

Research Paper – Transportation and Demographics

This paper identifies social and demographic trends shaping the transportation planning process. The 2050 LRTP recognizes that understanding and meeting demographic needs is essential to providing a multimodal transportation system benefiting all West Virginians. As West Virginia's population changes, transportation should be ready to maximize access to opportunities.

- Continued low population growth statewide and declining population in many communities will create transportation funding challenges due to flat or declining local and state tax revenues.
- Influx of younger residents into urban areas will increase demand for transportation options while older and/or disabled residents require on-demand mobility options, especially in rural areas.
- Improved transportation connections will help rural areas access education and public health services to bridge these rural-urban divides.

1. Introduction

Demographics and transportation are inextricably linked.

Current and future demographics can inform how WVDOT works with partners to prepare for change and plan for future transportation system user needs. West Virginia's population will continue to change over the coming decades alongside social preferences for transportation services. Through analyzing demographic and socioeconomic data, this research paper describes West Virginia's current and projected population and associated transportation uses.

Historic, current, and forecasted demographic data is used to explain who uses West Virginia's transportation system and what system attributes are valued. As part of West Virginia's demographic and social context, travel and commuting patterns, public health, and public education are also explored, focusing on critical social issues related to transportation mobility and accessibility.

Understanding these parameters will help WVDOT advance the current system to continue to serve diverse user needs through 2050. As one of a series of research papers, illustrating the demographic and social context will influence the development of needs, strategies, and ultimately recommendations that will become a critical outcome of the 2050 LRTP planning process.

1.1 Data Evaluation and Interpretation

Historic and current data from the U.S. Census Bureau as well as population projections from the Bureau of Business and Economic Research at the John Chambers College of Business and Economics at West Virginia University are used to explain West Virginia's demographic context. Additionally, results from the West Virginia Chamber of Commerce 2019 Survey (containing 405 responses) also guide the paper's focus on addressing key social development priorities including public health and public education.

Current information from the U.S. Census Bureau is the most recent comprehensive dataset providing detailed demographic information for West Virginia. Recent supplemental research from a variety of academic, nonprofit, governmental, and local news publications was also used to further understand West Virginia's public health and public education. Full source information is detailed in **Appendix A**.

2. Where Are We Today?

2.1 Population and Density

Population Change

While statewide population has declined over the past ten years, population has increased in several areas throughout the state particularly in the Eastern Panhandle (Berkley and Jefferson Counties) as well as in Monongalia County (red and orange in **Figure 1**). As of July 1, 2019, according to estimates by the US Census Bureau, West Virginia's total population is **1,792,147**, representing a 3.3% decline since 2010 of approximately 60,487 fewer residents (**Figure 2**). West Virginia lost population both naturally, with 19,000 more deaths than births, and through migration, with 27,000 more people leaving the state than moving in. West Virginia is the third least dense state on the east coast (denser than Maine and Vermont) at an average density of 75 persons per square mile in 2019 (a decrease from 77 persons per square mile in 2010).

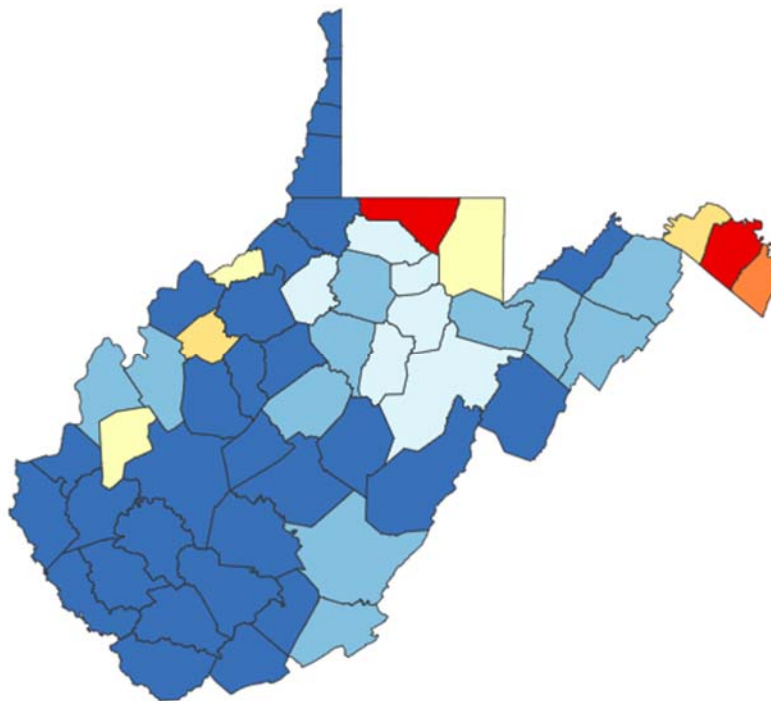


Figure 1 West Virginia Population Change by County (2010 vs. 2015)¹

Figure 2 West Virginia Population Change by Decade¹

Year	Total Population	Urban Population	Rural Population	% Urban / % Rural
1990	1,793,447	647,853	1,145,624	36% / 64%
2000	1,808,334	832,780	975,564	46% / 54%
2010	1,852,994	902,810	950,194	48% / 52%
2019	1,792,147	682,651	1,109,496	38% / 62%

Between 2010 and 2019, West Virginia's population shrank by just less than 3.5% to 1.79 million (**Figure 3**). Metropolitan areas gained about 50,000 people from 2000-2010 but the state as a whole has lost population for the past six years and over one third of residents still reside in rural areas. Urban areas have remained more concentrated with just above 60% of total residents in 2016, up from about 55% in 2010.

