets and platforms that can be used to provide more advanced and accurate understanding of population characteristics and mobility needs. Improving public access to such datasets while safeguarding private information should be considered to expand innovation and collaboration between TxDOT and outside agencies or partners.[9]

Electrification, CAVs, drone technology, and numerous other emerging technological trends have the potential to improve society and make it easier for people to connect themselves to goods, services, and others. Understanding customers' wants and needs is a smart way to guide investment for these technologies and understand how to

Changing Customer Landscape

White Paper

Demographic Shifts and the Impacts on the Transportation System

develop and deploy them most effectively. A deeper understanding of demographics research has a role to play in doing so.

Trends in Focus

Urbanization: Case Study on San Marcos, Texas

The city of San Marcos, in Hays County, has been noted by the Census Bureau as the fastest growing city in the US for multiple years in a row.[10] Located between Austin and San Antonio, San Marcos sits on a stretch of I-35 labeled the Texas Innovation Corridor due to the fast paced growth and economic opportunities projected for the region.[11] In 2010, the population in San Marcos was 44,894; by 2020 that number had increased to 67,553 according to US Census counts. In Hays County that figure jumped from 157,107 in 2010 to 241,067 in 2020. This case study was established to uncover how the city and county are grappling with rapid population growth and urbanization. Board members from the city of San Marcos were interviewed to understand insights from the region.

Board members confirmed that the region is indeed experiencing rapid levels of population growth, resulting in swift changes to the built environment. The city's reputation for growth and the high demand development market has put pressure on current and future city resources, such as water and the existing transportation infrastructure. This explosive development enhances the pressure on balancing development interests with other factors such as environmental resources and historic

Figure 4: Texas Innovation Corridor Map, Greater San Marcos Partnership

preservation. However, recent plans and policies adopted to help ease challenges caused by rapid development are not keeping up with the pace of the city's growth. The board members interviewed highlighted this shift by noting that the most recent regional transportation plan and land development code from 2018 have already required revisions to better reflect the rapidly changing city. A need for smart and sustainable growth policies was emphasized.[12] A potential solution that was offered for the region was to look at other high-growth areas across the US for inspiration. Learning from areas that have already experienced rapid growth, such as the research triangle in North Carolina or Silicon Valley in California, could be helpful in guiding the region and avoiding past mistakes.

In addition to learning from communities outside of Texas, opportunities to learn from other jurisdictions within the state could be helpful if efforts continue and are strengthened into the future. Efforts such as the Texas Innovation Alliance, which encourages idea sharing and inter-agency collaboration, are helpful programs that TxDOT

Changing Customer Landscape
Demographic Shifts and the Impacts on the Transportation System

should continue to invest in and expand upon. Furthermore, cities like San Marcos often need more direct assistance to carry out projects or grant applications due to lack of experience or staff capacity. TxDOT could expand support through technical assistance and training to help smaller communities with fewer resources understand what grant opportunities are available and how to successfully apply for and carry out projects.

In addition to idea sharing and collaboration, the board members emphasized the need for TxDOT to look at regional issues with a more nuanced approach. Many of the problems in the Hays County area are not driven by one single force; rather, the challenges are influenced by numerous factors. There is a need to shift away from traditional siloed transportation planning practices and enact proactive solutions that adopt a holistic view of the transportation system.[13] Other areas of planning such as land use, water resources, and housing should be incorporated into transportation planning efforts to build stronger, more connected communities. One method for achieving this is to allow local governments more flexibility with the way transportation funding is to be spent and roadway design opportunities. For example, in San Marcos several main thoroughfares that run through the city are owned by TxDOT; while the design standards for these roads are appropriate for TxDOT they may not meet the needs of current residents and vision for the future of the city. A better understanding of how TxDOT can be receptive and support local jurisdictions should be considered in order to encourage innovative place-based solutions.

While San Marcos is experiencing an exemplary amount of growth, the lessons learned from dealing with its challenges could be applied to other areas in Texas. Urbanization is a key stressor on the transportation network. As was demonstrated earlier, most of the population growth in the state is due to domestic migration and not natural increase. This translates into an immediate effect of people bringing additional vehicles into the transportation system.[14] In many parts of the state, Texans are already feeling the stresses of population growth on transportation infrastructure in terms of congestion and increased roadway maintenance needs. The availability of micro-mobility has a role to play in easing some of these concerns in addition to prioritizing safety along TxDOT owned urban roads as different modal choices are added to the roadway. Having an advanced understanding of where people are projected to move in the future could help TxDOT act more proactively to plan investment where it is needed most and assist communities that are grappling with the impacts of such growth.

