

TRENDS, DRIVERS, OPPORTUNITIES

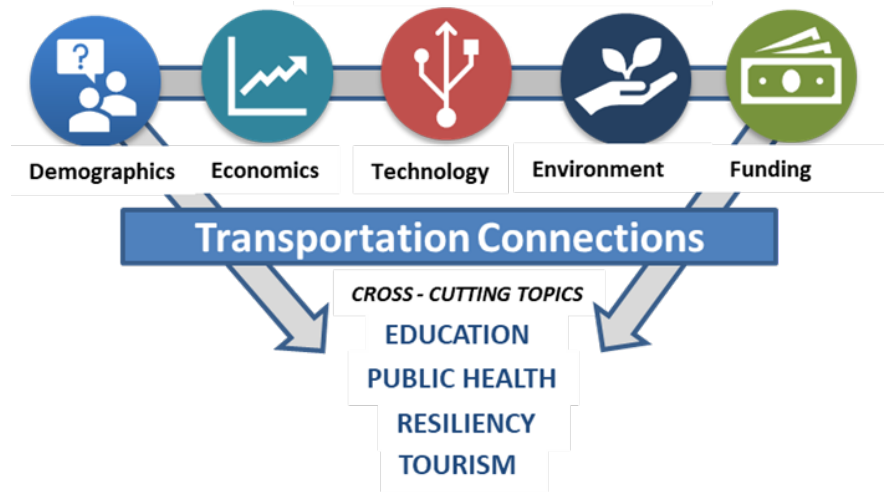
CROSS-CUTTING TOPICS



West Virginia is changing due to emerging trends, drivers of change, and emerging opportunities for transportation improvements. Changing demographics, technology advancements, environmental concerns, diversifying economies and available funding highlights the importance of maintaining a transportation system that can adapt to various and changing needs.

West Virginia’s future depends on reliable and efficient transportation connections. **Not only are these connections vital to moving people and freight across the state, but they also influence statewide goals and objectives related to education, public health, tourism and resiliency.**

A challenge to providing transportation connections is balancing mobility needs across diverse populations and economic priorities. This fact sheet presents the topics of education, public health, resiliency and tourism, also acknowledging overlaps and their relationship to transportation. The below table highlights how each of the five trends, drivers, and opportunities practically relate to these four cross-cutting topics.



	Education	Public Health	Tourism	Resiliency
Demographics	Access to transportation related fields through trade schools	Specialized programs and access for at risk communities, including seniors	Access for all WV resident groups to recreation opportunities	Maintain access to services during disruptions/events
Economics	Retaining and building a highly skilled, specialized workforce	Transportation access to foster private investment in research and development	Distribution facilities/systems enhancing access to WV products	Diversifying workforce and economy, resilient to market shocks
Technology	Broadband access, particularly for rural communities, transportation field tech. programs	Support for broader tele-health and UAS technology to support medical supply access	Autonomous shuttles and other technology enhancing access to tourist destinations	Data and transportation information/management system security
Environment	Programs fostering awareness/pride in WV resources	Programs and infrastructure that support healthy lifestyles	Preserve and protect natural and cultural resources and recreation destinations	Protect natural and cultural resources through environmental BMPs and resilient systems
Funding	New workforce education programs for transportation services, maintenance	Pilot programs for transportation and health connections	Support to existing and future programs that promote recreation, tourism	Alternative and more sustainable revenue sources

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CROSS-CUTTING TOPICS



EDUCATION

The success of West Virginia depends on fostering educational environments that empower students of all ages to reach their full potential. The first step to providing a high-quality learning system is to ensure proper transportation connections in both urban and rural areas. By providing physical access to educational centers, students across the state have an equal opportunity to reach success and in turn, generate a workforce that directly serves and stimulates West Virginia's economy. According to the 2017 Strategic Plan produced by the West Virginia Board of Education and West Virginia Department of Education:

277,137 students enrolled in 680 public schools across WV.

78.6% of students were transported.

9,702 virtual courses were taken.

Accessibility

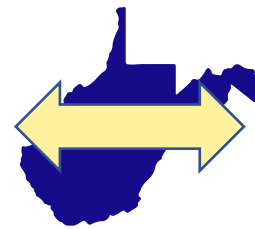
Regardless of age, gender and socio-economic status, citizens across West Virginia rely on the State to provide successful pathways that connect to educational opportunities and workforce development. This is realized through a series of transportation connections ranging from physical linkages, that provide reliable routes from residential areas to high-quality schools, to the expansion of technological innovation. For rural populations, a limited and low-speed roadway network creates physical barriers and safety concerns for accessing schools. Implementing strategies that pair transportation with technology, such as the "dig once" policy aimed to bridge the digital divide and facilitate high speed broadband access to underserved communities and expansion of available online resources/programs focused on career development, can provide all students with an equal opportunity to enroll in educational programs and pursue knowledge and skills.