West Virginia is also losing population faster than recent forecasts, which do not account for county-by-county increases. According to population projections in 2017 from the WVU Bureau of Business and Economic Research, West Virginia's

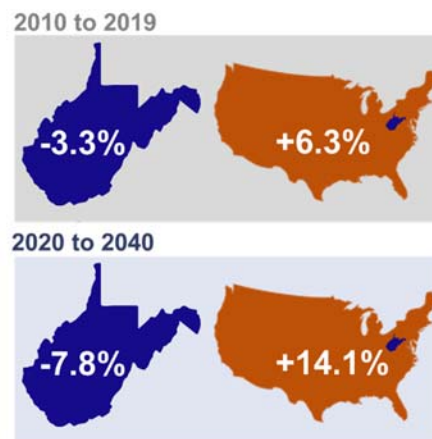


Figure 3 West Virginia vs. US Population Change¹

¹ U.S. Census and World Population Review

population was projected to fall from 1,852,994 in 2010 to 1,806,816 in 2030.² In 2019, West Virginia’s statewide population has already fallen below the 2030 forecast.

Projections from the University of Virginia Demographics Research Group in 2018 show West Virginia’s population is expected to continue to decline, falling to 1,661,849 by 2040.³ Based on these forecasts, West Virginia would be the 12th least populous state by 2040 (compared to the 13th today – Idaho’s population will pass West Virginia by the late 2020’s).

Race, Ethnicity, and Origin

West Virginia remains an overwhelming majority white state, at 93.5% in 2019, an increase from an estimated 93.2% in 2018 (**Figure 4**). Generally, the state’s ethnic makeup has remained steady over the past decade with a slight influx of Hispanic populations.

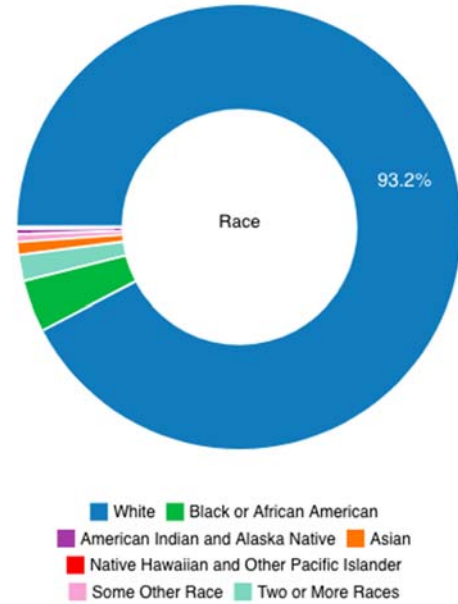


Figure 4 West Virginia Population by Race (2018)¹

2.3 Age, Household, and Disability

Residents are Aging

The average age of West Virginian’s continues to increase with 20% over age 65 (compared to 16% for the US) which equates to a 31% old age dependency ratio statewide (the population age 65-plus divided by the population ages 16-64) (**Figure 5**). Nearly half of all households have at least one individual over 60. The increasing aging population will put pressure on state resources for seniors. Without on-demand transportation services, these residents cannot carry out daily activities like grocery shopping and attending medical appointments once unable to drive themselves.^{4 5 6}

West Virginia Median Age



Figure 5 West Virginia Population Age and Gender (2018)¹

² WVU Bureau of Business and Economic Research.

³ University of Virginia Demographics Research Group.

⁴ WV Data USA.

⁵ “2020, 2019 Current Population Demographics and Statistics for West Virginia by age, gender and race.” SuburbanStats.Org.

⁶ West Virginia Population. World Population Review.



2.4 Urban Influx

Escape Rural Poverty

Most West Virginian’s own homes despite lower median household incomes (average of \$45,000 for 2014 – 2018 compared to \$60,000 for the United States), and while over one third of residents still reside in rural areas, more are moving to urban regions for job opportunities (**Figure 6**). The metro area population continues to grow, approximately 5% over the last decade, while totals of college graduates and individuals in the 35-44 age group remained nearly zero with a slight decline. Improving job access with reliable and safe transportation options can help residents in disadvantaged communities on top of strong workforce development and employee retention efforts.^{7 8 9 10}

Type	Count ▼	Average Size	Owned
All	734,676	2.42	72.9
Married	358,834	3.02	86.5
Non Family	258,841	1.24	60.6
Female	82,164	3.23	55.7
Male	34,837	3.25	65.6

Figure 6 West Virginia Household Size and Homeownership (2018)¹

Impact on Current Transportation – Multiple years of population decline has pinched transportation funding from stagnant tax revenues while existing residents concentrate in urban areas, increasing roadway maintenance costs as well as vehicular traffic. Furthermore, as older residents and residents with disabilities rapidly age, their ability to drive themselves declines and rely on expensive on-demand mobility services to carry out carry out daily activities like grocery shopping and attend medical appointments.

