

# Delaware-Raritan Transit Corridor

*Blue Sky Comprehensive Planning  
for Rail Reactivation*



*Fall 2022 Comprehensive Planning Studio  
Edward J. Bloustein School of Planning & Public Policy  
Rutgers, The State University of New Jersey*

*December 14, 2022*





# Acknowledgements

This project has been a massive group effort, not only by the studio cohort who worked on creating these blue sky recommendations for the line's reactivation directly, but also a whole host of other individuals who have guided us along the way. Perhaps most importantly, we would like to extend our deepest gratitude to **Tom Dallessio**, without whom none of this studio experience would have been possible.

We would also like to sincerely thank the following individuals for introducing us to the context of the former West Trenton Line and its municipalities and for giving presentations and feedback on our work in class.. Your thoughtful insights were extremely valuable to framing our work this semester:

*Tania Althoff • Paul Anzano • Don Edmonds • Jason Karian • Tara Kenyon • Angela Knowles  
Bob Kull • Walter Lane • Chuck Latini • Matt Lawson • David Maski • Megan Massey  
Courtenay Mercer • Louis Millan • Tony Nelessen • Michael Swan • Daniel Tal • Steven Webb*

Thanks also to the Edward J Bloustein School of Planning and Public Policy, Rutgers University, NJ TRANSIT, Mercer County, Somerset County, Ewing Township, Hopewell Township, Hopewell Borough, Montgomery Township, Manville Borough, and Bridgewater Township. We thank all involved for their cooperation and generosity, sharing their time to ensure the success of this studio.



# RUTGERS

Edward J. Bloustein School  
of Planning and Public Policy



**Hillsborough**  
Township



**Borough of Manville**  
NEW JERSEY

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# Executive Summary

Blue Sky Planning takes an optimistic and visionary approach to developing an extensive comprehensive plan to a city or region. Accounting for important and emerging topics such as equity, sustainability, and economic resilience, the overarching goal of the proposed comprehensive plan along the former West Trenton Line is to establish a means of fresh and modern regional development and lay the groundwork for a possible future reactivation of passenger rail service.

Over a three-month studio course, 17 graduate-level planning students were tasked with applying transit-friendly design principles to develop a collective vision and recommendations for several municipalities along the historic Reading West Trenton Line – which last saw passenger rail service in 1982. Today, the line is hosted by private freight, and residents largely rely on private vehicles to commute in and out of the region.

By analyzing the existing conditions of the rail corridor, using state-of-the-practice planning documents like the newest edition of NJ TRANSIT's *Transit Friendly Planning: A Guide for New Jersey Communities*, and applying a holistic approach that incorporates all urban planning concentrations, Blue Sky Planning attempts to comprehensively reimagine this historic region and lay the groundwork for a prosperous and sustainable future.

Noting that the corridor connects the Delaware River with the Raritan River -- both sources of economic opportunity and cultural significance for New Jersey, the class dubbed the region the Delaware-Raritan Transit Corridor and developed a central vision statement to “foster a sustainable region of equitable and affordable communities while providing convenient access to destinations throughout the Garden State and beyond.” To anchor this vision and the corridor itself, the studio proposes the reactivation of the corridor as a new NJ TRANSIT service, called the **Delaware Line**. This vision is supported by four principles: **Mobility and Access**, **Sustainability and Resilience**, **Equity and Prosperity**, and **Process and Accountability**.

The students made recommendations for four of the proposed new rail stations and introduce this regional planning document as a backbone to guide individual municipal development. The recommendations of the studio are summarized on the right-hand page. A more detailed summary can be found in the “Key Recommendations” on page 71.

As a studio, we believe that the actions outlined in this comprehensive plan are not only appropriate in light of a future reactivation of the West Trenton Line, but also of significant benefit to the communities in this region, even in the absence of rail service.

By looking onward to the 21st Century, the Delaware-Raritan Transit Corridor will provide a reintroduced mobility paradigm to a current transit desert that is increasingly becoming a new hotspot location for people to move into, visit, and enjoy. This is a once-in-a-generation chance to embrace an innovative vision for this region’s future, and strive towards it together.

	Goals	Principles			
<b>Region</b>	Steering Committee	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	Land Stewardship	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Public Relations Campaign	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	Universal Basic Mobility	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>Ewing</b>	Mixed Uses	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Access & Mobility	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Intersystem Coordination	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Climate Resilience	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Vibrant Economy	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>Hopewell</b>	Housing	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	Connectivity	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	Transit Village	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<b>Hillsborough</b>	Improve Multimodality	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Balance Parking Demands	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Protect Agricultural Space	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Prioritize Affordable Housing	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>Manville</b>	Housing & Land Use	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Vibrant Circulation	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Thriving & Equitable Local Downtown	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Flood Resilience	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	Accountability and Improvement	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Chart summarizing the key recommendations in each area of study along the Delaware-Raritan Transit Corridor

# Instructor's Note

"In this business, if you don't have vision, transportation will be what transportation always was."

- *NJTransit Chair and NJDOT Commissioner Dianne Gutierrez-Scaccetti*

When I accepted the assignment to teach the Fall 2022 Comprehensive Planning Studio, I thought about how best to engage students in the complexities and contradictions of planning in New Jersey. This case study was chosen so students could think beyond what "always was" and bring a new vision to New Jersey Transit and the communities in Somerset and Mercer Counties, using a decommissioned passenger rail line as the organizing framework for addressing the various layers of comprehensive planning:

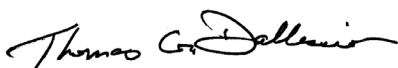
- Land use, housing, circulation, economic development, natural resources, etc.;
- Neighborhood, municipal and regional planning;
- Short-, mid-, and long-term planning;
- Economic, social and technological changes; and
- Equity, climate change, economic prosperity, public health, resilience and sustainability.

I'm pleased to say these students met the "blue sky" challenge. Their fresh eyes and enthusiasm resulted in this vision for the Delaware-Raritan Transit Corridor. Throughout the semester, each student reviewed planning literature, learned lessons from practitioners, visited the sites, compiled data and proposed changes in plans, regulations, investments and processes that are worthy of consideration. I'm proud of their work and endorse their efforts without hesitation.

I'd like to thank our shareholders: New Jersey Transit, Somerset County Office of Planning, Policy and Economic Development, Mercer County Planning Department, Hillsborough Township, Hopewell Borough, Ewing Township and Manville Borough. A special note of appreciation for all of the guest lecturers, critics and others who gave their time and expertise to help ground this course in reality. And, of course, deep gratitude to my colleagues and all at the Edward J. Bloustein School of Planning and Public Policy for your guidance and encouragement.

As you read this plan, I urge you to think about what you can do to advance the vision. At the outset, we recognized that time did not permit sufficient community engagement, field testing and other necessary components of comprehensive planning; however, the opportunity exists for further consideration of the plan's findings and recommendations among shareholders and others. The intent was never for this plan to sit on a shelf. It's up to each of us to make the vision a reality.

All aboard!



Thomas Dalessio  
AICP/PP/CPM/FRSA



# Studio Members



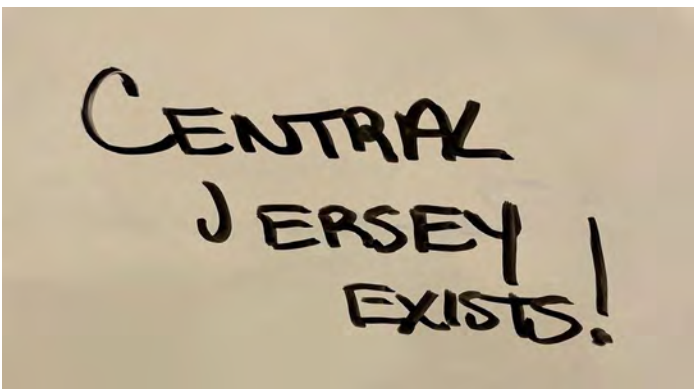
Planning Process - Oriented Studio Members



Policy - Oriented Studio Members



Design - Oriented Studio Members



Key planning assumption of the studio

The Comprehensive Planning Studio for the Fall of 2022 consists of Rutgers Bloustein graduate students in the Master of City and Regional Planning and Master of Public Informatics degree-granting programs. The students are concentrating in fields including community development, transportation planning, urban informatics, international development, urban design, redevelopment, and environmental planning. Each studio team is an interdisciplinary group whose members have diverse prior experience in planning, whether that be in planning process, public policy, or architecture and design.

## **Regional Team**

Jared Aisenberg (3-1-1 BS/MCRP '23)

Laura Gould (MCRP '23, MPI '23)

Corey Hannigan (MCRP '23)

## **West Trenton Team**

Sofia Barandiaran (MCRP '23)

Eric Harris (MCRP '23)

James Miller (MCRP '23)

## **Hopewell Team**

Sanjana Arunachalam (MCRP '23)

Kyrillos (Cyril) Girgis (MCRP '24)

Jada Ross (MCRP '23)

Timothy Staub (MCRP '23)

## **Hillsborough Team**

Alexander Bahls (MCRP '23)

Jessica Barnea (MCRP '23)

Andrew Farquhar (MCRP '23)

## **Manville Team**

Shahan Ahmed (MCRP '23)

William Downie (MCRP '23)

Falaknaaz Patni (MCRP '23)

Anuka Reddy (MCRP '23)

# Introduction & Vision



**The Delaware–Raritan Transit Corridor will foster a sustainable region of equitable and affordable communities while providing convenient access to destinations throughout the Garden State and beyond.**

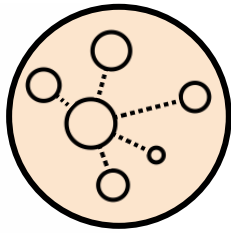


The vision statement above describes one potential future for this corridor. It represents the result of many robust, collaborative discussions about the region’s unique strengths, challenges, and opportunities, as viewed through the collective lens of a class of planners from a variety of backgrounds. To anchor this vision and the corridor itself, we propose the reactivation of the former Reading Railroad’s West Trenton Line as a new NJ TRANSIT service, called the **Delaware Line**.

Supporting this regional vision are four guiding principles (described on the following page), which we used to guide and frame our analysis and recommendations. In the following chapters, we will present goals for the region as a whole, as well as for each of the municipalities studied along the transit corridor. Each goal is tied to one or more of these principles, and all build towards the future described in the vision statement.

We believe that the actions outlined in this comprehensive plan are not only appropriate when considering future reactivation of the West Trenton Line, but also of significant benefit to the communities in this region, even in absence of rail service. This is a once-in-a-generation chance to embrace an innovative vision for this region’s future, and strive towards it together.

# Guiding Principles



## **Mobility & Access**

### **Mobility and Access**

This principle ensures that people of all ages and abilities will be able to move and travel safely, affordably, and with dignity, via any transportation mode, to reach a wide variety of desirable local and regional destinations.



## **Sustainability & Resilience**

### **Sustainability & Resilience**

This principle supports infrastructure that will be carefully planned to preserve the beautiful and life-sustaining resources of our natural environment, and support strong, robust communities which are built to recover from adversity.



## **Equity & Prosperity**

### **Equity & Prosperity**

This principle calls for coordinating resources and decision-making power between all potential stakeholders of the Delaware-Raritan Transit Corridor. In doing so, the corridor and its communities will develop a dense web of social connections, supporting steady, mutually beneficial growth.

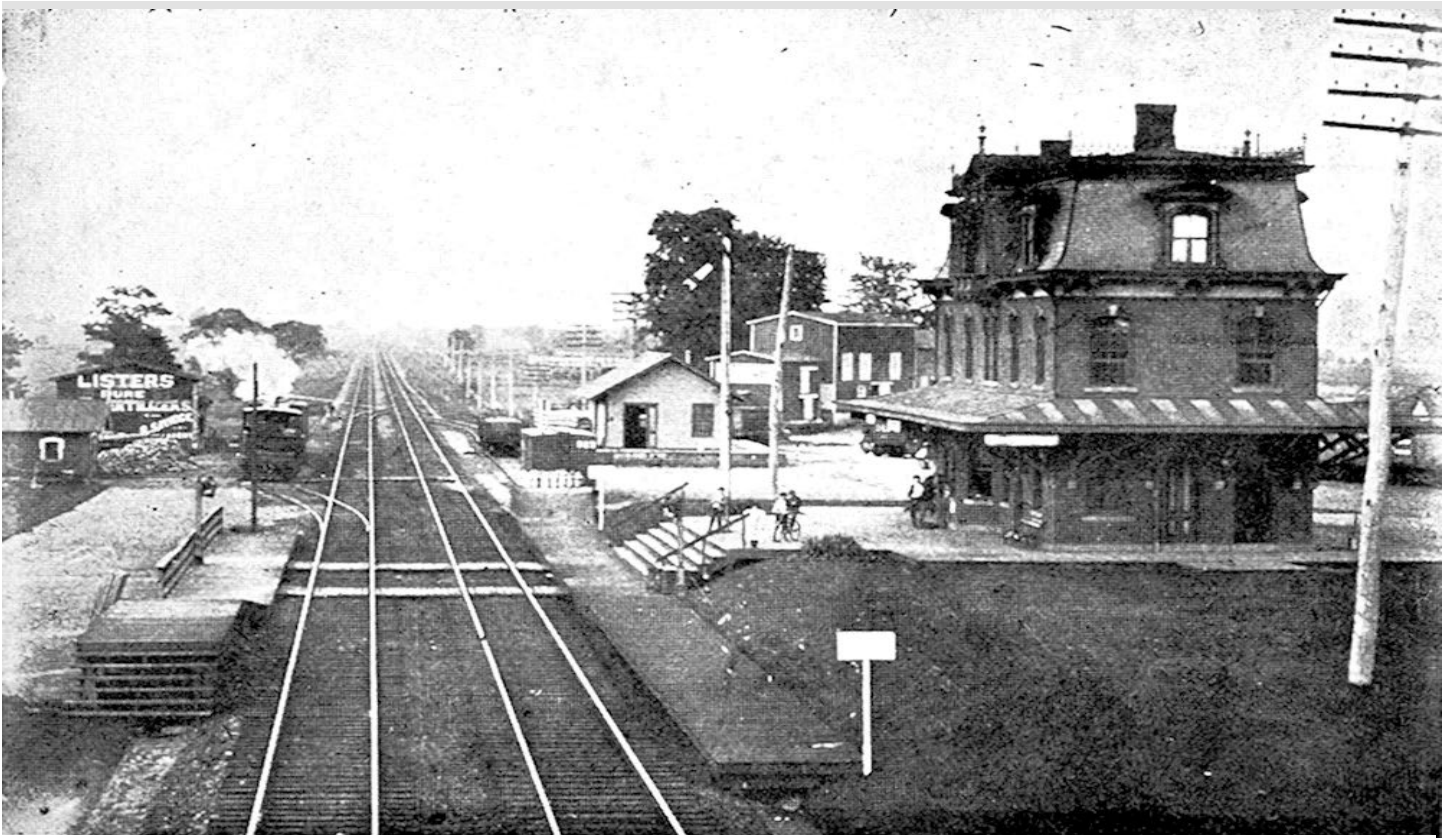


## **Process & Accountability**

### **Process & Accountability**

This principle guarantees that planning processes and policy creation will be democratic, functional, and easy to comprehend. This ensures that action plans are feasible and undertaken in good faith, with mechanisms for community oversight.

# All Aboard!



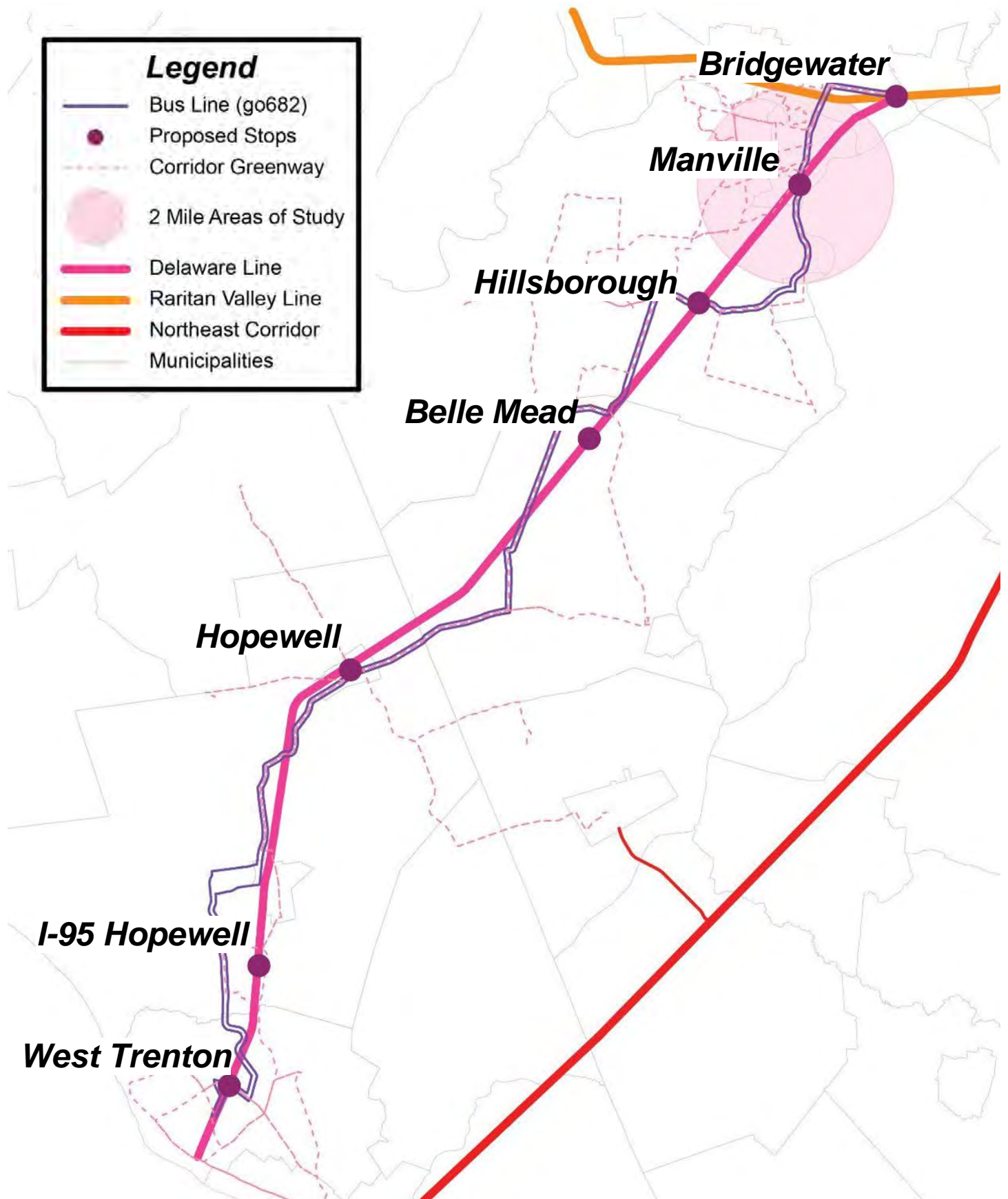
This 1897 photo shows the former Hopewell rail station on the ex-Reading Line. Today, both the station house and one track still exist. The platforms are no longer present, and the area is now surrounded by trees. *Courtesy of the Hopewell Valley History Project, 2021.*

## **Next Departure: Unknown**

Passenger rail service along the proposed corridor is nothing new. What is now a CSX-owned freight line was originally an intercity commuter rail between Newark (earlier, Jersey City) and Philadelphia via West Trenton. The line was owned and operated by the ex-Reading Railroad until it sold its assets to Consolidated Rail (Conrail) in the mid-1970s. Conrail, under contract with the New Jersey Department of Transportation (NJDOT), ran most passenger rail service in New Jersey until 1982, when NJ TRANSIT took over operations. With steadily declining and already low ridership, NJ TRANSIT decommissioned the Reading Line north of the West Trenton rail station. Today, only the West Trenton stop is still active within the Garden State, which serves as the northern terminus of the SEPTA-operated portion of the line going toward Philadelphia.<sup>1</sup>

Since the line was decommissioned exactly 40 years ago, the push to restore passenger rail service north of West Trenton Line and into New Jersey has seen momentum. The proposal for a comprehensive plan along the corridor, serving seven municipalities across two counties, is a once-in-a-generation opportunity. The ability to design a “Delaware–Raritan Transit Corridor” opens a plethora of environmental, economic, and social improvements to the region while preparing a rising population for a potential rail service even if the line is not reactivated for passenger use in the near future. Gateway, the new rail tunnel under the Hudson River will open in the next 15 years, providing additional transit capacity to New York City and enhancing the potential for passenger rail service in this area.

# Delaware Line



The proposed NJ TRANSIT Delaware Line outlined in pink, with proposed NJ TRANSIT bus go682 in purple.

# Ridership

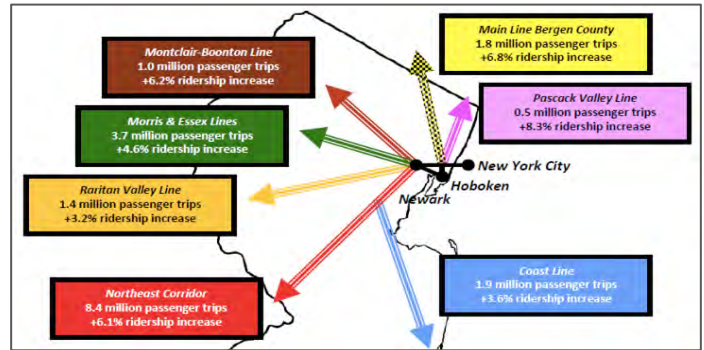
The former West Trenton Line was decommissioned by NJ TRANSIT in 1982 due to low ridership during a period of financial stress. However, this does not reflect the context of the Delaware-Raritan Transit Corridor today.

The most recent Environmental Assessment for the line projects that, if reactivated, the proposed Delaware Line along the Delaware–Raritan Transit Corridor would see a total daily ridership of over 1,600 passengers in the year 2040.<sup>2</sup>

These numbers are higher than some stations that are currently active in other parts of the NJ TRANSIT rail system. For example, the Montclair-Boonton Line primarily serves as a weekday-only commuter rail line, and two of its stations (Mountain Lakes and Mount Olive) see only 16-17 passengers per weekday, the lowest in the State.<sup>3</sup>

Rank	Station	Line	Count
137	White House	Raritan	96
138	Hackettstown	Montclair	85
139	Netcong	Montclair	82
140	Towaco	Montclair	80
141	Basking Ridge	Gladstone	79
142	Atco	Atlantic City	77
143	Annadale	Raritan	65
144	Boonton	Montclair	58
145	High Bridge	Raritan	50
146	North Branch	Raritan	48
147	Lake Hopatcong	Montclair	45
148	Peapack	Gladstone	36
149	Mount Tabor	Morristown	30
150	Lebanon	Raritan	21
151	Mountain Lakes	Montclair	17
152	Mount Olive	Montclair	16

The 15 least used stations as of 2017. Five of the six proposed Delaware Line stations would rank above the bottom 20 stations.



Current NJ TRANSIT ridership numbers, annually

Station	Daily Eastbound Boardings
West Trenton	100
I-95 Hopewell	25
Hopewell	160
Belle Mead	350
Hillsborough	950
Manville	100
<b>TOTAL Eastbound</b>	<b>1685</b>
<i>SEPTA Transfers</i>	<i>15</i>

Projected weekday boardings of the reactivated line in 2040. The Delaware Line could see upwards of 600,000 annual trips.