Workforce Development

To combat unemployment and declining public education, workforce training, development, and career/industry focused programs can be used as a tool to retain and grow a highly skilled workforce. The West Virginia Department of Education has implemented Career Technical Education (CTE) programs that create educational environments that integrate core academics with real-world experience, transforming the way students and industries interact. Innovative CTE programs such as co-curricular student organizations and the availability of student certifications or curriculum/industry credentials can put students of all ages on a fast track to employment and helps to align labor market demand. Through partnerships and increasing coordination with universities, the private sector and neighbor states, West Virginia can enhance the labor market in transportation, technology and environmental fields. These pathways foster awareness and pride in West Virginia's resources and can aid in retaining a highly educated workforce while encouraging citizens to invest back into their communities.

Investments in local transportation connections, like improving broadband access and maintenance of rural roadways, ensures that all students can access learning programs through safe routes to school or by virtual enrollment. This is the first step to seeing statewide improvements such as a percentage increase in the number of educated citizens, the retention of a highly skilled workforce and a well-balanced economy.

A highly skilled specialized workforce that supports West Virginia's economy



Reliable transportation connections to educational facilities and job sites

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CROSS-CUTTING TOPICS



PUBLIC HEALTH

Public health remains one of West Virginia's highest priorities and depends, in part, on transportation connections. Transportation can be used as a catalyst to increase mobility independence, encourage active lifestyles, and provide access to grocery stores, outdoor recreational spaces and healthcare facilities. On the other hand, transportation decisions can also lead to an increase in air pollution, motor vehicle crashes, and community severance, which can be detrimental to public health.

71.7% of West Virginia adults were either overweight or obese.	Approximately 28.9% of WV adults have been diagnosed with asthma.
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Healthy and Active Lifestyles

Across all demographics, maintaining a healthy and active lifestyle is essential to both physical and mental health. West Virginia has implemented several successful policies and programs that emphasize the importance of healthy living. The Williamson Health & Wellness Center (WHWC) offers healthcare services, nutritional education and physical fitness activities to community members within Mingo County to foster an environment focused on health. In partnership with local food sources and community leaders, WHWC created a mobile market, utilizing transportation to facilitate improved access to health. My Mobile Market is a roaming farmers market that stops at six locations throughout Mingo County to improve access to fresh foods for lower income areas.



Mingo County Farmers Market

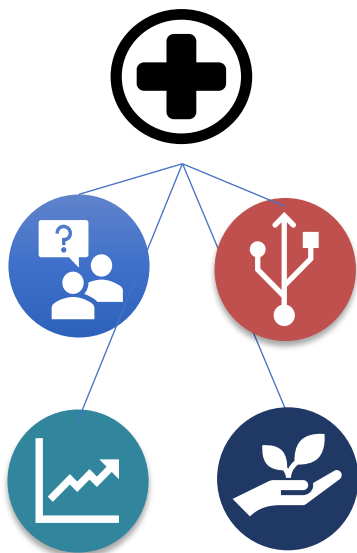
Integrating transportation systems paired with land use and development priorities provides community members access to green and open spaces, the natural landscape, health facilities and healthy food sources. Funding of transportation infrastructure like complete streets, protected bicycle lanes, and trailways will be a priority to increase personal mobility and encourage active lifestyles.



Greenbrier River Trail

Connections

In response to COVID-19, the nation has recognized the importance of public health and dependency on an interconnected transportation network. COVID-19 has shifted normal travel patterns and day-to-day decisions based on public health needs. According to the CDC, there were substantially more telehealth visits during the first three months of 2020 than during the same period of 2019. As overall travel declined at the beginning of the pandemic, the demand for food, fuel, and chemical/pharmaceutical supplies increased dramatically illustrating the importance of maintenance along key freight transportation routes as well as providing access to emerging/expanding industries and healthcare facilities. As public health continues to be of pressing concern, especially in West Virginia, investments in private transportation research, development and pilot programs can be used as an innovative strategy to link transportation to efficient public health services. Support for broader unmanned aerial systems (UAS) such as drones and the inclusion of big data or technology applications provides an opportunity to broaden access to medical supplies and support day-to-day operations such as contactless delivery.