3. What Do West Virginian’s Want?

3.1 Top Issues

The West Virginia Chamber of Commerce sponsored a 2019 Survey to collect information on what West Virginian’s want. Residents were permitted to name two topics, and the 405 responses fell into five top issues (**Figure 7**) which guide focus on addressing the resident’s key social development priorities. When combined, over half of respondents want the opioid crisis stopped and healthcare improved, and for this reason, both topics are analyzed together under Public Health.¹¹

Issue	Topic	% Priority
1	Improve Roads and Highways	37%
2	Improve Public Education	31%
3	Create and Protect Jobs	26%
4	Stop the Opioid Crisis	26%
5	Fix Healthcare	25%

Figure 7 West Virginia Chamber of Commerce 2019 Survey Results

⁷ Rural Health Information Hub. January 3, 2019. US Department of Health and Human Services. Data.HSRA.gov. January 2020.

⁸ Economic Research Service (ERS). US Department of Agriculture. Rural Health Information Hub. January 3, 2019.

⁹ West Virginia Department of Motor Vehicles (DMV).

¹⁰ McElhinny, Brad. “West Virginia’s Labor Force Participation Remains Last.” September 1, 2019.

¹¹ Boettner, Ted; O’Leary, Sean; and Rick Wilson. State of Rural West Virginia. West Virginia Center on Budget and Policy. America Friends Service Committee. October 2018.

3.2 Improve Roads and Highways

Passenger Vehicles

Vehicle travel is the overwhelming majority of passenger transportation in West Virginia – over two thirds of residents hold a driver’s license, and most households have at least two cars. Recent data showed 81% of employees drove alone to work and 9% carpooled, commuting about 25 minutes on average. Less than 4% of commuters chose alternative modes like transit, biking, or walking to work. In 2019, around 3.9% of workers did not commute to work and instead worked at home.^{12 13 14}

During COVID-19, according to a cross-section of different national surveys, over 40% of the U.S. labor force is working from home full-time, another 33 percent are not working and the remaining 26 percent – mostly essential service workers – are working on their business premises.



Alternative Modes

Recent public bikeshare systems like those at Marshall University are well-liked among students and other new professionals. Morgantown and Huntington both have efficient transit systems which move students and employees around university campuses. The majority of residents do want to see improvements in the state’s roadways and bridges, particularly to help improve highway safety and reliability. Given the lack of travel options, especially in rural areas, the highway system is the lifeline to jobs, health care, services, and recreation.

Impact on Current Transportation – Safer roadway infrastructure and supporting education programs are critically needed as is strategic investment in alternative modes. Vehicle travel will continue to be the primary travel mode in West Virginia for nearly all residents. Given this high share of travel demand accommodated by vehicle trips, and infrastructure and condition challenges (including curvy, mountain roads and weather), traffic fatalities in the state are likely to remain above the US average with more than 16 deaths for every 100,000 residents. In West Virginia, drivers are 3x more likely to be killed while driving on rural roadways than urban roadways.^{15 16 17}

3.3 Improve Public Education

Access to Public Education

Schools throughout many counties in West Virginia are far apart. Physical distance combined with rural roadways and limited public transportation services has caused rural students to suffer across all levels of schooling simply because of access. Most college-aged students live too far from universities to commute but cannot afford living expenses to live on campus which hinders their ability to actually enroll. Younger students also lack equal access to computers and internet service due to unreliable mobile as well as IT infrastructure statewide, higher rural poverty levels, and too few personal tools like computers. Schools in formerly mining-heavy counties cannot provide student laptops because of insufficient property taxes and multiple years of job decline.

¹² “Best States: West Virginia.” US News and World Report.

¹³ “West Virginia Transportation By The Numbers.” February 2017. TRIP: A Transportation Research Group.

¹⁴ Prezkop, Jennifer Jeff. “Infrastructure at a Glance.” WV Executive. August 17, 2018.

¹⁵ FHWA Highway Statistics Series. WV. 2020.

¹⁶ Sauter, Michael B. “States with the Most Dangerous Roads.” 24/7 Wall Street. March 26, 2019.

¹⁷ “West Virginia Ranked in the Top 10 for Traffic Danger.” Bottner & Skillman Attorneys at Law. April 2, 2019.

