



# TURN THE PIKE LLC.

Community Planning Consultants

## DUTCHESS TURNPIKE PLAN

Report compiled by:  
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## INTRODUCTION

This project was conducted by a team at **Turn the Pike LLC.**, consisting of consultants: Jordan Shamoun, Sharon Nahm, and Tianchen Zhou.

This report was released on December 12, 2023.

The following report compiled by Turn the Pike LLC. outlines a series of goals and recommendations for the revitalization of the Dutchess Turnpike located in the Town of Poughkeepsie, New York. We have identified the Dutchess Turnpike, or the ~2.25 mile stretch of Route 44 including around a 0.5 mile radius of its surrounding neighborhoods, as an area worth investigating for reinvestment and redesigning because of 1) the area's existing conditions that arise from its spatial and sociocultural proximity to the city of Poughkeepsie, and 2) the significant contemporary transformations occurring within the contained area, these transformations including the demolition of the Old Kmart in the Dutchess Plaza at the western edge of the Turnpike and the expansion and inhabitation of Eastdale Village at the eastern edge of the Turnpike.

This report follows Turn the Pike LLC's Existing Conditions Report (completed in October 2023), which is referenced throughout this report, and included in full in the appendix of this report.

We begin our report with a brief contextualization of the study area in Part 1A. History and Context, 1B. Demographics, and 1C. Comprehensive Maps. We then outline the main goals and recommendations that Turn the Pike LLC. has envisioned for the study area in Part 1D. In our report, we have learned and taken heavy reference from the existing plans for the Town of Poughkeepsie

outlined in the reports outlined in Part 1E.

After introducing our study area, we will briefly outline a community engagement plan in Part 2. that references the existing demographic conditions of the study area. We aim to create a plan for engagement and education that is accessible and equitable to all the stakeholders that our plan engages. In Part 3., we further elaborate on the goals that Turn the Pike LLC. has for the Dutchess Turnpike Revitalization Plan.

In Part 4. Recommendations, we provide our policy and urban design recommendations for the revitalization of the study area. Our recommendations are separated into four different sections: the first two sections are bold urban re-design plans that re-imagine the transportation infrastructure within our study area (Part 4A.), and propose mixed-use infill designs for opportunity areas, or the abandoned greyfield catalyst sites (Part 4B.). These bold design interventions are followed by policy and non-infrastructure intervention recommendations in Part 4C. Land-Use: Zoning, and Part 4D. Land-Use: Environment.

We outline how our recommendations might be practically implemented at a gradual scale in Part 5A. Tools and Strategies for Implementation and Part 5B. Next Steps. We finally conclude our report in Part 6: Appendix that includes our references as well as our Existing Conditions Report.



The dotted line illustrated on this map indicates the ~2.25 mile section of the *Dutchess Turnpike* corridor that defines our study area.

CREDIT: screen capture of DCNY Aerial Access Map (2021 TC map of Dutchess County) <https://gis.dutchessny.gov/aerialaccess/>

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\*notes:

- a. sources referenced within this report are compiled in the references section at the end of this report.
- b. individual crediting of sections to team members are also recorded in the references section of this report
- c. illustrations and photographs where source is not indicated are original content by Turn the Pike LLC.

*1.*  
**Introduction**

## A. History and Context

\* This is a condensed version of Part 1: Contextualizing the Study Area in Turn the Pike LLC’s Existing Conditions Report. For the full historical write-up, please view Section 6A1. of the Appendix.

The study area of our report, the Dutchess Turnpike, is a section of the contemporary Route 44 corridor located within the Town of Poughkeepsie. Its name, the Dutchess Turnpike, refers to its historic land use as the beginning stretch of a 35-mile historical turnpike road owned by the Dutchess Turnpike Company in the nineteenth century that ran west to east from the Town of Poughkeepsie to a connection on the east end to the Goshen and Sharon turnpikes (New York State, 1804). Today’s Dutchess Turnpike or section of the Route 44 corridor was first defined as early as 1935 to serve as a road for automobiles to traverse through. At this time, the surrounding land-use of the Dutchess Turnpike was largely agricultural with commercial and residential land-uses still being contained towards the riverfront within the industrial City of Poughkeepsie. This would change however, with suburbanization in the subsequent decades of post-war urban renewal and the introduction of IBM to the Town of Poughkeepsie.

In 1941, the Munitions Manufacturing Company, a subsidiary of IBM, acquired its first plot of land in the Town of Poughkeepsie, south of the city. During the years of WWII, IBM expanded its facilities, absorbing MMC in 1943, and continuing its growth throughout the town of Poughkeepsie. Flad mentions in his book, “Main street to Mainframes: Landscape and Social change in Poughkeepsie,” how during the war, IBM had little visible impact on the Town of Poughkeepsie apart from its

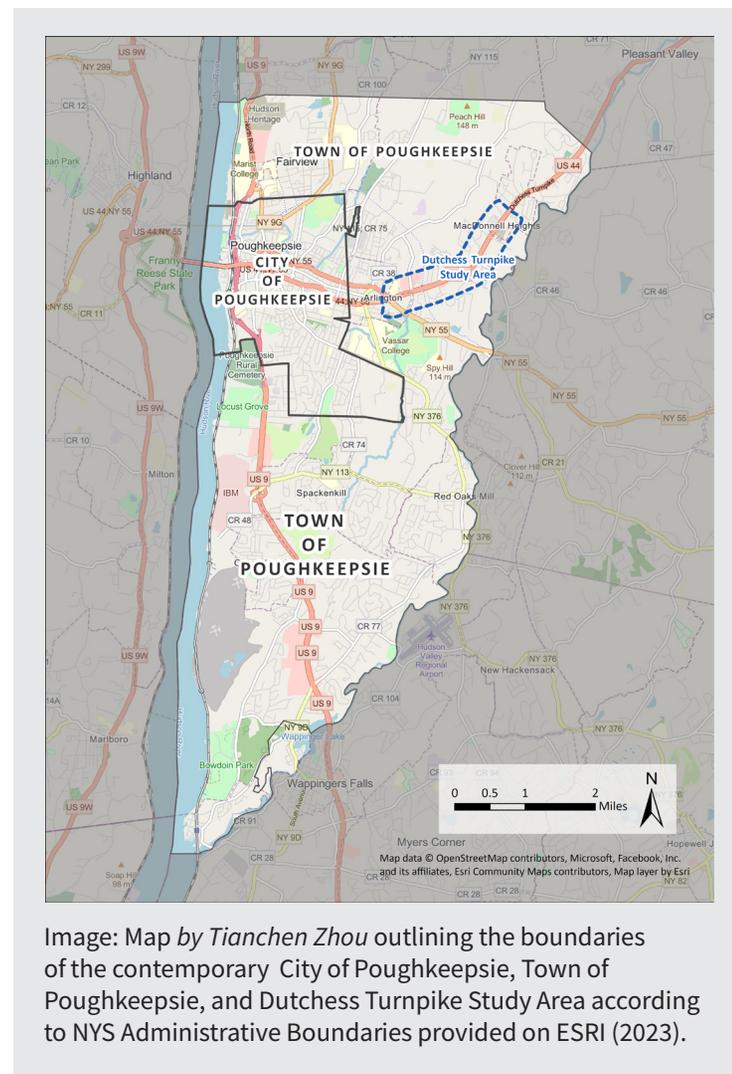


Image: Map by Tianchen Zhou outlining the boundaries of the contemporary City of Poughkeepsie, Town of Poughkeepsie, and Dutchess Turnpike Study Area according to NYS Administrative Boundaries provided on ESRI (2023).

facilities. By the end of the war, however, the combination of the national post-war housing shortage and the future anticipation of a growing IBM workforce in Dutchess County would lead to a transformation in the Town of Poughkeepsie's landscape to 1) accommodate more housing, and 2) facilitate traffic for commuting (Flad, 2009). IBM Poughkeepsie grew from a workforce of 1,800 people to a workforce of 15,500 people in 1965. By the 1980s, IBM (consisting of its Town of Poughkeepsie facilities and East Fishkill-established in 1963- facilities) accounted for 70% of all manufacturing employment in Dutchess County.

In the decade following the establishment of IBM within the Town of Poughkeepsie, the land-use of the Town of Poughkeepsie, including the surrounding land-use of our Dutchess Turnpike study area, would slowly transform from agricultural to residential with white-collar IBM working commuters moving to reside in single-family homes sprawled across the land. The construction of the East-West Arterial in 1974, running from routes US44 and NY55, would slice through the City of Poughkeepsie, accelerating the deterioration of the City and the growth of the suburbs. New shopping malls and strip developments, with lots of parking for auto-centered twentieth century consumption, populated the Town of Poughkeepsie landscape in the latter half of the twentieth century. And by the end of the twentieth century, supermarkets and most retail shops had left the city for the suburbs.

As the definition of the city stretched, and suburbanization extended even further outwards, urban decline in the City of Poughkeepsie translated to declining conditions in the Town of Poughkeepsie. Furthermore, the significant downsizing of IBM in Dutchess County in the 1990s contributed to further decline within the area of Poughkeepsie.

From contemporary observation, we can see how the Dutchess Turnpike study area is neglected in many aspects and lacks a cohesive character and sense of place. There are closed businesses interspersed randomly, and frequently, along the corridor; vast underutilized plots of land as well as unsafe or deteriorating pedestrian/bike paths are a frequent sight. The place we see today is one shaped by a series of temporary economic flows and historical planning decisions that failed to acknowledge equity, accessibility, or the existing landscape.

## B. Demographics

\*The following is a condensed overview of the key demographics of the study area, to give a brief compositional understanding of the Dutchess Turnpike. For a more detailed analysis of the study area demographics, please refer to Section 6AIV. of the Appendix.



### POPULATION

3,096 (2023)

+0.86% projected growth



### MEDIAN INCOME

\$58,061 (2021)



### MEDIAN AGE

40.5 (2023)



### HOUSING UNITS

1,238 (2023)

+1.51% projected growth



### MEDIAN HOUSEHOLD INCOME

\$67,429 (2023)



### MEDIAN HOME VALUE

\$292,520 (2023)



### AVERAGE HOUSEHOLD SIZE

2.59 (2023)

# COMMUNITY SUMMARY

1  
Area: 1.16 square miles

3,096	6.95%	2.59	73.0	40.5	\$67,429	\$292,520	\$79,287	19.8%	62.4%	17.8%
Population Total	Population Growth	Average HH Size	Diversity Index	Median Age	Median HH Income	Median Home Value	Median Net Worth	Age <18	Age 18-64	Age 65+



13.8%  
Services



24.2%  
Blue Collar

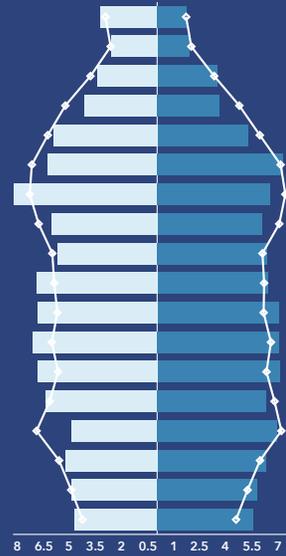


62.0%  
White Collar

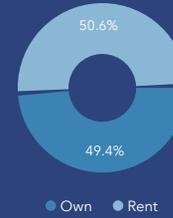
Mortgage as Percent of Salary



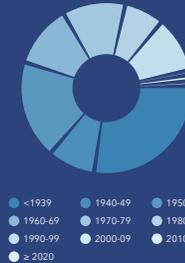
Age Profile: 5 Year Increments



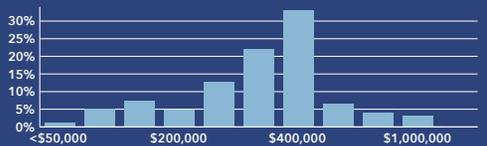
Home Ownership



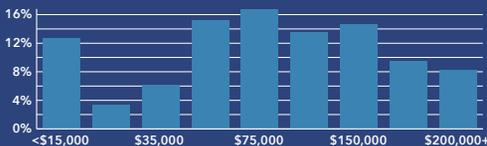
Housing: Year Built



Home Value



Household Income



Educational Attainment



Commute Time: Minutes



Source: Esri, ACS, Esri forecasts for 2023, 2017-2021, 2028.

Dots show comparison to 36027 (Dutchess County)

Source: This infographic contains data provided by Esri, ACS. The vintage of the data is 2023, 2017-2021, 2028.