In fact, according to recent projections, the Delaware Line would have a weekday ridership exceeding the current Pascack Valley Line in the year 2040.<sup>4</sup> Additionally, on average, the stations along the proposed Delaware Line are expected to have a ridership of 280 passengers per weekday, which is higher than about a third of extant NJ TRANSIT rail stations.

These viable ridership numbers, combined with a relatively high prevalence of low-to-zero-vehicle households in the region,<sup>5</sup> make a strong case for the reactivation of the line as a way to equitably shape future development within this area of the state.

# Transit Friendly Planning

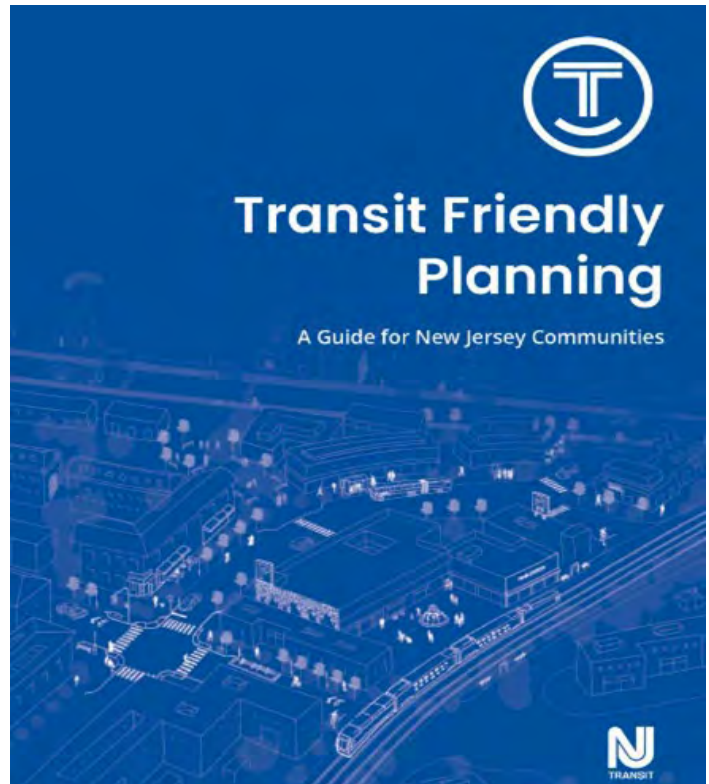
## 21st Century: A New Start

In 2022, NJ TRANSIT released a new guide titled *Transit Friendly Planning: A Guide for New Jersey Communities* offering community members, local planners, and other key development stakeholders guidance on land-use topics such as Design and Development; Access, Circulation, and Parking; and Active Transportation.<sup>6</sup>

The Guide recognizes five different place types found throughout the State of New Jersey, and how the physical elements of these different municipalities shape the way transit-oriented development is designed and understood for each place. The Delaware–Raritan Transit Corridor is home to three of these five recognized place types: Rural Place, Suburban Place, and Town Center.

By using aspects of the guide as a foundation to the proposed comprehensive plan, the corridor will be able to prepare in the most equitable, resilient, and environmentally sustainable manner possible for future transit options and an increasing population within the region. This framework helps to address the municipalities in question to develop the recommendations necessary to make the Delaware–Raritan Transit Corridor a place that is welcoming to all, and a future destination for everyone regardless of mode of transit.

The *Transit Friendly Planning* guide can also provide a framework for obtaining funding under the Federal Transit Administration’s “Guidelines for Land Use and Economic Development Effects for New Starts and Small Starts Projects.” Each of the areas of transit friendly planning discussed is a form of Transit-Supportive Corridor Policies, which are listed as a key criterion subfactor for this federal support.

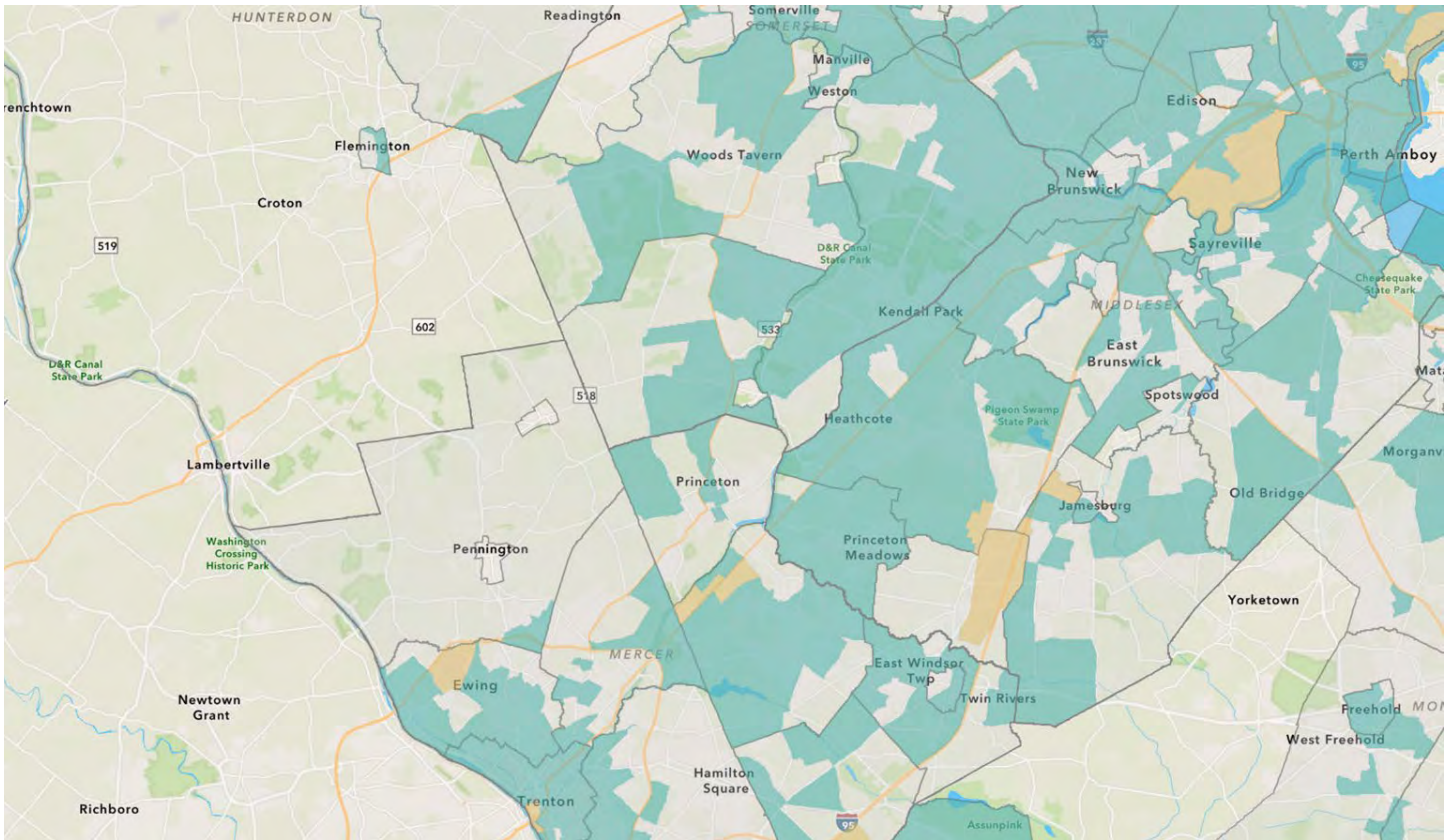


Front cover of *Transit Friendly Planning: A Guide for New Jersey Communities*, published by NJ TRANSIT in 2022.



Place type map found within the guide, highlighting example locations of the five recognized place types by NJ TRANSIT.

# Demographics



Overburdened communities overlaid in blue and yellow. *Map courtesy of NJ DEP.*

Both Somerset and Mercer Counties are largely suburban with areas of rural countryside. However, it is a rapidly developing region with an increasing population. The region also has a high concentration of farmland conservation areas.

Though what would normally be considered an area of the state rich in single-family housing units due to its non-urban nature, the counties combined both only consist of approximately 50 percent single-family units.

Six of the municipalities (including Ewing, Hopewell Township, Montgomery, Manville, and Bridgewater) all contain at least one overburdened community according to the NJ Department of Environmental Protection.<sup>7</sup> These neighborhoods are classified as having more than 35% of residents are low income, 40% are a minority, or 40% have limited English proficiency.



The site of the proposed Hillsborough rail station is located in a rural part of the municipality.

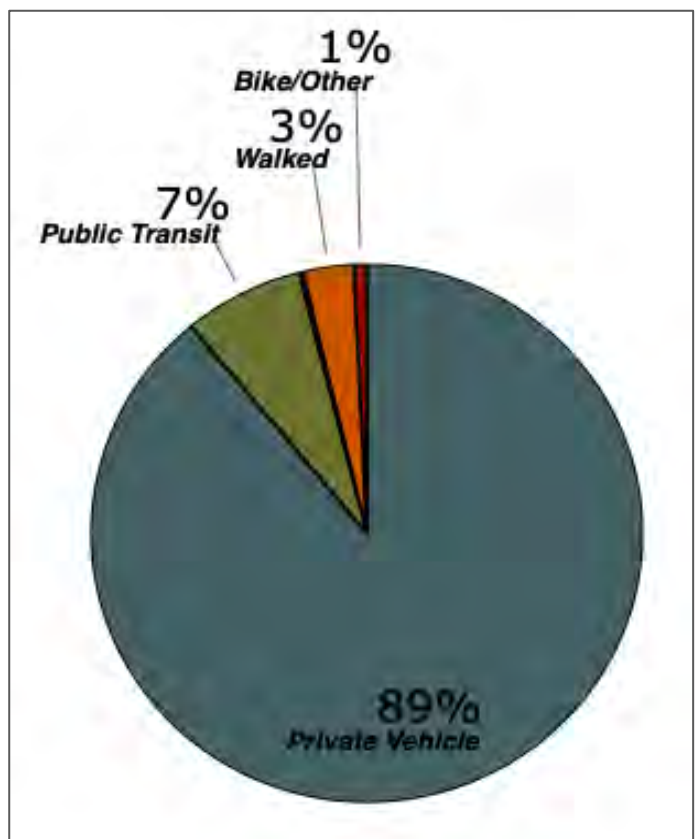
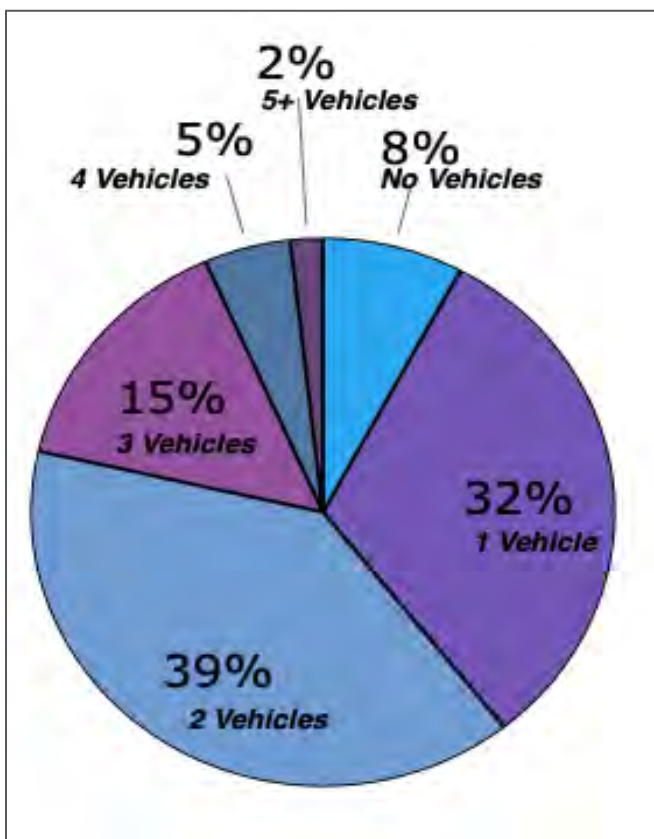


# Vehicle Access

## Not Everyone Has Access to a Car

The idea that people who live in suburban or rural neighborhoods universally own private motor vehicles is false. There exists both a strong need and desire to enhance public transit options for place types like those that exist along the Delaware–Raritan Transit Corridor. According to American Community Survey data from 2018, roughly one in three households own only one or fewer motor vehicles, and five percent – or approximately 3,800 individual households along the proposed line – own no vehicle at all.<sup>7</sup> These statistics were drawn from citizens aged 16 and older who worked, implying that those without a car still need to figure out ways to travel without reliance on one.<sup>8</sup>

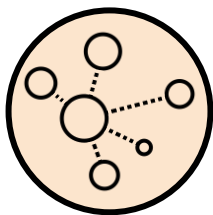
Embracing transportation options that provide opportunities for car-optional living, and promoting less car usage overall for those with the means to own and operate them, enables the region to grow in a way that accommodates a wider diversity of residents. CNW Market Research has shown that young adults between the ages of 21 and 34, in general, comprise a smaller percentage of total car sales each year, a trend that has been continuing since the early 1980's, when this rail line was discontinued. This reflects a change in the way people define mobility, and shifts the paradigm in traveling to one where there is also a diversifying alternative to owning and driving a private vehicle.<sup>9</sup>



Graphs show percentage of cars per household (left) and the mode of transit that residents use to get to work (right). Both of these charts come from information regarding the combined Somerset and Mercer County American Community Survey data from 2020.<sup>10</sup>

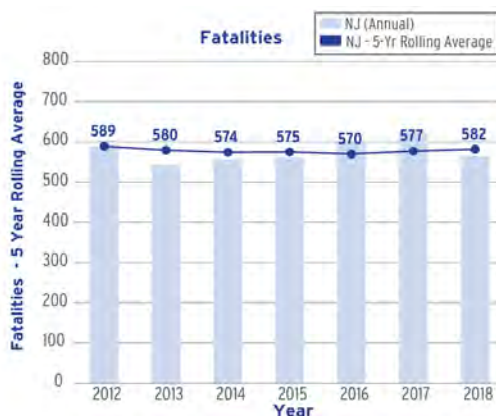
# Universal Basic Mobility

***All people will be able to safely and conveniently access destinations via local greenways, feeding a transit line that connects riders to North Jersey, New York, and Philadelphia.***

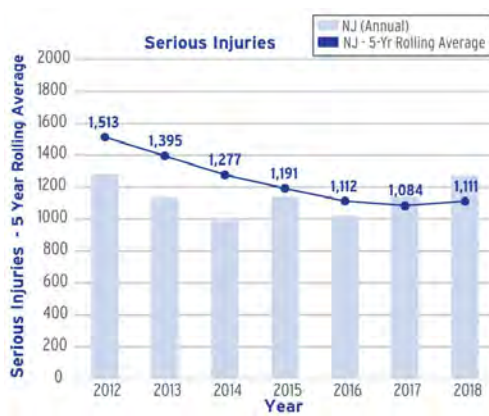


Currently, the Delaware-Raritan Transit Corridor is effectively a transit desert – beyond a few sporadic bus lines, no practical alternative to driving is available,<sup>19</sup> despite a historic urban fabric of walkable towns clustered around a railroad right-of-way. This plan aims to restore that fundamental mobility to everyone living in, visiting, and working in the region by providing safe, convenient, affordable, and environmentally sustainable transportation options for both local trips and regional travel.

A transportation network that requires the purchase and operation of a motor-vehicle is by definition exclusive. Seniors, children, and people with certain disabilities all cannot drive; and in an environment that leaves little other practical option, they must rely on others to shepherd them around. The cost of owning and operating a vehicle places an undue financial burden on many, and the need to shuttle family members around eats away at the limited time working parents have - not to mention the hours lost to traffic congestion. But time and independence are not the only things lost to auto-dependency – over 500 people are killed and over 1000 are seriously injured in crashes in New Jersey every year,<sup>20</sup> and the numbers are rising. In addition, our continued reliance on motor vehicles creates high per-capita energy demands.<sup>21</sup> Transportation is the number-one source of greenhouse gas emissions in the U.S.,<sup>22</sup> and while electric vehicles can help, their high energy demands will make a fully renewable grid much more difficult to achieve.<sup>23</sup> Only by providing a diverse mix of lower-carbon options can we hope to address these issues.<sup>24</sup>

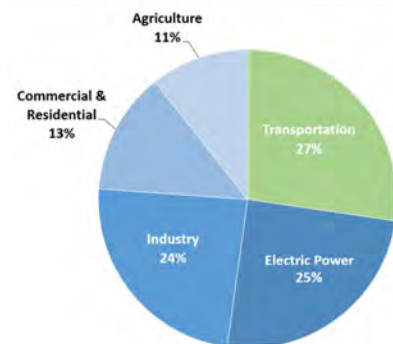


Annual Fatal Crashes in NJ (NJDOT)



Annual Serious Injury Crashes in NJ (NJDOT)

Total U.S. Greenhouse Gas Emissions by Economic Sector in 2020

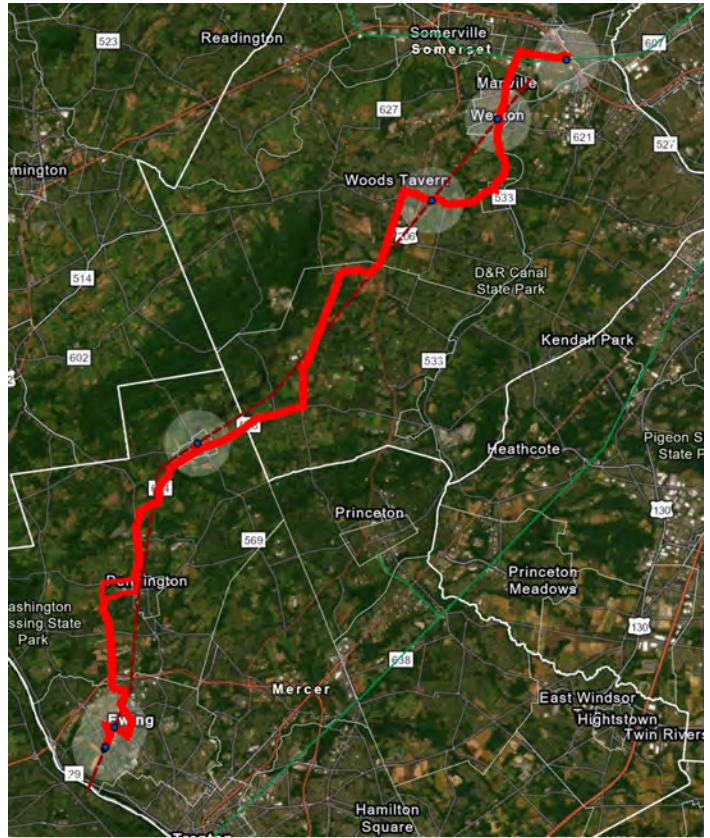


2020 GHG Emissions by Sector (EPA)

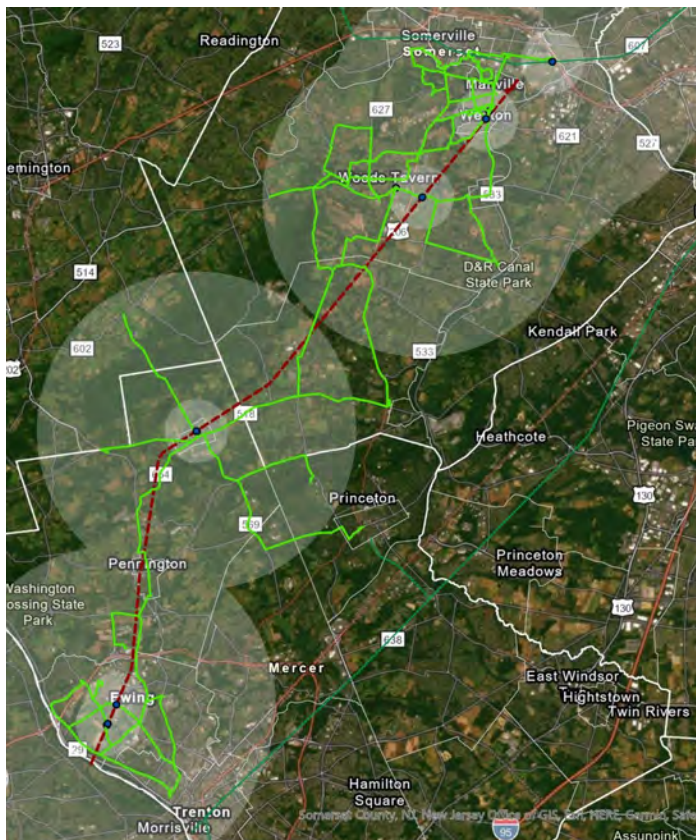
## **Pilot Transit Line**

Transit is at the heart of this vision plan, and it is therefore crucial to establish fixed-route service right away to kick-start the reorientation of local town centers. In the short term, this would mean a simple bus line operating on local roads, with stops at or near the proposed stations. Medium- to Long-term, the task force should coordinate with NJ TRANSIT Capital Planning to investigate the most cost-effective way of upgrading capacity,<sup>25</sup> either by reactivating the rail corridor, or through other options (e.g. Bus-Rapid Transit)

Operations should be frequent (15- to 30-minute) all-day service,<sup>26</sup> with highly-visible wayfinding and service information, combined with accessible stations.<sup>27</sup> This will ensure reliability for riders, and demonstrate commitment to developers



Delaware Line Pilot Bus Route



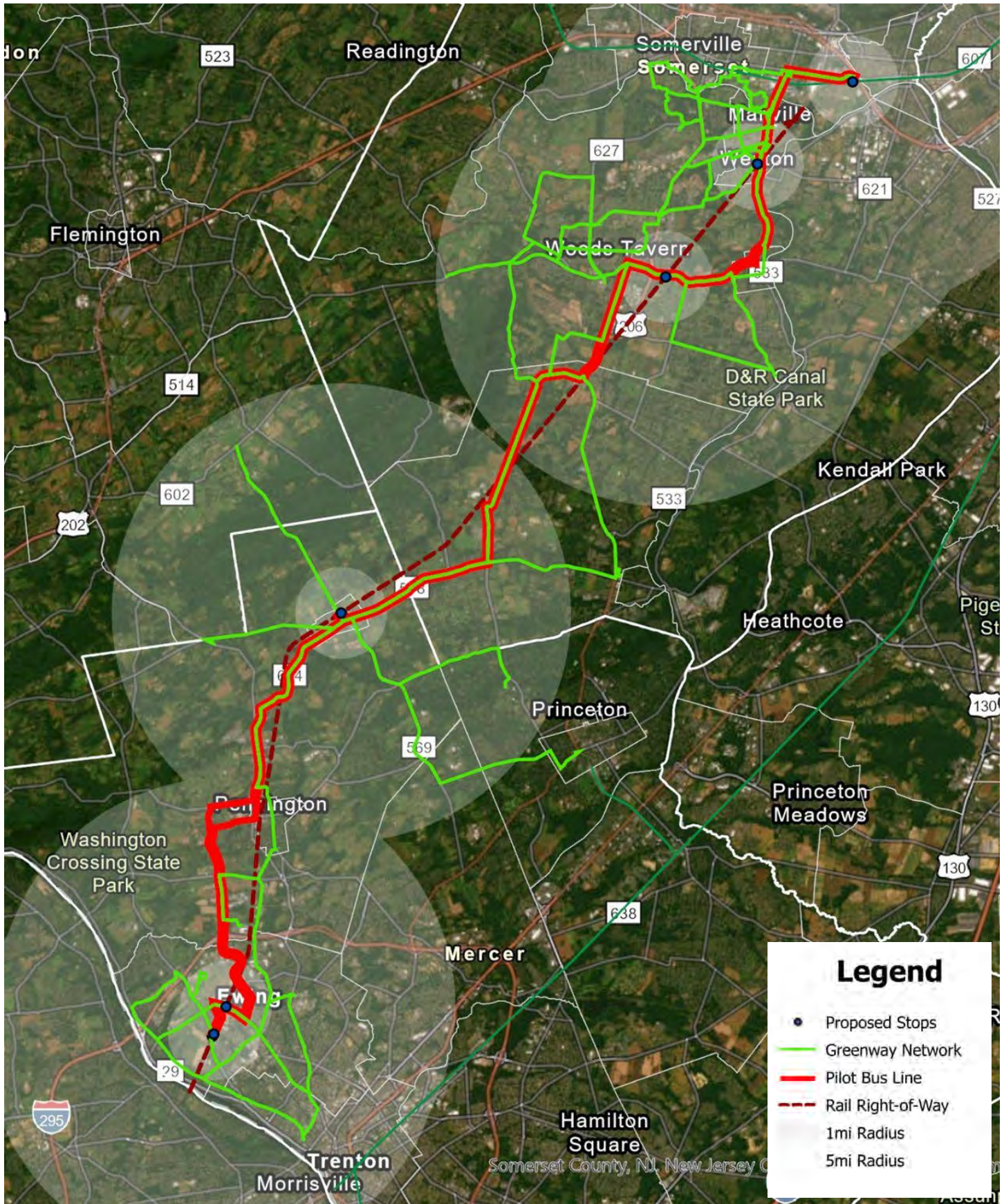
DRTC Regional Greenway Network Plan

## **Greenway Network**

A “greenway” is a two-way bicycle and pedestrian path, physically separated from motor vehicle traffic.<sup>28</sup> A fundamental network of safe paths for bicycles and scooters can greatly expand mobility options up to 5 miles out from town centers,<sup>29</sup> and offer practical car-optional access to local destinations and transit hubs.<sup>30</sup>

In the short-term, build quickly with temporary materials to “test out” new designs.<sup>31</sup> In the long-term, successful routes can be “hardened” with full capital build-out, along with green infrastructure and the work of local artists.<sup>32</sup> Coordinate with public works departments to have new designs ready for scheduled road maintenance.<sup>33</sup> Build off other greenways and plans (e.g. Circuit Trails, LHT, D&R Canal, etc.) to build an interconnected regional network.<sup>34</sup>

# Universal Basic Mobility



**Legend**

- Proposed Stops
- Greenway Network
- Pilot Bus Line
- - - Rail Right-of-Way
- 1mi Radius
- 5mi Radius

Combined DRTC Universal Basic Mobility Network

## Mobility for All

Currently, cycling is seen throughout the region as a niche recreational activity, not a practical means of transportation. But the existing road network fails to accommodate users of all ages and abilities<sup>35</sup> – bike lanes, where they exist, leave people unprotected from high volumes of traffic moving at high speeds, on poorly-lit roads where drivers are not expecting to see people on scooters or bikes. And where physically separated paths do exist, they are largely isolated and disconnected from each other. Would you drive on a highway that could disappear at the next intersection?