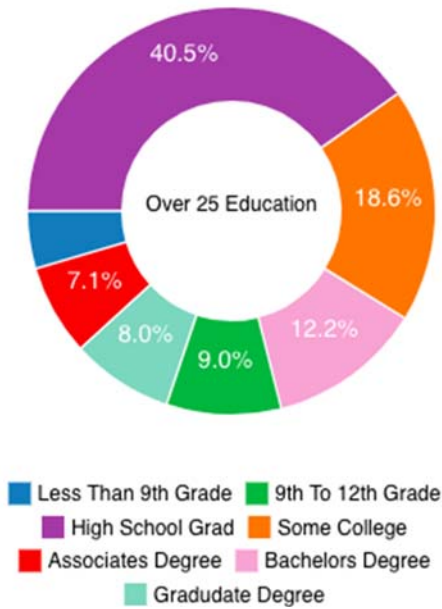


Figure 8 West Virginia Total Education Level (2018)¹

While over two thirds of residents have graduated high school and about one fifth have also earned a form of higher education, more than half of 3rd graders have failed recent state general assessment testing and 17% of rural residents have not completed high school (**Figure 8**).¹⁸ Overall, West Virginian’s residing in metro areas have achieved more higher learning degrees (19.6%) than those who reside in rural areas (16.8%) because of better access to a variety of academic institutions and skilled labor. 84% of disabled West Virginian’s with college degrees were employed in 2015, while only 62% without a high school diploma were employed.

Residents want teachers to be paid more and support lawmakers committed to reforming public education to address inequities even before COVID-19 forced remote education. Students living in rural areas, in poverty, and/or receiving special education need more educational resources, and the pandemic has heightened existing inequities like teaching and grading.¹⁹

Impact on Current Transportation – Safe and convenient access to schools, especially in rural areas, remains a challenge given low-speed roadways and a lack of travel options. Access to reliable high-speed internet service in these same areas creates similar challenges in a remote learning environment.

Remote learning has decreased travel to and from schools, but as schools reopen, traveling along dangerous urban as well as rural corridors puts students, parents, teachers, and staff at risk. Reducing bus idling, ensuring safe crossings, and providing adequate sidewalk connections are all part of safe journeys to and from schools. On campus transportation services at universities and colleges help localize travel between classrooms and other facilities.

3.4 Improve Employment

Creating and Protecting Jobs

Detailed further in the *Economics Research Paper*, health care, trade, and service industry employers have provided the most jobs both in urban and rural parts of the state. While mining still retains a strong presence in rural West Virginia, more *total* job growth has occurred in urban areas due to higher education, income, and wage levels. Just over one quarter of residents want efforts focused on creating and protecting jobs.

¹⁸ “West Virginia Public Education Collaborative leading efforts to improve third grade literacy rates in West Virginia.” West Virginia University Today. July 14, 2020.

¹⁹ West Virginia Department of Education, August 3, 2020.

TRENDS, DRIVERS, AND OPPORTUNITIES



West Virginia continues to own the lowest civilian labor rate in the US (55%) with higher participation rates between ages 30 to 44 (**Figure 9**). The state’s unemployment rate was improving over the last decade, reaching the lowest unemployment rate since 2008 (4.7%) in February 2020. While the COVID-19 pandemic caused the unemployment rate to reach 12.9% in May 2020, unemployment is back down to 6.4% as of October 2020.^{20 21}