© 2023 Esri

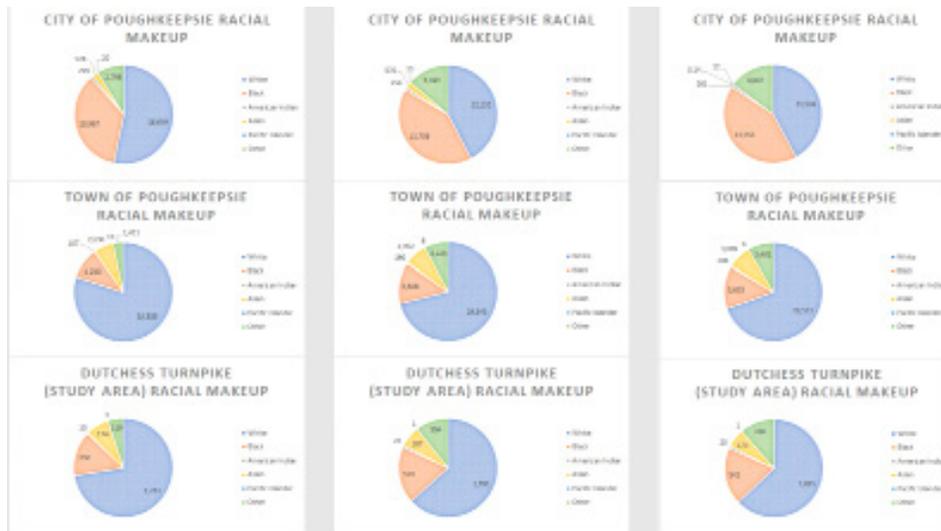
**CREDIT:** Dutchess Turnpike Study Area Community Summary Infographic generated by ArcGIS Online Community Analyst Tool

## Comparative Population and Housing Unit Growth Over Time of the Dutchess Turnpike, Town of Poughkeepsie, and City of Poughkeepsie

	2010 Total Population	2020 Total Population	2023 Total Population (ESRI estimate)	Projected Growth (percentage)
Town of Poughkeepsie	43,341	45,471	45,409	0.00%
City of Poughkeepsie	32,736	31,577	32,115	-0.26%
Dutchess Turnpike (Study Area)	2,460	2,489	3,096	0.85%

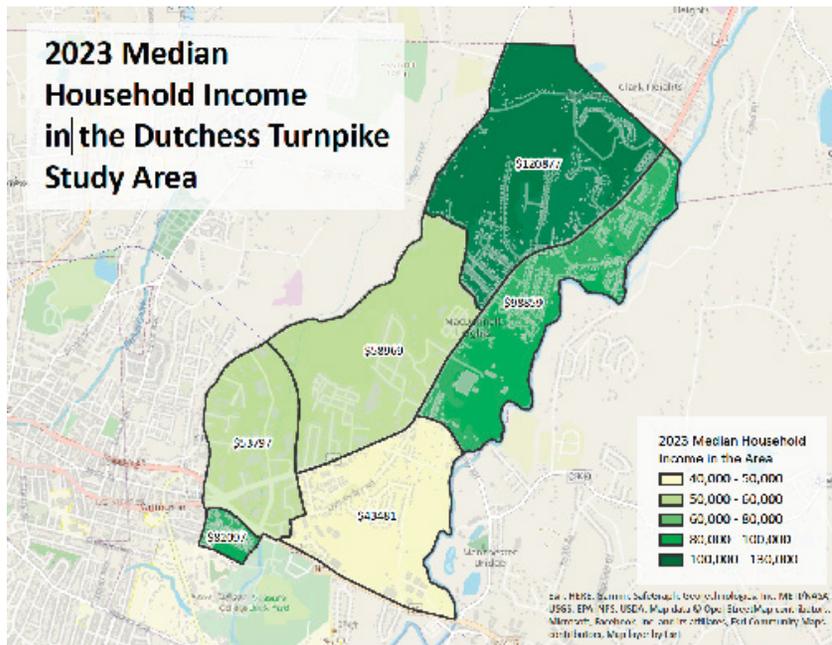
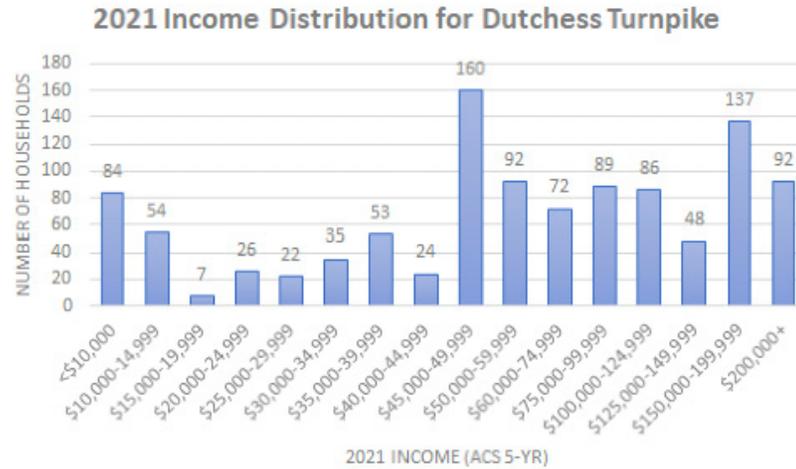
	2010 Total Housing Units	2020 Total Population Housing Units	2023 Total Housing Units (ESRI estimate)	Projected Growth of Owner-Occupied Housing Units (percentage)
Town of Poughkeepsie	16,116	16,878	17,341	0.44%
City of Poughkeepsie	13,984	14,604	15,114	0.37%
Dutchess Turnpike (Study Area)	978	1,008	1,238	1.51%

## Comparative Racial Diversity over Time of the Dutchess Turnpike, Town of Poughkeepsie, and City of Poughkeepsie



These demographic trends exhibiting increasing population, housing unit totals and racial diversity within the study area points to the importance of studying the Dutchess Turnpike as a site for revitalization investment within the The Town of Poughkeepsie.

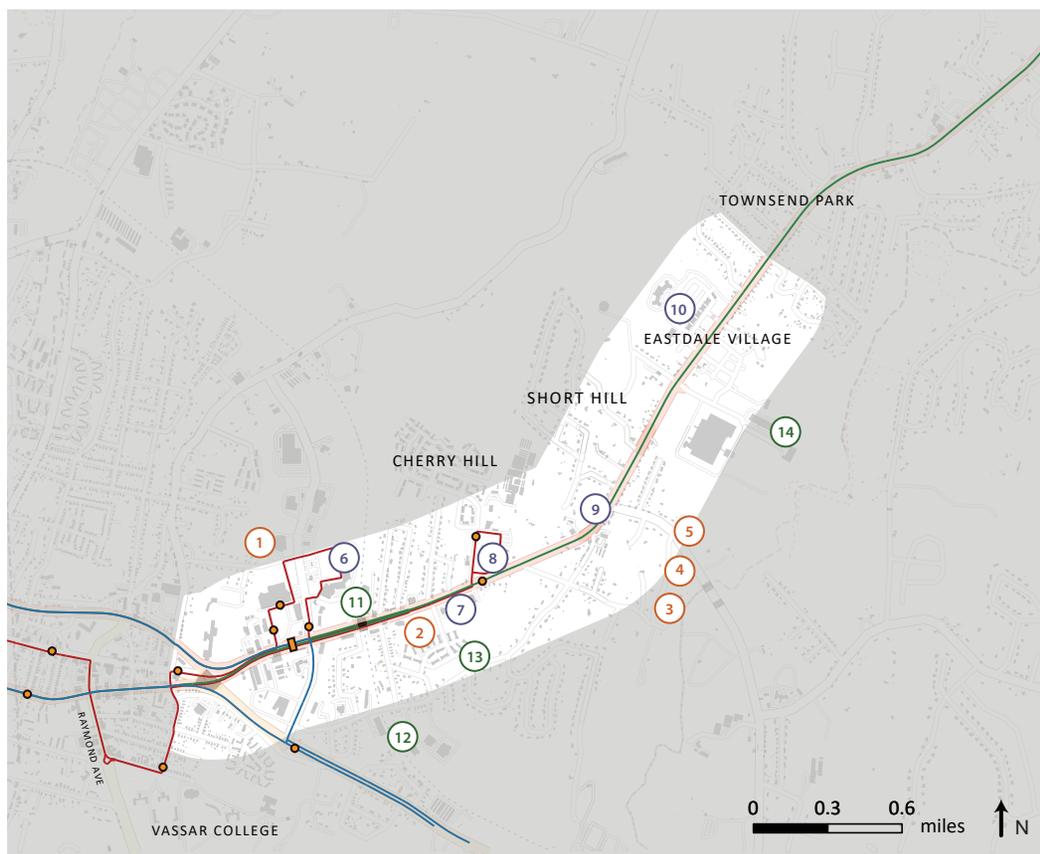
## Income Disparity and Income Distribution within the Study Area



These figures illustrate how the income of residents living along the corridor is extremely inequal. Our geographic mapping of median household income indicates a necessity for focusing initial revitalization and increasing access to resources for populations on the western side of Dutchess Turnpike.

## C. Comprehensive Maps

The following five layered maps spatially represent the overlapping issues of infrastructural inaccessibility and environmental risk that currently exist within the study area. These maps precede our goals for the study area because we would like for readers to spatially understand the existing conditions of the study area, as these conditions directly informed our goals and recommendations for our plan.



MAP 1

### Cultural Resources

- 1 Mid Hudson SDA Church (39 Friendly Ln)
- 2 Arts Mid-Hudson (696 Dutchess Turnpike)
- 3 American Legion Post 1302 (55 Overlook Rd)
- 4 Germania of Poughkeepsie (37 Old Degarmo Rd)
- 5 New Beginnings Alliance Church (35 De Garmo Rd)

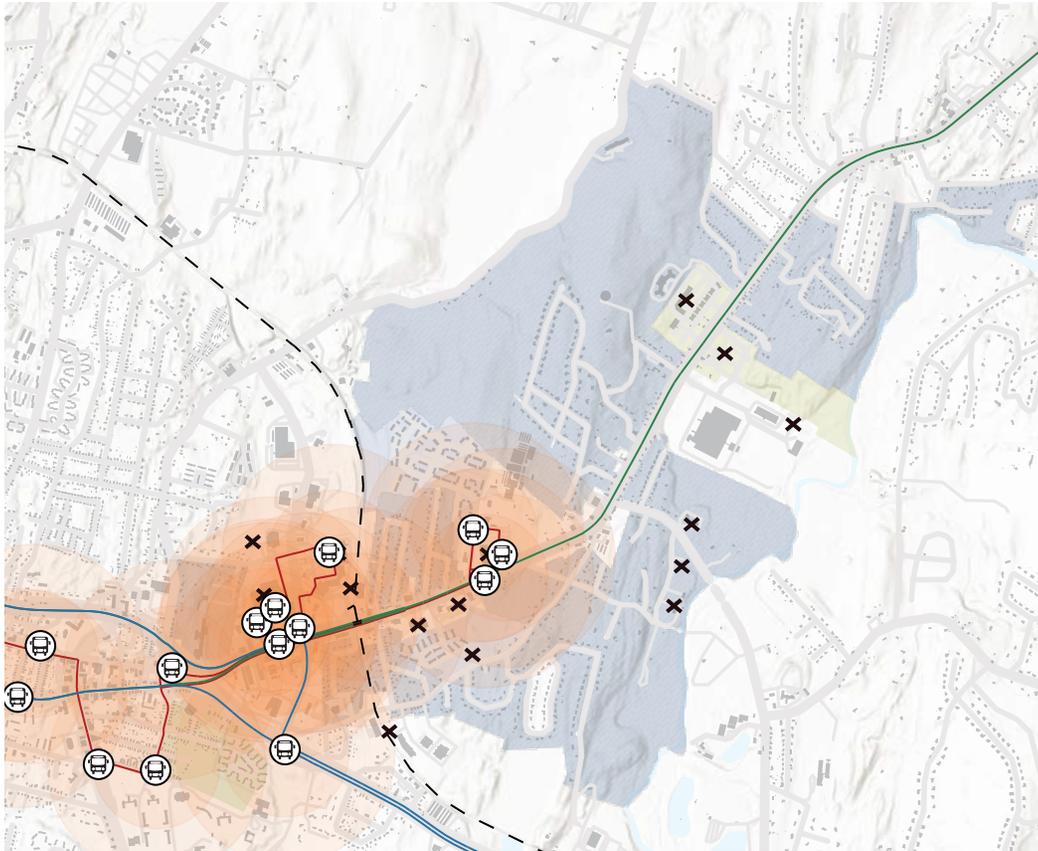
### Commercial Resources

- 6 Stop and Shop (59 Burnett Blvd)
- 7 Arlington Square (718 Dutchess Turnpike)
- 8 Adams Fairacre Farms (765 Dutchess Turnpike)
- 9 Walgreens (827 Dutchess Turnpike)
- 10 Eastdale Village Town Center (10 Otto Way)

### Natural Resources

- 11 Love Road Dutchess Rail Trail Entrance (35-99 Love Rd)
- 12 Dutchess Rail Trail Entrance (50 Overocker Rd)
- 13 Overocker Park (127 Overocker Rd)
- 14 Creekside Park (29 Victory Ln)

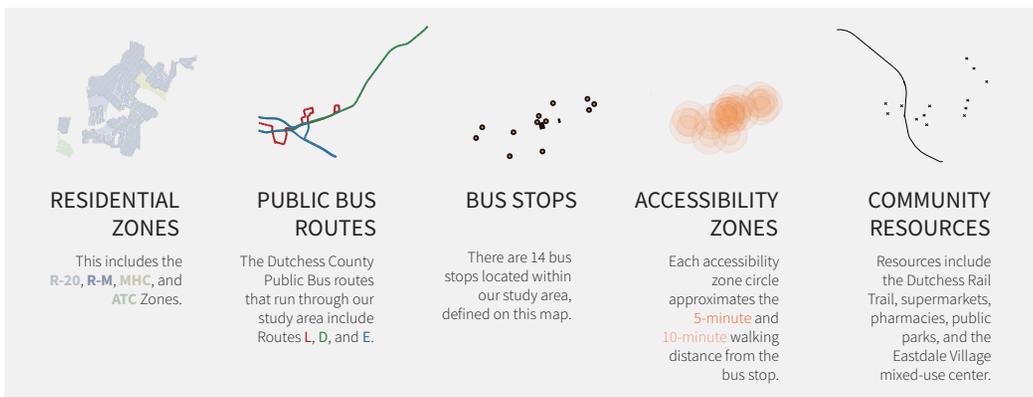
Map 1. contextualizes the study area in reference to scale and geography using key neighborhoods and cultural, commercial, and natural resources for residents.