Designing active transportation infrastructure that is context-sensitive and accessible for all ages and abilities can encourage more drivers to leave their cars at home and offers a basic level of dignity and independence to children, who are otherwise stranded without a designated driver.<sup>36</sup>

By planning a multi-jurisdictional greenway network in the same way we plan our vehicle roadway network – reliable, interconnected, and reaching useful destinations – all roadway users can move around the region freely, rather than just a privileged group.<sup>37</sup> High quality facilities, pedestrian-scale lighting, bikeshare, secure bike parking, and bike repair stations can all signal to drivers and more vulnerable road users alike that they are all welcome in the public realm.<sup>38</sup>

Redistributing space from motor vehicles to other roadway users is crucial for addressing equity, and a key step towards achieving the goals of zero fatalities and serious injuries from roadway crashes, as outlined in the FHWA’s Zero Deaths vision and Safe System Approach,<sup>39</sup> as well as NJDOT’s “Toward Zero Deaths” initiative.<sup>40</sup>

**Children**



School-age children are an essential cycling demographic but face unique risks because they are smaller and thus less visible from the driver’s seat than adults, and often have less ability to detect risks or negotiate conflicts.

**Seniors**



People aged 65 and over are the fastest growing population group in the US, and the only group with a growing number of car-free households. Seniors can make more trips and have increased mobility if safe riding networks are available. Bikeways need to serve people with lower visual acuity and slower riding speeds.

**Women**



Women are consistently under-represented as a share of total bicyclists, but the share of **women riding increases in correlation to better riding facilities**. Concerns about personal safety including and beyond traffic stress are often relevant. Safety in numbers has additional significance for female bicyclists.

**People Riding Bike Share**



Bike share systems have greatly expanded the number and diversity of urban bicycle trips, with **over 28 million US trips in 2016**. Riders often use bike share to link to other transit, or make spontaneous or one-way trips, placing a premium on comfortable and easily understandable bike infrastructure. Bike share users range widely in stress tolerance, but overwhelmingly prefer to ride in high-quality bikeways. All Ages & Abilities networks are essential to bike share system viability.

**People of Color**



While Black and Latinx bicyclists make up a rapidly growing segment of the riding population, a recent study found that **fewer than 20% of adult Black and Latinx bicyclists and non-bicyclists feel comfortable in conventional bicycle lanes**; fear of exposure to theft or assault or being a target for enforcement were cited as barriers to bicycling. Long-standing dis-investment in street infrastructure means that **these riders are disproportionately likely to be killed by a car than their white counterparts**.

**Low-Income Riders**



Low-income bicyclists make up half of all Census-reported commuter bicyclists, relying extensively on bicycles for basic transportation needs like getting to work. In addition, basic infrastructure is often deficient in low-income neighborhoods, exacerbating safety concerns. An All Ages & Abilities bikeway is often needed to bring safe conditions to the major streets these bicyclists already use on a daily basis.

**People with Disabilities**



People with disabilities may use adaptive bicycles including tricycles and recumbent handcycles, which often operate at lower speeds, are lower to the ground, or have a wider envelope than other bicycles. High-comfort bicycling conditions provide mobility, health, and independence, often with a higher standard for bike infrastructure needed.

**People Moving Goods or Cargo**



Bicycles and tricycles outfitted to carry multiple passengers or cargo, or bicycles pulling trailers, increase the types of trips that can be made by bike, and are not well accommodated by bicycle facilities designed to minimal standards.

**Confident Cyclists**



The small percentage of the bicycling population who are very experienced and comfortable riding in mixed motor vehicle traffic conditions are also accommodated by, and often prefer, All Ages & Abilities facilities, though they may still choose to ride in mixed traffic.

Every type of user has different needs (NACTO)

Roadway Context				All Ages & Abilities Bicycle Facility
Target Motor Vehicle Speed*	Target Motor Vehicle Volume (ADT)	Motor Vehicle Lanes	Key Operational Considerations	
Any		Any	Any of the following: high curbside activity, frequent buses, motor vehicle congestion, or turning conflicts†	Protected Bicycle Lane
< 10 mph	Less relevant	No centerline, or single lane one-way	Pedestrians share the roadway	Shared Street
≤ 20 mph	≤ 1,000 – 2,000	Single lane each direction, or single lane one-way	< 50 motor vehicles per hour in the peak direction at peak hour	Bicycle Boulevard
	≤ 500 – 1,500			Conventional or Buffered Bicycle Lane, or Protected Bicycle Lane
	≤ 1,500 – 3,000	Multiple lanes per direction	Low curbside activity, or low congestion pressure	Buffered or Protected Bicycle Lane
	≤ 3,000 – 6,000			Protected Bicycle Lane
Greater than 26 mph†	Greater than 6,000	Multiple lanes per direction	Low curbside activity, or low congestion pressure	Protected Bicycle Lane, or Reduce Speed
	Any			Protected Bicycle Lane, or Reduce to Single Lane & Reduce Speed
	≤ 6,000	Any	Any	Protected Bicycle Lane
High-speed limited access roadways, natural corridors, or geographic edge conditions with limited conflicts	Any	Any	High pedestrian volume	Bike Path with Separate Walkway or Protected Bicycle Lane
			Low pedestrian volume	Shared-Use Path or Protected Bicycle Lane

More separation needed with speed, volumes, lanes (NACTO)



Spectrum of change from demonstration to permanent (NJDOT)

# Land Stewardship

***Residents will be guaranteed that vulnerable natural habitats will be protected, development in flood-prone areas will be limited, and that revitalizing impoverished areas is a priority.***



Stewardship of the land is a collective, regional issue. Efforts to conserve natural habitats must be coordinated between municipalities if they are to have any effect at all. The Delaware-Raritan Transit Corridor is a region rich in conservation areas and historic rural communities,<sup>11</sup> but it is developing rapidly as surging population growth and housing demand push developers to seek out scarce remaining greenfields. At the same time, the region contains many urbanized areas with communities suffering from historical environmental injustice and worsening flood risks.<sup>12,13</sup> The region must collectively consider how to mitigate environmental risks that these overburdened communities face, while also planning to shape future growth strategically, to prevent further environmental degradation, or repeating the injustices of the past.



"Zoning for Flood Resiliency, Resilient Neighborhoods" (NYC Department of City Planning)<sup>14</sup>

**Resiliency Areas**

Regional maps should be produced which identify priority “Resiliency Areas” where NJDEP-designated Overburdened Communities (>35% low-income, >40% minority, or >40% low English proficiency) lie in FEMA-designated flood zones.<sup>15</sup>

Then jurisdictions should coordinate zoning to ensure that the collective Fair Share Housing requirements can be met regionally without siting new housing in those flood-prone areas. At the same time, zoning should be amended to facilitate retrofits to make existing housing in flood-prone areas more resistant (for example, allowing homes to build one story higher if the first floor is reserved for non-habitation).<sup>16</sup>

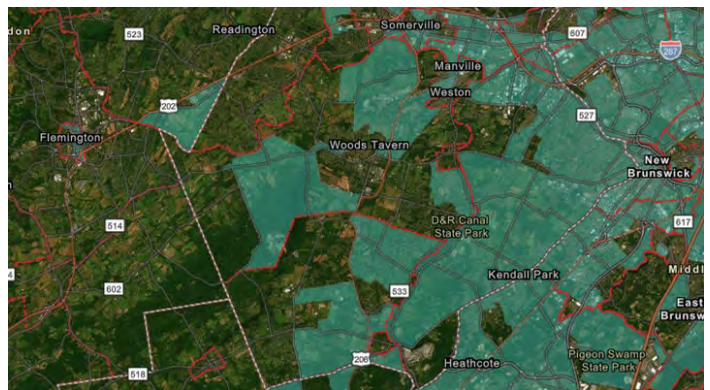
Develop Risk Management Action Plans to manage risk and address issues in Environmental Justice communities, and produce Green Infrastructure Plans to expand permeable surface in urbanized areas.

**Coordinated Smart Growth**

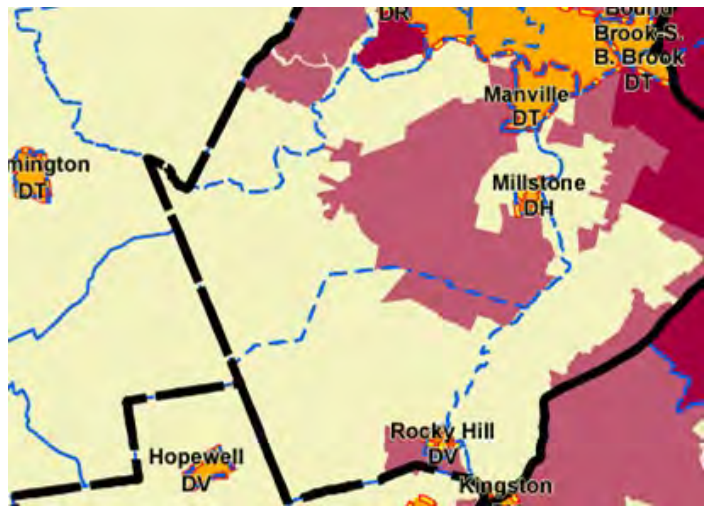
Align local zoning and state-designated conservation and smart-growth areas. To preserve open space, promote fine-grained infill at “missing middle” densities within designated “Centers,”<sup>17,18</sup> and establish a long-term action plan with measurable benchmarks and regularly published performance reports, in order to ensure long-term stewardship.



FEMA 1% Annual Chance Flood Hazard (njlutrans.org)



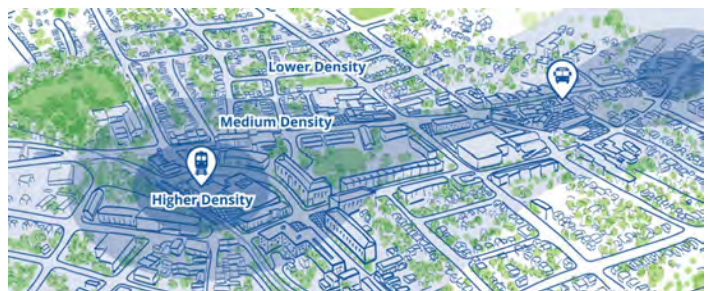
NJDEP Overburdened Communities (EJMAP)



NJ Smart Growth Plan (nj.gov)



“Missing Middle” housing typologies (opticos.com)



“Create a Hierarchy of Density” (Transit Friendly Planning Guide)

# Public Relations

***Residents will look forward to showing off the progress being made in their communities, and visitors will get a chance to experience the special charm of this region.***



A public relations campaign is essential to the successful implementation of this plan, and to fostering an identity for the corridor as well. Since the former West Trenton Line last saw passenger rail service 40 years ago, it has largely passed out of the day-to-day life for the many people who do not live or work within sight of its tracks. Many people along the Delaware-Raritan Transit Corridor are not aware of the history of the line, and renewed awareness will be one of the keys to the success of the line. After all, how can you advocate for something you've never heard of? A public relations campaign with authentic participation from local community members will be essential. This goal encompasses NJ TRANSIT branding and identification, increasing public awareness of the line reactivation plan through community events, and gathering stakeholder input throughout the line to ensure community members are consistently engaged in the planning process.



**Delaware  
Line**

## **Brand Identity**

A strong visual identity for the Delaware Line and the comprehensive plan is key to creating more awareness of the line and the work of NJ TRANSIT and the Delaware-Raritan Transit Corridor communities. While it is important to emphasize the presence of both the Delaware and the Raritan rivers in establishing the communities along the transit corridor, the line itself is called the Delaware Line to limit confusion with the existing NJ TRANSIT Raritan Valley Line. Based on existing graphic designs for NJ TRANSIT, we have proposed that the Delaware Line be pink. It uses a canoe as its symbol to reference not only the final destination of the line, but the recreational activities that can be done on the water, and the Lenni Lenape (aka Delaware) tribe of indigenous people who predated European settlement in the area.

Delaware Line logo design in the style of Stewart Mader's rail and bus line logos for NJ Transit





Sample poster created to advertise a festival celebrating the line

## **Stakeholder Updates and Feedback**

At the annual Renaissance Rail Festival, residents would not only enjoy a street fair in their community – they would also have the opportunity to provide meaningful feedback to the steering committee (see page 21), NJ TRANSIT, and local municipalities. The steering committee members would collect quantitative data about the mobility of residents and visitors, and would collect qualitative data and anecdotal evidence to support findings. This engagement combines both problem identification and data validation. Stakeholder updates and engagement would also be made a priority outside of the context of the rotating street festival. Residents of the Delaware-Raritan Transit Corridor will look forward to annual or bi-annual public meetings detailing the current state of the project from the creation of the steering committee to the establishment of the line.

## **Renaissance Rail Festival**

The long term success of the Delaware Line and the comprehensive planning to further improve the communities it would center depends on public awareness and participation. To this end, we recommend creating an annual “Renaissance Rail Festival” to experience the best attractions at each stop on the line, celebrate the progress being made in these communities, maintain momentum to continue said progress, and to inform residents and visitors about the Delaware Line’s coming or reopening, depending on the year. The festival would happen annually and move from town to town across the Delaware Line in order to emphasize the stops and to ensure that residents and visitors from anywhere on the corridor will have access to the festival once either the pilot bus line (see page 18) or the Delaware Line itself has been activated.



Stakeholder participation at a public event hosted by NJ TRANSIT

# Steering Committee

***Residents will be reassured that planning decisions are made purposefully, in an integrated and fair manner, to ensure long-term success in implementing this comprehensive plan.***



This goal will satisfy the Equity & Prosperity and Process & Accountability principles of the comprehensive plan. The US Chamber defines a Steering Committee as, “Creating a diverse, equal and inclusive environment [that] is not only good for your employees, but it can also improve your talent recruitment and innovation efforts.”<sup>4</sup> To guarantee a successful and properly monitored plan for the Delaware–Raritan Transit Corridor, a Steering Committee would be established to direct the plan through short-term, medium-term, and long-term goals. A legal directive by order of a joint-county agreement between Mercer and Somerset Counties, or by means of legislation or a gubernatorial executive order, would lay the foundation for the committee to be assembled. The Office of Planning Advocacy, or the New Jersey Department of Community Affairs would be able to assist with a government-led initiative. These agencies are important to the operations of the decree.

The Steering Committee would consist of a Task Force and Equity Board. The Task Force steers the long-term implementation of the plan through coordination among representatives from jurisdictions at the local, county, and state levels, as well as with MPOs, businesses, and community groups.

The Equity Board parallels the Task Force by evaluating outcomes of the comprehensive plan and ensuring all parties are acting in good faith. The Board is also responsible for ensuring equitable outcomes and a diverse representation present at the table. Not only is this diversity important from a position of race, creed, and color, but is needed in terms of individuals with differing transit access and private vehicle access, socioeconomic class, and disability accessibility.



Governor Phil Murphy signs an executive order, with key local officials representing Mercer County and Somerset County





**Ewing  
Township**



Figure 1: Key landmarks surrounding the former West Trenton Line in Ewing Township (Source: Google Earth).

Ewing Township is a mature suburb of Philadelphia located along the Delaware River in Mercer County, New Jersey. During the 20th Century, the Township’s population growth and transformation from an agricultural community to a suburban one can be traced back to when the existing West Trenton passenger station was built in 1929.<sup>1</sup> The station helped give rise to two major industrial employers in Ewing: the General Motors plant, an auto parts manufacturer, opened in 1938,<sup>2</sup> and the Naval Warfare Center, a jet engine testing facility that opened in 1951.<sup>3</sup> The closing of these facilities in the late-1990s cost the Township up to 7,000 jobs and was a blow to its blue-collar heritage.<sup>4</sup>

But from its ashes, Ewing Township has been planning to give new life to these former industrial sites as a mixed-use transit village/town center. The former General Motors site is currently under construction as a townhouse and mixed-use development site – known as the Ewing Town Center – and local officials intend to eventually relocate the West Trenton Station to this new development.<sup>5</sup> Ewing Township is crucial to the success of a reactivated passenger line for the Delaware-Raritan Transit Corridor, as the station would serve as the transfer point between SEPTA and New Jersey Transit, linking Philadelphia to New York City.

**As the gateway between New Jersey and Pennsylvania, the West Trenton rail station will be an attractive destination for residents and visitors in Ewing; the surrounding transit village will allow residents to enjoy a prosperous, sustainable community.**

# Existing Conditions



Figure 3: Ewing Town Center Concept Plan (Atlantic Realty)<sup>13</sup>

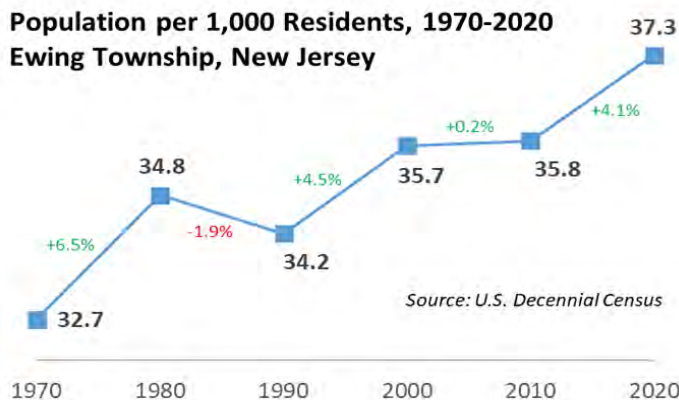


Figure 2: New Townhomes (Ewing Town Center Gallery)<sup>14</sup>

Ewing Township is home to approximately 37,000 individuals and contains nearly 13,000 total housing units (with an 8% vacancy rate).<sup>6</sup> Between 1970 and 2020, the Township's population grew 14%, averaging a 2.7% increase per decade. Mercer County's population grew twice as fast during the same period.<sup>7</sup>

Approximately 60% of Ewing is zoned for single-family detached residential use.<sup>8</sup> The Township has been proactive over the years in planning for *uppercase "A"* affordable housing, meaning housing that has been formally designed as affordable under New Jersey law (known as the "Mount Laurel Doctrine"): the Township has exceeded its Mount Laurel obligation for the year 2025 by 28 housing units, achieved using special zoning within its Redevelopment Areas (that require 15%-20% of units to be affordable) and using the Township's Affordable Housing Trust Fund.<sup>9</sup>

Ewing Town Center is located in close vicinity to several conservation/recreation areas, including a greenway along the Gold Run stream, the Delaware & Raritan Canal State Park, and two preserved farms (the Jones and Knight farms).<sup>10</sup> The Township also boasts some of the largest private employers in Mercer County, including the New Jersey Manufacturers Insurance Company, The College of New Jersey (TCNJ), CA Technologies, and Church & Dwight.<sup>11</sup> Thirty-three percent of Ewing's residents work in educational services (many likely at TCNJ) and the median household income is \$74,795 (12% and 14% lower than the median incomes for Mercer County and New Jersey, respectively).<sup>12</sup>

Unlike the other locations studied in this report, Ewing is already served by commuter rail. SEPTA operates its West Trenton Line between the existing West Trenton rail station and Center City Philadelphia. Ewing is also served by NJ TRANSIT buses. Nonetheless, Ewing has relatively low transit commuting rates: 3.9% compared to 6.7% nationwide. A majority (78.9%) of Ewing residents drove alone to work, compared to 68.5% of Mercer County residents. The majority of transit commuters in the county used commuter rail, likely SEPTA, and a smaller proportion commuted by bus.<sup>15</sup>

Given its densifying land use, Ewing Township is ripe for growth in transit opportunities. As a middle income municipality mostly made up of overburdened communities as defined under New Jersey’s Environmental Justice Law,<sup>16</sup> Ewing would be well-served by renewed NJ TRANSIT commuter rail service, improved bus service, and increased walkability and bikeability.

The Township and other stakeholders have taken strides through to improve walkability and bikeability and to prepare for improved transit service. For example, the Parkway Avenue Concept Development prepared in 2019 for NJ DOT outlines several opportunities for new walking and biking routes and a road diet for Parkway Avenue.<sup>17</sup> Through this work, the Township is preparing for the potential reactivation of NJ TRANSIT rail service, which promises to further promote multimodal transportation opportunities for residents.