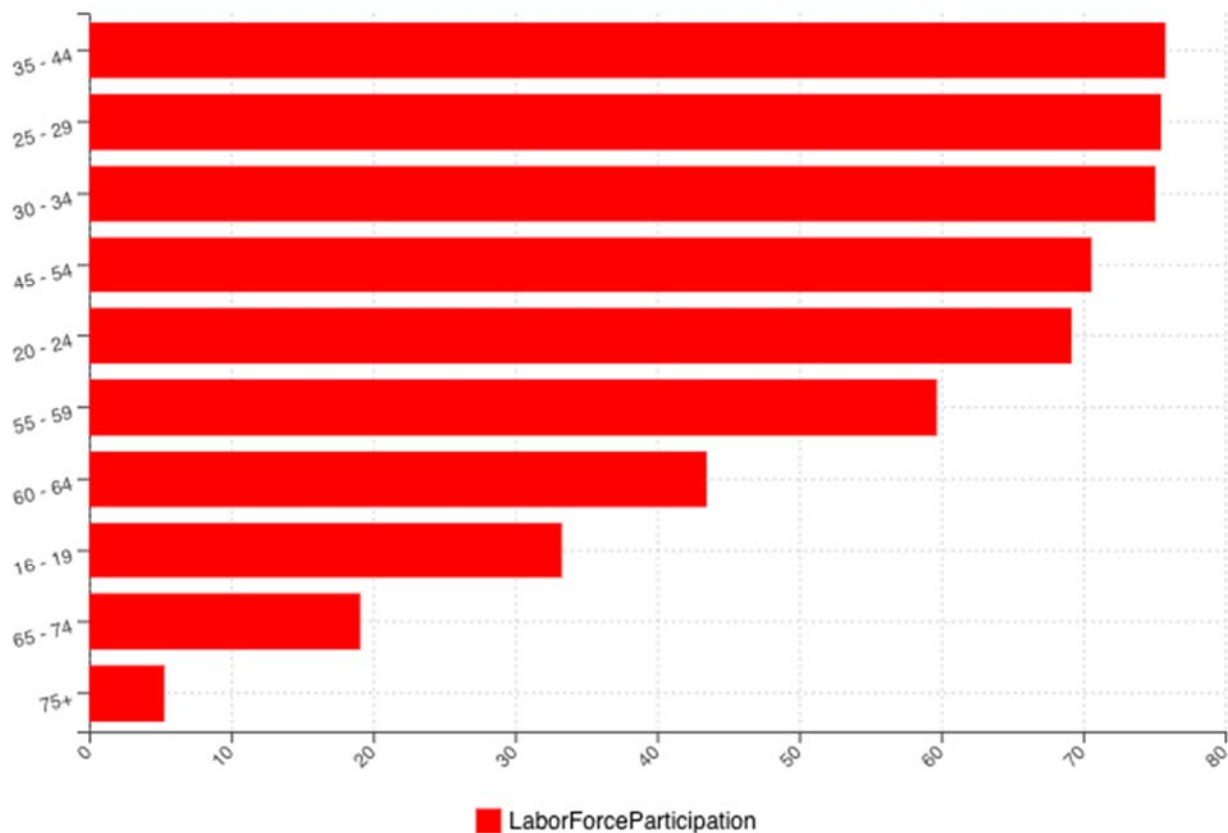


Figure 9 West Virginia Labor Force Participation by Age (2018)¹

More residents live in poverty and/or are unemployed in rural parts of the state because of poor access to education, job training, and employment opportunities. Furthermore, West Virginia’s college graduates and the 35-44 cohorts are leaving the state in search of better opportunities due in part to limited workforce development and employee retention programs. Job creation and retention remains a statewide effort across big employers which will continue to require widespread support.

Impact on Current Transportation – Most employers and industries have been able to offer remote working, which has caused travel to workplaces to decline, but as businesses reopen, travel and traffic will resume and put pressure on the state’s transportation infrastructure. Most West Virginian’s drive alone to work and commute about 25 minutes across both urban and rural roadways, but 4% of employees drive over 90 minutes to their workplaces as driving alone is the only reliable mode of transportation.

²⁰ Damron, Jordan, “Gov. Justice announces best job rate in West Virginia in 11 years.” Office of the Governor: Jim Justice. May 29, 2019.

²¹ “Economy at a Glance: West Virginia.” Bureau of Labor Statistics. Data as of July 31, 2020. Accessed August 2020.

3.5 Improve Public Health

Promoting Public Health

Before COVID-19, many West Virginian's were suffering from obesity, diabetes, heart disease, and arthritis on top of a local opioid epidemic. The state has consistently ranked first in the US in both obesity and diabetes cases. Transportation as well as public health experts know that without transportation to care facilities, those suffering from chronic health conditions and/or drug abuse are more likely to continue to suffer and/or not receive full help needed to completely recover. Many people need assistance accessing treatment simply because they live far from care facilities and are unable to drive themselves.

The state does boast good doctor-to-patient ratios of roughly 1,273 patients per year per doctor. However, about 8% of residents lack health insurance and most healthcare facilities are in urban areas which inadequately serve rural residents. Almost half of residents are on employer healthcare plans (41.9%), with 24.1% on Medicaid, 15.6% on Medicare, 10.2% on non-group plans, and 2.15% on military/VA plans. West Virginia has 21 Critical Access Hospitals in urban areas along with 52 Rural Health Clinics, 243 Health Center Sites, 13 short term hospitals outside of urbanized areas.

More opioid prescriptions are written in West Virginia than the US average (69.3 prescriptions/100 West Virginian residents versus 51.4 prescriptions/100 US citizens), but West Virginia did experience the first decline since 2012 in opioid-related deaths in 2018 to 234 deaths after suffering an all-time high in 2017 of 304 deaths.^{22 23 24}

The state has consistently ranked first in the US in both obesity and diabetes cases with 39.5% obese adults (39.5%), second in the US for obese individuals between ages 10-17 (20.9%), and fourth out of forty-three states for obese high school students (19.5%). More men (40.6%) in West Virginia are obese than women (38.5%). Minorities in West Virginia are particularly vulnerable to obesity. Even though less than 4% of West Virginian's are African American, about 44% of them are obese, and Latino's comprise less than 2% of West Virginia's population, but nearly 27% of them are obese.^{25 26}

COVID-19 related hospitalizations and residents in ICU and/or on ventilators are at some of the highest levels since the outbreak began as of early August with 57,060 cases and 870 deaths as of December 2020. Efforts continue statewide to curb the spread of cases in hopes of reducing hospitalizations and deaths.

With the roll-out of COVID-19 vaccines in January 2021, West Virginia has led the nation with one of the highest per capita distribution of COVID-19 vaccines. As of March 1, 2021, according to data from the Center for Disease Control (CDC), West Virginia had delivered over 33,700 vaccine doses per 100,000 population.²⁷

²² "2018 Opioid Summaries by State." Accessed August 2020.

²³ "2018 West Virginia: Opioid-Involved Deaths and Related Harms." Accessed August 2020.