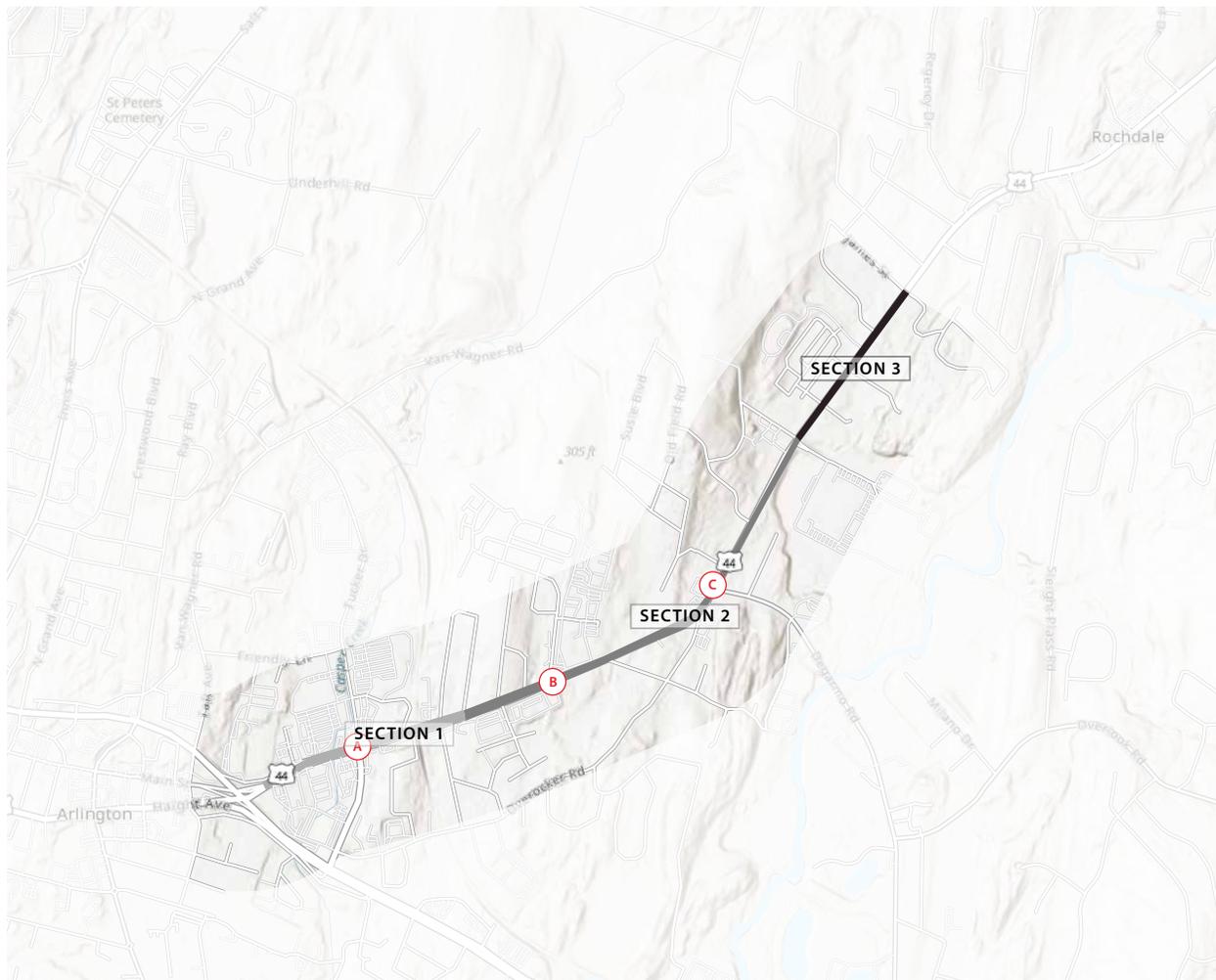
## ACCESSIBILITY

Map 2. looks at the accessibility of existing public transportation and biking infrastructure. We can observe that bus stops are clustered at the western edge of the corridor despite the fact that residential areas (specifically residential zones) and community resources extend throughout the entirety of the corridor. Section 6AV in the Appendix (Transportation of Existing Conditions Report) also tells us that the buses that do exist are extremely irregular and inefficient making the current public transit system inaccessible even for residents that live in proximity to existing stops.

From this map, as well as from our qualitative research in the study area (see 6AV. for further explanation of research), we know that biking and pedestrian infrastructure in our study area is unsafe or nonexistent– the only biking infrastructure is the Dutchess Rail Trail which is largely hidden from the visibility of the corridor and the existing pedestrian infrastructure is extremely lacking and discontinuous. A significant section of the corridor does not even include a sidewalk, instead relying on unsafe shoulder lanes for pedestrians to traverse through. Given this fact, we note that the "accessibility zones" of this map are lacking forms of representation because walking in the Dutchess Turnpike is certainly not a straight buffer, as these circles indicate.



## MAP 3



Map 3. looks at the varying street road layouts existing along the corridor. This map, in accompaniment with tables in Part 4A., identifies the differing road lengths and qualitative conditions of major intersections and roads. Map 3 will serve as a useful reference for understanding our recommendations in Part 4A. of our report.

### Sections of Roadway

- Section 1 Arthur May School to Longview Rd
- Section 2 Longview Rd to Victory Ln
- Section 3 Victory Ln to the end of Eastdale Development

### Intersections of Significance

- Intersection A Dutchess Turnpike & Burnett Blvd at Stop & Shop.
- Intersection B Dutchess Turnpike & Cherry Hill Drive at Arlington Plaza.
- Intersection C Dutchess Turnpike & De Garmo Road.

## MAP 4



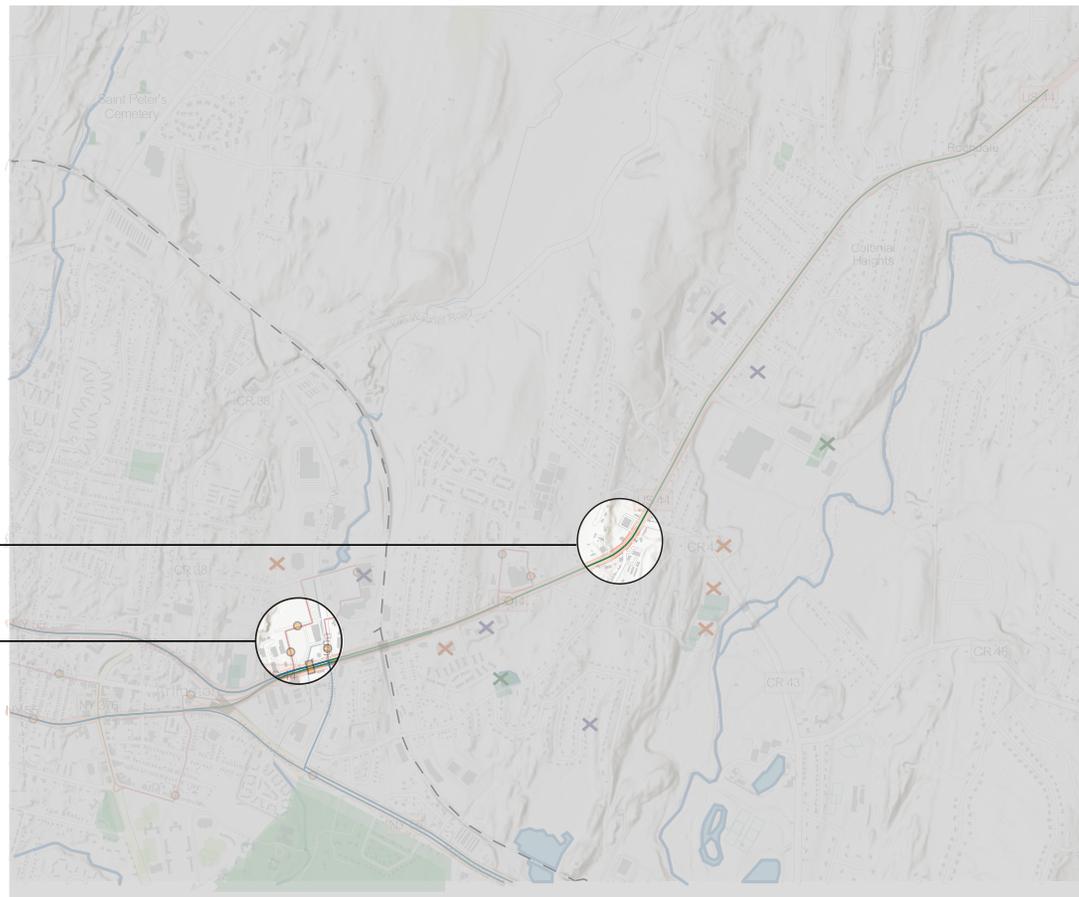
### OPPORTUNITY AREA #2

Greyfield Areas by Intersection of Overocker Rd and Dutchess Turnpike

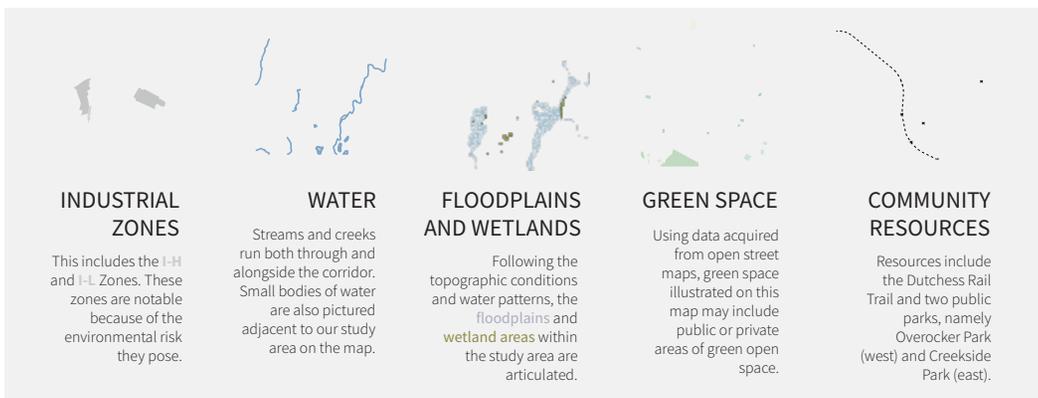
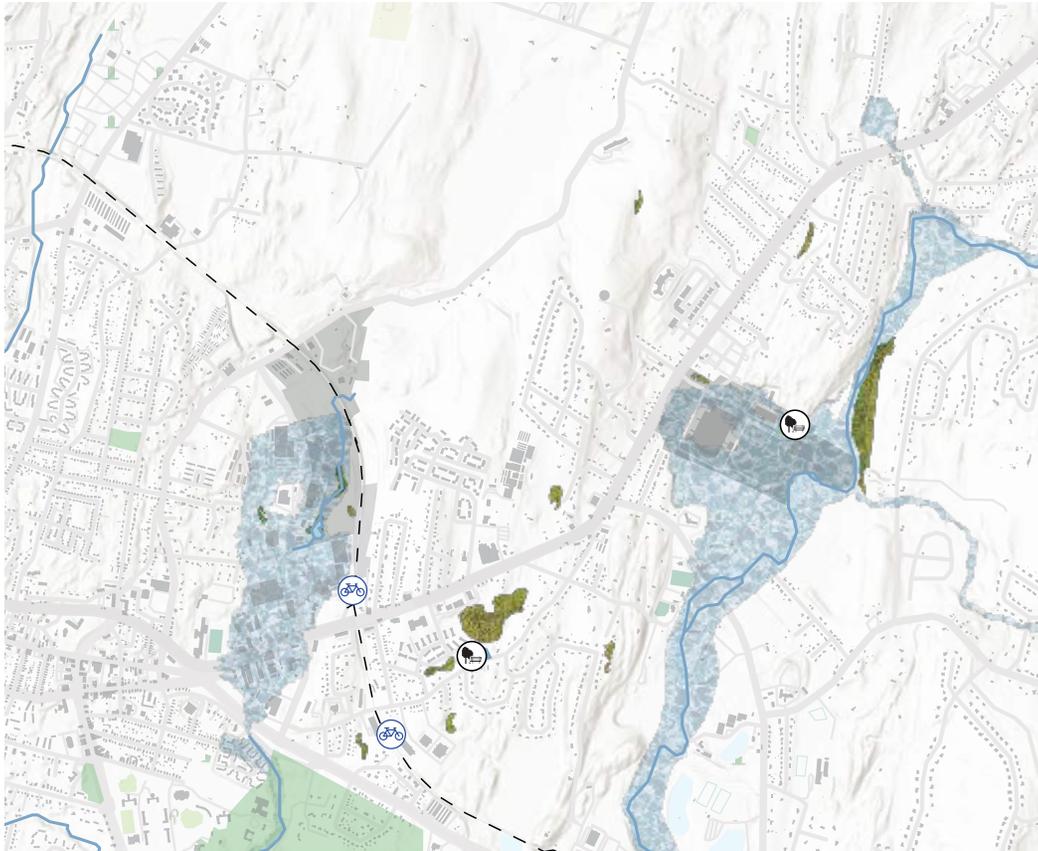


### OPPORTUNITY AREA #1

"Dutchess Plaza"



Map 4. looks at the opportunity areas that our groups have identified. These opportunity areas are sites that Turn the Pike LLC. has qualitatively observed as abandoned and unused through observational trips to the study area. Map 4 will serve as a useful reference for understanding our recommendations in Part 4B. of our report.



## ECOLOGY

Map 5. looks at the existing environmental conditions in the study area including where water, green space, floodplains and wetlands, and natural assets are located. It also looks at these conditions in relation to industrial zones, which is significant because the overlapping of industrial zones with water and floodplains/wetlands poses a contamination hazard in the context of harsh climate futures. Map 5 will serve as a useful reference for understanding our recommendations in Part 4D. of our report.

## D. Goals and Recommendations Summary

\*The following is a brief list of the goals that have guided our planning for the Dutchess Turnpike. The goals are described further in depth in *Part 3. Goals and Visions* of the report.

*The best communities are communities that take care of all of their stakeholders.*

- 1) Safe, Green, and Complete Streets**
- 2) Environmental Restoration, Protection, and Justice**
- 3) Radical Fairness (Montgomery, p. 235) – Social Justice and Equity**
- 4) Community Enhancement through Inclusion**

# E. Studying the Existing Plans

The following section goes through brief summaries of existing plans that have informed our planning. The frameworks and ideas that these plans proposed are also interwoven throughout the following sections of the report.

## **Town of Poughkeepsie Comprehensive Plan Update**

In the 2030 Comprehensive Plan Update for the Town of Poughkeepsie (2021), Routes 44 and 55 are described as “physical barriers that split the town between north and south.” It is reflected in this comprehensive plan proposal that pedestrians and bikers are exposed to safety risks on Route 44, along which traffic should be slowed down and better guided, and sidewalks and bike lanes should be improved. This plan continues to propose using the development of Town Centers as a model to realize complete street developments along Routes 44 and 55. Other recommendations including making spaces available and accessible for pedestrians and bikes, better connecting the rail trail and the creek, and renovating transit stops are also included. Nonetheless, during our field visit to the study area, we have found that very little recommendations from this proposal have been implemented, if at all.