Figure 4: Transit ridership in Ewing is low despite existing SEPTA commuter rail service at the West Trenton station.<sup>18</sup>

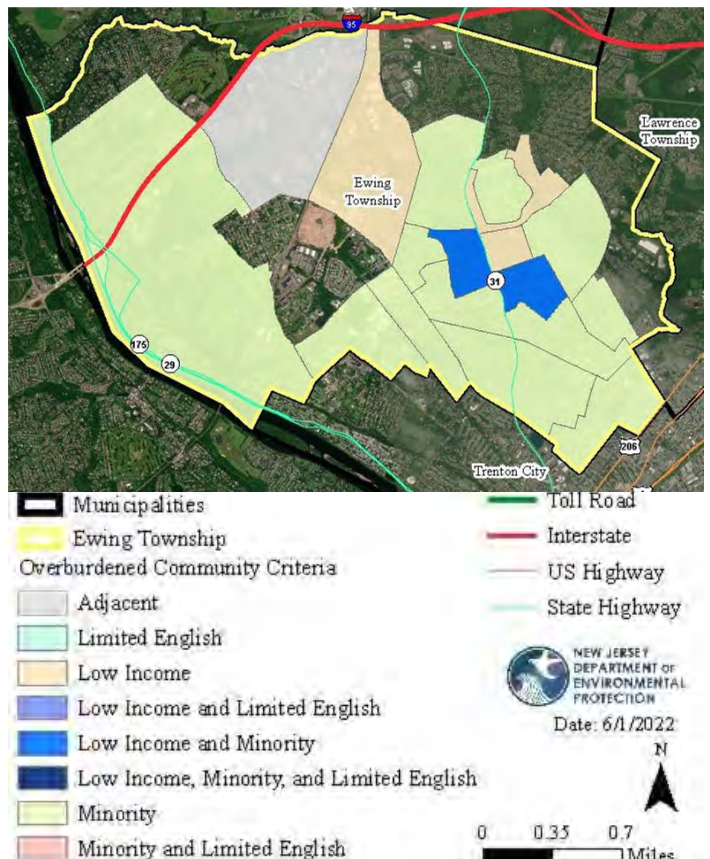
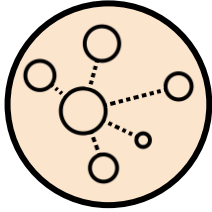


Figure 5 (right): Most of Ewing Township’s communities are defined as overburdened under the NJ Environmental Justice Law.<sup>16</sup>

# Mixed Uses

**Encourage mixed-use and higher density development that is accessible to diverse income levels in order to build community, promote walkability, and boost ridership.**



For more than 20 years, Ewing Township has been planning the redevelopment of the former General Motors and Naval Warfare Center as a mixed-use transit village/town center through a phased approach that includes: a mix of land uses on the General Motors site (Phase I), intensifying land uses surrounding the redevelopment area (Phase II) and eventually relocating the West Trenton Station to the GM site (Phase III).<sup>19</sup> In 2015, the second phase of this planning was advanced by rezoning the surrounding area as the TC Town Center District, which permits primarily commercial uses (restaurants and professional offices) but also allows residential and mixed-uses under special conditions.<sup>20</sup>

As a continuation of these these past efforts, this plan proposes an overlay zone to the nearby R-2 Single-Family Residential Districts within approximately 0.75 mile of the future station in order to encourage a greater diversity of housing types (**Strategy 1**) and permit mixed commercial uses (**Strategy 2**) that complement the residential experience.





### **Mixed Residential Uses**

As described in the *Existing Conditions*, Ewing Township has been effective in providing uppercase “A” affordable housing and has exceeded its Third Round Mount Laurel obligation by 28 housing units.<sup>22</sup> The proposed overlay zone can help Ewing Township provide for more lowercase “A” affordable housing near the future train station (i.e., housing made attainable through market conditions) by allowing homeowners within single-family neighborhoods to build accessory dwelling units (ADUs) and convert their residences into two-family dwellings (based on condition the primary residence is owner-occupied). These changes could allow new residents in Ewing to find housing types that are more naturally affordable while offering homeowners the opportunity to generate rental income, pay-off their mortgages, and build generational wealth.



Figure 8: Existing Neighborhood (Google Maps / Earth)



Figure 7: ADU in Pasadena, CA<sup>23</sup>

### **Mixed Commercial Uses**

Whereas the TC district prioritizes commercial over residential uses, the proposed overlay seeks to preserve the scale and character of the existing neighborhoods while integrating with complementary commercial uses (via conditional approval) such as live-work units, daycares with less than 25 children, food and beverage shops, and small grocery stores. The TC zoning district should also be amended to permit grocery stores

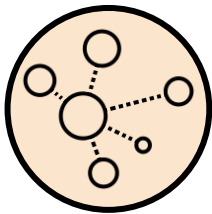
farmer’s markets, and similar establishments that provide fresh produce/dairy and essential food items. Marrazzo's Market is currently the only grocery store within walkable distance of the Parkway Avenue Town Center area; however, Ewing Township’s zoning regulations should encourage grocery accessibility within its transit village for years to come.

### **Strategy 3: Reduced Parking**

In order to encourage walkability and promote the efficient use of land in the future transit village, Ewing Township should also amend the requirements for off-street parking spaces (in both the existing TC Town Center District and the proposed overlay district) to allow for a conditional reduction based on shared uses and/or the completion of a parking demand study. Moreover, the parking requirements for residential uses could be reduced from two spaces per dwelling unit to only one.

# Access & Mobility

***Empower residents and visitors to access destinations near the West Trenton station by creating a network of sustainable, multimodal travel options with the station as their hub.***



The West Trenton Station area is an economically vibrant neighborhood with a rich array of employment, commercial, and residential opportunities. The reactivation of the Delaware Line has the potential to connect people to these destinations. But to access the full potential of the line, residents must be able to make the first- and last-mile connections between their origin or destination and the station. Local mobility solutions like bus transit, walking, and biking will make Ewing Township truly accessible by rail. As shown in Figure 9, the proposed station is within walking and biking distance of several local residential and commercial destinations and of the Delaware & Raritan Canal State Park shared use path (Figure 11). The strategies in this section use the proposed station as an anchor to unlock Ewing Township's potential for multimodal transportation.

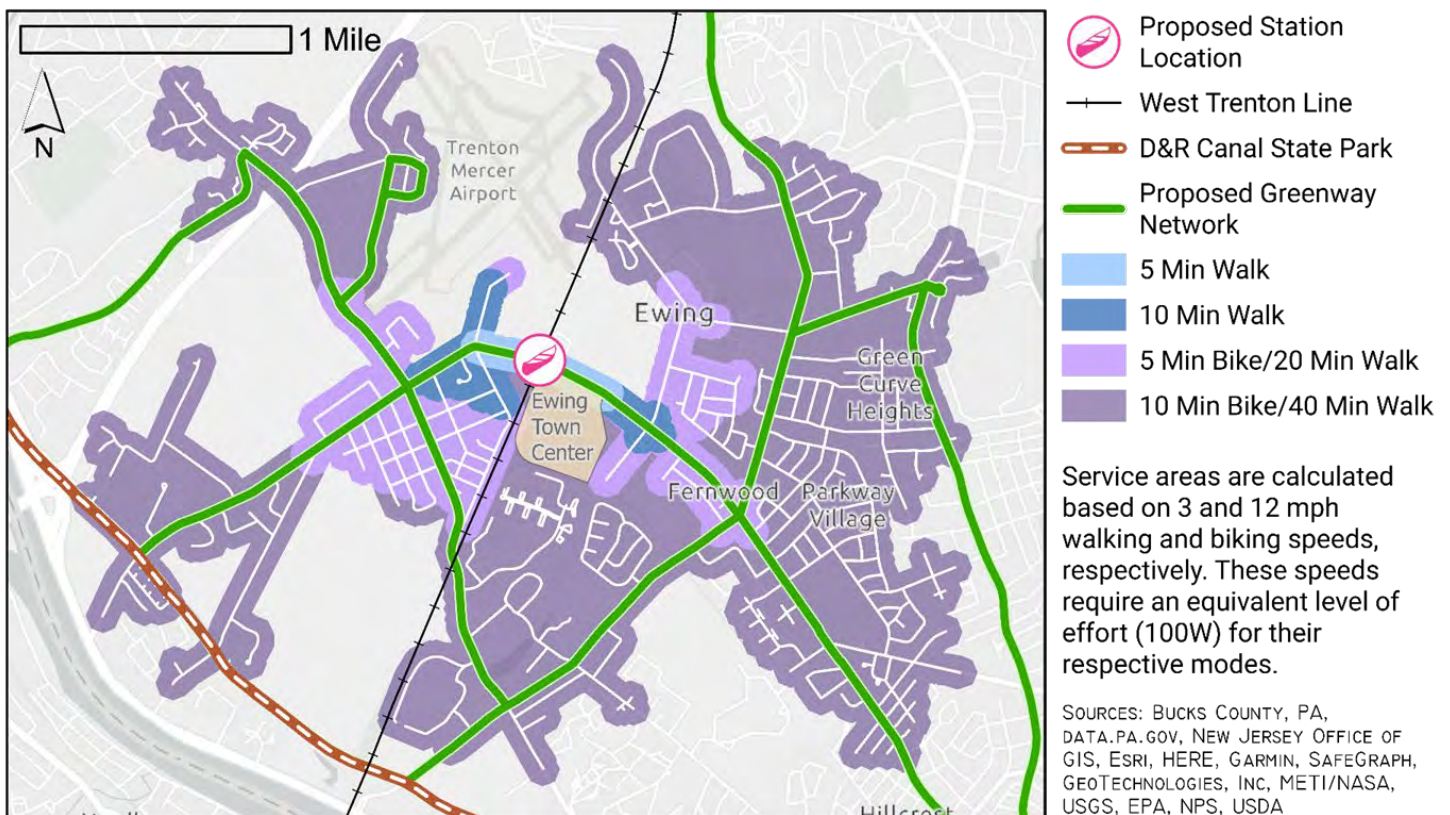


Figure 9: Map of walking and biking service areas to/from proposed West Trenton Station.

## **Strategy 1: Improve Bicycle and Pedestrian Station Access**

**1.1 Create a network of safe walking and biking routes to the station and destinations in the area.** In order to activate the station’s potential for walking and biking access, upgrade the roads shown in the walking/biking buffers on Figure 9 (or comparable alternative routes) to safe, Complete Streets with accessible sidewalks, safe crossings, and context-appropriate bike infrastructure.

In designing pedestrian and bicycle infrastructure, follow best practices recommended by industry-leading organizations like the National Association of City Transportation Officials (NACTO).

Wherever possible, opt for protected bike lanes like the ones shown in Figure 10, which proposes modifications to the proposed Parkway Ave Enhanced Road Diet to further protect people on bikes without adversely impacting parking or drive lanes.<sup>24,25</sup>



Figure 10: Proposed design for Parkway Ave at Ewing Town Center. Similar to the existing proposed Parkway Ave Enhanced Road Diet designs (“Concept Plan” 2019), these modified designs incorporate class IV bike lanes protected by parking.



Figure 11: The Delaware and Raritan Canal State Park shared use path provides regional bike and walking access to Ewing Township and the West Trenton Station.<sup>26</sup>

**1.2 Establish a low speed zone within 1000 feet of the station.** Establish a 15 mph speed limit within 1000 feet of the station, with speed humps/bumps and other traffic calming strategies to ensure that design speed matches the posted speed limit.<sup>27</sup>

**1.3 Create a bike or scooter share pilot program to increase connectivity between the station and select nearby destinations.** Create pilot bike or scooter share stations at the West Trenton Station and at select destinations within the identified station bikeshed (Figure 9) to encourage ridership, decrease car dependency, and bring visitors from the station to local businesses.<sup>28</sup>

# Access & Mobility

## **Strategy 2: Improve Bus Access**

2.1 Assess and propose improvements to NJ TRANSIT bus network. Identify opportunities to improve frequency, service hours, and reliability. Consider stop balancing and connective service to enhance service without raising costs.<sup>29</sup>

2.2 Create a comfortable, safe bus stop at the new West Trenton Station. Provide seating, a bus shelter, safe pedestrian crossings to and from the stop, and wayfinding materials (e.g. a map, schedules, and digital materials).<sup>30</sup>

2.3 In anticipation of Delaware-Raritan rail reactivation, enhance bus service between West Trenton and Trenton stations to begin facilitating transit travel to/from West Trenton. Provide high-frequency bus service to the Northeast Corridor to begin building a culture and constituency around transit in Ewing Township.

## **Strategy 3: Provide Smart and Sustainable Parking Options at the West Trenton Station**

3.1 Implement a demand-based parking pricing system to ensure the long-term availability of parking. Dynamically price parking based on demand. Price parking on a per-hour or per-day basis rather than selling monthly parking passes to ensure that customers only pay for the parking they use and that parking capacity is not exceeded.<sup>31</sup>

3.2 Provide electric vehicle charging with dedicated parking spots. Offer discounted-rate parking to electric and hybrid electric vehicles at charging stations.

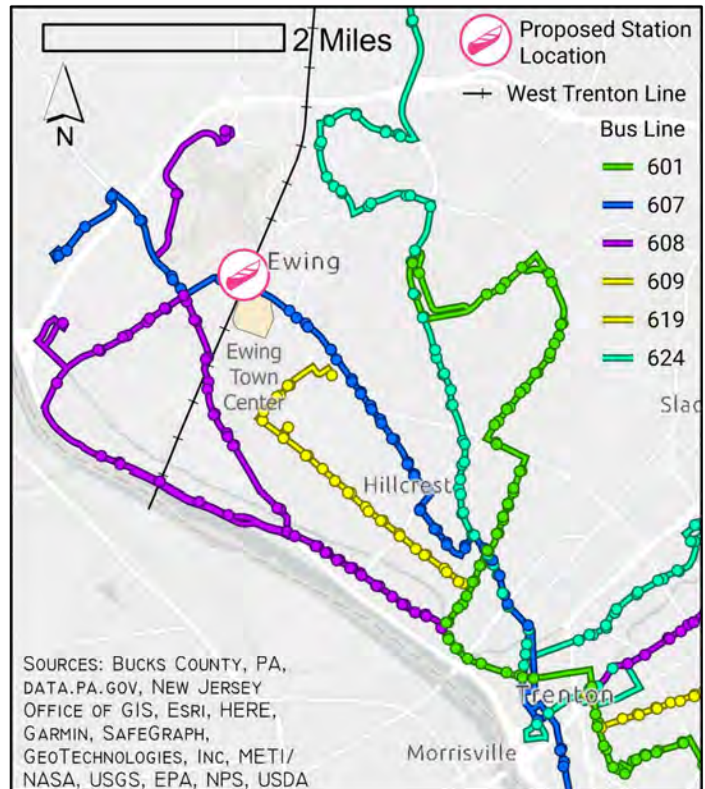


Figure 12: Map of current NJ Transit bus lines that connect Ewing Township to Trenton and beyond.

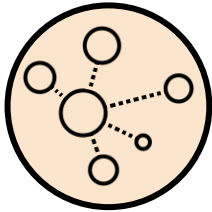


Figure 13: Bike and car parking at Princeton Junction.<sup>33</sup>

3.3 Provide ample and secure bicycle parking at the station. Provide both bike racks and paid lockers for long-term secure storage. Lockers should be actively monitored to ensure that unused lockers are made available in a timely manner.<sup>32</sup>

# Intersystem Coordination

*Foster an intuitive rider experience by implementing systems for ongoing coordination between NJ TRANSIT and SEPTA to elevate the West Trenton Station as a gateway to the region.*



## **Strategy 1: Create Interagency Taskforce in Anticipation of Delaware Line.**

Create Interagency Taskforce made up of NJ TRANSIT and SEPTA representatives. Tasks include identifying infrastructure needs for the station and rail yard, creating cost-sharing agreements for capital improvements, coordinating timed transfers, and exploring options for fare integration.

## **Strategy 2: Showcase Delaware-Raritan Transit Corridor Region to Visitors.**

Create an inviting gateway to the Delaware-Raritan region by showcasing local art, creating a mural and exhibit about the history of Reading Railroad, and posting a bulletin for regional events.



Figures 14 (left) and 15 (below): SEPTA and NJ TRANSIT will both operate services at the new train station and railyard.<sup>34,35</sup>



## **Strategy 3: Design Station to Promote Intuitive Transfers.**

Promote ease of transferring by providing safe and accessible pedestrian access between platforms, a comfortable indoor waiting area, and intuitive intersystem wayfinding.

# Climate Resilience

***Ensure that all residents are able to live, work, and play in healthy, safe, ecologically vibrant environments that are resilient to the threats of climate change.***



In order to realize this goal and become a more sustainable and resilient community, Ewing Township should consider the following strategies:

## **Enact a Stream Corridor Protection Ordinance.**

An unrealized goal from the 2007 *Conservation Element* of Ewing Township's Master Plan,<sup>36</sup> this type of ordinance protects riparian corridors by requiring development setbacks from stream banks, floodplains and wetland areas. These regulations would supplement the Township's existing *Flood Damage Prevention* and *Stormwater Control Ordinances*<sup>37,38</sup> by protecting the ecological and recreational values of local streams

## **Green Infrastructure at the Suburban Square Mall.**

Whereas Strategy 1 addresses flood resiliency for new/future development at the Township-wide scale, attention should also be given to existing development near the future West Trenton Station. One potential risk is Suburban Square, a shopping mall property built in the flood zone circa 1960. Ewing Township could work with the owner of this property to implement green infrastructure solutions at this property (e.g., replacing some the current parking with a rain bioswale) or make other utility drainage improvements.

## **Incentivize Green Building Practices**

Ewing Township's commitment to sustainability practices has earned it the Silver Certification from the organization Sustainable Jersey (recertified in October 2022).<sup>39</sup> In 2021, the Township also passed an ordinance "Endorsing the Adoption of Green Building Practice."<sup>40</sup> To make good on this promise, the Township should create incentives for green building design, such as reduced permit fees, a streamlined permit processing, or financial grants.

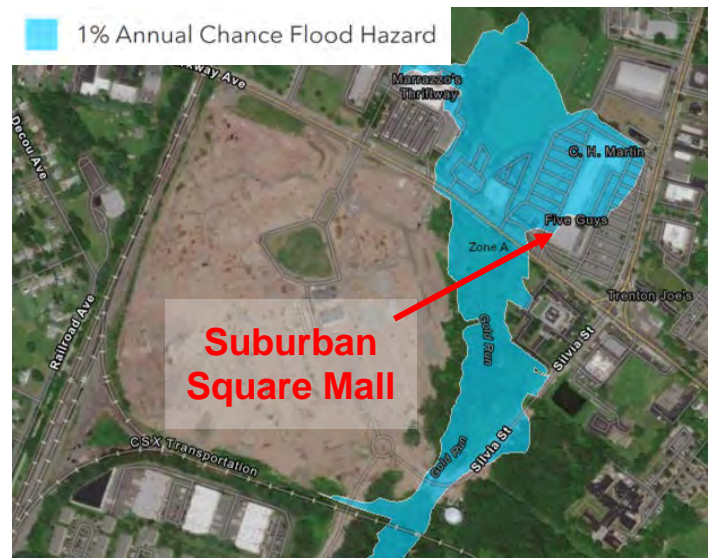


Figure 15: Flood zone at Suburban Square Mall <sup>41</sup>

# Vibrant Economy

***Cultivate equitable economic development near the West Trenton station to support small businesses and create employment opportunities for residents.***



The Township could pursue the following actions to help the local economy prosper from new development surrounding the future West Trenton Train Station:

## **Help Small Businesses Apply for SBA Loans**

Ewing Township can help local businesses apply to the Federal Small Business Administration (SBA) for loan relief by offering technical assistance in the form of in-person appointments, webinars, and other online resources posted on the Township website. Special efforts should be given to assist minority- and women-owned businesses and owners facing structural barriers in completing applications (e.g., those without internet access and/or whose first language is not English).

## **Halt or Defer Financial Burdens for Small Businesses**

The Township can support small business struggling to generate revenue by halting/deferring payments for utilities, taxes, licensing fees and penalty payments. During the COVID-19 crisis, many local and city governments in the U.S. implemented this approach through executive order or legislative motion.<sup>42</sup>

## **Create Spaces for Local Food Vendors at the Future Station**

Ewing Township can help support local business, enhance the rider experience, and build a sense of community by incorporating food vendors at the future West Trenton Station. This could include a dedicated retail kiosk within the station (featuring different vendors on different days of the week), outdoor food trucks, and a seasonal farmer's market.



Figure 16: Farmer's Market at the Walnut Street Station in Montclair, New Jersey, an example of what could be at the future Station<sup>43</sup>



**Hopewell  
Borough**





Hopewell Borough station and the abandoned railway tracks. **Source:** The Hopewell Museum

The Borough of Hopewell, NJ is a small town of 1,918 people in an area of 0.7 square miles surrounded by rural land.<sup>1</sup> Hopewell Borough was incorporated as a municipality on April 14, 1891, however its settlement goes as far back as 1696/97 when Dr. Roger Parke and Thomas Tindall bought land on the edge of the present-day borough.<sup>2</sup> The borough today is an affluent community, with a high concentration of college-educated households.

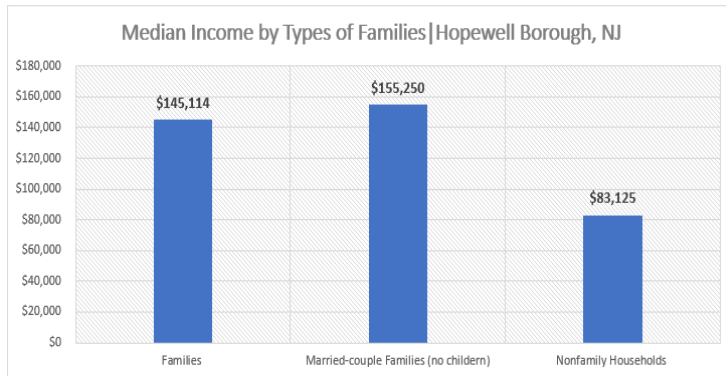
The borough is known for its small town historic charm, cafes, restaurants, artistal shops along Broad Street and Railroad Place and the close-knit community that brings out that old village vibe. More notability, the Hopewell Station, a 19th century architectural icon, symbolizes the town's cultural and historic identity.

The Second Empire style Hopewell Station was built in 1876, as part of a planned railway route between Philadelphia and New York. The station was leased by the Philadelphia & Reading Railway company in 1879. The station became an important part of the town's local economy and the train line that the station sits, help develop the Borough community we know of it today.