²⁴ "West Virginia 2020 – 2022 Substance Abuse Response Plan." Governor's Council on Substance Abuse Prevention and Treatment. January 20, 2020.

²⁵ "The State of Obesity in West Virginia." State of Childhood Obesity.

²⁶ The Associated Press. "West Virginia Breaks Record for New Confirmed Virus Cases." July 31, 2020.

²⁷ <https://covid.cdc.gov/covid-data-tracker/#vaccinations>

3.6 Reduce Food Deserts

Access to Healthy Food

A key component of promoting public health is providing access to healthy food options. West Virginia is first in the US with car-less populations and/or those who live greater than 20 miles from a grocery store according to US Census data. Additionally, 36% of residents need to drive 10 miles to a grocery store, and 13% of low-income residents have food access issues. Food accessibility, transportation, and public health are interdependent. Grocery stores are working to meet “the five A’s: accommodating, acceptable, available, accessible, and affordable,” but more support for meetings like the [2019 West Virginia Food Desert Summit](#) is needed to continue strategies that help increase food access in rural parts of the state.^{28 29}

Impact on Current Transportation – Obesity and these other health complications are directly tied to inadequate mobility options and the inability to purchase healthy fresh food. Transportation as well as public health experts know that without transportation to care facilities, those suffering from chronic health conditions and/or drug abuse are more likely to continue to suffer and/or not receive full help needed to completely recover. Many people need assistance accessing treatment simply because they live far from care facilities and are unable to drive themselves. It is clear public health as a whole depends on safe transportation and mobility because reliable transportation services are needed to access to all forms of healthcare.

4. Future Direction: Where Are We Going?

Continued statewide population changes alongside an expanding aging cohort will have impacts on transportation needs and the provision of services for a large population with mobility constraints and health issues. Prioritizing resources to address these challenges may require new programs and partnerships with other Federal and State agencies as well as the private sector to leverage funding and raise awareness.

Where West Virginia is growing, like the Eastern Panhandle and Morgantown regions, managing highway travel demand through reliable and safe multimodal options will increase in priority. In rural areas, with declining economies, maintaining the transportation system, enhancing safety, and providing broadband connections will help improve access and create a platform for strong education, access to health care, and job growth. There is also potential that West Virginia’s growing tourism industry and generally low land cost create opportunities that will attract more retirees and tourism associated economies, especially in areas with more direct access to nearby metropolitan regions like Washington DC and Pittsburgh.

4.1 Population Projections

Slight population growth is expected with West Virginia reaching a total population of 1.9 million by 2030. West Virginia’s birth rate is anticipated to slightly exceed the US average by 2030, which would increase the youngest residents, but on average, residents are still expected to age faster than any state

²⁸ According to the USDA, low access to a grocery store is further than +0.5mi in an urban area and +10mi in a rural area. Boles, Sydney. “Grocers in Rural Towns Struggle to Stay in Business.” Ohio Valley Resource via West Virginia Public Broadcasting. January 20, 2020.

²⁹ Adams, Steven Allen. “Experts, Leaders Talk Solutions to Food Desert.” Bridgeport, WV. The Weirton Daily Times. December 11, 2019.

in the US as more West Virginians surpass age 55. College-graduates and young working-age individuals living in the state are projected to continue to leave.

Several dense West Virginia counties like Berkeley, Jefferson, Monongalia, and Morgan are expected to see population increases between 21%-63% by 2040 but Kanawha County (with Charleston, the state capital) is forecasted to lose population through 2030 before stabilizing around 186,000 residents.

Impact on Future Transportation – Increasing older and/or disabled residents will require more on-demand transportation services while more individuals living in urban areas will increase system maintenance and operations costs, in addition to greater demand for more mobility options, putting more pressure on state and local services.

While the higher birth rate alongside quickly aging population will help the population slightly increase, long term growth is needed to stabilize the economy to fund public services. Continued population decline may create transportation funding challenges due to flat or declining local and state tax revenues. Demographic and economic trends must be analyzed side by side to understand how these projected population shifts will shape transportation.

4.2 Solving Top Issues

Improving Roads

Further explained in the Economics White Paper, West Virginia is taking steps to enhance mobility as well as safety throughout West Virginia where residents live, work, and play, like the Roads to Prosperity program. The Governor launched the program in 2017 to allow state General Obligation Bonds to provide funds for roadway repair and construction.^{30 31}

Impact on Future Transportation – State investment in public infrastructure will ensure public safety and well-being for all West Virginia residents. Structurally sound bridges, smoothly paved roads, and well-lit intersections as well as pedestrian crossings are small, localized improvements that will have a big impact on transportation statewide. These new projects will build duplicative corridors, reducing bottlenecks and amplifying resilience.

Improving Education

Higher education is working hard at improving grade schools. West Virginia University recently brought P20 to five qualifying rural counties to help rural students graduate from high school and go on to earn a college bachelor's degree alongside training them for future work in agriculture, forestry, and natural resources. Other educational programs like the Advancement Via Individual Determination (AVID) and FFA as well as 4-H Youth Development Programs are affiliated with P20. The West Virginia Department of Education (WV Dept. of Edu.) has also been working with foundations and universities to fund programs like the West Virginia Public Education Collaborative which is aimed at improving childhood

³⁰ "State Awards \$7.4M in Transportation Grants." June 1, 2020. WV Metro News.