## **Moving Dutchess Forward**

Moving Dutchess Forward is a 25-year transportation plan developed by the Dutchess County Transportation Council. This plan has investigated the historical trends on demographics, travel behaviors, housing, economy, climate change, and transportation technology; and has assessed existing barriers between people and a safe, reliable, needs-meeting, and equitable transportation system. These issues are highly in agreement in what we have identified in our existing conditions report.

From there, the plan has identified a series of actions for the Transportation Council, Dutchess County, and the local municipalities to take. This plan has also contributed a comprehensive list of fundings for each type of change to be executed. We strongly recommend consulting this source and take advantage of these resources offered by the Transportation Council as changes are undertaken within the study area.

## **Arlington Pedestrian Plan**

The Arlington Pedestrian Plan provides a list of specific recommendations for changes in the Arlington Town Center's transportation system which would make pedestrian experiences better, which necessarily includes making benefits for cyclists. The report draws on broader planning reports in Poughkeepsie and Dutchess County, such as the Poughkeepsie Town Plan, Poughkeepsie Zoning Laws, and the Walk Bike Dutchess plan to make its recommendations. The report writers also conducted a sidewalk inventory and surveys with locals to gain a better understanding of the specific conditions that needed to be improved within their study area.

The conditions of sidewalks in the study area were quite inconsistent. For example, many issues of poorly maintained sidewalk (e.g., cracks, poles interrupting the sidewalk, uplift from tree roots, etc.) were found, totaling 225 issues (p. 22) Most of these were found at the Main Street/Fairmont Avenue intersection, Fairmont Avenue north of Manchester Road, Fulton Avenue, Lagrange Avenue, and on Springside Avenue south of Maple Street (p. 22). Despite this inconsistency, there were key issues and enough common deficiencies in the state of pedestrian and bicycle facilities to identify next steps.

The report outlined their recommendations in a series of phases, 1-3, 1 being short term changes and 3 being long term changes. Phase 1 changes include improving sidewalks and crossing infrastructure (p. 47), improving signage (p. 54), installing bike parking (p. 58), establishing frequent bus service (p. 59), improving awareness and visibility of transit (p. 59), activating the triangle plaza (next to MyMarket) by adding temporary tables and other amenities (p. 60), and planting more street trees (p. 60). Phase 2 changes include creating internodal hubs of transportation (p. 45), building pocket parks and/or plazas (p. 45), adding curb extensions (p. 52), creating bike boulevard network (p. 58), making wayfinding signs to connect bike routes to the Rail Trail (p. 59), and creating a plaza on Vassar Alumnae House Lawn (p. 60). Phase 3 changes include creating a median and/or refuge island (p. 48) and installing new sidewalks (p. 56). Some changes overlapped with multiple pages to account for the fact that depending on the resources available to Arlington, they might be more or less feasible.

## **Arlington Main St Redesign Initiative**

### **Poughkeepsie 9.44.55: Rethinking the Arterials & Interchange**

These two proposals were developed by MJ Engineering and Land Surveying P. C. in March 2021 and Creighton Manning LLP in March 2022. The former focused on redesigning the Main Street from Fairmont Ave in Arlington to S/N Grand Ave in the City of Poughkeepsie. The latter focused on the arterial section from the Routes 44-55 junction to the Poughkeepsie Train Station and Route 9 from Walkway over the Hudson to Columbia Street. Both plans have incorporated land use analysis and traffic research, and have concluded by proposing to build complete streets with more accessible space for pedestrians and bikers, calmer traffic, and safer environment for all road users. In our proposal, we look forward to using our plan for the Dutchess Turnpike to further extend the coverage of complete streets in Poughkeepsie.

## Walk Bike Dutchess

Made by the Dutchess County Government, the Walk Bike Dutchess Report is the county-wide plan for pedestrian and bicyclist improvements throughout the county. The report analyzes existing policy within county city and town governments, basing its critiques and praise on broader design principles, such as complete streets, and community feedback collected through a 2013 survey the writers of the report administered to locals. Consistently, if equally good facilities existed for all modes of transportation, over half of the respondents would prefer to walk, bike, or use public transit for most common trips they have to make (such as running errands and going to work) (p. i). When responses for residents of the Lower Hudson region were extrapolated (which includes the City and Town of Poughkeepsie), the percentage of respondents who would prefer to walk, bike, or use public transit increased (p. 116).

Route 44 was identified as one of the most difficult areas for people to walk in the Lower Hudson region, making transportation improvements in this area extremely important. When asked what changes they would like to see, respondents in the Lower Hudson said to “add bicycle lanes and/or shared lane markings, add more rail trails/shared use paths, increase width of road shoulders, and add more sidewalks” (p. 79-80). Our plan incorporates these requests into an approachable staged change of transportation systems in the study area.

## 2. **Public Outreach Plan**

## PART 2: Public Outreach Plan

The following public outreach plan utilizes demographic statistics that are further supplemented and analyzed in Section 6AIV. of the Appendix.

Fueled by the recent completion of the Eastdale Village development, the Dutchess Turnpike is currently experiencing a population boom. The population total for the Dutchess Turnpike was estimated by ESRI to be 3,096 people in 2023, which is a significant increase from the US Census 2020 total population of 2,489. The population is also projected to grow 0.85% by 2028.

This population boom requires specific critical attention because without critical attention, we risk marginalizing certain communities at the benefit of stakeholders with greater financial and political power. We want our planning measures to equitably address the needs of the existing populations of the study area with a particular focus on the at-risk populations, who face greater health inequities at a systemic level.

Qualitative observation of the study area shows us that the physical built environment is spatially disharmonious, with certain parts of the corridor being safer and more accessible to vulnerable groups and other parts of the street being wholly neglected. As mentioned earlier in the report, there exists significant income disparities amongst different spatial congregations along the corridor, with the Eastern half of the corridor having a median income approximately double that of the Western half of the corridor.

The spatial and socioeconomic division existent within the corridor **necessitate** a democratic public outreach and community engagement plan that will ensure that our recommendations adequately address the needs of all the stakeholders within the Dutchess Turnpike.

In Part 4, we present recommendations that Turn the Pike LLC. has conceptualized using the basis of data research into the existing conditions, and inspiration and community feedback derived from previous planning reports (such as the public forum and online survey feedback of the Town of Poughkeepsie 2030 Comprehensive Plan Report) and revitalization projects.

We acknowledge that we have conceptualized these holistic ideas *without* the direct input of residents, however we aim to create bold designs that are sensitive to existing conditions and adaptable to changing conditions. The Town of Poughkeepsie 2030 Comprehensive Plan Report mentions how "residents and stakeholders recognize that the nature of the retail economy that shaped development patterns along Routes 9, 44, and 55 has shifted due to trends such as online retail, and a demand for a more integrated, flexible, mixed use development pattern" (Town of Poughkeepsie 2021). Our plan looks to foster a sense of place within the Dutchess Turnpike community while being flexible towards these shifting suburban conditions.

We hope that the next step following this report, is to engage with a series of public empowerment and engagement strategies that do directly engage with the local stakeholders in the Dutchess Turnpike study area. The list that follows is an outline of potential empowerment frameworks that we hope to engage with when entering the next phase of planning.

In “Cities as Sustainable Ecosystems,” Newman and Jennings state that “People have a right to be involved in the decisions that affect them” (Newman and Jennings 2004) Some suggestions that Newman and Jennings advocate for that we hope to use as techniques for empowerment and engagement in our study area are:

**PARTICIPATIVE BUDGETS:**

A mass process of deciding on budget priorities through direct consultation of the public.

**MULTI-CRITERIA ANALYSIS WORKSHOPS:**

A decision-making process involving carefully selected experts and stakeholders, as well as randomly selected citizens. Participants must deliberate on various options through selecting criteria, weighing them, and then processing the options to see which one generates most consensus.

**ENQUIRY-BY-DESIGN CHARRETTES:**

At these charrettes, innovations can be discussed without threat to due process, and community involvement can be sought at the early stages in planning. Local government professionals, experts, consultants, and the community are brought together to sketch out possible development options that could be considered for a site.

**BIOREGIONAL MAPPING:**

A strategy for building locally controlled and self-reliant economies that are closely tied to the use and sustainability of the surrounding ecosystems through the process of developing maps collaboratively.

### 3. **Goals and Visions**

***The best communities are communities that take care of all of their stakeholders.***

### *1. Safe, Green, and Complete Streets*

- A. Transportation corridors need to be right-sized and prioritize providing a safe, accessible, and joyful experience for all users: not just drivers, but also pedestrians, cyclists, and public transit riders.
- B. The most vulnerable users, who are also currently being ignored, must be carefully considered and guaranteed equal access to the services and experiences of the streets.
- C. Green elements, such as street trees and green stormwater management systems, need to be incorporated into the streets to build a more sustainable, eco-friendly, and clean environment; and meanwhile, help improve the mental health of surrounding communities.

### *2. Environmental Restoration, Protection, and Justice*

- A. All stakeholders within the study area, including non-human elements, need to be considered in redesign.
- B. The ecosystems, landscape, and waterways that exist within the study area should be restored as much as possible to pre-disrupted conditions.
- C. “Environmental justice seeks to ensure that lower income neighborhoods are not disproportionately impacted by pollutant-causing and unhealthy land uses” (Town of Poughkeepsie Comprehensive Plan, 2021).
- D. Environmental education should accompany the changes made within the study area in order to promote a stronger connection between the environment and community members.

### 3. Radical Fairness (Montgomery, p. 235) – Social Justice and Equity

- A. “Equity recognizes that each person has different circumstances and allocates the investments and supplementary planning needed to reach an equal outcome” (Vision Zero Network, p. 7).
- B. Regions of the study area that have functioned as areas to funnel people to for disinvestment need to be reinvested in first and more heavily to equitably improve the study area.
- C. Streets must be safe and accessible for people of all ages, abilities, and socioeconomic statuses. The Town Comprehensive Plan “recommends diversifying modes of transportation and encouraging transit-oriented development for the benefit of residents with limited transportation options, in order that they may access Town services and employment centers readily and safely” (Comprehensive plan, p. 16).
- D. Public resources need to be used to improve the conditions of individuals with less resources first and primarily.  
‘We’re telling people, “You are important–not because you’re rich, but because you are human.” If people are treated as special, as sacred, they behave that way” (Montgomery, p. 236).
- E. Education about the history of development and displacement in the area should be a part of all changes to make sure that past errors are not repeated.
- F. *Uplifting communities and individuals that have been purposefully ignored and harmed will uplift the entire community.*

### 4. Community Enhancement through Inclusion

- A. Community members should be consulted at all stages of development to make sure that the suggested changes are ones that serve them best. When disagreements arise, compromise should occur.
- B. Spaces should be designed for a variety of uses that can be accessed by all community members.
- C. Policy measures to slow and/or eliminate gentrification should accompany all community development projects so that all stakeholders can benefit from the changes. Recommendations for policy measures can be found in *What About Housing? A Policy Toolkit for Inclusive Growth by Grounded Solutions Network*.

## 4. Recommendations

# A. Transportation

In our existing conditions report (please see Section 6AV. of the Appendix), we have concluded that the following issues lie within the study area: vehicle speeding and crashes due to excessive street space; inadequate room and infrastructure for vulnerable road users including pedestrians and bikers; extreme lack of public transit services; and poorly organized roads directing traffic pressure towards and only towards the Dutchess Turnpike. Therefore, we propose the following recommendations:

### 1. Right-sizing the Streets and Reset User Prioritization

The following figures illustrate our proposal to transform the three sections of the Dutchess Turnpike, which are defined in Table T1. Our recommendation include the following key points:

**Downsize** the vehicle lane width from 11.5 feet to 10 feet to encourage lower travel speed, while still allowing large service vehicles including buses and fire trucks (generally 9 feet wide) to pass.

Guarantee sidewalk, bike lane, and ADA ramp **accessibility** on both sides of the Dutchess Turnpike.

**Increase separation** between the vehicle lanes and the bike lanes and sidewalks through installing plant strips with trees and bushes, which also provides better shading and enhances air quality and aesthetics to the study area.

**Enforce a speed limit** of 30 mph throughout the corridor and 25 mph around the most busy community center areas, including but not limited to: Adams', Eastdale Village, and the Stop & Shop and De Garmo Road Opportunity Areas.

Make sure that the entire corridor is **well illuminated** at dark hours, and the illumination is vulnerable-user-centered.

**Link** the Dutchess Rail Trail to the Dutchess Turnpike and the Stop and Shop Opportunity Area, so that all residents could access this amenity through easy walking, biking, or the proposed public transit system (see next section).