Aging: Case Study on Nortex Regional Planning Commission

The Nortex Regional Planning Commission (RPC) was identified as an illustrative case study when assessing the impacts of an increasing aging population. Nortex RPC is one of twenty-four members of the Texas Association of Regional Councils. Regional councils or councils of governments are voluntary entities that form associations of local governments to help in coordinating planning needs that require regional attention.[15] As previously stated, there are no definitive concentrations of the older adult

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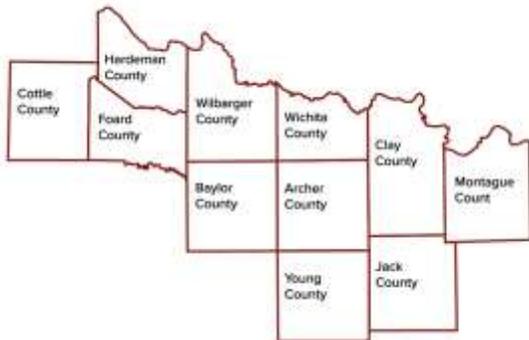## Demographic Shifts and the Impacts on the Transportation System

Figure 5: Nortex Regional Planning Commission 11 County Area, Nortex RPC

population across Texas; however, the Nortex RPC covers an eleven-county area where many of the member counties have higher percentages of individuals older than sixty-five when compared to the state average. [16] The Nortex region includes Wichita Falls as the major city center and other smaller cities and rural communities. Nortex RPC is responsible for implementing a variety of regional programs that address focus areas such as employment, emergency services, solid waste, and most relevant to this case study, the Area Agency on Aging. A representative from the Area Agency on Aging at Nortex RPC was interviewed to identify key insights into how the region is planning for an increasing aging population.

Services made available through the Area Agency on Aging largely focus on providing mobility, nutrition, and benefits assistance as well as caregiver support and an ombudsman hotline. Most of these services are accessed through direct call lines or referral systems from other agencies serving the area. In recent years the agency has observed an uptick in need for these services in part due to the area's increasing older-adult population. Strain on these resources is of heightened concern given the increased reliance an aging population is projected

to have on disability and mobility services as they age. Specifically in terms of transportation needs, older adults will likely need assistance in accessing daily necessities such as groceries, healthcare, and social connections. The representative from the Area Agency on Aging emphasized the latter point on social connectivity as being especially important to consider at this time given the isolation and loneliness that has increased since the start of the COVID-19 pandemic. [17]

Themes of affordability and accessibility were also highlighted as important areas of focus in providing transportation options for older adults. Older adult populations might face additional barriers to mobility services due to limited financial means or differences in digital literacy. Affordability was emphasized because older adults often live on fixed incomes and require reasonably priced transportation options. Accessibility was emphasized given the difference in transportation options across urban and rural communities. In more rural areas of the state, transportation options are more limited so residents may be locked into a single price point to get to their destination, whether it be routine short trips to the grocery store or visiting a family member in a city a few hundred miles away. Increasing reliance on internet connections and lack of broadband infrastructure among aging populations also makes transportation accessibility a concern. The digital divide is especially present when comparing experiences of rural and urban residents. Rural older adults often have limited or no access to broadband due to the high cost of infrastructure in these remote locations. In all, these factors may further limit access for

Changing Customer Landscape

Demographic Shifts and the Impacts on the Transportation System

White Paper

these residents to necessary services and social opportunities as they age.

In addition to access and affordability, the importance of quality in transportation services was emphasized. Mobility services geared at older adults, especially in less well-resourced rural areas, may exist but may be lacking in quality. For the Nortex region these services sometimes have limited hours or do not include curb-to-curb transportation options for persons needing more comprehensive assistance. For persons with disabilities who want to stay in the region and age in place, this may become impossible due to the lack of quality transportation options. During the interview it was emphasized that transportation resources should meet all users' needs regardless of ability or geographic location. Funding expansion to aid improvements to aging services should be considered by TxDOT to keep up with the projected increase in demand from the older adult populations across the state.

Insights from this case study could be applied to other regions facing similar population projections. As mentioned previously, the needs of the elderly population will be of national concern in the coming years due to the rapidly aging Baby Boom generation. This is of special concern for TxDOT because older populations have an increased need for mobility services and accommodations, as was demonstrated by the conversation with Nortex RPC. The geographic distribution of the aging population across Texas is relatively even, however there are differences in service options and resources between rural and urban communities that should be considered. Investment and innovative solutions on how to connect people to mobility services is

necessary, including but not limited to exploring digital literacy education programs and understanding TxDOT's role in providing broadband or satellite infrastructure for accessing the internet. Emerging technologies such as drone delivery services or other urban air-mobility services also offer solutions for providing goods, such as prescription drugs and groceries, to older adults in less connected areas. While the needs of an aging population are increasing, the number of potential solutions is increasing as well and should continue to be explored by TxDOT in collaboration with other partners.