³¹ Druga, Melina. "WV Sells \$600M in State Road Bonds." December 5, 2019. Transportation Today: Diving Discussion on Transportation and Infrastructure.

literacy. Collectively, these programs are giving students valuable career and technological skills through education at local community colleges.^{32 33}

The pandemic has increased the recognition of the challenges faced by many students in rural areas of West Virginia. Some students lack equal access to computers and internet service due to unreliable mobile as well as IT infrastructure statewide, higher rural poverty levels, and too few personal tools like computers. State leadership has taken distinct steps to ensure education continues amidst the pandemic, setting up +1,000 Wi-Fi hotspots statewide to give students option to take classes online.³⁴

As a state, West Virginia has received more than \$1 billion from the Federal CARES (Coronavirus Aid Relief and Economic Security) Act. This includes \$86.6 million for the ESSERF. The ESSERF, Elementary and Secondary School Emergency Relief Fund, will: 1) shrink the achievement gap, 2) improve technology and equity, plus 3) comfort students' social as well as emotional needs. 90% of the ESSERF funds is going directly to county school districts without any strings attached. Additionally, the WV Dept. of Education can keep 10% of the ESSERF funds for any emergency needs caused by COVID-19.³⁵

Impact on Future Transportation – Students need transportation to access these programs helping to improve their education, and facilities need to be close enough to lessen travel burdens. The five rural counties chosen for P20 had to have schools physically close enough together for the program to work. The Governor is working with education leaders to ensure students have transportation services on county buses to and from schools as well as Wi-Fi access points, sports practices, and/or meals. Student schedules can somewhat overlap with work schedules, but school days have traditionally ended before workdays which should reduce vehicular and passenger loads both on roadways and in buses, but extra county buses will likely be needed to ensure social distancing is followed.

Improving Employment

Further explained in the Economics White Paper, West Virginia has taken huge steps to create and project jobs focusing on enhancing workforce participation as well as retaining young professionals to remain residents and strengthen the state's workforce. Employment rates have already recovered from early COVID-19 lows. More work encouraging large employers like Clorox to construct new local manufacturing facilities will bring more jobs to West Virginia. Continued investment is also needed in training programs to keep worker skills relevant, applicable, and useful to employers.^{36 37}

Impact on Future Transportation – Understanding changing commuting and employment patterns will help match resources with opportunities, illustrating oversaturated or undersaturated corridors and openings for development. Improving job access with reliable and safe transportation options will especially help residents in disadvantaged communities on top of strong workforce development and employee retention efforts. Together, these efforts can help grow as well as retain the state's educated workforce.

³² Roadmap to Success: WVU Faculty Pilot Program to Transform Education in Rural West Virginia." September 4, 2018. West Virginia University: Davis College of Agriculture, Natural Resources, and Design.

³³ "West Virginia Public Education Collaborative leading efforts to improve third grade literacy rates in West Virginia." West Virginia University Today. July 14, 2020.

³⁴ The Associated Press. "West Virginia: Wi-Fi Hotspots to Allow Virtual School Options." August 5, 2020.

³⁵ CARES Act. West Virginia Department of Education. Accessed September 10, 2020.

³⁶ Damron, Jordan, "Gov. Justice announces best job rate in West Virginia in 11 years." Office of the Governor: Jim Justice. May 29, 2019.

³⁷ "Clorox Plans New Manufacturing Facility in West Virginia." The Associated Press. January 16, 2020.

Improving Public Health

West Virginia's public health is improving with the lowest opioid prescription rates since 2006 when data collection started and the first decline in opioid-related deaths since 2012. The Governor again has taken personal responsibility to help substance abuse and released a focused Substance Abuse Response Plan in January 2020.³⁸

Health officials also know amplifying public health and food access particularly in rural areas will assist the aging population, strengthen overall resilience, and lower obesity, diabetes, heart disease, and obesity-related cancers. The state is working towards achieving ambitious goals outlined in West Virginia's 2018 – 2022 Rural Health Plan to lower statewide obesity, diabetes, heart disease, and arthritis cases.

Current estimates predict that diabetes, heart diseases, and obesity-related cancers will continue to increase in West Virginia through 2030. The Rural Health Plan details strategies to help address disparities and promote better health and quality of life in rural West Virginia and includes ambitious goals like improving access to healthcare (rural and urban), developing the workforce, holding individuals accountable for their own health, and prioritizing known health conditions to reduce unfavorable outcomes.³⁹

Two state programs are underway to improve access to healthcare: MARP 2020 or the [Medical Access Road Project \(MARP\) 2020](#) which funds physical roadway construction to improve access to medical facilities and along medical supply routes, and [Transportation to Care](#) which connects rides from one of West Virginia's eighteen public transit agencies to recovering addicts to receive treatment.^{40 41} Sometimes treatment is not possible because medical supplies are damaged in transit or never reach care facilities.