**Table T1: Existing Road Infrastructure of Three Sections on Dutchess Turnpike**

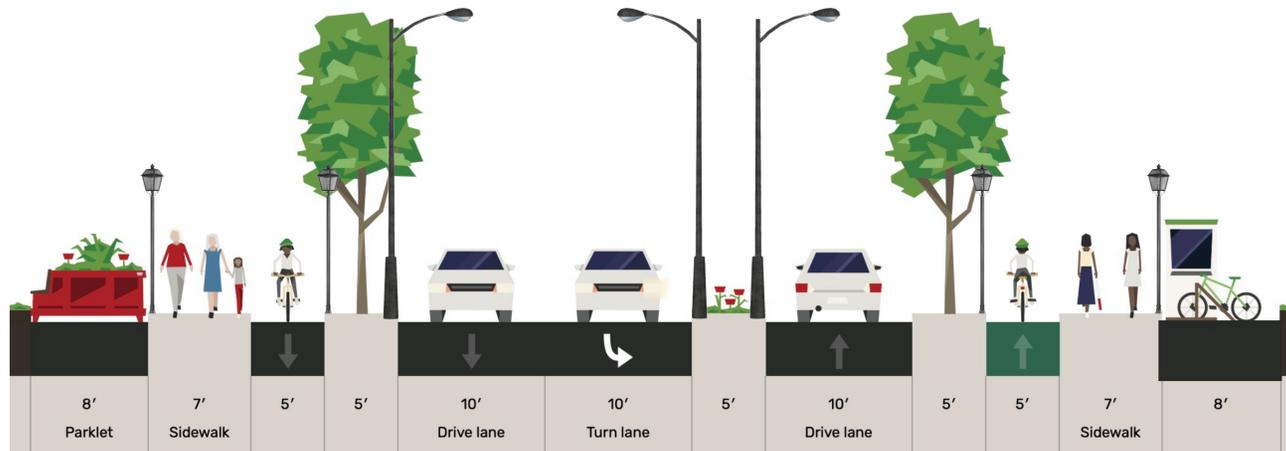
	Section 1	Section 2	Section 3
<b>Location</b>	Arthur May School to Longview Rd	Longview Rd to Victory Ln	Victory Ln to the end of Eastdale Development
<b>Length</b>	0.5 mile	1.15 miles	0.4 mile
<b>Sidewalk availability</b>	Yes, on both sides of the turnpike. Width: 7-10 ft. Poorly separated from the road lanes only by 2-4 ft curbs.	From Longview Rd to Cherry Hill Dr, for 0.25 mile only on the south side of the turnpike. Otherwise, the 8-10 ft wide curbs are used as sidewalks.	Yes, on both sides of the turnpike. More than 25 ft wide near the Eastdale Ave and are effectively separated from the road using light poles, trees, roadside parking zones, and the raised curb; 7-10 ft wide for the rest.
<b>Bike lane and racks availability</b>	None.	None.	None.
<b>Road width and components</b>  <b>(Lane width = 11ft throughout)</b>	Generally 68 ft, 4 lanes. Increases to 82 ft, 6 lanes at intersection with Burnett Blvd. Curbs: 2-4 ft.	Mostly 40 ft, 2 lanes including 8-10 ft shoulders on both directions. Increases to 45-52 ft, including 3 lanes and one 6-foot shoulder at intersections.	Mostly 40 ft, 2 lanes with 8-10 ft shoulders. Increases to 50 ft, 4 lanes near the intersection with Eastdale Ave, where curbs were reduced to 2 ft wide but street-side parking is introduced there.
<b>Speed limit, sign visibility, and vehicle speed</b>	Speed limit is 30 mph but there are no speed limit signs. The 85th% speed of vehicles is 45.4 mph in 2022.	Speed limit is 40 mph but there are no speed limit signs. The 85th% speed of vehicles is 48.8 mph in 2022.	Speed limit is 25 mph within Eastdale Village. Due to traffic lights at the Eastdale Ave intersection, vehicles travel significantly slower. Speed limit sign is installed, but only 150 ft from the intersection.
<b>Night lighting conditions</b>	Fair for automobile lanes; Improvements needed for sidewalks.	Poor.	In Eastdale: Good Elsewhere: Poor.
<b>Photo examples</b>			

The 85th% vehicle speed data and the speed limit information are contributed by the New York State Department of Transportation.

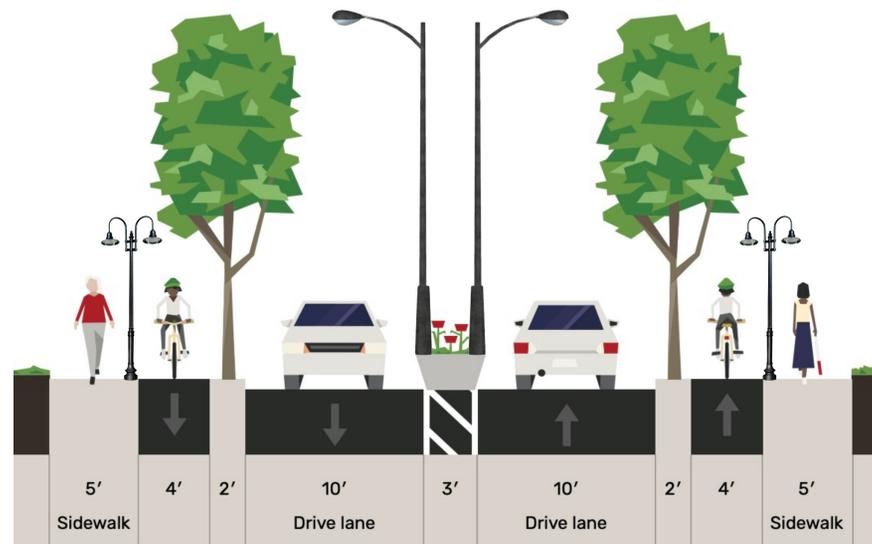
**Table T2: Existing Infrastructure and Categorization of Intersections on Dutchess Turnpike**

Intersecting Road Name From West to East	At this intersection, is it... / are there...					Categorization (based on traffic volume)
	Traffic Control?	Crosswalks?	Sidewalks?	Accessible Ramps?	Well lit at night?	
<b>Burnett Blvd</b>	Lights for vehicles and pedestrians	3/4 sides	4/4 sides	4/4 sides	Fair	Category I Intersection
<b>Catskill Ave &amp; Peckham Rd</b>	Stop sign	2/4 sides	2/4 sides	4/4 sides	Fair	Category III Intersection
<b>Longview Rd</b>	Stop sign	None	2/4 sides	None	Fair	Category III Intersection
<b>Durocher Terrace &amp; Janet Dr</b>	Stop sign	None	1/4 sides	None	Fair	Category III Intersection
<b>Dorland Ave</b>	Stop sign	None	1/4 sides	None	Poor	Category III Intersection
<b>Cherry Hill Dr, Arlington Plaza, and Adam's</b>	Lights for vehicles and pedestrians	2/4 sides	2/4 sides	2/4 sides	Fair	Category II Intersection
<b>Overlook Rd</b>	Stop sign	None	None	None	Very bad	Category III Intersection
<b>Overrocker Rd</b>	Stop sign	None	None	None	Very bad	Category II Intersection
<b>De Garmo Rd</b>	Lights for vehicles only	None	None	None	Poor	Category II Intersection
<b>Ridge Rd</b>	Stop sign	None	None	None	Very bad	Category III Intersection
<b>Edwin Rd</b>	Stop sign	None	None	None	Very bad	Category III Intersection
<b>Barnes Dr &amp; Victory Ln</b>	Lights for vehicles and pedestrians	4/4 sides	2/4 sides	4/4 sides	Poor	Category II Intersection
<b>Eastdale Ave</b>	Lights for vehicles and pedestrians	4/4 sides	4/4 sides	4/4 sides	Good	Keep existing; improve vegetation coverage and biking facilities
<b>Darrow Pl</b>	Stop sign	2/4 sides	2/4 sides	2/4 sides	Fair	Category III Intersection
<b>Concord Vlg Dr</b>	Stop sign	1/4 sides	1/4 sides	2/4 sides	Poor	Category III Intersection
<b>Thomas Ave</b>	Stop sign	None	None	None	Very bad	Category III Intersection
<b>James St &amp; Macdonnell Heights</b>	Stop sign	None	None	None	Very bad	Category III Intersection
<b>Photo Examples</b>						
<b>Intersection Category</b>	<b>I</b>	<b>II</b>	<b>III</b>			
						
	Example Location: Burnett & Turnpike	Example Location: Overrocker & Turnpike	Example Location: Edwin & Turnpike			

See page 12 for Map 3., outlining the location of the sections and intersections on an illustrative map.



*Recommendation for Section 1 (designed with Streetmix)*

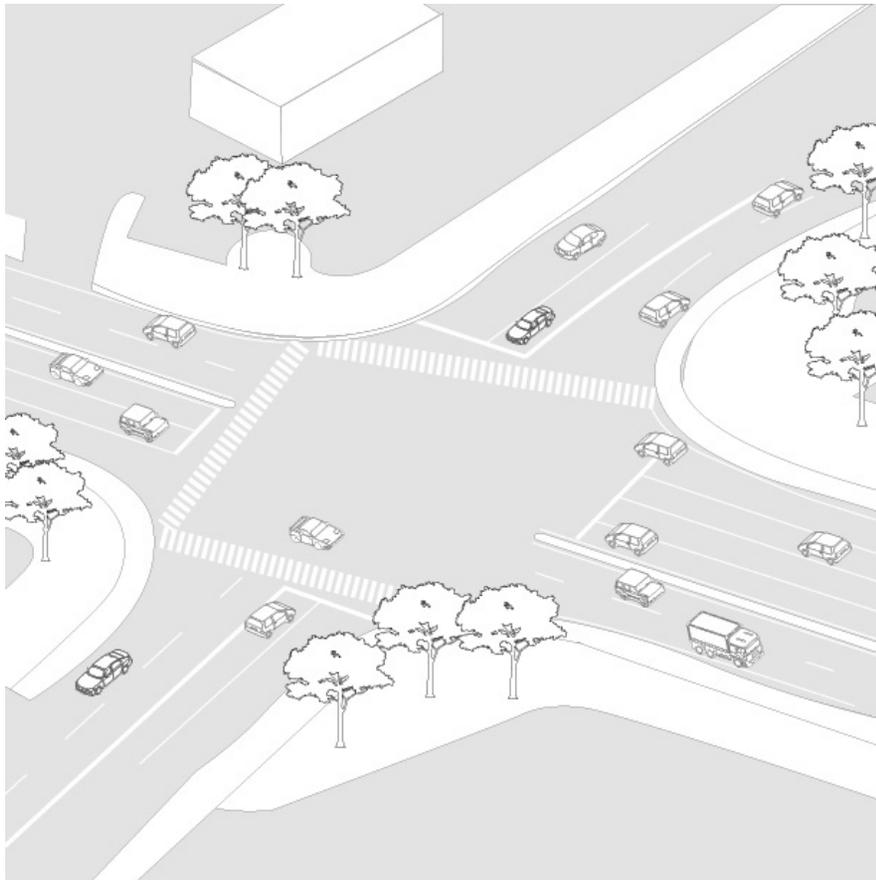


*Recommendation for Section 2 and 3 (designed with Streetmix)*

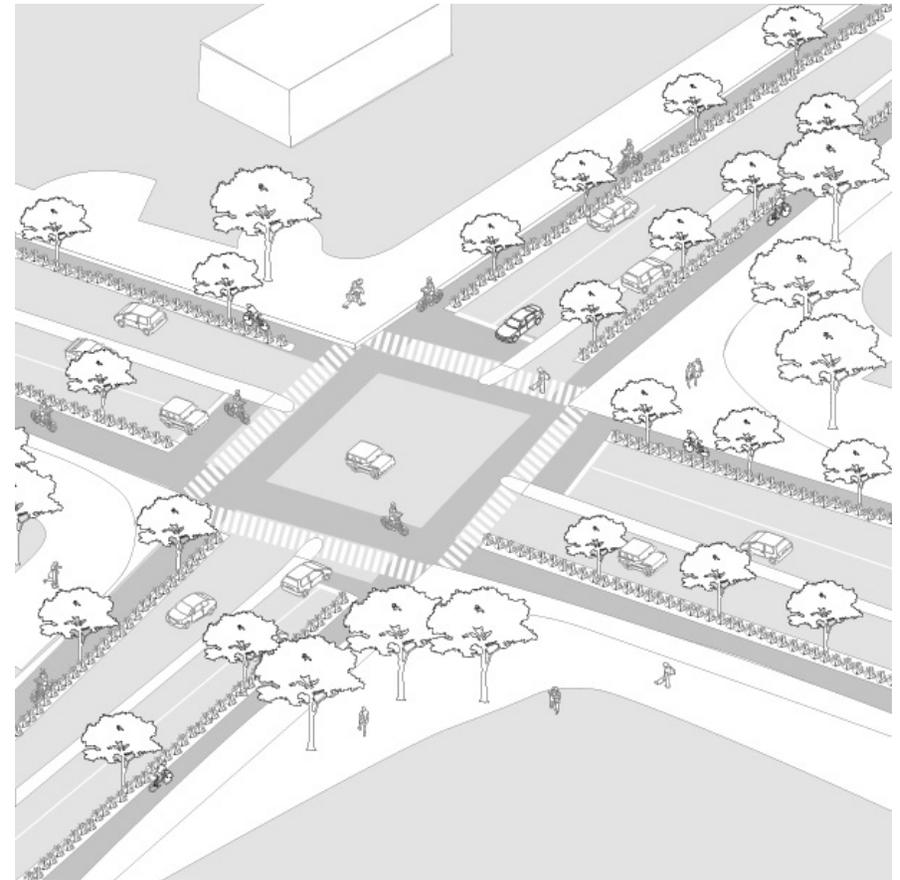
The following table, and example visualization of the first intersection outlined in the table, illustrate our proposal to change the intersections along the Dutchess Turnpike according to their categories.

### Proposed Changes to the Three Intersection Categories on Dutchess Turnpike

	Category I Intersection	Category II Intersection	Category III Intersection
<b>List of Proposed Changes to Infrastructure of Each Intersection Category</b>	<ul style="list-style-type: none"> <li>• Reduced road size: three 10-ft wide lanes including a turn lane.</li> <li>• Install cleanly designed and clearly visible traffic lights with pedestrian-and-biker-triggered buttons at crosswalks.</li> <li>• Install pedestrian refuges.</li> <li>• Install bike boxes and apply lead-pedestrian intervals to the traffic lights to increase the vulnerable users' visibility.</li> </ul>		<ul style="list-style-type: none"> <li>• Reduced road size: two 10-ft wide lanes.</li> <li>• Controlled by stop signs.</li> <li>• Install warning lights at crosswalks with pedestrian-and-biker-triggered buttons.</li> </ul>
	<ul style="list-style-type: none"> <li>• Full coverage of crosswalks, sidewalks, bike lanes, and accessible ramps.</li> <li>• Early warning for automobiles to slow down and observe via signs, lights, and .</li> <li>• Improved comprehensive illumination: vulnerable users centered.</li> </ul>		
<b>Resulted walking distance required to cross Turnpike</b>	<b>35 feet with a pedestrian refuge in middle</b>		<b>23 feet</b>
<b>Original walking distance required to cross Turnpike</b>	<b>100 feet</b>	<b>55 feet</b>	<b>40 feet</b>



existing Intersection Burnett Blvd and Route 44



modified Intersection Burnett Blvd and Route 44

*Visualization of the Transformation of Major Intersections in Dutchess Turnpike into Complete Streets*

## 2. Re-establish a Sustainable and Accessible Public Transit Network

It is our recommendation to create a reliable community bus system to serve those who cannot afford private cars, to encourage the use of environmentally-friendly means of shared transportation, and to work together with public assets in creating a better and closer sense of community. Details are listed below and shown in the following map. Bus route names and details of the routes are subject to discussion.