A little over a century later, the station closed its doors in 1982, from decreasing ridership and budget deficits. Proposals were made in reopening the station for economic use through restoring rail services. The station itself, however, is still used for community purposes. The station today is listed in both the U.S. National Register of Historic Places and the NJ Register of Historic Places.<sup>3</sup>

**As the Gateway to the Hopewell Valley, the Delaware Line shall improve regional accessibility, preserve the historic fabric, and enhance the health, social, and economic well-being of the Hopewell Borough community.**

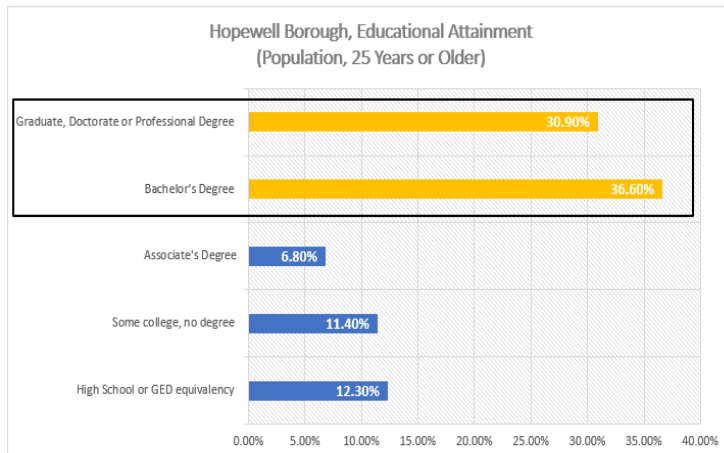
# Existing Conditions



Source: U.S. Census, 2019 ACS 5-Year Estimates Data Profile

The Median Household Income for Hopewell Borough is **\$121,215**. Compared to Mercer County's median household income of **\$87,662**, and New Jersey's median household income of **\$89,296**, Hopewell borough household income level is high when compared to the county and state level.<sup>4</sup>

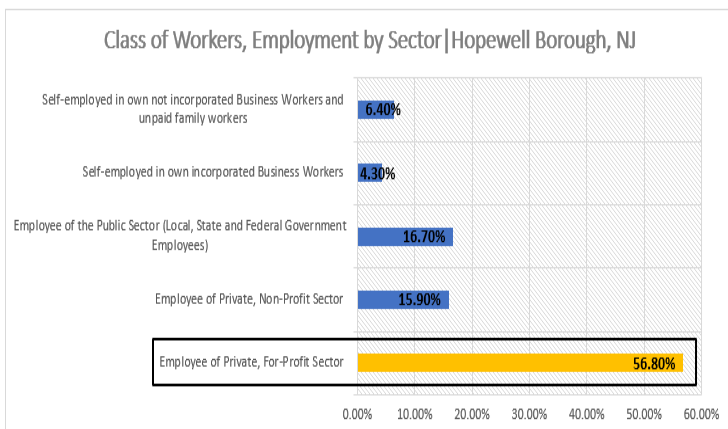
The percentage of residents in Hopewell Borough living below the poverty line is **4.7%**, compared to **10.2%** for both Mercer County and New Jersey.<sup>5</sup>



Source: U.S. Census, 2019 ACS 5-Year Estimates Data Profile

Hopewell Borough is a highly educated town with **67.8%** of people having earned a Bachelor's degree or higher, compared to **45.9%** of Mercer County and **43.1%** of New Jersey residents earned a Bachelor's degree or higher.

When breaking down the data based on college degree level, **36.6%** of the town's population has a Bachelor's degree as their highest level of education and **30.9%** earned a graduate (Master's) or a doctorate degree as their highest level of education.<sup>6</sup>



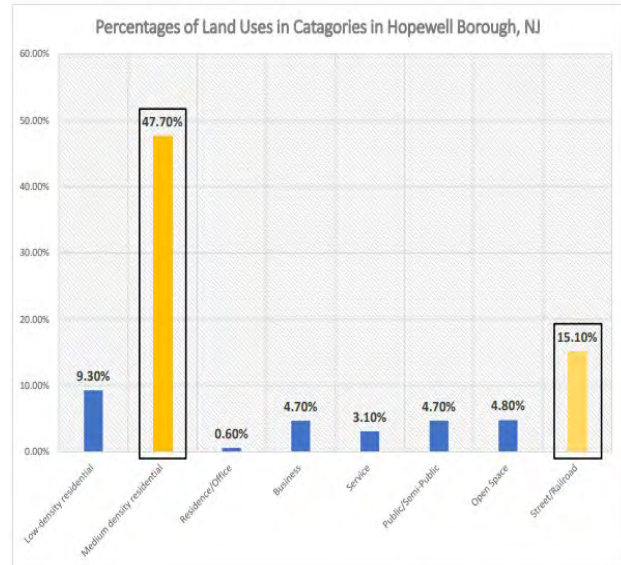
Source: U.S. Census, 2019 ACS 5-Year Estimates Data Profile

The majority of the town are employed by private, for-profit businesses (e.g., corporations or consulting firms) at **56.8%**. However, a significant number of residents work in the public sector (e.g., municipal, county, state or federal government) at **16.7%** and private, non-profit sector (e.g., public charities, foundations, political organizations, volunteer services organizations, labor unions, professional associations, research institutes, museums, etc.) at **15.9%**.<sup>7</sup>

# Existing Conditions

**Medium density residential** and **Street/Railroad**, together make up almost **63%** of land uses in Hopewell Borough. **Low density residential (9.3%)**, **Open spaces (4.8%)**, **Public/Semi-Public (4.7%)** and **Businesses (4.7%)**, together make up almost **24% (almost a quarter)** of the total land uses in the borough. Most of the Borough is zoned residential, with zoning districts that include mixed housing, residence office and townhouses.<sup>8</sup>

According to the 2014 reexamination report, the borough has fully included in the Historic District Ordinance by the adoption of the Historic District Buffer Zone, which provides a review process through the Historic Preservation Commission (HPC) of any construction, demolition or development proposals in the buffer zone area, to protect and preserve the borough's historic character.<sup>9</sup>

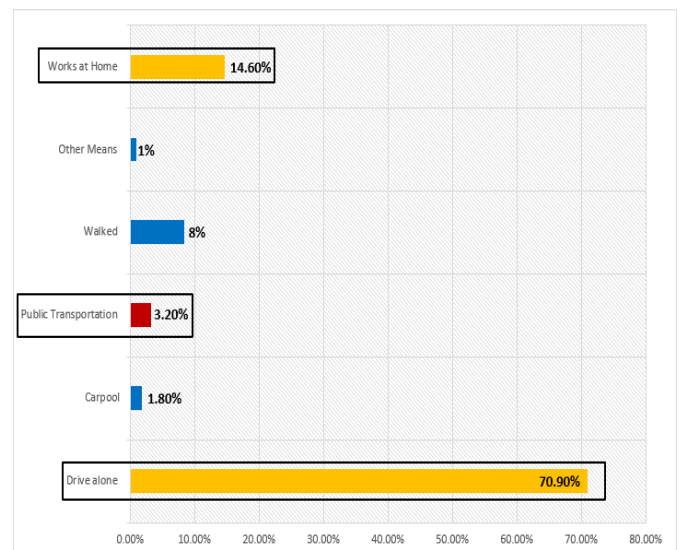


*Source: Hopewell Borough Master Plan: 2007; Land Use Plan Element, 2.2 Plan Proposals, Table 1. Land Use Categories of Hopewell Borough (p. 10).*

The majority of residents ages 16 and older (**70.9%**) drive alone to work. However about **1 in every 7 (14.6%)** work from home. Public transit use has a little over **3%**, is relatively low compared to other means of transportation Hopewell Borough residents take to work. Currently, there are no NJ TRANSIT bus service within the borough, the public transit data may instead be ridesharing services like Uber or Lyft that residents take.

The average travel time for Hopewell Borough residents is **27.2** minutes, compared to **28.6** minutes average travel time for New Jersey.<sup>10</sup>

*Commuting, Means of Transportation to Work (Workers 16 Years and older)*



*Source: U.S. Census, 2019 ACS 5-Year Estimates Data Profile*

# Housing

***Create greater opportunity to build affordable homes while maintaining Hopewell's historic nature and open space.***



Hopewell continues to become increasingly expensive to the lower and middle classes and families as indicated by the median income, median age, property sale price growths over the past forty years. While fulfilling its Fair Share Housing Settlement may allow Hopewell to provide its constitutionally mandated Affordable Housing, there is still a growing lack of affordability in the borough. If the borough wishes to make itself a destination for the arts and families, it needs to permit housing that artists and families can access. If there is no housing created for these desired groups, they will move to Hopewell Township or more sprawling places, and increase car congestion and decrease greenspace. Hopewell should seek to encourage the rail commuters to live within walking distance of the train station. The big issue raised in the Borough's Comprehensive Plan was that the presence of the train generated vehicle congestion and parking. Permitting the construction of new housing units within the borough allows commuters to live closer to the train and makes them less likely to drive to the station. Additionally, bringing all the housing to within walking distance of the many amenities Hopewell offers drives down non-commuting car trips, which also shrinks the impacts felt by congestion.



Nonconforming properties in Hopewell (T. Staub)

## **Harmonize the Historic and the New**

While Hopewell is filled with historical homes and structures, it is understandable that the community does not want to see cookie cutter McMansions and stale design. In addition to its architectural review, Hopewell should seek to adjust its bulk code to reflect how historic properties were developed. Allowing new homes in the historical development pattern creates greater opportunities for housing.

- Identify percentage of historic properties that are nonconforming
- Adjust the bulk code to reflect historical development design.

## **Permit Traditional Housing**

To preserve the historic and rural nature of Hopewell while moving to increase housing access, Hopewell should seek to permit historic housing types. Traditionally, families would be allowed to subdivide existing structures to allow parents to age in place and for children to start their family on the same plot of land. Subdivision of structures and accessory dwelling units are historical housing types that can provide reasonable affordability while keeping the natures Hopewell wishes to preserve.

- Allow the subdivision of homes for up to four units to fit the needs of the owner
- Permit Accessory Dwelling Units by right
- Utilize grants and tax credits to generate a fund to provide low interest loans to property owners increasing units on their land and for affordability requirements



Existing ADU in Hopewell (AirBnB)



Fourplex near Westfield Station (T. Staub)

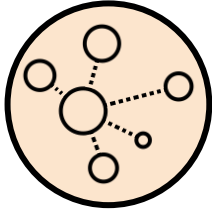
## **Set Housing Goals**

With the train line reactivation there will come development. Hopewell should seek to become the ideal Transit Village where everything is accessible without a car. This will mean that Hopewell will need to take on housing demand meant for the greenbelt. To achieve this, Hopewell must set the goals of housing production, while setting a limit of green space preservation. These goals will help support any Fair Share settlements while also maintaining Hopewell's desired green space:

- Set an average minimum housing unit growth of 3% per year to 2033
- Set an average maximum impervious surface growth of 1% per year to 2033.

# Connectivity

***Promote and enhance the safety, accessibility and circulation within Hopewell and its Station.***

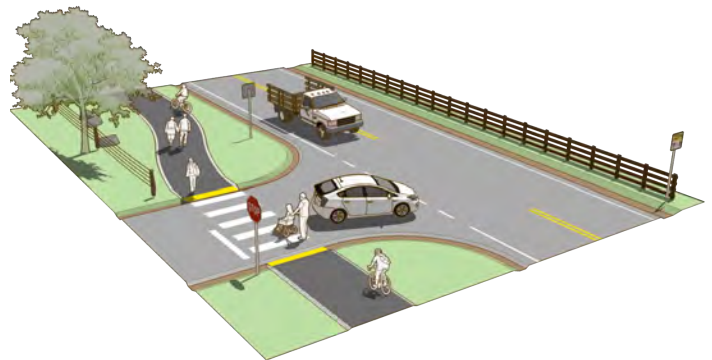


Hopewell street connectivity is vital to the overall borough's present and future success. Maintaining and enhancing the historic nature of Hopewell Borough as a village center includes balancing the needs of connectivity and accessibility within Hopewell and around the station. Through the promote of safety and circulation, the borough can enhance the walkability of neighborhoods to increase the support and revitalization for residents' quality of life. Several strategies to build around the arts, culture, entertainment, shopping and services can retain the small town feel and historic character while also increasing the micro network of transit for the user experience. Hopewell could benefit from NJ's Transit-Friendly Development and Design principles<sup>6</sup> when focusing on the idea of connectivity. Designing a Welcoming Public Realm by integrating wider sidewalk design, and providing shelters/waiting areas that emphasize accessibility, visibility, and enhanced safety throughout the borough are key elements to the success of Hopewell (NJ TRANSIT, Transit Friendly Planning, 2022)

## **Safe & Secure Circulation**

Strategy 1 focuses on the safety and accessibility for people and goods that support community and quality of life. Developing a network of safe mobility tactics to enhance the overall safety and character of Hopewell is the primary vision to ensure residents are comfortable navigating throughout the borough with ease. It is also important to mention that the creation of an intimate neighborhood promotes more engagement at the human scale for pedestrians.

- Wider sidewalks
- Street calming strategies
- Gateways generating a sense of space and place for residents throughout Hopewell's network of streets and paths

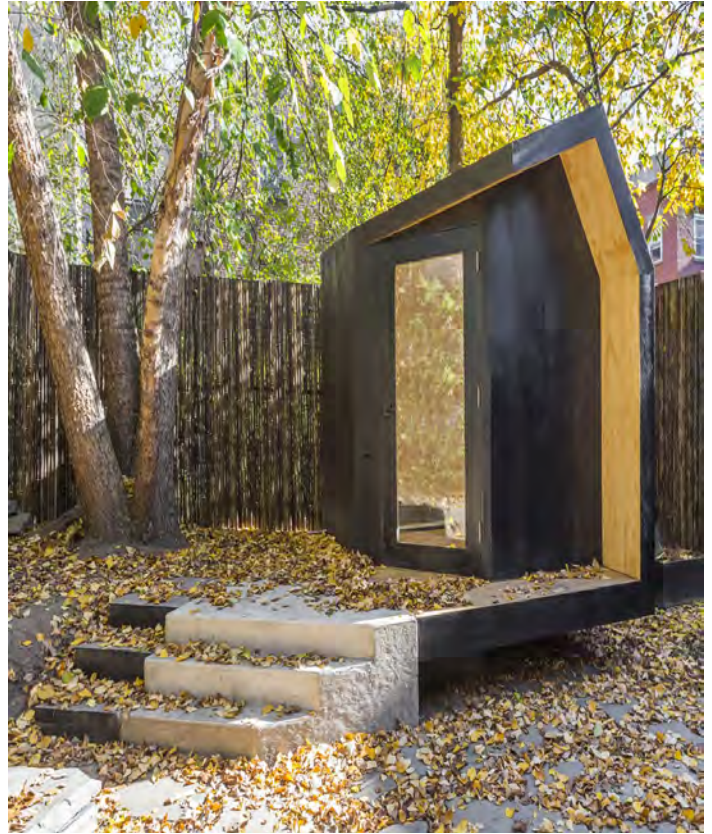


3D Render - Image courtesy of *Rural Design Guide*

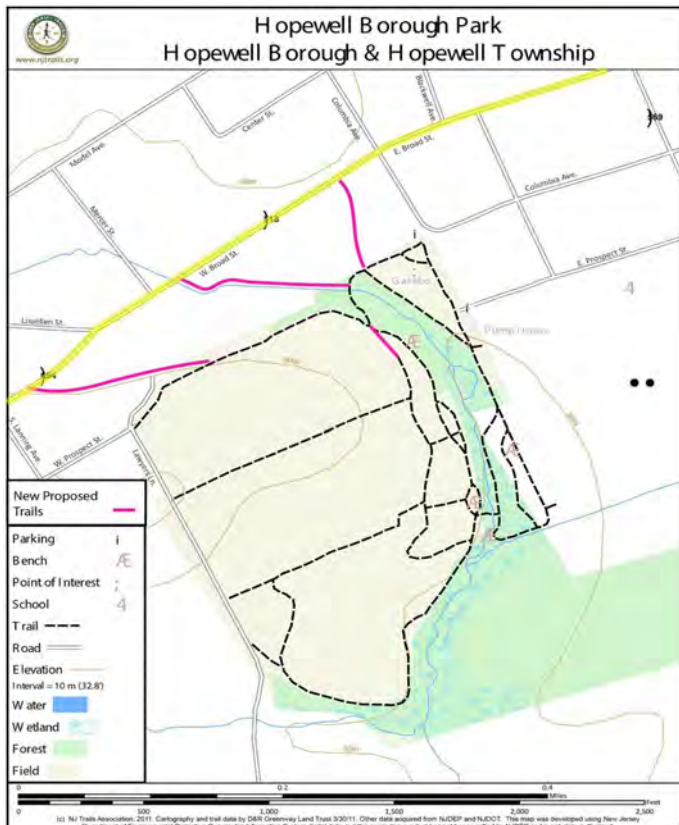
## **Connecting Hopewell**

Hopewell should continue to seek ways to provide a micro transit network without the use of a car. Strategy 2 considers the connection between neighborhoods and retail services, transit nodes and trails. In order to ensure residents can navigate without solely using a car, the link between all the above community elements are key.

The goal above will be implemented through a network of bicycle/pedestrian outlets and paths throughout the village connecting back to the borough's main corridor, Broad Street. The addition of trails and paths through the existing neighborhoods will enhance the user experience at the ground level.



Small scale pavilion, NY Architensions



Trail Map courtesy of Hopewell Borough

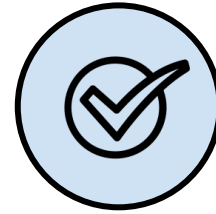
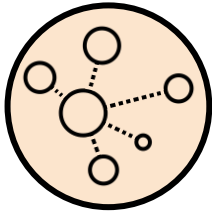
## **Mobility and Land Use**

Strategy 3 aims to align mobility priorities with land use to increase mobility options and minimize projected trip demand.<sup>9</sup> With this strategy in mind, Hopewell's existing mobility network will have to change and adapt to accommodate the circulation demands within its network.

- Create compact, mixed-use Activity Centers that encourage greater micro transit and reduce vehicle trips
- A micro transit network encourages the number of people living next to or surrounding train station to walk or bike within Hopewell rather than solely depend of the use of a vehicle

# Transit Village

***Foster economic development that fits Hopewell's aspirations of becoming an art-aligned Transit Village***



The two-part economic development plan for Hopewell emphasizes leveraging the town's assets while attracting outside investments. Firstly, the Borough should focus on developing the potential of the people who already live in the community by regulating the zoning code to create business opportunities and by establishing partnerships at the State level to allocate adequate funding to support individual entrepreneurs.<sup>7</sup> Secondly, the town should utilize its historic charm to market itself as a tourist destination to boost the local economy. By fostering this economic development plan, Hopewell can create an affordable way for residents to start businesses with low-capital costs while reducing the need to commute, making Hopewell an ideal 15 minute city that is equitable, inclusive and resilient.



Zoning map: Hopewell Borough - Planning Presentation, Banisch Associates & Inc.

## **Expand Permitted Commercial Uses for More Transit-Supportive Uses**

Creating a new mixed-use zone near the train station in place of the service zone solidifies the local economic base and increases the number of people living next to the train station to provide the critical mass to sustain new retail businesses in the downtown and surrounding areas.<sup>8</sup>

- Replace the existing underutilized service district with a new mixed-use zone consistent with the town's historic character to attract new retail opportunities.



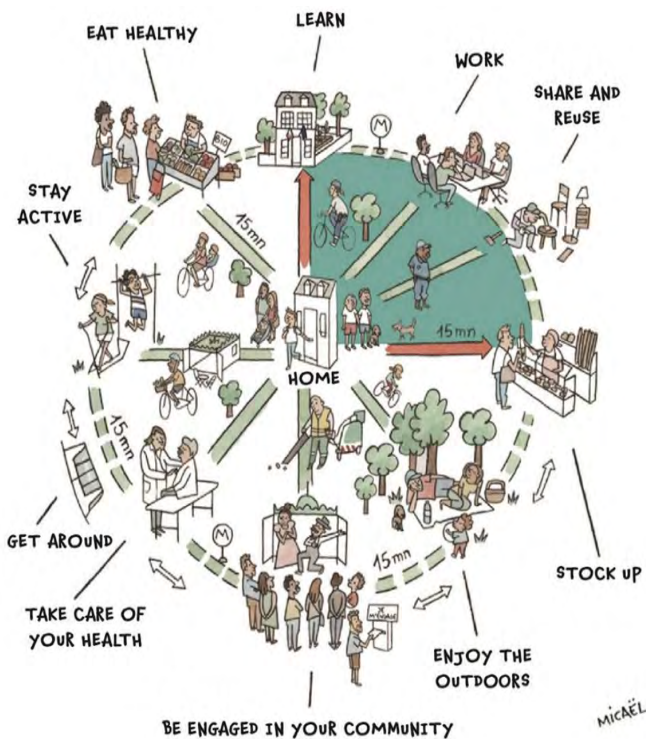
**Expand Home-Based Businesses and Offices**

Permitting the development of Accessory Commercial Units is an idealistic way to boost the base while maintaining the historic character of the community by providing incentives for locals to invest in home-based businesses with low capital costs. The town should allow flexibility in Residential Professional Office regulations to incentivize small businesses to the main street without compromising the community character of Hopewell.

- Allow for regulations that permit Accessory Commercial Units
- Seek to enhance the continuity of the B-R zone along Broad street by allowing flexibility in the Residential Professional Office regulations<sup>8</sup>



Accessory Commercial Unit in Portland, Oregon [Source: Neighborhood Workshop]



15 Minute City Sketch by Carlos Moreno

**Increase Funding for Arts, History and Cultural Programming**

Support individual entrepreneurs by establishing a partnership between Hopewell Valley Arts Council and NJ State Council on the Arts to provide small grants to encourage entrepreneurship and career advancement among artists. Strengthen heritage tourism by creating a budget to fund marketing campaigns and by creating partnerships with local businesses to create tour packages.

- Achieve a target goal of increasing the number of self-employed incorporated and non-incorporated business workers from 10.7% (U.S census, 2022) to 20%
- Market Hopewell Borough’s unique selling proposition as an ideal 15-minute city



# Hillsborough Township



The recently complete Route 206 Bypass (Source:[TapInfo](#))

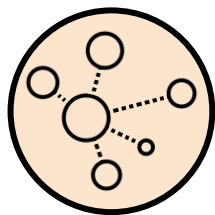
Hillsborough Township is a mostly rural township in Somerset County with over one-third of the land preserved as open space.<sup>1</sup> While the township did not have a station on the former West Trenton Line, it has the highest projected ridership for the reactivated line with an expected 950 daily boardings in 2040, which is over 55% of the projected ridership for the line.<sup>2</sup> The proposed station location is about a mile east from the township's main street and most of the land to the east and northeast of the station is agricultural.

The township has been planning for the new station since the early 2000s. The township's goal has been to concentrate development in the area between the town center and the station. It has zoned for a transit village surrounding the station that allows for mixed-use development, affordable housing, and bicycle and pedestrian infrastructure when the station is complete. There is also currently existing zoning for a mixed-use town center and for a "gateway" district for Amwell Road, the road connecting the transit village and the main street.

The recent completion of the Route 206 bypass in 2021 diverted through traffic from the main street and slowed down traffic in the area, leading to potential for more pedestrian and cycling improvements along the main street. The bypass does present a barrier between the station and the main street though there is a bridge with sidewalks for pedestrians to traverse. Currently, main street is well-developed, with a grocery store, restaurants, and numerous small businesses while there is very little development at the proposed station area and between main street and the station area.