Diversification: Case Study on Houston, Texas

Houston, Texas, is well known for being one of the largest and most diverse cities in the US, largely due to its relative affordability, economic opportunities, and geographic location. [18] Like San Marcos, Houston is also projected to grow quite rapidly in the coming decades. In response, the region's Transit Authority, Houston METRO, has passed a long-range transportation plan called METRONext to help accommodate for this growth. METRONext was passed by voters in 2019 with broad goals to serve more people and places, create more reliable and faster transit service, and improve customer experience.[19] New Bus Rapid Transit (BRT) lines and increased frequency in existing bus service, among other improvements, will be implemented through $3.5 billion in bond funding. A few representatives associated with the METRONext plan were interviewed to understand the impacts of increased population diversity on the region's transportation system.

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White Paper

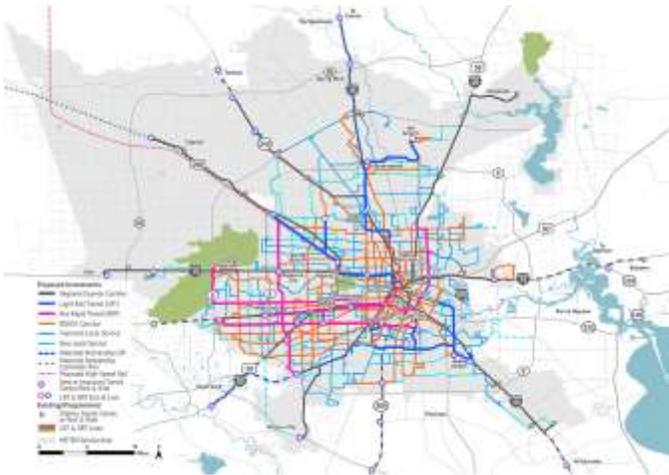## Demographic Shifts and the Impacts on the Transportation System

Figure 6: METRONext Plan Overview

On the most basic level, Houston METRO is aiming to achieve a better transportation system by investing in public transportation options. Given the changing nature of the city's population, leaders in the region are aware that people moving to Houston might be coming from places with access to a comprehensive network of public transportation options rather than relying primarily on private vehicles for travel. Representatives from Houston METRO see this as an opportunity or catalyst to invest in better transit options for the city. Improvements to bus shelters and increasing digital signage are investments laid out in the METRONext plan that aim to achieve this. For a city like Houston, where residents face high heat, humidity, and heavy storms, these sorts of investments are needed to minimize barriers for those who may be interested in taking public transit or for those who have no other choice for how to travel. Public transit is often the most affordable mode of travel and investment in such systems can be part of the region's efforts in promoting equity. In addition to better serving residents and promoting equity, there is an economic development argument to be made. During the interview it was mentioned that Houston was not chosen to be the host of Amazon's HQ2 due in part to the city's lack of public transportation infrastructure. [20] The interviewees described the need for a comprehensive transportation system in order to be responsive to the diverse needs of the city's population in addition to keeping the city economically competitive and attractive to employers, large and small.

During the case study interview, representatives of the METRONext plan also emphasized the need to provide accessible transportation options for residents. To do this the region is working to create and expand multi-modal options within the public transit network and by introducing micro-mobility options into geographic areas that need it most. One example of how this is working on the ground is the METRO curb2curb program (formerly known as Community Connector). This program aims to provide transit services to remote areas of the city lacking bus routes.[21] The program functions through a reservation system and uses small buses or fleet vehicles to transport riders directly to their destinations. A program like this is needed because unlike many other cities in the US, much of Houston's diverse populations exist in pockets throughout the city and might be living in less dense areas outside of the urban core. METRO curb2curb is one example, among others, of how Houston METRO is working to increase accessible transportation options for the region. Further, expansion of the Silver and University BRT lines are two other key improvements. The region is also looking at how to implement projects focused on first- and last-mile universal design standards. Overall, accessibility is achieved in the METORNext plan through a deep understanding of residents'

Changing Customer Landscape
White Paper

Demographic Shifts and the Impacts on the Transportation System

mobility needs, which is then translated into advancing a diverse array of options in terms of modal choice.

A third insight that was gathered during the interview was the importance of strengthening partnerships and communication between TxDOT and local units of government. Representatives from the Houston area suggested TxDOT should consider expanding state funding uses for multi-modal projects, as has been done by other state DOTs, to help build relationships with cities like Houston that want to further invest in transit systems. Washington State DOT and Virginia DOT appear to be leaders on this front, both contributing to this effort by measuring multi-modal accessibility within their respective systems and assessing how that contributes to economic vitality and quality of life for the people in their state.[22] The importance of a continued collaborative spirit between cities and TxDOT was emphasized by the interviewees. Through partnerships and increased communications with local governments, TxDOT can assist in building better transportation systems that are reflective of each community's changing needs.