The current bus route L only serves a limited number of areas within Arlington and the study area, as shown in Map T1. We recommend ***separating it into two routes*** and increase their service frequencies:

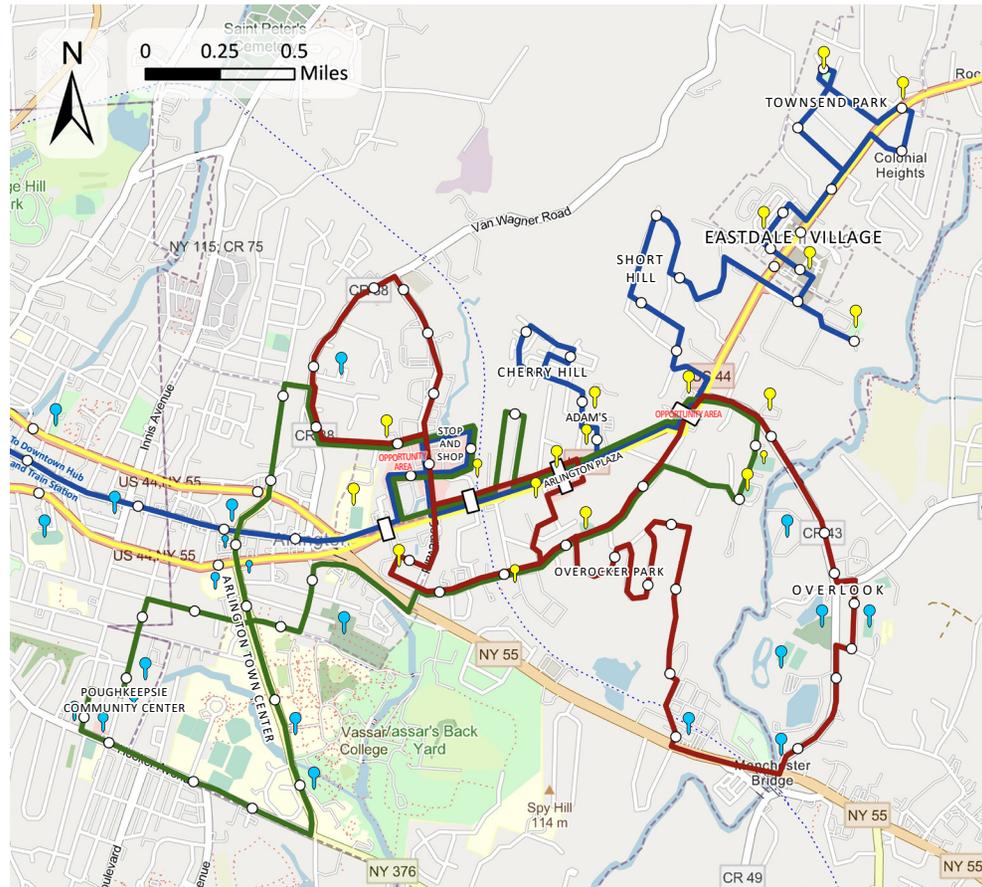
The **Turnpike Main Line** connecting Townsend Park, Eastdale Village, Short Hill, and Cherry Hill communities to the rest of the Dutchess Turnpike corridor, Main Street, and Poughkeepsie Train Station;

The **Arlington Loop Line** connecting communities on the western side of the study area to the opportunity areas, the Arlington Plaza, the Arlington Town Center, and beyond.

We recommend ***establishing*** the new **Burnett-De Garmo Line** that connects the Overocker Park Community to the services along Dutchess Turnpike, the opportunity areas, and various community assets inside and outside the study area.

We recommend ***improving the service quality of bus route D*** (marked as the Poughkeepsie-Pleasant Valley Line in Map T3) through increasing its service frequency.

# Proposed Community Bus Network for the Dutchess Turnpike Study Area



- Turnpike Main Line
- Arlington Loop Line
- Burnett -- DeGarmo Line
- Poughkeepsie -- Pleasant Valley Line

- Bus Stop
- Transfer Hub Bus Stop
- 📌 Community Assets within the study area
- 📌 Community Assets outside study area that are also connected by proposed bus routes

Map data © OpenStreetMap contributors, Microsoft, Facebook, Inc. and its affiliates, Esri Community Maps contributors, Map layer by Esri

We also recommend *equipping major bus stops with shelters, illumination, benches, bike racks, bulletin boards* where the most updated route schedules and other transit services are shared with the public, and spaces for public artworks to be displayed. An example image of what this might look like is shown on the image on the right  
(UNI editorial: <https://uni.xyz/journal/bauhaus-in-the-present-reinventing-the-b>)



We recommend the Transportation Council to *increase public interest advertisements* to advocate for the various services it provides, including: the “flag stop” bus system, the Dutchess Dial-A-Ride Service with flex fares, bus tracking, and more. Currently, these services are only exhibited on the council’s official website.

We recommend cooperation between the Transportation Council and international bus manufacturers to *develop new bus models* that are suitable for mid-to-low-density residential neighborhoods and the narrow pathways in the United States.

Currently, the smallest buses available in the transit market of the United States are 30 feet in length. Most of them run on diesel, gasoline, or natural gas, which produces loud noises and emissions. On the other hand, in many Asian cities, 20-foot electric buses have been put in use; they also feature low floor design which maximizes the internal space and accessibility. The images below show an example of such bus models: the “Polestar” designed and made by Golden Dragon in China (Photo by the Xiamen Bus Fans Association)



Finally, we recognize that in order to support a better transit system, which is one of the keys to the success of any regional planning, more funding must be devoted to purchase and maintain the vehicles, the stations, and to hire drivers. More residents are also needed to generate more ridership and revenue. Therefore, we strongly urge the development of such a transit system to be *simultaneously equipped with land-use zoning and higher density housing development.*

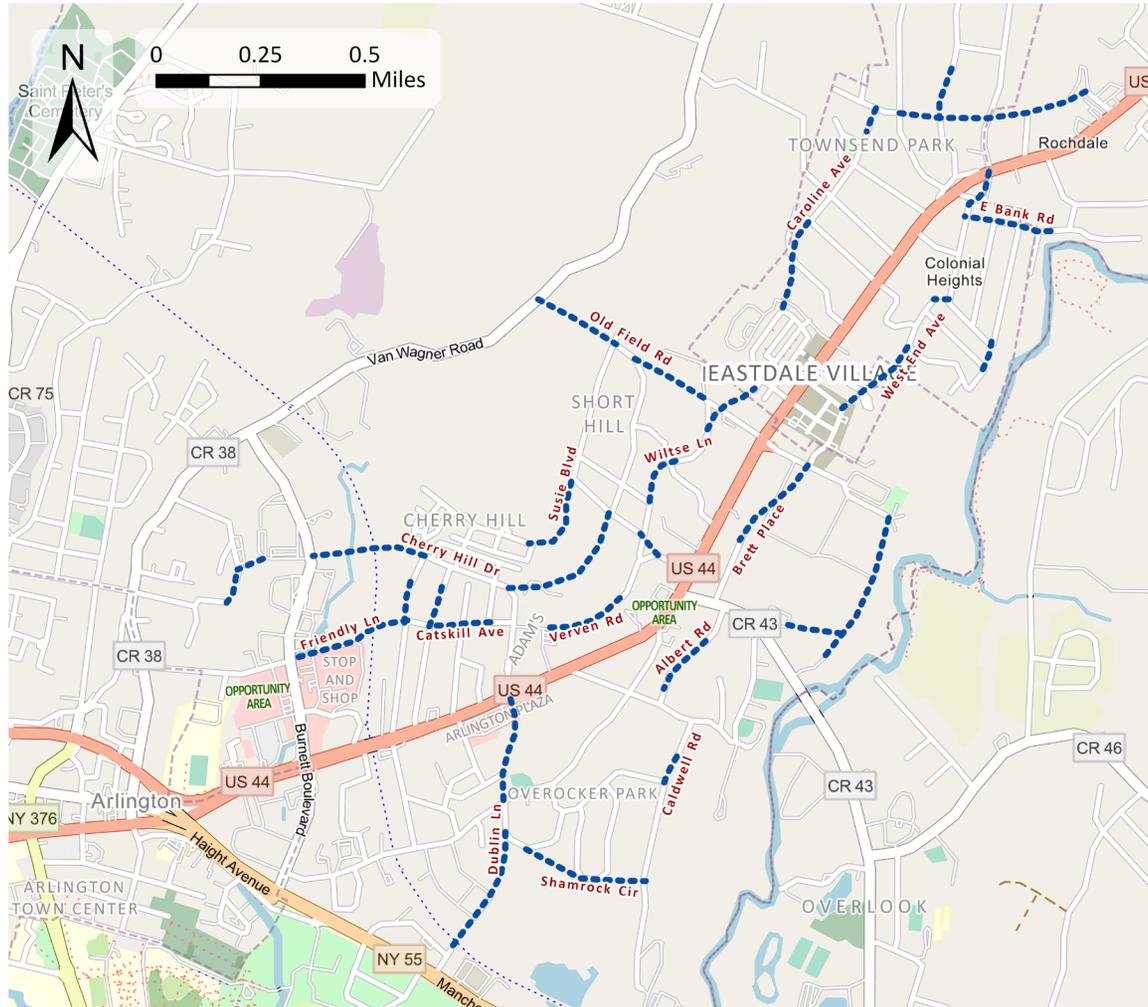
### **3. Connecting Roads into Networks, and Residential Areas into Communities**

As discussed in the existing conditions section, the Dutchess Turnpike is the only corridor that runs through the study region; the other roads are poorly planned and organized, as they pop out randomly along the Dutchess Turnpike, forming no navigable network. This results in an extremely inefficient and confusing neighborhood, putting increasingly high traffic pressure on the Dutchess Turnpike (especially as more residents move into Eastdale Village), and increases segregation and inequality along with the unjust previous zoning decisions.

Therefore, at the appropriate juncture in the future, when land-use is adjusted and reconstruction takes place, we propose to *connect the following roads* in order to decrease traffic pressure on the Dutchess Turnpike, to make the study area more easily navigable, and to increase inclusivity and connectivity of the study area. A visualization of our proposal can be found in the following map; this map encompasses the following links:

Friendly Ln – Catskill Ave – Verven Rd – Wiltse Ln – Town Center Dr  
Cooper Rd and Alice Ct – Cherry Hill Dr – Old Field Rd – Van Wagner Rd  
North Cherry Hill Dr – Susie Blvd  
Concord Vlg Dr – Caroline Ave – Regency Dr – Tamarack Hill Dr  
E Bank Rd – W Bank Rd – Skyview Dr – Lafko Dr  
Whipple Way – Lafko Dr – West End Ave – Darrow Pl – Parkside Dr – Brett Pl – Albert Rd  
Old DeGarmo Rd – Creekside Park  
Caldwell Rd – Ireland Dr  
Ireland Dr – Shamrock Cir – Dublin Ln  
Manchester Cir – Dublin Ln – Arlington Plaza – Cherry Hill Dr

# Proposed Road Network Connections for the Dutchess Turnpike Study Area

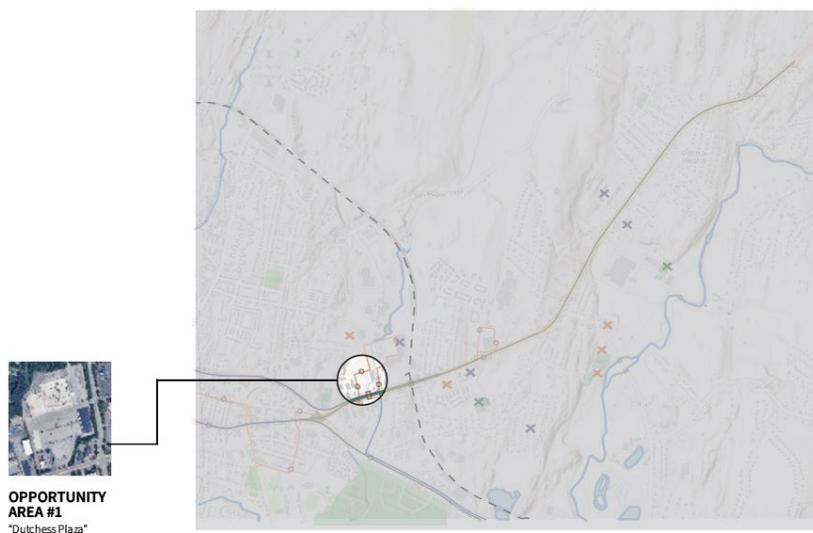


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Community Maps contributors, Map layer by Esri

## B. Opportunity Areas

During our qualitative observations of the study area through site visits and GIS mapping, Turn the Pike LLC. identified two catalyst "opportunity areas" along the Dutchess Turnpike. These opportunity areas are abandoned greyfields that are currently standing unused.

### OPPORTUNITY AREA #1: The "Dutchess Center"



The "Dutchess Center," was constructed in 1965 amidst the national trend towards suburbanization. Up to several years ago, the *Dutchess Center* housed a K-Mart and several commercial businesses however at the time of our study (September-November 2023), the *Dutchess Center* sits as an unused, abandoned plot of land. The *Dutchess Center* is significant not only because it is an immense 20-acre plot of unused land, but also because it is conveniently located as a node adjacent to the intersection of the East-West Arterial and Route 44 and sits next to a significant natural resource, the Casperkill Stream. The photographs on the next page illustrate the existing condition of the *Dutchess Center*.



This photograph, taken in December 2023 shows how, today, the *Dutchess Center* stands as an abandoned, empty lot with concrete barriers placed throughout the lot to prevent people from circulating meaningfully around or socializing within the space. In a land devoid of people, gulls gather in mass on the large, abandoned, impermeable space.