MARP 2020 is a \$50M program to fund physical roadway construction to improve access to medical facilities and along these medical supply routes to ensure safer and more efficient transport. Funded through federal grants, Transportation to Care connects rides from one of West Virginia's eighteen public transit agencies to recovering addicts to reach and receive treatment. The West Virginia Public Transit Association (WV PTA) has been working with West Virginia's Department of Health and Human Resources' Bureau (WV DHHR) for Behavior Health State Opioid Response Program to offer these rides since February 2020 which have exceeded over 7,600 trips throughout West Virginia through August 2020 helping recovering citizens. Passengers are easily connected to their neighborhood transit agency by calling a 1-800 number.

Improving Healthy Food Access Since the 2019 West Virginia Food Desert Summit, experts have been working through strategies to help increase food access in rural parts of the state to make sure grocery stores are accommodating, acceptable, available, assessable, and affordable because reducing Food Deserts by making grocery stores more accessible will help lower obesity and improve overall public health.

³⁸ Centers for Disease Control and Prevention. U.S. Opioid Prescribing Rate Maps. October 3, 2019.

³⁹ "Creating a Culture of Health in Rural WV: State Rural Health Plan 2018 – 2022." WV Department of Health and Human Resources. January 2018.

⁴⁰ "MARP 2020: Medical Access Road Project." WV Department of Transportation.

⁴¹ Kosik, Haley. "WV Transit Program Helps Addicts in Recovery." WOWK13 Local News. August 31, 2020.

Impact on Future Transportation – A healthy public needs safe transportation and reliable mobility. Transportation as well as public health experts know that without transportation to care, those suffering are more likely to relapse and/or not receive the full help needed to completely recover. Many people need help accessing treatment simply because they live far from care facilities and are unable to drive themselves. The state programs underway are improving access to healthcare, ensuring people receive the care they need when they need it by physically improving transportation infrastructure and physically transporting those who need treatment to care facilities.

5. Capturing Future WVDOT Opportunities

Demographic and social trends in West Virginia are creating opportunities and challenges for the future of multimodal transportation and its ability to provide access for residents to goods and services. Five critical trends impacting transportation's future include:

- **Continued low population growth statewide and declining population in many communities may create transportation funding challenges due to flat or declining local and state tax revenues.** This creates a challenge for funding multimodal transportation – particularly given that transportation mobility and asset preservation needs will continue to increase in West Virginia.
- **Continued influx of younger residents into urban areas could lead to a greater demand more transportation options.** This creates an opportunity for new transportation modes and services to offset driving alone, resulting in reduced emissions and congestion.
- **More older residents or residents with disabilities could increase demand for more on-demand mobility options, especially in rural areas.** This is a significant challenge, given spread-out communities and health care options and the rural highway network. Creating safe and reliable mobility options for these residents is critical to maintaining their quality of life.
- **Rural areas face many challenges related to education.** Improved transportation connections are one strategy to help bridge the rural-urban education and technology divide. Transportation connections can also facilitate broadband access for these rural communities, leading to both improved education and economic conditions.
- **Public health depends on safe transportation and mobility.** Grocery stores need to be accessible to reduce obesity and food deserts. Limited access to all levels of health care in rural areas create challenges for at-risk populations.

The COVID-19 pandemic has exposed limitations, weaknesses, and equity issues statewide. Many residents statewide were already suffering from chronic health conditions, with rural residents lacking robust access to care facilities. The pandemic has brought these at-risk West Virginian's into the spotlight, necessitating more critical thinking regarding the connection of transportation improvements to both health care services and improved distribution of health care equipment and treatment.

Investing in safe and dependable transportation corridors ensures reliable access to daily services. Safe corridors mean comfortable bus stops with on-time arrivals, paved roads, well-lit intersections, visible pedestrian crossings, and structurally-sound bridges. Leading with physical improvements through state infrastructure projects paves the way for improving access to jobs, schools, businesses, and health clinics. Dependable transportation services amplify customer confidence and loyalty, and aging West Virginians are relying on on-demand transportation services to assist with daily activities like grocery shopping and attend medical appointments as soon as they lose the ability to drive themselves.

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Continued economic opportunity is necessary for public, private, personal, and community income growth to fund public services, support senior citizens, and amplify the workforce. Improving job access through transportation will especially help residents in disadvantaged communities alongside strong workforce development and employee retention efforts. Together, these efforts can help grow as well as retain the state's educated workforce.

Transportation and public health experts know access to fresh food and transport to treatment will help those in food deserts and those suffering from relapsing to ensure families are fed and addicts receive full care needed to completely recover. Living far from grocery stores and care facilities and/or the inability to drive cannot be why residents are unable to put food on the table or recover from addiction.

Transportation provides physical access between goods, services, and people. Residents need safe infrastructure to use to reach jobs, stores, and services especially healthcare facilities and schools. West Virginia's investment in residents and public structure will create widespread opportunities across transportation, education, employment, and public health that will improve the quality of life for all citizens one person at a time.

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