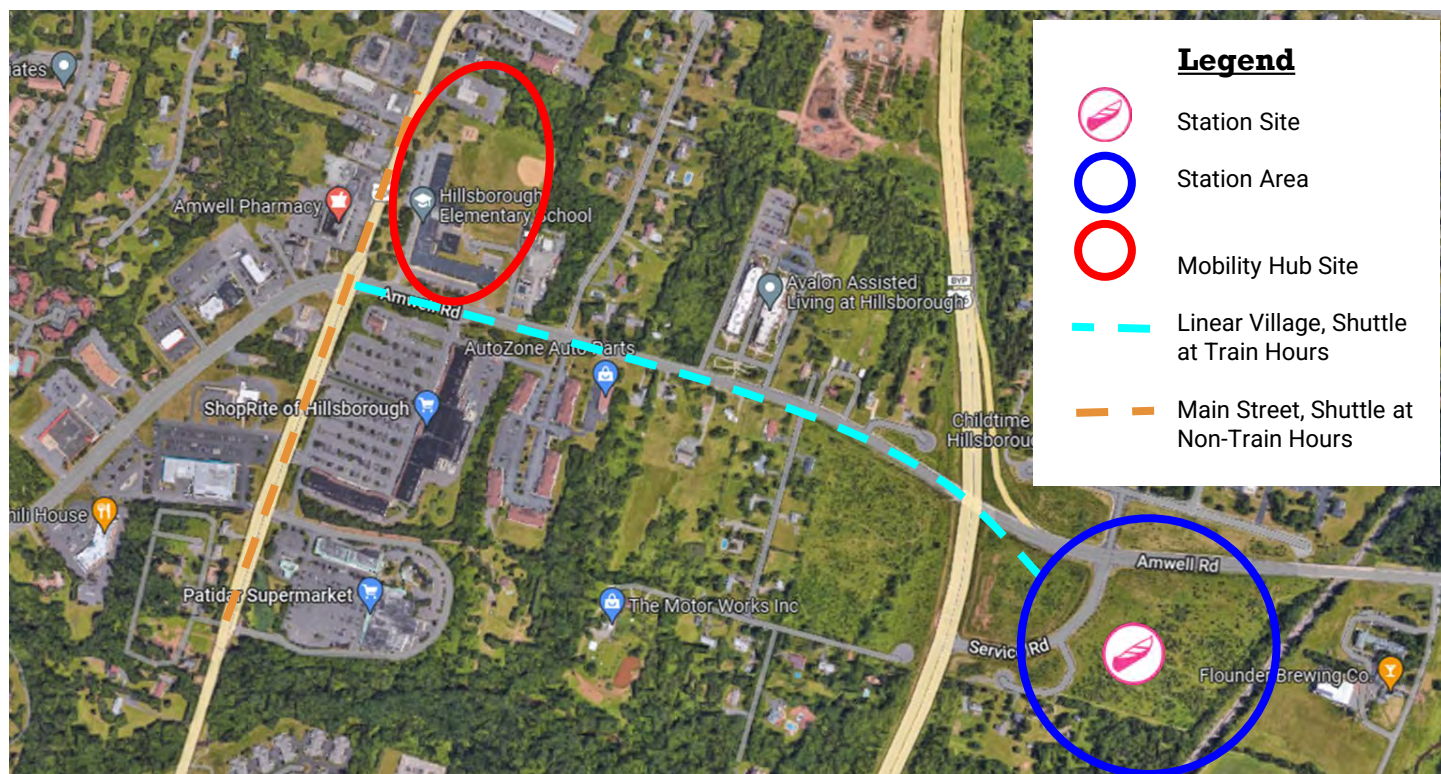
# Improve Multimodality

## Improve accessibility between the Route 206 “Main Street” area and Hillsborough Station



Promote human scale access, walkability, and bikeability to Route 206’s “Main Street” area, Hillsborough Station, and the 0.8 stretch of Amwell Road between. Creating mobility options characteristic of a Linear Village that flows into the Hillsborough Main Street.

Providing modal choice is a key element of ensuring meaningful, equitable access and mobility options. Analysis of modal choice of the 2020 ACS of the Hillsborough Census Designated Place (CDP) that encompasses the Hillsborough Station site reveals the necessity of pedestrian and bicycle improvements. In Hillsborough CDP only 0.9% of residents commute by walking or Taxicab, Motorcycle, Bicycle, or Other Means; Somerset County echoes this figure at 3.0% of residents’ commuting by these means (ACS, 2020). Despite the importance of Park and Ride at the site, facilitating foot, cyclist, and transit travel between Main Street and the Station itself will be critical in balancing traffic demands and will grant desired locational vitality.



Google Maps, 2022

### **Introduce Multimodal Improvements and Separations for Amwell Road**

Easements for the 0.8 mile jaunt are evident in a partial network of sidewalks abutting the North side of Amwell Road, but they would likely need further improvements. Shade and additional lanes to separate cyclist and pedestrian traffic are needed. Along the Amwell Road bridge over the Route 206 Bypass physical barriers such as bollards or concrete protectors should be employed to convert the shoulder into a safe non-automobile route. There is also an alternative route that connects easements along Steinmetze Road and Hillsborough Center Drive but it would necessarily run through a dangerous three-way intersection along an uphill service road to the Station. Making Amwell Road amenable to multimodal travel would create a dependable nucleus for a wider bicycle and pedestrian network within Hillsborough Township.

### **Launch a Shuttle Route Schedule Around Train Schedule and Main St**

The present road risk and inconvenience of walking between Main Street and the Station areas requires a more immediate solution in the short term. Running a shuttle service between the two nodes represents a practical way of bridging this gap, and would allow us to divert some of the concentration of Park and Ride parking to existing parking lots on Main Street. Given expectations of the train's operation being tied to peak commuter hours, the shuttle could be used outside of train station service. In off-hours, the shuttle could ideally provide service to a densifying Main Station, facilitating local objectives there. Lacking transit, except for the SCOOT and commuter Coach USA bus services means that there is little precedent for either Hillsborough, the County, or NJ TRANSIT to provide shuttle service for the community. If stakeholders can not cooperatively determine a cost-share regime for the service, costs could be transferred to developers or a localized tax along the Linear Village to fund it.

### **Design a Mobility Hub on Route 206 that Draws in Non-Car Travelers**

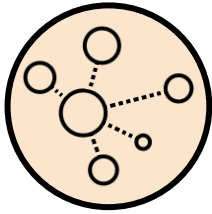
Engagement with a County official revealed ongoing discussion regarding the future life-cycle of Hillsborough Elementary School. In the event of the School's relocation, a mobility hub could be erected in this location to anchor potential transit services in a densifying Hillsborough Main Street. Likely facilitating bus service, this mobility hub could also be placed on a different, available Main Street property and reflect best practices observed from NJ TRANSIT suburban park and ride bus facilities such as Old Bridge's.



Amwell's shoulders require additional amenities and protections, (Google Maps, 2022)

# Balance Parking

## *Balance the intense parking demands of the Hillsborough Station*



Hillsborough Station will require roughly 55% of the entire line's parking, according to previous analysis.<sup>2</sup> Spatially accounting for these parking demands will necessitate an intentional balance between utilizing existing pavement and constructing more parking.

Previous environmental impact analysis projects that Hillsborough Station will require roughly 55% of the entire line's parking, matching its ~56.4% share of total ridership.<sup>2</sup> Spatially accounting for these parking demands in a density-pursuing locality that protects greenfield will necessitate an intentional balance between utilizing existing pavement and constructing more parking. This balance is further complicated by the fact that 97.2% of households in the Hillsborough CDP owned 1 or more vehicles in ACS 2020, as did 88.8% of Somerset County households.<sup>3</sup>

### **Split Parking Between Space Next to the Station and Near the Main Street Area**

It is projected that an estimate of 800 parking spots will be needed for the Park and Ride demands of Hillsborough Station. Slotting that much parking directly at the new Hillsborough Station would add copious amounts of impervious surface on existing greenfield and hamper any human scale development in the Station area. The parking must be divided between the Station and part of Main Street that the station shuttle will service. Though Hillsborough Township intends to densify the Main Street away from "stroad" characteristics, diverting some amount of paid parking to it would likely be necessary to make the Station possible with the current reality of residents' mode-choice.

### **Repurpose Existing Parking Lot into Spaces for Park-and-Ride Service**

Thankfully, current overparking at Main Street could be repurposed into spots for Park and Ride. Rough calculations and counting of parking at the strip mall anchored by "the ShopRite of Hillsborough" suggests at least 500 parking spots are located there. Within this plan shuttle service is already intended to reach this commercial segment of Route 206; converting 250 or so of these parking spots into paid parking for the Delaware Line would be a natural extension of the Station's connectivity planning that requires no additional paved surfacing within Main Street. After such a conversion, roughly 550 parking spots - either structured or not - would then be sited near the Station.

Station	Auto- Drive	Required Parking	Auto-Drive Percent
West Trenton	5	25	5.0%
I-95	20	25	80.0%
Hopewell	90	100	56.3%
Belle Mead	255	300	72.9%
Hillsborough	690	800	72.6%
Manville	180	100	80.0%
<b>Total</b>	<b>1,140</b>	<b>1,350</b>	<b>67.6%</b>

Predictions from the *West Trenton Line Environmental Assessment Update 2021* require more parking than the actual number of Auto-Drive travelers. It is possible that these parking figures could be reduced, as well. *West Trenton Line Environmental Assessment Update 2021*

### **Engage Stakeholders on How the Repurposing Process Should Operate**

Parking for the strip mall commercial area is likely shared between a variety of stores and businesses and engagement with them would likely be necessary for legal and logistical success of this parking arrangement. Presenting them information regarding both the increased market potential of park and ride patrons and the wisdom in proactively preparing for their parking needs would be an appropriate strategy. Likewise, the rough <30% split of parking within Main Street is a matter that the Township deserves input on. Traffic models demonstrating how different compositions of parking either increase or decrease traffic congestion in the service area may prove convincing in helping stakeholders come to agreement on a parking layout for the Station.

# Protect Green Space

## *Protect agricultural and greenspace to the East and North of the Station*



In comparison to prominent flooding concerns in Manville and other sites, Hillsborough Station and the Township's envisioned Main Street area are relatively removed from such hazards. However, Hillsborough Station conversely has more adjacent agricultural and greenfield plots that will require consideration and protections. A federal online resource ("FEMA's National Flood Hazard Layer (NFHL) Viewer) demonstrably shows the locations of these that floodplains are present in areas we intend to leave to greenfield and agricultural use.

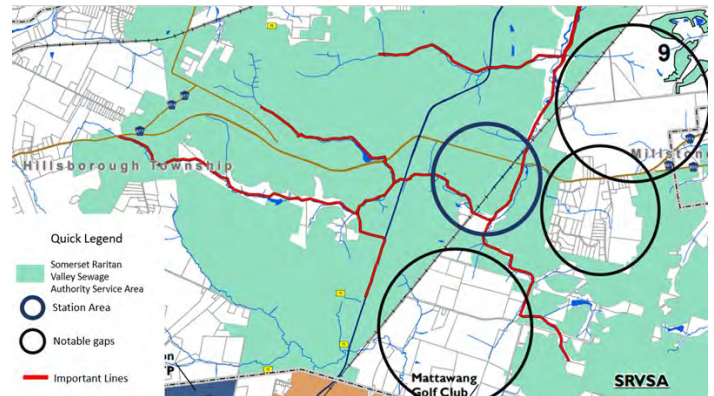
Directing development away from sensitive plots demarcated due North, East, and further to the South of the station area, particularly along the Raritan River and Millstone River, would aid in keeping Hillsborough sustainable and resilient.





## **Protect Against Overextensions of Sewer Systems Outside of the Station**

A conversation with a Somerset County official informed our team that sewerage system connections reflected the County's interest in "Smart Growth" patterns of development for the area surrounding Hillsborough Station. As observable in the map below, many unconnected areas line up with greenfield and agricultural plots that are subject to the NFHL floodplain hazards. Our recommendation is to strengthen the language of local government zoning and ordinances that protect against reckless, unripe development on floodplains and to maintain the County's discipline regarding not expanding the sewer system into greenfields. The land directly east of the station is currently zoned as commercial despite not being connected to the sewer system. Somerset County did a study of the area in 2017 and the township should consider adopting their preservation scenario, keeping the land preserved for potential trails and water runoff.<sup>4</sup>



Map of Somerset Raritan Valley Sewage Authority Service Area, Somerset County Wastewater Management Plan, (Jan 2016).



Land East and Northeast of Station is mainly Farmland, Somerset County Comprehensive Farmland Preservation Plan, (May 2008)

## **Create Transfer of Development Rights in Agricultural and Greenspace Areas**

It may also be prudent to establish additional land use controls in these areas that are intended to remain at their current levels of development, due to potential flood risk. Creating a system of transferable development rights from agricultural and greenspace could counterbalance development pressures on floodplains wrapping around the station area.

This transferable density or other developmental benefits could be used to further direct development within Hillsborough Township towards intended sites of interest, rather than being left to generate a flashpoint between local interest in greenspace and developer interest in building concentric to the station. Hillsborough already drafted a TDR ordinance in anticipation of a transit village at the new station but canceled the plans when it became apparent that passenger service would not be restored; this plan can be greenlit in anticipation of the new station and should be passed before the station is finished to ensure the station area has some existing development when the station opens.<sup>6</sup>

# Affordable Housing

## ***Prioritize affordable housing in the Linear Village between the Main Street area and the Hillsborough Station***



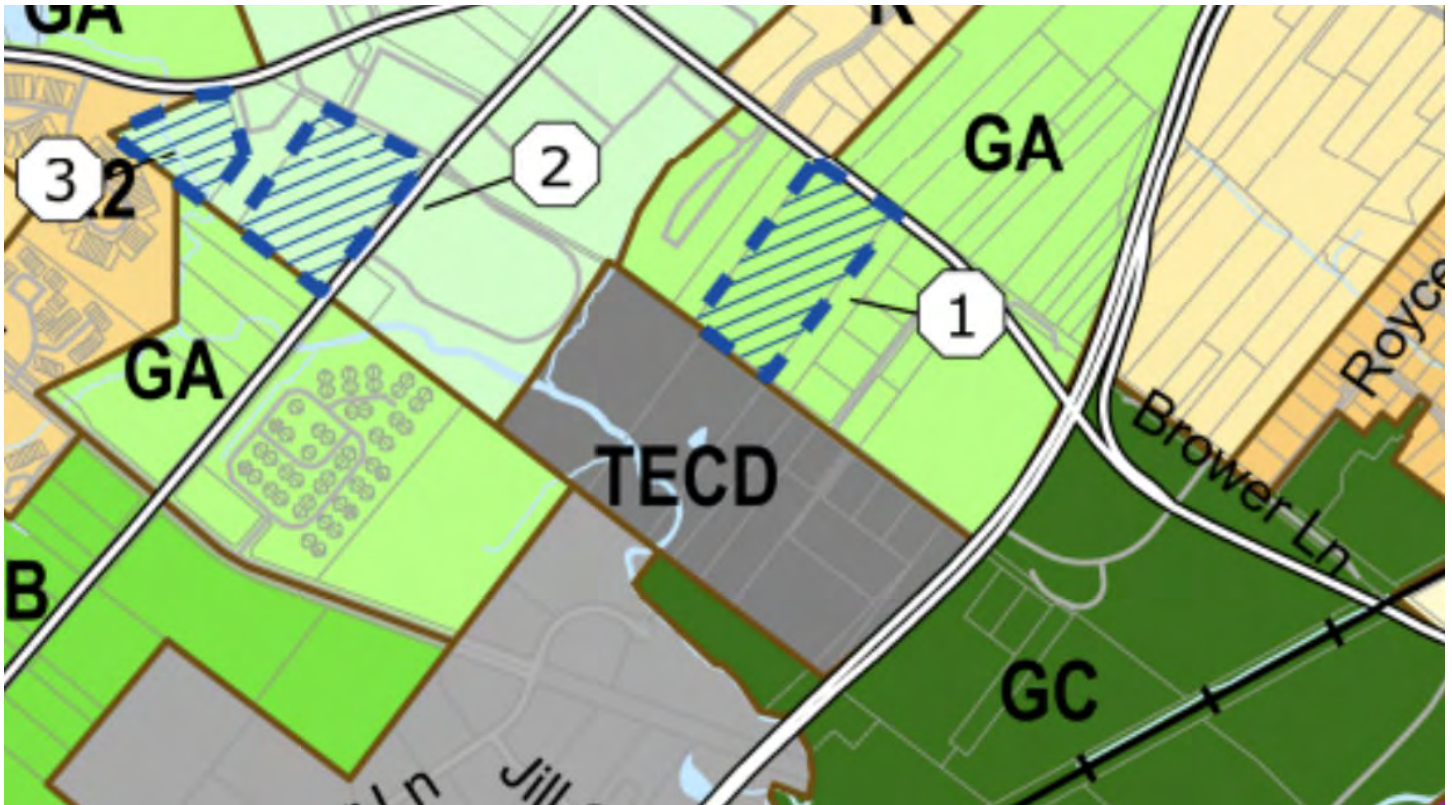
Retaining the existing housing stock is key to an affordable supply of housing. As needs are constantly shifting, the Township will pursue strategies to address homelessness and affordability to ensure all have safe and secure homes.<sup>7</sup> Furthermore, all new development and redevelopment will comply with accessibility requirements, with special attention to adaptable entrances upon the request of a disable person residing in the dwelling unit.

Most housing in Hillsborough can be categorized as single-family, rural residential dwellings built in the 1980s, supporting the growth of the upper middle class. 2–9-unit buildings make up a mere 8% of the housing stock. Property values are rising, especially within the last 5 years. The current median property value is \$447k, while the monthly rent exceeds state averages at \$1,861.<sup>3</sup>

The Township has not yet currently met its obligations for affordable housing as mandated by the New Jersey Supreme Court. There are a few development projects in effect but to hit those targets while also acting in line with the principles of this transit corridors redevelopment, the Township must extend the affordable housing permitted to include the Linear Village as well as Main Street area. This will offer maximum flexibility for site design and selection of dwelling unit types.



Building density doesn't need to mean high rises - *Opticos Design, (2022)*



As seen on current zoning map of Hillsborough Township the Multifamily Inclusionary Overlay District is only 10% of frontage along Amwell Ave (denoted by #1), Note: #2 denotes Mixed-use Inclusionary Zone - Hillsborough Planning Department, (2022)

### **Extend the Affordable Housing Permitted Uses and Requirements**

Extending the zoning from the Multifamily Inclusionary Overlay District to the entirety of Amwell Road between Route 206 and the Route 206 bypass is key. Currently, the only place along Amwell Road that allows for the construction of multifamily housing is the Multifamily Inclusionary Overlay District, three lots that constitute less than 10% of the frontage of Amwell Road between Route 206 and the Route 206 bypass as part of the GA Gateway District A. Amwell Road is an ideal place for affordable housing because its proximity to the town center and train station can allow for families to live without purchasing multiple vehicles. By extending the affordable housing permitted to include the Linear Village as well as Main Street area, we can offer maximum flexibility for site design and selection of dwelling unit types. The ultimate goal is to provide a balanced housing pattern that is attractive to all income and age segments of the community, in accordance with the Township's fair share housing plan for meeting the region's low- and moderate-income housing needs.

# Affordable Housing

## **Design a Incentive Structure to Ensure the Units are Mixed-Income**

Introduce an upper limit on density benefits for affordable units, such as benefits for up to 60% affordable housing. These bonuses will impact the creation of multi-family clusters for affordable housing in the Linear Village and Main Street area, particularly in the Gateway district. A minimum of 20% of the total number of new residential units shall be low- and moderate-income units in accordance with applicable affordable housing regulations in the Township. In establishing affordable housing units, the township shall follow the procedures set forth in UHAC, utilizing the most recently published regional weighted average of the uncapped Section 8 income limits published by HUD. This incentive program will also include strategies to ensure developers building affordable units have lower parking minimums, which are currently set at 1.5 spaces per unit. If we lower minimums, we are promoting greater Transit Oriented Development within the Township and creating greater efficiency in meeting housing needs.

## **Develop Commuter Apartments Directly in the Station Area**

Currently, residential building permits have stalled. Most residential development is concentrated in the northeastern residential zones within the municipality. By prioritizing the development of diverse, affordable housing with attention to commuter apartments in Gateway C, we can achieve equitable transit-oriented development. We should consider increasing the maximum multifamily dwelling units per acre to better meet the affordable housing needs (which can be assessed through inventory analysis) and projected need when demand along the line increases. This along with the above outlined incentive structure to ensure multi and mixed use, will protect the Township from potential gentrification and concentrating poverty further out to rural edges. Thankfully, Hillsborough is starting to see more mixed-use development in its downtown district.



Commuter Apartments will capture housing demand generated by the station redevelopment. The above is an example of a flourishing residential community aided by Transit Oriented Development. These commuter apartments are near Metuchen Train Station, Metuchen, NJ - Source: Woodmont Apartments, (2022).

# Strategy Summary

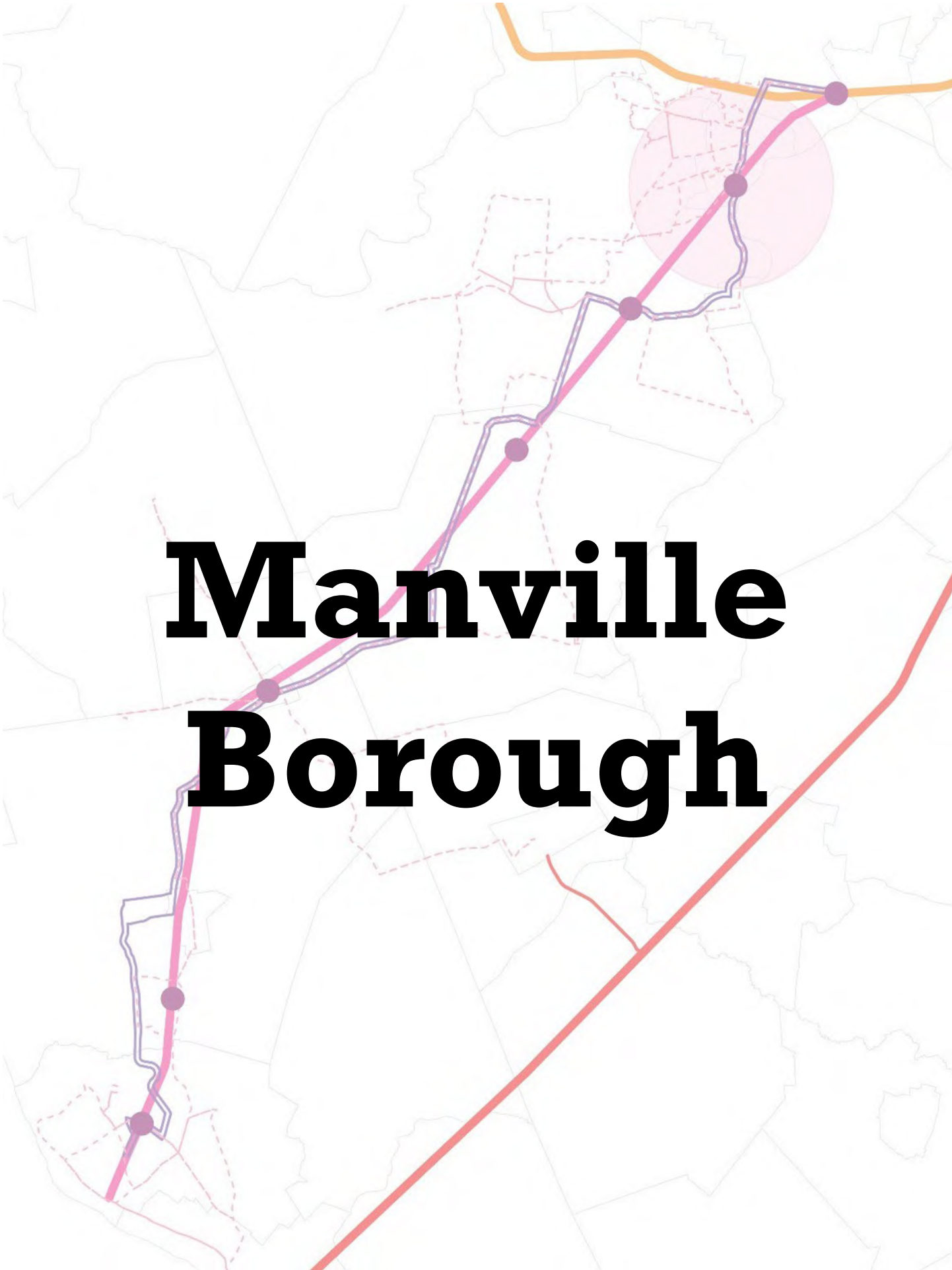
<b><i>Improving Multimodality</i></b>	<b><i>Balancing Parking Demands</i></b>	<b><i>Protecting Agricultural Space</i></b>	<b><i>Prioritizing Affordable Housing</i></b>
Introduce multimodal improvements and modal separations for Amwell Road near the Station.	Split parking between space abutting the station and near the Main Street area.	Protect against overextensions of sewer systems on greenspace and agricultural land.	Extend the affordable housing permitted uses and requirements between Route 206 and the Route 206 bypass.
Launch a shuttle route path for train schedule service and off-hour Main Street use.	Repurpose existing parking lot into spaces for Park and Ride service	Create transferable development rights (TDR) in agricultural and greenspace areas to the Main Street and Linear Village areas	Cap density bonuses to avoid concentrating poverty and to promote mixed-income development.
Design a mobility hub in Route 206 that could draw in non-car travelers from across Hillsborough.	Engage stakeholders regarding the process of repurposing parking spaces.		Develop commuter apartments directly in the station area on a government-owned parcel, as part of Gateway C.