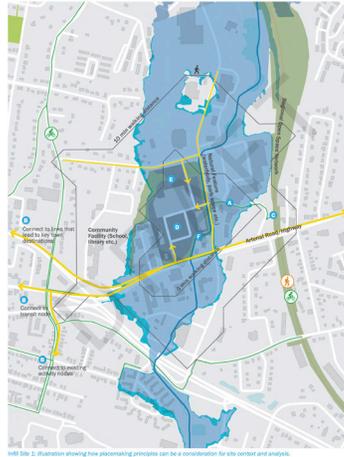


On the *Dutchess Center* site, there still stands one abandoned commercial building space. This commercial structure's size is significant, according to internet real estate, the building is 159,682 square foot, and from a surface-level observation by Turn the Pike LLC. consultants, the building appears to have intact infrastructure. These factors make the building worth consideration for adaptive reuse-- particularly with adaptive reuse of abandoned buildings being one of the values outline in the Town of Poughkeepsie 2030 Comprehensive Plan.



The *Dutchess Center* was built on top of a landfill and floodplain (see page 14 for map 5), and hidden along the sides of the *Dutchess Center* lot (photographed almost imperceptibly in these images) is the Casperkill Stream. The Town of Poughkeepsie 2030 Comprehensive Plan identifies the Casperkill Stream as an environmental resource that requires attention and consideration for future stewardship. The plan also highlights this site of the Casperkill as one that could benefit from daylighting (Town of Poughkeepsie Comprehensive Plan, 2021). We will continue the discussion of the remediation potential of the "Dutchess Center" in *Part 4D. Land-Use: Environmental*.

When Turn the Pike imagined our re-design of the first opportunity site, we took some inspiration from the Town of Poughkeepsie 2021 Comprehensive Report which also identified the Dutchess Center as an opportunity site, particularly as “Infill Site 1.” The following images are excerpts from the Town of Poughkeepsie 2021 Comprehensive Report that highlight the potential for the area.



Infill Site 1: Illustration showing how planning principles can be a foundation for site context and analysis.  
Town of Poughkeepsie Comprehensive Plan / PLACEMAKING PRINCIPLES FOR INFILL DEVELOPMENT

**Infill Site 1: SITE CONTEXT AND ANALYSIS**

This example illustrates how a former shopping center, now vacant, can be redeveloped and connected to an existing Town Center.

- 1. WALKABILITY**  
This site is located on the corner of a busy arterial roadway with existing sidewalk infrastructure and a local collector road without sidewalks. This will require incorporating traffic calming techniques and developing pedestrian infrastructure to facilitate a walkable site. This can include painted crosswalks and bike lanes, extending the sidewalk and bike path networks onto the site, enhancing landscaped medians, providing signage, trees and lighting.
- 2. MIX OF USE**  
This site is surrounded by an existing shopping area, a school, civic offices and other low-density commercial uses and is near an area with a denser walkable business district. To create a complete live-work-play environment, connect to these surrounding uses through physical infrastructure (sidewalks, trails etc.) and by incorporating a complementary mix of land uses on-site.
- 3. RECREATIONAL OPPORTUNITIES**  
This site is situated near an existing rail trail, connections to which can be facilitated through on-site programming and infrastructure such as bike racks, comfort stations, and off-site safety and wayfinding improvements. Enhancement of the natural environment and the creation of gathering areas can also create spaces for passive recreation on-site.
- 4. PLANNING FOR ALL SEASONS**  
Current development on the site does not offer any sheltered open spaces for use during the colder months. At a minimum, facilities on-site that connect with other regional networks (e.g., rail trails) should be developed for all weather so they can provide a link of year.
- 5. MIX OF LOCAL AND NATIONAL BRANDS**  
Historically, this site developed as a regional center with franchise retail stores. However, given that the site is situated in close proximity to other community amenities, shopping and transit, it can promote and make room for local businesses.
- 6. PUBLIC REALM IDENTITY AND DESIGN**  
When doing a ground up development which demolishes existing structures, consider retaining any elements such as signage or other historic features that add to the identity of the site.
- 7. ENVIRONMENTAL CONSIDERATIONS**  
This site was constructed prior to 1970 and may contain hazards that would impact development today. Research the remediation methods, if any, that will be necessary to accommodate the desired land use mix.
- 8. RENEWABLE ENERGY**  
Primary access to the site in the near future will be through cars requiring car ports. Consider using these underutilized areas for energy generation by installing solar panels.
- 9. PUBLIC REALM DESIGN AND IDENTITY**  
Historically, this site developed as a regional center with franchise retail stores. However, given that the site is situated in close proximity to other community amenities, shopping and transit, it can promote and make room for local businesses.
- 10. Consider natural/bio-remediation methods**  
for clean up of any perceived and where possible, real contamination.
- 11. Limit impermeable surfaces** when building within a 100'YV footprint (or footprint with greater risk).
- 12. Clean up, daylight and integrate existing water channels** with the site.

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Infill Site 1: Illustration showing how planning principles apply to site planning and organization.  
Town of Poughkeepsie Comprehensive Plan / PLACEMAKING PRINCIPLES FOR INFILL DEVELOPMENT

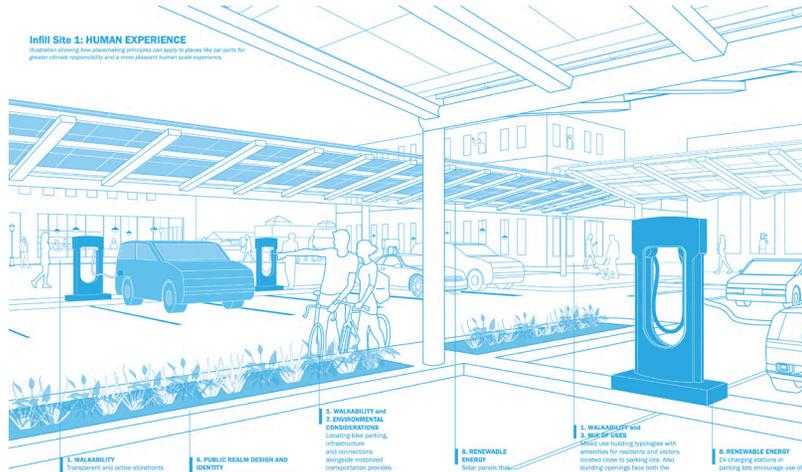
**Infill Site 1: SITE PLANNING**

- 1. WALKABILITY**  
**A Mike and Biko Plaza:** Amenities such as comfort station, water fountain and information center to strengthen connections with the Dutchess Trail and on-site businesses.
- 2. MIX OF USES**  
**3. RECREATIONAL OPPORTUNITIES**  
**4. COMMUNITY GATHERING PLACES:** Plaza with seating for shoppers, office employees and residents to take a break and enjoy the area.
- 5. MIX OF LOCAL AND NATIONAL BRANDS**  
**6. MAKER SPACE AND ARTISTS' STORES:** A flexible and collaborative model for the production and sale of locally made goods that promote local economy and entrepreneurship.
- 7. ENVIRONMENTAL CONSIDERATIONS**  
**8. RENEWABLE ENERGY**  
**9. PUBLIC REALM DESIGN AND IDENTITY**  
**10. WALKABILITY**  
**11. MIX OF LOCAL AND NATIONAL BRANDS**  
**12. WALKABILITY**
- 1. Traditional co-working office space:**  
Traditional office space for regional or corporate offices in a separate building on the same complex can encourage healthier live-work communities, and is visible along a major transportation corridor to promote and advertise the site.
- 2. PUBLIC REALM DESIGN AND IDENTITY**  
**3. Streetscape:** Streetscape design and identity around the central community space creates unique identity.
- 4. ENVIRONMENTAL CONSIDERATIONS**  
**5. Bio-remediation:** A central remediation garden/local history education center that educates the public on landscape restoration techniques in use on-site, and/or the history of the site.
- 6. Naturalized Stream Corridor:** Landscaped access to a daylighted and enhanced stream, which would require removal of invasive species, site grading and buffering from traffic along adjoining road.
- 7. SOLAR CAR PORT WITH EV CHARGING STATION:**  
Use of surface parking for the installation of solar panels to generate renewable energy for powering the new development. Space for EV charging station which furthers climate goals. Solar canopies also shade impervious surface and reduce the heat island effect.
- 8. Commercial Green Roof:** Green roof garden over office space and overlooking a central community park provides a recreational draw for employees while reducing heating and cooling costs for the building thereby reducing greenhouse gas emissions.

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**Infill Site 1: HUMAN EXPERIENCE**

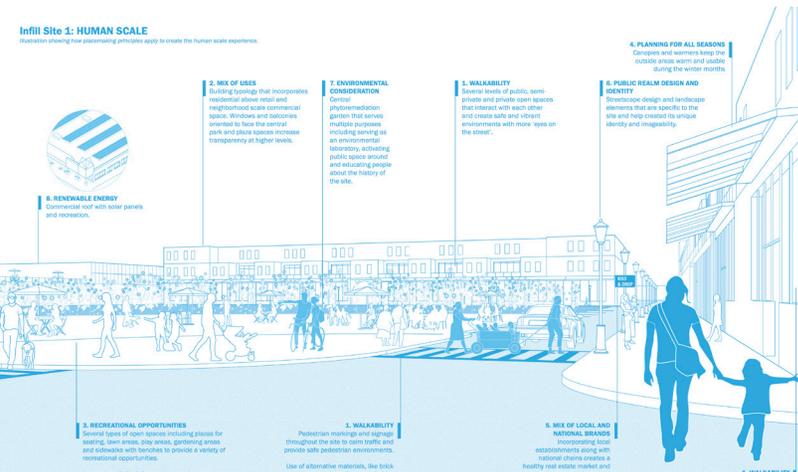
Illustration showing how planning principles can apply to provide the human scale for a pedestrian-friendly and a more pleasant public realm experience.



Town of Poughkeepsie Comprehensive Plan / PLACEMAKING PRINCIPLES FOR INFILL DEVELOPMENT  
NPV | MID Workshop P-21

**Infill Site 1: HUMAN SCALE**

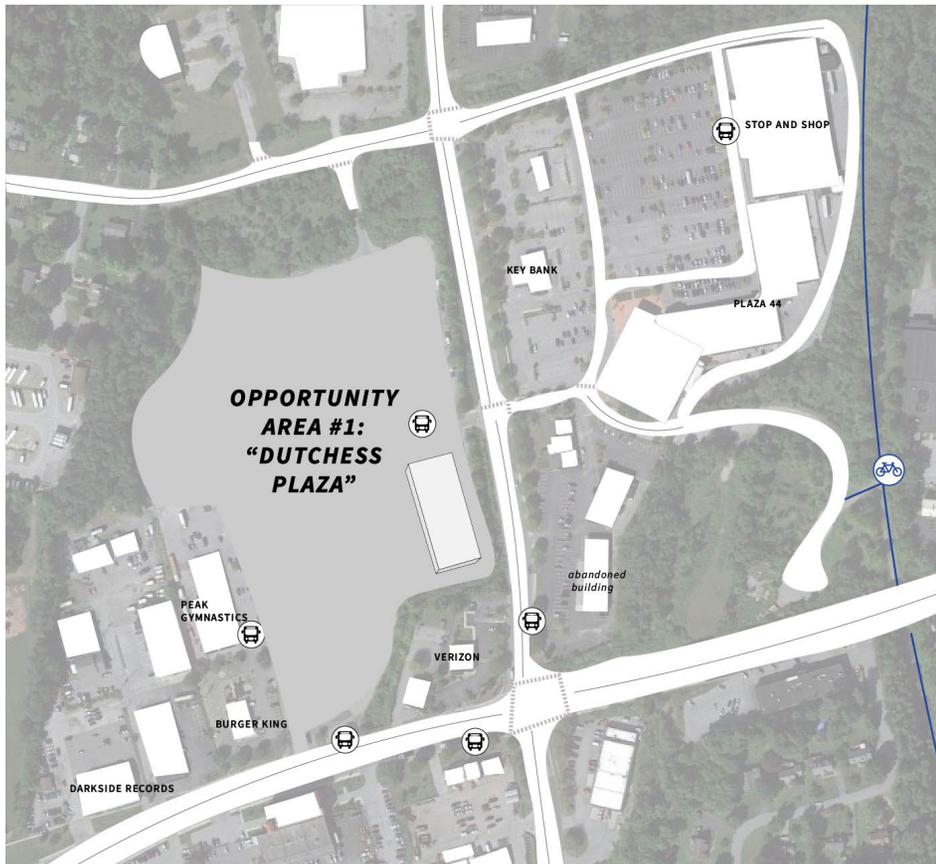
Illustration showing how planning principles apply to create the human scale experience.



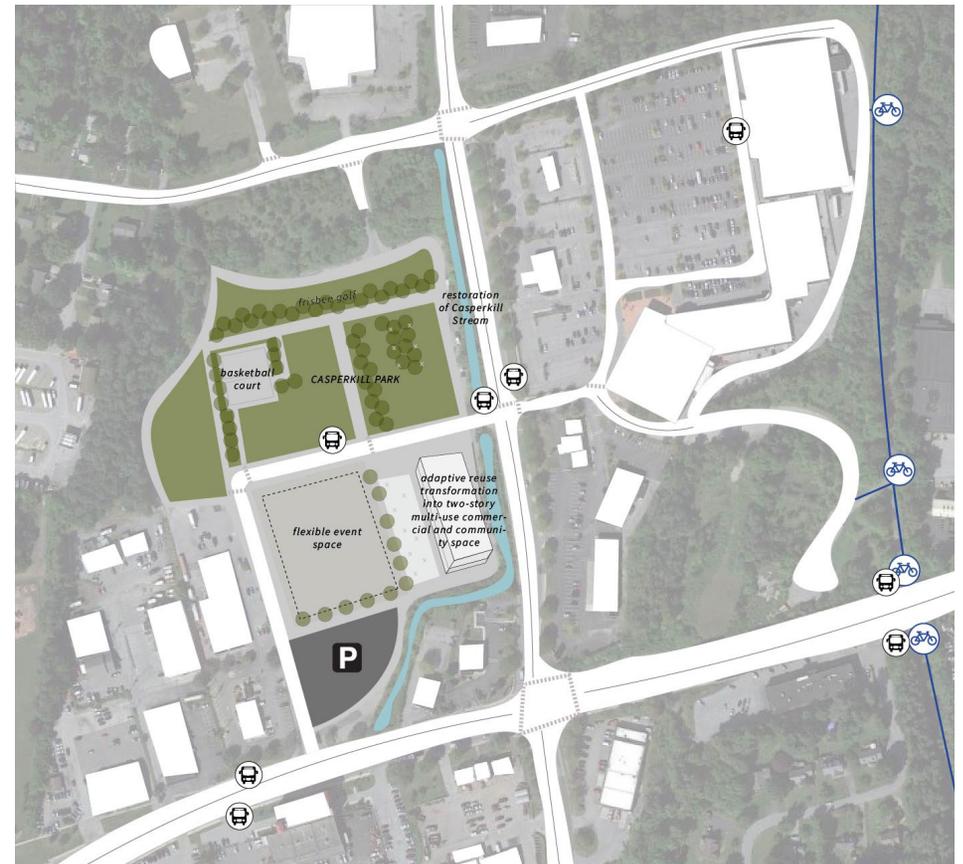
Town of Poughkeepsie Comprehensive Plan / PLACEMAKING PRINCIPLES FOR INFILL DEVELOPMENT  
NPV | MID Workshop P-23

Although the program in Turn the Pike LLC's proposed redesign aligns with the community-driven sustainable program outlined in the Town of Poughkeepsie Comprehensive Report, the built form and layout of our plan differs because our plan reflects a greater site-specific interest. We hope to adaptively reuse the existing resources on our site. We want to capitalize on the potential of the Casper Kill Creek running through this opportunity site, and we want to actively work to not produce more waste, instead working around the established energy infrastructure within the remaining building.