While not all cities in Texas are experiencing the same rates of increased diversity that Houston has been experiencing over the past few decades, lessons can still be applied in other contexts such as engaging with diverse segments of a community, planning for culturally specific mobility needs, and advancing equity. The USDOT has recently emphasized a need to better integrate racial equity into transportation planning and competitive grant applications.[23] In the USDOT Equity Action Plan,

released in early 2022, expanding access was one of four key themes identified in the plan.[24] According to the plan, on average bus commuters face 1.7 times the commuting time than those who commute by car. For those who cannot afford a car or don't have access to one, this figure has significant equity implications that should be addressed at the state level. There are tools such as Transportation for Social Equity (TransportSE) that USDOT has released to aid local governments in measuring equity issues in addition to assessing other indicators like noise pollution and air quality. TxDOT should continue to track guidance and opportunities released by USDOT and identify communities across the state that could benefit from attention on equity. Given federal guidance and the trajectory of the state's increasing diversity, TxDOT could better account for changes in the customer landscape by empowering local governments to be more receptive to their changing populations while giving them the tools and support they need to best plan for the future. This could range from providing more funding for multi-modal transportation options to providing more innovative solutions such as expanding programs that provide Mobility as a Service (MaaS). Regardless of the project each should be rooted in the wants and needs of the community in focus.

OPPORTUNITIES FOR TEXAS

As the state is changing dramatically, Texas must be up to date and on top of demographic trends to maintain a quality of life for all Texans, native or new. Urbanization, aging, and diversification are three key demographic trends that the state is

Changing Customer Landscape

White Paper

Demographic Shifts and the Impacts on the Transportation System

experiencing, all of which present challenges and opportunities for the state's transportation system. With a greater understanding of these trends TxDOT can work to be more proactive in responding to the state's changing customer landscape. The following are key recommendations for Texas:

Expand efforts to integrate demographics research into planning and decision-making processes. Given Texas's history of rapid population change and projected growth, TxDOT's partnership with the Texas Demographic Center should be enhanced to expand methods of imbedding such research into transportation and emerging technology planning. TxDOT should first identify department operations that could benefit from incorporating demographics research more effectively. Opportunities include additional staff training focused on demographic trends and data or considering the Texas Demographic Center, or similar agencies, for key consultation roles on relevant planning projects.

Explore different transportation planning methods and understand the role of data when planning for dynamic communities. Weighing the benefits of alternative planning methods, such as scenario planning, could assist the state in embracing a more flexible planning process that is warranted by a rapidly changing population. Furthermore, better understanding the applications and accessibility of data to aid in scenario planning could result in more accurate assessments of the future and in turn more sophisticated plan making. An internal audit or outside assessment on planning and data practices could be conducted as a first step for the department to gain an understanding of where

practices are working well and where there is room for improvement.

Strengthen multi-scalar collaborations and information sharing opportunities for rapidly urbanizing regions. Urbanizing communities need quick access to ideas and solutions that can be easily identified and applied to fit their community's unique needs. TxDOT should assist communities throughout Texas in sharing ideas more openly and effectively. TxDOT should start by identifying existing channels of information and work to enhance those or create others where gaps exist. To do so it could solicit feedback from local jurisdictions on TxDOT communications practices and leadership strategies as the statewide transportation planning agency.

Investigate the role of broadband and digital literacy education as a means to provide access to transportation services for an increasing older adult population. As the state is getting older, the transportation needs of the older adult population are expanding. Reliable and affordable access to the internet has been identified as a key factor in connecting people to healthcare, mobility services, and social opportunities. TxDOT can help by better understanding their role in connecting people through broadband infrastructure. Assisting all Texas residents regardless of regional setting should be emphasized in this effort. As a first step, TxDOT should consider how other state DOTs are addressing gaps in digital literacy given the connection that is clearly emerging between accessing transportation services through internet-connected devices.

Changing Customer Landscape

White Paper

Demographic Shifts and the Impacts on the Transportation System

Respond to the changing needs of a diversifying population by encouraging localized mobility solutions through enhanced community engagement and intergovernmental partnerships. Diversifying communities need culturally specific community outreach that values and responds to the input provided during the planning process and beyond project implementation. To enhance its understanding of changing communities TxDOT should explore ways to partner with and support local jurisdictions in their pursuit of equitable transportation solutions. TxDOT can start by assessing what other state DOTs are pursuing when it comes to supporting multi-modal planning and by acting on guidance from USDOT on grant opportunities and tools relating to transportation equity.

Changing Customer Landscape   White Paper
Demographic Shifts and the Impacts on the Transportation System

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Changing Customer Landscape

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