Summary of Hillsborough Station Goals and Actionable Strategies

## **Facilitating a Denser, Greener Hillsborough Township**

In concert, these Goals of *Improving Multimodality*, *Balancing Parking Demands*, *Protecting Agricultural Space*, and *Prioritizing Affordable Housing* are designed to construct an economic and physically accessible spine in Hillsborough. This “spine”, constituted chiefly through a Linear Village between the Main Street area and the Station, will reproduce the human-scale conditions that make for successful towns and transportation hubs. The pursuit of these recommended strategies above illustrate how actualizing these goals, in turn, actualizes a healthier, safer, and prosperous Hillsborough Township.

Notably, these actionable strategies recognize and address Hillsborough Station’s projected nature as a Park and Ride facility in the short term while supporting long term densification. Appropriate development will nurse growing demand for TOD in Hillsborough and allow for greater transformations as the decades progress.



# Manville Borough



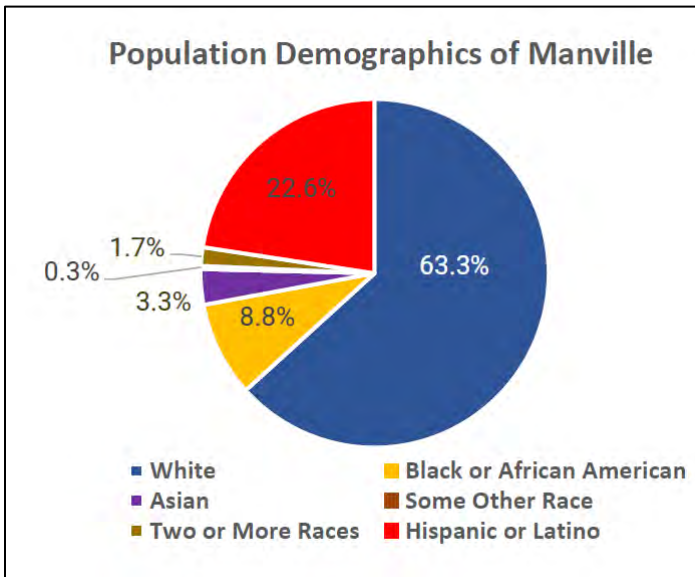
A view of Downtown Manville along Main Street. Photo Courtesy of [Loopnet.com](https://www.loopnet.com)<sup>1</sup>.

Manville was not a stop when the last West Trenton Line train ran. However, Manville's density, potential for growth and the benefits a train line would bring this community make it a perfect stop on the new DRTC. Incorporated in 1929 within Somerset County, Manville traces its origin to the establishment of the Johns Manville asbestos factory in 1912.<sup>2</sup> The factory dominated the economy and health of the Borough until its closure in 1986. This economic blow has been exacerbated by frequent flooding. In some areas, Flooding is a constant risk, and as recently as September 2021, the majority of the Borough was devastated during Hurricane Ida.<sup>3</sup>

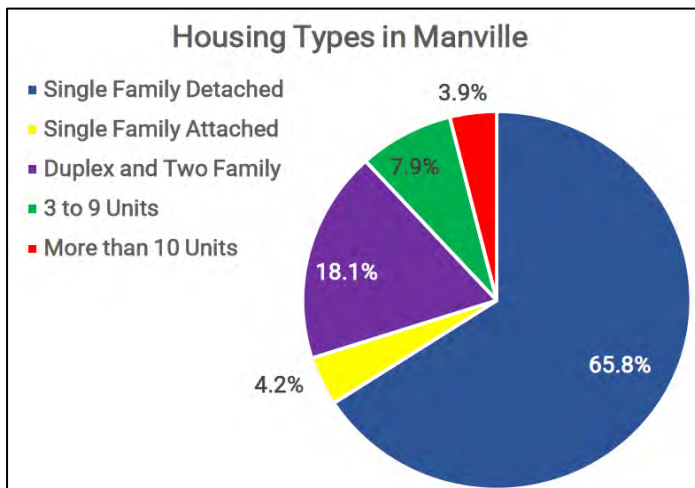
Now, Manville is at a crossroads of its future. For the first time in over 50 years the population is growing. Nearly a quarter of the population is under 18, and almost half are under 35.<sup>3</sup> The DRTC can help harness this momentum. A station will better connect the borough and its residents into the wider New Jersey economy, and allow residents the freedom to choose how they commute. In return, Manville will add a population of almost 11,000 residents in an area of less than 3 square miles to the potential ridership, and make the DRTC goal of creating a more equitable region a reality by connecting a struggling community into the economic prosperity this line will generate.

**Manville will be a vibrant, inclusive, equitable community that is successfully meeting the environmental and economic challenges of the present and the future, while providing a safe, affordable and enjoyable place to live, work and travel for current and future residents.**

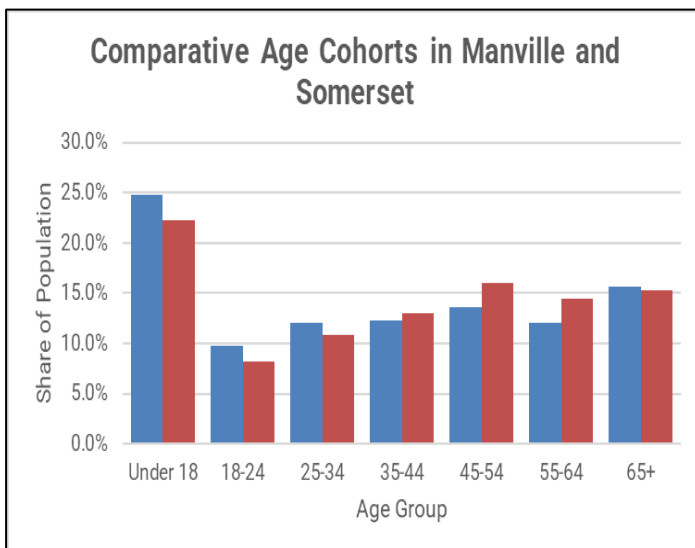
# Existing Conditions



Source: 2019 ACS 5-Year Data



Source: 2019 ACS 5-Year Data



Source: 2019 ACS 5-Year Data

Manville's current population is 10,953, a 6% increase from 2010, and the most populous it has been since 1980<sup>4</sup>. This is also the first time the population has grown since 1970. The population of Manville is majority white, and Black or African American residents making up 8.8% of the population, Asian residents 3.3%, and all other groups 2%. Approximately 22% of the population is Hispanic or Latino. The median age is 37.3, much younger than the 41.7 in Somerset County. Nearly a quarter of the population is under 18 years old, and 47% of the population is under 35 years old.

The median household income is \$69,625, almost half the median of surrounding Somerset County, and 11% of the population lives below the poverty line. In 2018, there were 182 businesses in Manville, employing 1,620 people. The major industries active in Manville are Construction, Other Services, Retail Trade, and Administrative and Support Services.<sup>5</sup> Manville currently has two active plans that address the economy, the Rustic Mall Redevelopment Plan which will provide mixed use development and affordable housing directly on the Main Street corridor, and the Main Street Revitalization Plan, which has laid the foundation for making Main Street more pedestrian friendly, safe and vibrant.

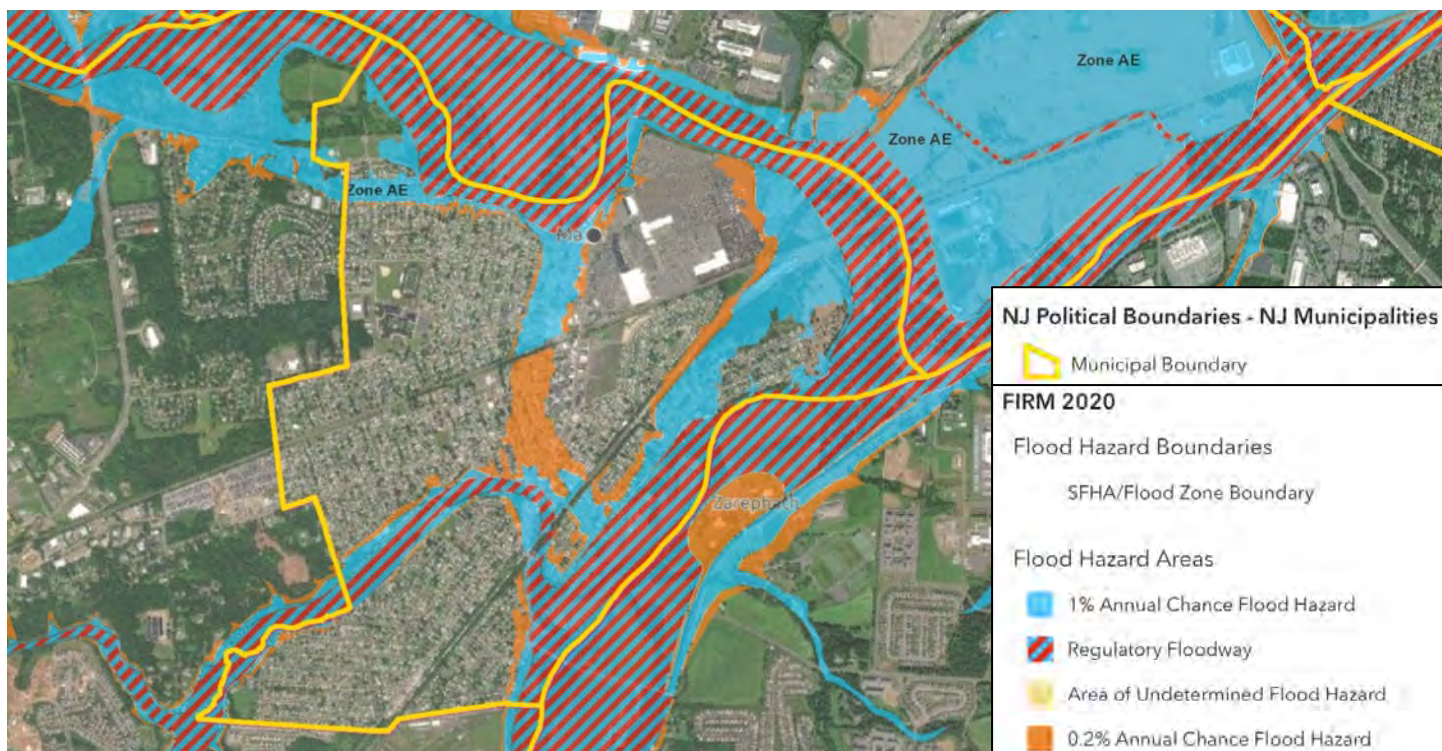
Housing is a major concern for Manville. As of 2019, there were 4,245 housing units within the Borough. The housing stock in the Borough is relatively old. The median building age is 65 years old, and 61% of units were built before 1960. The majority of houses in Manville (66%) are owner-occupied, but the renter rate of 34% is 10% higher than in Somerset County average. Manville has a weak housing market, with an 11.4% vacancy rate, and only 9 new units have been built in Manville since 2000.<sup>6</sup>



Compare this to the 2,281 new units built in Somerset County. The median house value in Manville is \$262,000 (61% of Somerset County’s median) and median gross rent is \$1,355 (87% of Somerset’s median). Despite the lower than average housing costs, housing affordability is a critical issue for Manville. 54% of all renter households and 41% of owner-occupied households are cost burdened, paying more than 30% of income on rent.<sup>7</sup>

Flooding is another pressing concern for the Borough. The Borough sits at the confluence of the Raritan and the Millstone Rivers. Over 44% of Manville lies within a FEMA Regulatory Floodway, or Flood Zone, and more than \$212 million in potential property value losses<sup>8</sup>. Intense storms frequently result in these rivers to flood the northern and eastern sides of the borough, respectively. The Royce Brook stream that runs through the Borough floods the southern parts of the Main Street. In severe flooding conditions, the floodplains from each of these rivers submerge most of the borough, and create an isolate a core area of the Borough. These floods represent a major threat to the physical and fiscal health of Manville’s residents, particularly those who are disadvantaged. It is estimated that 740 residents living below the poverty line are within in a flood zone. It is also believed that 1,447 minority residents are located within a flood zone, 112 residents with limited English proficiency are located within a flood zone, and 43 apartment complexes are within the 100 or 500 year flood zones.<sup>9</sup>

The borough requires major improvements in its bikeway and pedestrian infrastructure. The need for road diet, tackling traffic and structural changes to the railroad crossings have been identified in the master plan and reexamination. Current conditions show that the Borough’s dominant transportation mode is private vehicles, calling for public transit and other alternative means. In addition to this, the plans for capital improvement programs like ADA improvements, signage and streetscape need to be prioritized.



Map of FEMA Flood Zones in and around Manville (Image Source - New Jersey Flood Mapper)

# Land Use for Everyone

***Manville is a community where both long term residents and new arrivals can find housing that is affordable, safe and comfortable for their lifestyles.***



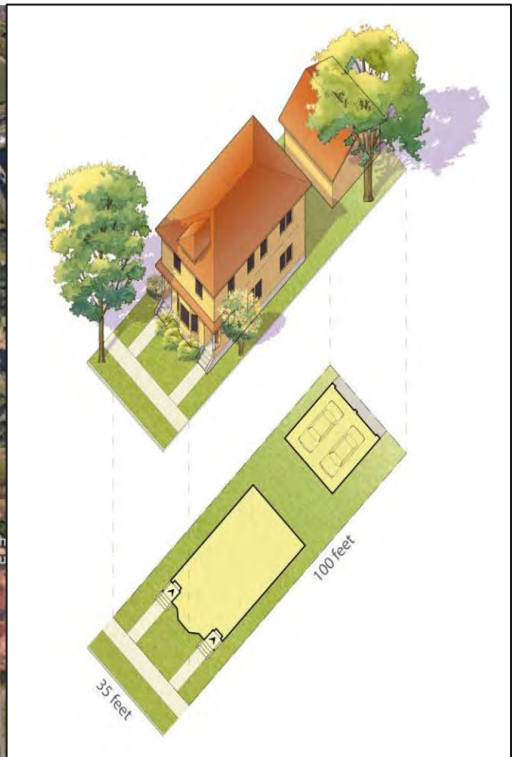
The Delaware-Raritan Transit Corridor will bring large changes to Manville's housing market,<sup>10</sup> and in a community where the majority of residents are already housing cost burdened, reducing the speed of housing cost increases is incredibly important. Manville's future success will rely on **creating additional affordable and safe housing that provides for increased density and build up in areas outside of flood zones.** Creating strategic density increase will allow for more housing to be built in the Borough, combating housing price increases and allow residents the ability to choose what kind of housing best fits their needs. Inclusionary zoning will create opportunities for the most vulnerable residents to live in dignity, safe in homes that they can build a life around. All of these improvements together will create a safer, more equitable and more walkable Manville, that is ready to seize the opportunities a train station will provide.



Types of Housing plan seeks to create in Manville.  
Photos Courtesy of Homedit.com<sup>11</sup> ; Compass.com<sup>12</sup> ; and Home.com<sup>13</sup>



Proposed map of areas for inclusionary overlay zones - Base Map: Google Earth



How Smaller lots can still create more housing  
Photo Courtesy of: Missing Middle Housing<sup>14</sup>

### **Inclusionary Overlay Zones in the Safest Areas**

Create two overlay zones in residential areas outside of flood zones. Within these zones, in exchange for increased unit density, and reduced bulk requirements, developers must allocate fifteen (15) percent of units at a rate affordable to residents earning under the area median income. These zones will allow more residents to live in the safest areas of the borough, and will ensure the most vulnerable members of the community can access safe, and permanent housing.

### **Align the Borough Zoning Ordinance with Manville’s Flood Hazards**

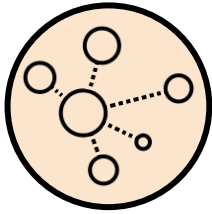
Amend the Borough’s land use and zoning laws to align the permitted maximum density of zoning districts to match the flood patterns of Manville. All Zones within the borough should measure buildings from Base Flood Elevation. Zones within the 100-year flood zone will have reduced floor area ratio and impervious coverage ratios, increased open space requirements. Zones in the 500-year flood zone will require green infrastructure improvements, and reduced impervious coverage ratios.

### **Allow Increased Housing Density in Residential areas and Limited Mixed-Use**

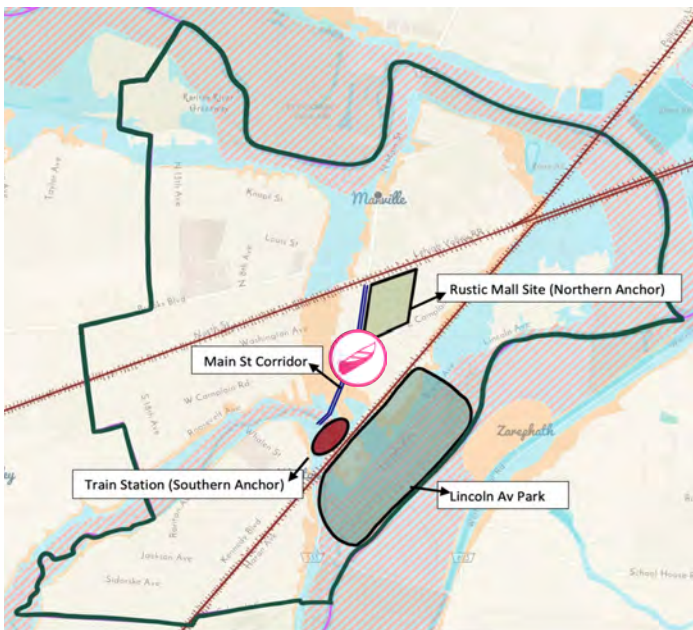
Zones outside of flood zones will allow townhouses, and two and three unit structures as permitted uses, and allow up to one Auxiliary Dwelling Unit on all single family properties. The minimum lot area, lot width, and setbacks should be reduced for all districts to those provided for in the current S-60 Zone. These changes will allow for more residents to live in areas that are safe from flooding, allow for a wider range of housing options for residents, and bring the costs of housing within the reach of more residents.

# Vibrant Circulation

***Manville has an efficient multimodal circulation network that provides access to opportunities and destination in a safe, equitable, and affordable manner.***



The new station and the reactivation of the Delaware Line will make it all of the more important to cater to the transportation related problems Manville currently faces. This goal aims to develop a transportation network that can support the sustainable and resilient community that this plan envisions Manville to be. The increase in density and economic opportunity will result in an inflow of new residents. In order to provide safe affordable access and mobility to residents of all ages and abilities, we have to pursue a people-first approach, going forward with the circulation network of Manville. This calls for a harmonious integration of traditional and new methods of transportation. The circulation network will focus on efficient, environmentally responsible and equitable transportation options. To ensure equity and prosperity, circulation in Manville must provide a variety of options for convenient access to daily needs of its residents. Walkability and micro-mobility should be at the core of design and policy strategies, especially on Main street.<sup>15</sup>



Proposed Train Station with anchors



Relocation of the Train Station

### **Relocate the Train Station and Remove the Jughandle**

Relocate the train station from the proposed location along Kennedy Avenue to a location along Main Street south of Roosevelt Avenue by the removal of the Main Street Kennedy Street Jughandle. This will create a southern anchor for the Main street redevelopment. The proposed location is cut off from the major corridor. Relocation will help transform Main street into a more welcoming corridor.<sup>16</sup> In the longer term the train station will also serve as a gateway into the Lincoln Avenue Park and Manville greenbelt. Matching the timeline for expanding travel options, the station will serve as a micro-mobility hub, having docking stations and bike lockers.

### **Incorporate Mobility and Accessibility Initiatives in the Main Street Redesign**

Improve pedestrian walkways, streetscape and provide dedicated bike lanes in conjunction with the Main Street redesign project. The mix-income housing and increased density and intensification of commerce proposed in this plan will help create nodes along the Main street. These nodes will provide safe and ADA-compliant access to transit stops. Road diet will promote walkability, biking and incremental conversion of parking space to public space. This is proposed to be incremental with a short 5 year target of improving micro mobility and walkability and a long term target of providing a Public Transit. The timeline is proposed to match with the stages of the overlay zones and expanding travel options within this plan.

### **Enhancing Public Transit and Expanding Travel Options**

Integrate micro mobility and public transit to expand travel options such as e-bikes and on-demand shuttle services for residents.. The train station should have bicycle lockers, e-bike docks and scooters. The lockers should also be provided at the northern anchor, with the docks and bike racks being spread out in the borough. Context sensitive design for the sidewalks and a network of Pedestrian/Bicycle trail should be provided throughout the borough. Complemented with wayfinding signs, bike repair shops and protected lanes. Main street's signal phasing should be reevaluated with preference given to pedestrian and considering people using wheelchairs. Providing a vehicle charging station should be part of the long term goal of the borough.