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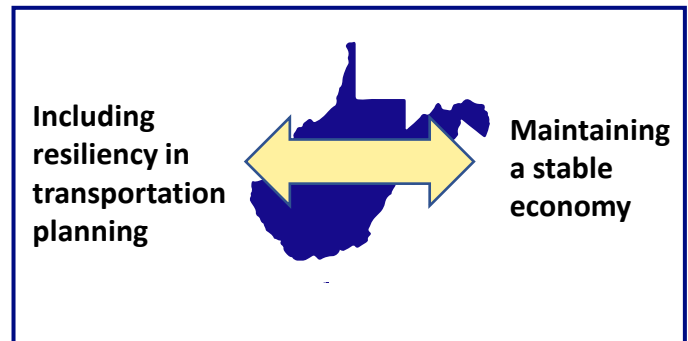
CROSS-CUTTING TOPICS



RESILIENCY

A successful transportation network is resilient to disruptions such as a pandemic, climate events, political unrest and market shocks. A resilient network creates an economy that leverages technology, transportation, and the environment to allow for the expansion of new and diverse industries.

By including resiliency in all aspects of transportation planning, West Virginia can save transportation costs caused by natural disasters, which in turn creates a more resilient economy that operates successfully in the face of disruptions. Strategies including providing alternative routes for suppliers and distributors, diversifying energy sources, and exploring more sustainable revenue sources, can enhance transportation performance and longevity.



Technology

Technology integrates information and data to enhance security and efficiently manage the transportation system. By coordinating technology decisions within transportation projects, agencies can reduce “silos” or miscommunication between technology platforms to leverage agency performance and increase internal awareness.



511 – Know Before You Go Platform

West Virginia’s Know Before You Go platform

integrates real-time transportation data with technology to educate the community on location of incidents, national weather service announcements, road conditions, future planned events and active events. Without the integration of technology, or the “do nothing” implication, there is a risk associated with missed opportunities and potential for higher operator and traveler costs. Investing in research related to electric and alternative fuel vehicles, sustainable materials and pilot programs will continue to enhance resiliency and leverage technology as a tool for operating a safe, secure, and resilient system.

Environment

Environmental resiliency aims to protect natural and cultural resources through investments like green infrastructure, conducting vulnerability assessments, and implementing environmental Best Management Practices (BMPs) such as stormwater management. Martinsburg, one of West Virginia’s fastest growing cities, has developed a Green Infrastructure Implementation Plan to reduce the impacts of stormwater, pollution, and flooding. With 30% of the city lacking traditional stormwater infrastructure, green infrastructure such as pervious pavement, traffic islands, curb extensions and sidewalk landscaping is being used to store runoff and promote infiltration to help mitigate flooding. New infrastructure projects can utilize innovative materials such as solar panels, porous pavement, and recycled asphalt to operate and maintain a system that remains environmentally conscious.

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CROSS-CUTTING TOPICS



TOURISM

The tourism industry is heavily dependent on moving people from in-state or out of state to major attractions and destinations by means of personal vehicle, air travel and public transportation (including passenger rail). **Tourism and transportation are interdependent.** Visitors traveling to and throughout West Virginia contribute significantly to West Virginia's statewide economy and the benefits of travel and tourism spending are realized across all regions. As highlighted in the West Virginia Tourism Development Act, the State recognizes the importance of creating new or expanding existing tourism development projects within the state to create jobs and greater sources of revenue for the support of public services, including transportation. In addition, the West Virginia Hospitality and Travel Association provides opportunities for all residents to enter and grow in the hospitality industry through education and career programs.

Natural Landscape

West Virginia's natural landscape provides ample locations to support environmental tourism. Outdoor recreational amenities such as camping, fishing, biking, water sports, snow skiing, and camping provide opportunities to travel during all four seasons. In addition to leisure travel, state parks and forests can be used as outside educational classrooms and as destinations to practice active and healthy living - boosting mental and physical health for all ages. As trip preferences continue to shift dependent on demographics, transportation connections should also consider how to safely ensure all residents and visitors have access to the natural landscape. Strategies include creating ADA accessible pathways, investing in autonomous shuttles, and enhancing access to popular locations by seamless transportation connections from transportation terminals such as airports and passenger rail stations.

As people across the nation experience the desire to travel after the pandemic, new social patterns and preferences related to tourism will have to be considered. It is critical to enhance direct commercial air service, passenger rail and public transportation services to accommodate an influx in visitors while also considering public health guidelines. In addition, the integration of technology platforms like mobile applications and way-finding signage can be used as a marketing strategy to encourage tourism travel and help visitors find reliable and safe routes to popular destinations and locations. The designation of New River Gorge National Park and Preserve will create a marketing opportunity and is expected to increase visitation to West Virginia from across the United States.



The **New River Gorge National Park and Preserve** is West Virginia's first National Park, designated as the United States 63rd national park as part of the economic stimulus packaged passed in late December 2020.