### **Traffic Calming Measures and Structural Changes**

Introduce speed humps, raised, intersections, textured pavement, median islands, gateways, corner bulb-outs for traffic calming measures and structural changes to the underspases to improve clearance and provide bicycle and pedestrian walkthroughs. In addition to this, in the long term the borough should work with the county to implement a 25 mph speed limit instead of 35 mph on the proposed Main Street corridor.<sup>17</sup>

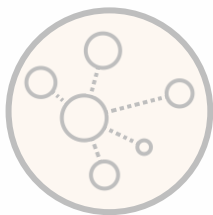


Incremental evolution of the corridor's street scene

Source: Authors

# Flood Resilience

***Manville is a flood-resistant neighborhood where the community strive for safe, healthy and exemplary living for its prosperous and vibrant future.***

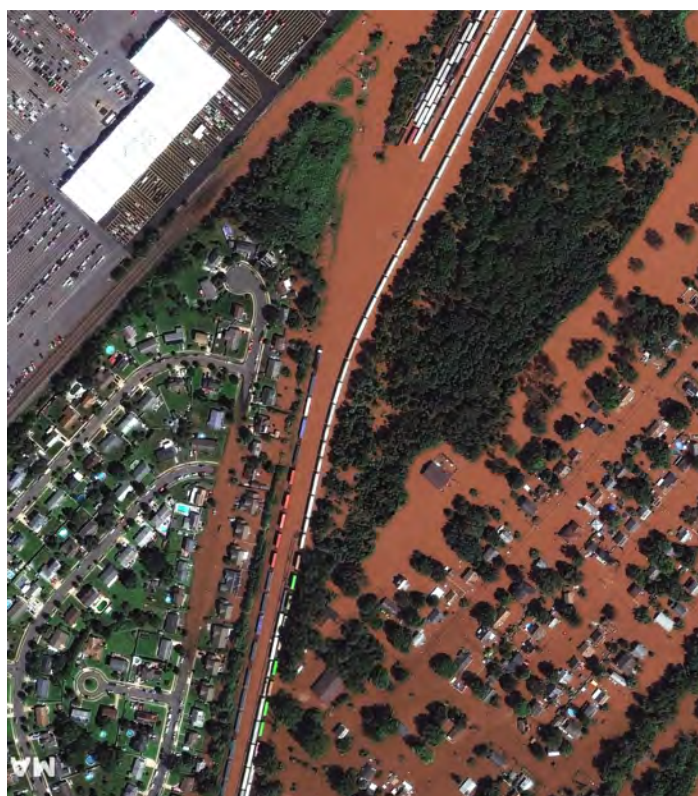


Planning for flood resilience will reduce flood risk by preventing future development in flood-prone regions and reducing the density of existing infrastructure and facilities that are located in floodplains. Additionally, a flood-adaptive urban design plan will come from the adaptation of green infrastructure systems for the new station as well as in regions with impervious surfaces. The creation of green recreational spaces like parks, natural areas, and the preservation and restoration of the natural peripheral areas will contribute to a number of positive outcomes, including a decrease in the likelihood of future flooding-related loss of life or property. Focus will be on increasing community resilience by creating a flood mitigation strategy to lessen flood risk and damage to residences and businesses. Consequently, designing for adaptability and managing flood risk will aid in creating a neighborhood that is flood resilient.



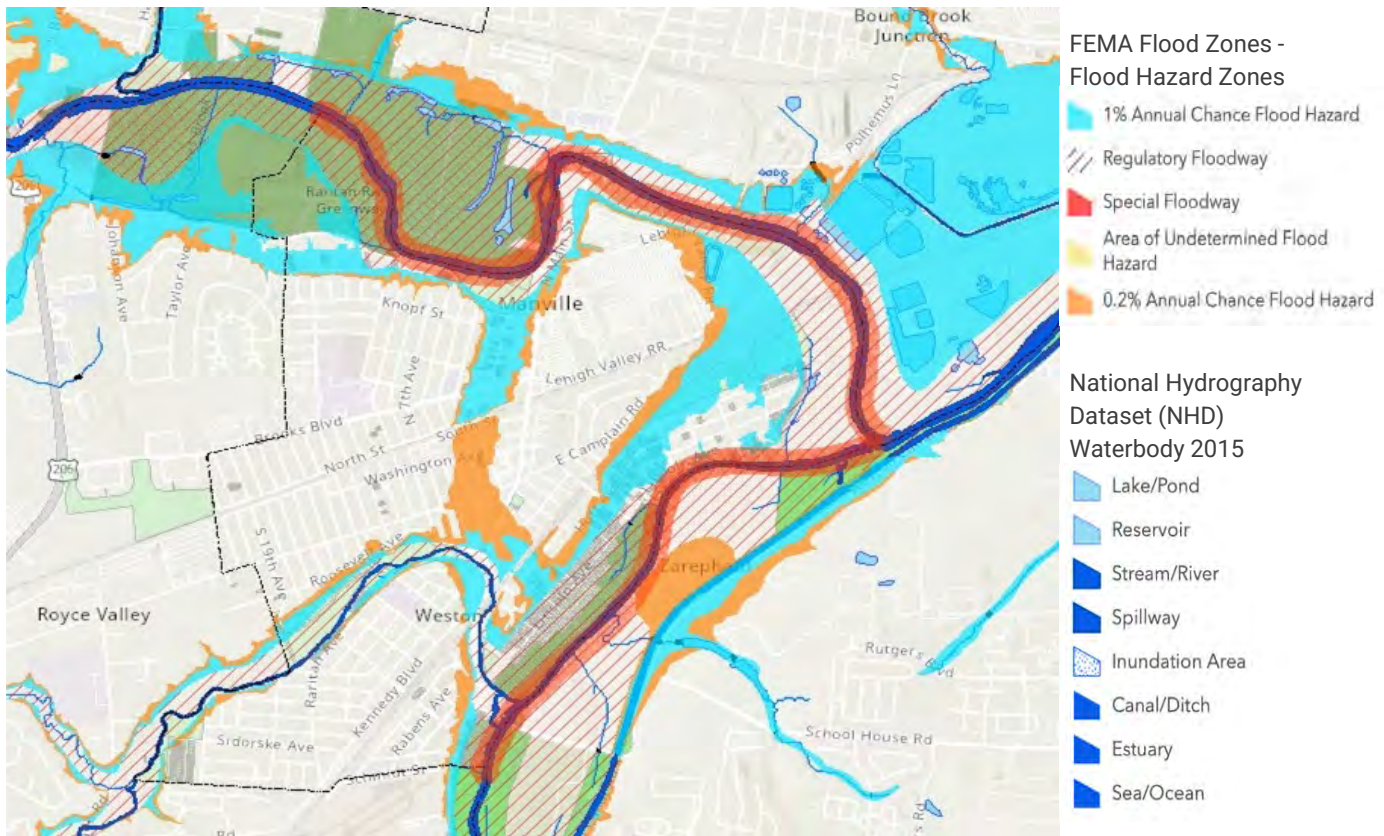
BEFORE FLOOD (July 14, 2020)

Satellite image ©2021 Maxar Technologies



DURING FLOOD (Sept. 2, 2021)

Satellite image ©2021 Maxar Technologies



Map demarcating the FEMA Flood Zones, Open Spaces and the Waterbody (Source - arcgis.com)

**Create a Borough-Wide Trail System Along the Raritan & Millstone Rivers.**

Implement Conservation restrictions along the special floodway areas adjacent to the Raritan and Millstone rivers . This green buffer will act as catchment area to mitigate flooding in other parts of the Borough, and provide additional recreation areas for residents, and generate mild ecotourism benefits. This will further disconnect the surface runoff and restrict pollutants to enter the water bodies. All landscape design proposals should comply with ADA accessibility norms and adapt permeable paving system.

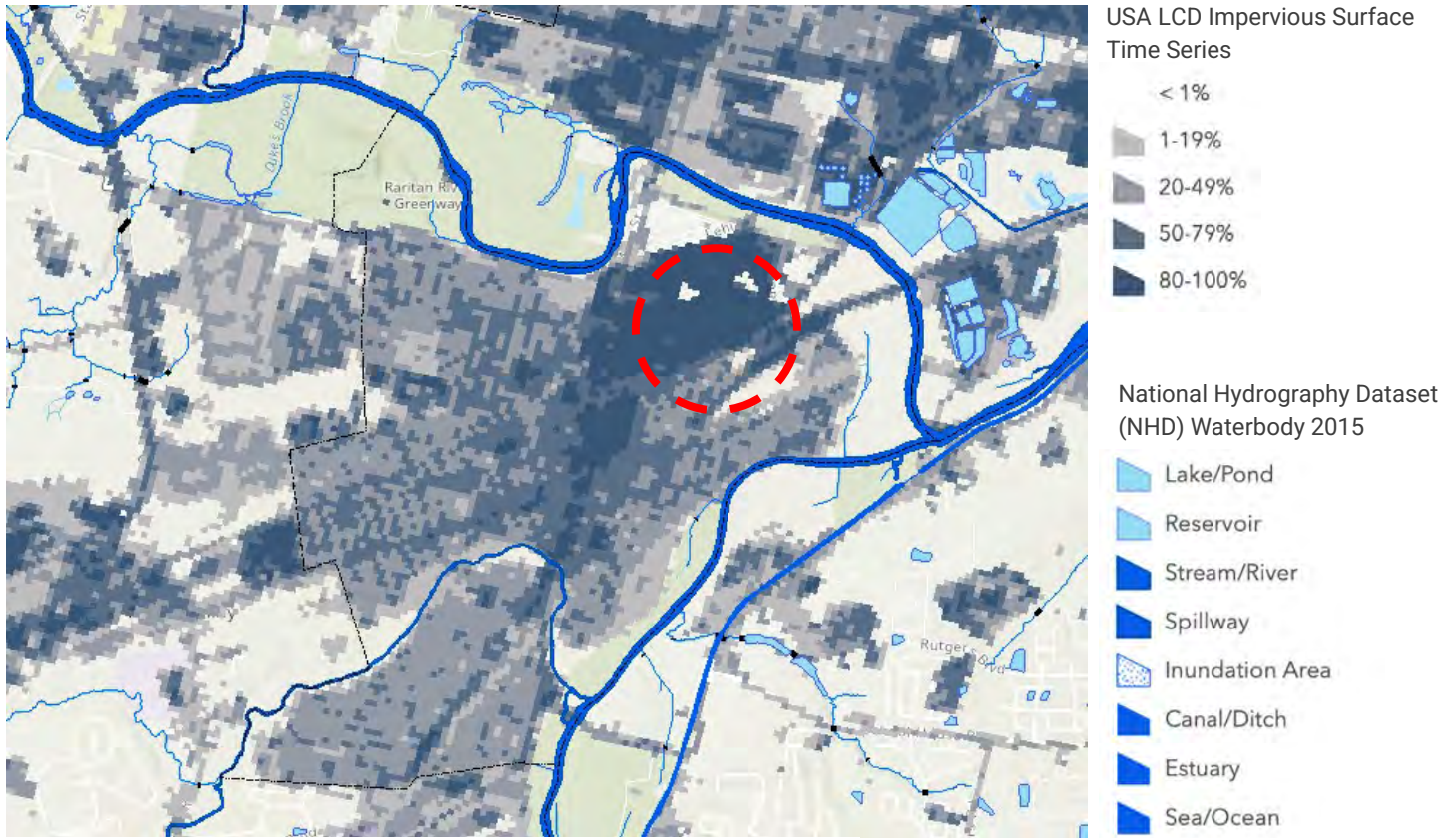
**Require Green Infrastructure & Minimal Impervious Coverage at the Station**

Require elevating the station, green infrastructure and minimal impervious coverage as key points of the prospectus put out to developers. This will allow the station to be a safe, beautiful and resilient part of the community.

**Reduce Impervious Coverage in the EDD Zone**

Reduce the maximum impervious coverage in the EDD zone, and require any future development upon the breakup of the existing paving with pervious pavement or planted berms to provide retention for stormwater. The current conditions of the site, one of the highest points in the Borough, exacerbates the flooding of other areas. Reducing this will limit the amount of runoff from this zone and decrease the effects of future flooding.<sup>18</sup>

# Flood Resilience



Map demarcating the Impervious Surfaces and Waterbody (Source - arcgis.com)

## **Create a Flood Hazard Mitigation Committee for the Borough**

A committee within the Borough should be established, tasked with outreach, increasing public awareness of flood risk, and providing information and guidance on flood preparation, flood insurance and other community services. The committee is to have a mandate to specifically address vulnerable populations within the Borough.<sup>19</sup>

## **Expand the Blue-Acres Buyback Program in the Lost Valley**

The Borough should continue to coordinate with FEMA and the Blue Acres Program of the New Jersey Department of Environmental Protection, with the goal of removing all of the remaining occupied houses in the Lost Valley. This will both protect the lives and livelihoods of those who live in Manville, and allow for the absorption of more stormwater during floods events, protecting other areas as well. This action will also make the train station site a gateway and access point to a Boroughwide greenbelt.



# Accountability

***Manville's residents have a clear understanding of the steps being taken to help the community, and have a direct hand in their decision making***



Continual coordination between governments and the public is imperative for planning to succeed. In order to reach the ambitious goals of this plan, Manville must **establish a system to keep the public engaged and involved**, to provide momentum for progress, and to make sure the goals as planned are still meeting the needs of a changing community. To that end, the following strategies:

## **Host an Annual Open House and Listening Session on the Progress of the Plan**

The Borough should be required to host an annual listening session where the community can provide feedback on the plan's progress and direction. This feedback must be incorporated into an annual state of the plan, which is to be submitted to Council and made publicly available on the Borough website every year, detailing the outcomes from the listening sessions, progress that has been made towards fulfilling the goals of the plan, and the intended steps for the next year. This will add increased accountability and community oversight of the plan, and allow the opportunity for the community to give its feedback in a consistent way as the plan progresses.



Public Engagement provides more community buy-in and better outcomes. Photo Courtesy of [Tapinto.net](https://www.tapinto.net)<sup>20</sup>

# A Thriving Downtown

***Manville is an equitable and prosperous community, with a thriving and growing commercial downtown***



A thriving downtown has long been a goal of Manville's planning efforts. However, despite the best efforts, the Borough's median incomes and poverty have continued to grow since the closure of the Johns Manville factory. The Delaware-Raritan Transit Corridor can provide the stimulus the Borough needs to develop a local economic center within the community through the intensification of commerce and uses along Main Street with the Rustic Mall Redevelopment and new train station as anchors. Increasing density, and encouraging business along this corridor will generate additional taxes for borough, provide jobs for residents, and serve as an anchor for the community.



Manville's Downtown can become a bustling center for locals and visitors. Photo Courtesy of Onlyinyourstate.com<sup>15</sup>

### **Amend the Commercial Zone Along Main Street**

Along Main Street from Kyle Street to Brooks Boulevard, amend the zone to allow development of up to 4 stories, reduce lot front setbacks to 5 feet, and reduce parking minimums for buildings that front on Main Street. The additional height and walkability will make mixed use more likely, and housing close to the train station will add to the customer base of local businesses and generate foot traffic.

### **Expand Sidewalks Along Main Street**

All sidewalks should be expanded to 12 feet with additional tree plantings and pedestrian infrastructure. Expanding the sidewalk will provide more room for residents, and make the area feel more inviting, and provide extra outdoor space for restaurants and businesses to set up tables and booths.

### **Create a Business Improvement District for Businesses along Main Street**

The creation of a Business Improvement District will allow local businesses to coordinate, fundraise and apply their tax money into physical improvements along Main Street to complement the physical improvements taking place as part of this plan.

### **Establish and Office of Local Business Affairs**

The new office will be tasked with technical assistance in opening businesses, assisting local businesses in finding suppliers and financing, and maintain listings of available storefronts in Manville. The Office will also be tasked with digitizing and streamlining the business application process. In the long term the office will also work to create a loan fund for local business ventures and disadvantaged communities. Providing technical assistance to local entrepreneurs is vital to the success of a burgeoning downtown. Providing services for these businesses allows to thrive, serve as an attractive draw for relocating businesses and help to generate and keep money within Manville. The long term tasks of digitizing processes and creating a loan fund will allow more residents to become invested in the local economy, and will particularly support historically disadvantaged communities.























Downtown Somerville, a neighboring community that has leveraged their train station to create a walkable downtown economic corridor. *Photo Courtesy of New Jersey Isn't Boring*

# Key Recommendations

## Delaware-Raritan Transit Corridor Recommendations

Principles	Goals + Strategies	Range
   	Universal Basic Mobility (pg. 13) <ul style="list-style-type: none"> <li>- Pilot Transit Line</li> <li>- Greenway Network</li> </ul>	Short Term Medium Term
   	Land Stewardship (pg. 17) <ul style="list-style-type: none"> <li>- Resiliency Plan</li> <li>- Smart Growth Plan</li> </ul>	Short Term Medium Term
   	Public Relations Campaign (pg. 19) <ul style="list-style-type: none"> <li>- PR Campaign and Brand Identity</li> <li>- Annual "Renaissance Rail" Festivals</li> <li>- Stakeholder Updates and Feedback</li> </ul>	Short Term Medium Term Medium Term
   	Steering Committee (pg. 21) <ul style="list-style-type: none"> <li>- Establish a Legal Directive</li> <li>- Establish a Task Force</li> <li>- Establish an Equity Board</li> </ul>	Short Term Short Term Short Term

## Ewing Township Recommendations

Principles	Goals + Strategies	Range
   	Mixed Uses (pg. 27) <ul style="list-style-type: none"> <li>- Mixed Residential Uses</li> <li>- Mixed Commercial Uses</li> <li>- Reduced Parking</li> </ul>	Short Term Short Term Short Term
   	Access & Mobility (pg. 29) <ul style="list-style-type: none"> <li>- Bicycle and Pedestrian Access</li> <li>- Bus Transit Access</li> <li>- Station Parking</li> </ul>	Medium Term Medium Term Long Term
   	Intersystem Coordination (pg. 32) <ul style="list-style-type: none"> <li>- Coordination Task Force</li> <li>- Arts &amp; History</li> <li>- Station Design</li> </ul>	Long Term Long Term Long Term
   	Climate Resilience (pg. 33) <ul style="list-style-type: none"> <li>- Stream Corridor Protection Ordinance</li> <li>- Green Building</li> <li>- Green Infrastructure</li> </ul>	Short Term Short Term Medium Term
   	Vibrant Economy (pg. 34) <ul style="list-style-type: none"> <li>- Small Business Loan Assistance</li> <li>- Small Business Financial Relief</li> <li>- Station Vendor Opportunities</li> </ul>	Short Term Short Term Long Term

## Hopewell Borough Recommendations

Principles	Goals + Strategies	Range
	<p>Housing (pg. 39)</p> <ul style="list-style-type: none"> <li>- Harmonize the Historic and the New</li> <li>- Permit Traditional Housing</li> <li>- Set Housing Goals</li> </ul>	<p>Short Term Medium Term Long Term</p>
	<p>Connectivity (pg. 41)</p> <ul style="list-style-type: none"> <li>- Safe &amp; Secure Circulation</li> <li>- Connecting Hopewell</li> <li>- Mobility &amp; Land Use</li> </ul>	<p>Short Term Medium Term Long Term</p>
	<p>Transit Village (pg. 43)</p> <ul style="list-style-type: none"> <li>- Home Businesses Offices</li> <li>- Arts, History &amp; Culture</li> <li>- Expand Commercial Uses</li> </ul>	<p>Short Term Short Term Medium Term</p>

## Hillsborough Township Recommendations

Principles	Goals + Strategies	Range
	<p>Improve Multimodality (pg. 47)</p> <ul style="list-style-type: none"> <li>- Station Shuttle Service</li> <li>- Multimodal Improvements</li> <li>- Main Street Mobility Hub</li> </ul>	<p>Short Term Medium Term Long Term</p>
	<p>Balance Parking Demands (pg. 49)</p> <ul style="list-style-type: none"> <li>- Split Parking Decks</li> <li>- Engage Stakeholders in Creative Solutions</li> <li>- Repurpose Existing Parking</li> </ul>	<p>Short Term Short Term Medium Term</p>
	<p>Protect Agricultural Space (pg. 51)</p> <ul style="list-style-type: none"> <li>- Remove Corporate Zoning</li> <li>- Implement Transfer of Development Rights (TDR)</li> <li>- Limit Sewer Extension</li> </ul>	<p>Short Term Medium Term Long Term</p>
	<p>Prioritize Affordable Housing (pg. 53)</p> <ul style="list-style-type: none"> <li>- Extend Affordable Housing Flexibility</li> <li>- Develop Commuter Apartments</li> <li>- Incentivize Mixed-Income Units</li> </ul>	<p>Short Term Short Term Long Term</p>

# Key Recommendations

## Manville Borough Recommendations

Principles	Goals + Strategies	Range
	<p>Housing &amp; Land Use (pg. 61)</p> <ul style="list-style-type: none"> <li>- Inclusionary Overlay Zones</li> <li>- Flood Zone Based Zoning</li> <li>- Increase and diversify density and uses</li> </ul>	<p>Short Term Medium Term Medium Term</p>
	<p>Vibrant Circulation (pg. 63)</p> <ul style="list-style-type: none"> <li>- Expand Travel Options</li> <li>- Main Street Redesign Project</li> <li>- Traffic Calming Measures</li> <li>- Relocate Proposed Train Station Site</li> </ul>	<p>Short Term Medium Term Medium Term Long Term</p>
	<p>Flood Resilience (pg. 65)</p> <ul style="list-style-type: none"> <li>- Prevent Development in Flood-Prone Areas</li> <li>- Flood Mitigation Strategy</li> <li>- Reduce Density in Floodplains</li> <li>- Flood-Adaptive Urban Design Plan</li> </ul>	<p>Short Term Short Term Medium Term Medium Term</p>
	<p>Accountability and Improvement (pg. 68)</p> <ul style="list-style-type: none"> <li>- Coordination with DRTC municipalities</li> <li>- Annual Plan Listening Session</li> </ul>	<p>Short Term Medium Term</p>
	<p>Thriving &amp; Equitable Local Downtown (pg. 69)</p> <ul style="list-style-type: none"> <li>- Amend the Commercial Zone Create a Business Improvement District</li> <li>- Expand Sidewalks along Main Street</li> <li>- Establish Office of Local Business Affairs</li> </ul>	<p>Short Term Short Term Medium Term Long Term</p>

# First Steps

So, how can the Delaware–Raritan Transit Corridor foster a sustainable region of equitable and affordable communities while providing convenient access to destinations throughout the Garden State and beyond? Here are some short-term recommendations to do in the next 1-3 years:

## **Delaware-Raritan Transit Corridor**

### Steering Committee

- Establish a Legal Directive
- Establish a Task Force
- Establish an Equity Board

### Land Stewardship

- Resiliency Plan
- Smart Growth Plan

### Public Relations Campaign

- PR Campaign and Brand Identity

### Universal Basic Mobility

- Pilot Transit Line

## **Ewing Township**

### Mixed Uses

- Mixed Residential Uses
- Mixed Commercial Uses
- Reduced Parking

### Climate Resilience

- Stream Corridor Protection Ordinance
- Green Building

### Vibrant Economy

- Small Business Loan Assistance
- Small Business Financial Relief

## **Hopewell Borough**

### Housing

- Make Nonconforming Conform

### Connectivity

- Safe & Secure Circulation

### Transit Village

- Home Businesses Offices

## **Hillsborough Township**

### Improve Multimodality

- Station Shuttle Service

### Balance Parking Demands

- Split Parking Decks
- Engage Stakeholders in Creative Solutions

### Protect Agricultural Space

- Remove Corporate Zoning

### Prioritize Affordable Housing

- Extend Affordable Housing Flexibility
- Develop Commuter Apartments

## **Manville Borough**

### Housing & Land Use

- Inclusionary Overlay Zones

### Vibrant Circulation

- Expand Travel Options

### Thriving & Equitable Local Downtown

- Amend the Commercial Zone  
Create a Business Improvement District

### Flood Resilience

- Prevent Development in Flood-Prone Areas
- Flood Mitigation Strategy

### Accountability and Improvement

- Coordination with DRTC municipalities

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### **Hillsborough Work**

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