The following drawings show a sketch of the existing Opportunity Site #1 besides Turn the Pike LLC.'s proposed redesign.



existing



modified

When we visited Opportunity Site #1, we saw that the impermeable surface where the K-mart once sat (the northern half of the Dutchess Center) was deteriorating. There were plants (of the same species as those growing within the surrounding forest behind the Old K-mart site) that were growing through small cracks in the pavement.

This qualitative observation of nature fighting its way through the pavement inspired us to envision a complete conversion from the impermeable lot into a public park. We want the park to have vast plots of green landscaping. Additionally, interspersed throughout the natural landscape, we envision the construction of public infrastructure for loitering and informal pick up sports where community members can engage with each other while being surrounded by nature. This public infrastructure will likely include benches, basketball court and a frisbee golf course. The images below show an exemplary model for the "Casperkill Park" portion of the study area.



Elk Ridge Park in Castle Pines, Colorado

In the remaining portion of the Dutchess Center lot, we envision circulation routes that allow for buses, cars, bikes, and pedestrians to safely and harmoniously coexist. The re-design visionary drawings on page 39 show the incorporation of the new transportation routes outlined in the earlier section in transportation (Section 4A), as well as new openings to the Dutchess Rail Trail adjacent to the Dutchess Center site in further alignment with the transportation goals.

We intend to keep the impermeable surface on the southern half of the Dutchess center, but we hope to radically redefine the program of this space. We will transform the abandoned commercial space and parking lot into a vibrant mixed-use plaza.



The abandoned building that sits on Opportunity Site #1 will be readapted to become a multi-story complex containing parcels for restaurants, retail, and perhaps space for dense housing development (if thorough environmental inspections deem such a development safe on the potentially contaminated Dutchess Center site) . The image of a development of a suburban mall by BCD Design Group, on the bottom of the previous page, shows an example of what this might look like.

Furthermore, the parking lot that sits in front of this building will be transformed into a flexible event site, adaptable according to the seasons that can be used year-round for community events such as local farmers markets, Germania's Oktoberfest, or Christmas market. The image below shows Bryant Park's winter-summer transformation- from a holiday market in the cold winter months to a green public, open space in the warm summer months.



The area adjacent to the Route 44 Corridor will remain as a parking lot, although a reorganization of space and repainting of lines will be paramount to the safety and harmony of our design.

## OPPORTUNITY AREA #2: “Greyfield areas by the Intersection of Overocker Rd and Dutchess Turnpike,”



Opportunity Area #2 is an area that we identified as a potential site for revitalization following our site visits and qualitative observations of the area. Notable existing sites within Opportunity Area #2 are a 4,000 square foot abandoned diner, that (according to deteriorating signage) used to be called the “44 Diner,” and a 4,800 square foot fenced off building (address: 798 Dutchess Tpke). The following photographs illustrate the existing condition of the space.



These images show how a gate blocks off a significant portion of abandoned and unused land on the corridor, creating precarious conditions to traverse on as a pedestrian or cyclist next to the Dutchess Turnpike corridor. Like Opportunity Area #1, Opportunity Area #2 is not in a state of active private use, yet the space is gated off and aggressively non-public.



Throughout our site visits, the diner appeared to be in a process of construction with no progress.



This is a photograph of the abandoned building parcel, taken without the gate's obscuring.

The following drawings on the next page show a sketch of the existing Opportunity Site #2 besides Turn the Pike LLC.'s proposed redesign.

Our plan for Opportunity Area #2 engages both sides of the Dutchess Turnpike Corridor. Both the functional program and the circulation of our plan reflect an intention towards carving out a nodal space that connects, brings together, and engages the Dutchess Turnpike community.

Notable in the siting of Opportunity Area #2 is the site's proximity to three Cultural Assets (see page 10 and 13 for maps 1 and 3) within the Dutchess Turnpike area. These cultural assets, namely Germania of Poughkeepsie, American Legion Post 1302, and New Beginnings Alliance Church, are clustered together down DeGarmo Rd.

Like Opportunity Area #1, the spaces within Opportunity Area #2 that we hope to redesign are abandoned greyfields that are currently acting as catalyst sites that make the Dutchess Turnpike feel disconnected and discontinuous. We want to adaptively reuse the existing buildings within the site and transform them from empty, abandoned spaces into vibrant, community spaces.



existing



modified

As demonstrated in the drawing, we hope to convert the abandoned diner into a food hall. Turn the Pike LLC. was particularly inspired by Mass Design Group’s design of The Academy Food Hall and Apartments, which proposed to convert two historic buildings into an inclusive food hub of activity, “attract(ing) community-minded, local, and artisanal businesses, including a fresh food market, food hall vendors, commissary and teaching kitchen, shared co-working spaces, a craft brewery, and a coffee shop” (Mass Design Group, 2018) We appreciated the locally-driven vision of The Academy (shown in the architectural collage rendering by Mass Design Group featured on an image in the next page), that aspired to “increase access to healthy food in the downtown area by connecting the rich agricultural assets of the Hudson Valley region to the diverse culinary entrepreneurship of Poughkeepsie.”

Unfortunately in June 2023, the program of The Academy in downtown Poughkeepsie has shifted in direction driven by its developers' commercial interests (as we write this, The Academy is in the process of transitioning to “an 18,000 square foot world-class event and entertainment destination” according to their website). But despite this, Turn the Pike LLC. is inspired by Mass Design Group’s original vision of The Academy; we hope to transform the abandoned diner within Opportunity Area #2 into a hub for social activity and food access for the

Dutchess Turnpike and larger Poughkeepsie community.

In addition to adaptively reusing the diner structure to transform it into a food hub for locally concentrated consumer-producer relations, we propose a transformation of a portion of the diner's parking lot into a public plaza and a conversion of another portion of the lot into an *urban food forest*.

An *urban food forest* is (according to a pioneer of the practice, Beacon Food Forest) an open harvest integration of food plants into a self-sustaining, semi-natural ecosystem. In recent years, many cities around the world have adopted the practice of growing regionalist edible permaculture within vacant city lots and parcels. We propose that the Town of Poughkeepsie construct their own urban food forest within the space of Opportunity Area



#2. Given the rural-agricultural land-use that surrounds the specific site of the diner, we have identified this space as a prime location for this garden placemaking endeavor. The images at the bottom-right of this page show the Beacon Food Forest in Seattle Washington, a model of a succesful urban food forest within a similar suburban context as the Dutchess Turnpike.

On the other side of the corridor, at the intersection of Overocker Rd and the Dutchess Turnpike, Turn the Pike LLC. has reimagined a complete renovation of the greyfield abandoned commercial parcel and adjacent unused parking lots. Because this area is close in proximity to the natural asset of Overocker Park, yet Overocker Park is vastly underutilized as a natural community resource (see Appendix 6AIV.), we want to convert this greyfield into a parklet and circulation space. The existing conditions of Overocker Rd exhibit low visibility and correspondingly low accessibility, thus we hope that the carving out of a bus-exclusive roundabout with an adjacent parklet/art hub in this space will introduce vibrancy into Opportunity Area #2 while simultaneously increasing both visibility and mobility of and through the area.

In the parklet, we envision public infrastructure in the form of bike racks, public restrooms and benches for people to sit on. We also hope to introduce another cultural asset



into this area by reserving a space in the parklet for rotating public art installations. According to Americans for the Arts, “places with strong public art expressions break the trend of blandness and sameness, and give communities a stronger sense of place and identity” (Public Art Network Council).

In the current Dutchess Turnpike, there are no reserved spaces for public art installations but we believe that partitioning out space for public art is essential for the placemaking of the Dutchess Turnpike community. The image on the right is an example model for how municipal entities sponsor public art: the New York Department of Parks and Recreation's "Art in the Park" initiative sponsors rotating sculptural installations by local artists like in the Baobab Tree of Life by Tijay Mohammed and Beam Center Project Fellows shown in the image.

Finally, as seen in our drawing, we will still maintain some spaces for parking within Opportunity Area #2 but we will strategically place this parking within the area to exist in harmony with non-automobile forms of mobility (pedestrian, cyclist, and bus).

The following sections' recommendations for land-use in the Dutchess Turnpike will supplement our Opportunity Area redesigns outlined within this section of the report. Like we mention in the transportation section, we acknowledge that higher density levels are a prerequisite to supporting the development and maintenance of new public infrastructures and public spaces. Thus, we recommend that consideration of our redesign plans be simultaneously accompanied by tge consideration of policy measures to increase housing density in the spaces around the sites that we identify as Opportunity Areas.



### C. Land-Use: Zoning

The current Town zoning laws do not support non-automobile transportation, community formation, or environmental sustainability. The following zoning recommendations are meant to be paired with and facilitate the changes specified in the transportation and opportunity area sections.

#### 1. Re-establish the structure of neighborhoods in the study area through promoting dense, mixed use development.

Speck, in their book, *Walkable City: How Downtown Can Save America, One Step at a Time*, defines neighborhood structure as “the presence or absence of real neighborhoods, which are technically defined as being compact, diverse, and walkable” (2012, p. 144). When a neighborhood has a well-defined structure it is easier to identify the hubs of activity that exist within it (Speck, 2012, p. 145). These hubs are crucial connection points for public transit, which needs high ridership to succeed (Speck, 2012, p. 145). Policies that support a diverse group of residents within the same neighborhood are discussed in subsections 2 and 3. Diversity, however, is not just about residents of a neighborhood, but also the different uses present in an area.

Current zoning encourages homogenous uses within specific boundaries which then spread out neighborhood services across a large area. **Mixed use zoning** is one way to combat this. Mixed use zoning would allow businesses, housing, recreational centers, restaurants, medical services, etc. to be built in the same place. As more diverse locales emerge, hubs will naturally form. Density is a key characteristic of this as well.

Denser development will ensure that people who need and want to access transit are more likely to be in the appropriate range of it. There is a large difference between the feeling of walking 0.5 a mile to a bus stop versus 1 mile. The average distance someone is willing to walk to access transit is between 0.25-0.5 miles, approximately 5 to 10 minutes (Federal Highway Administration, 2013). The more spread out housing and other essential destinations are, the harder it is to identify central hubs for transit to stop. Dense, mixed use development also makes it easier for people to access their needs via walking and biking.

This rezoning will also generate environmental sustainability in a variety of ways. If more people walk, bike, and/or use transit, presumably less people will be driving private vehicles. This will reduce emissions in the study area, improving air quality and decreasing contributions to climate change. Denser development will also hopefully decrease the total area that is developed, contracting some of the suburban sprawl that begins in the study area. This will allow natural ecosystems to flourish more cohesively, providing more ecosystem services to the general study area.

## 2. Encourage increases in housing units in the study area.

An important effect of dense, mixed-use development is the shift from single-family-residence only zoning into a zoning structure that permits a variety of households within one residence. In the study areas and Poughkeepsie as a whole, where the population is increasing and almost all housing units are occupied, finding ways to increase the number of residential units is of utmost importance.

One option is **subdividing single-family homes into multi-family homes**. As homes change ownership, new developers and/or homeowners may find the opportunity to subdivide their home to be enticing. First, having a second housing unit for rent can provide homeowners with a secondary source of income. Second, if people have adult family members that they need/want to live close to, having a separate but attached housing unit can be appealing and cost efficient in the long term. For the study area as a whole, if houses are subdivided into multi-family homes the population density will increase (American Apartment Owners Association, n.d.), supporting a larger public transit system. Not all houses can be subdivided safely, based on the location of exits, heating and cooling systems, ventilation, plumbing, and electrical wiring locations and capacities (American Apartment Owners Association, n.d.). Engineers and architects must be consulted before deciding to subdivide a house. The Town, in order to make accessing these resources more affordable, could provide public funds to people pursuing subdividing their homes to be used for paying for architectural and engineering services.

Another form of housing expansion that can happen within existing property lines is the **construction of accessory dwelling units**, often called “granny flats.” Accessory dwelling units and stand-alone housing units built on the same property as a, typically, larger home. Currently, single- and multi-family zones allow accessory dwelling units to be built with special approval, so this process can even begin before the zoning laws change. Though the benefits of granny flats are very similar to those of subdividing homes, their growing popularity has led to some unfortunate circumstances. Many people list their granny flats on AirBnB. Under these conditions, granny flats do not add to the overall quantity of residential units in an area. Zoning laws can prevent this in a number of ways. One is by requiring owner-occupancy, meaning that the owner of the property must live on-site (Semerad, 2023). Another is prohibiting short-term rentals (such as those shorter than 1 month) except in buildings with special permission, such as hotels, official bed and breakfasts, etc. (Jen-And-Dave0, 2016).

An added benefit of adding these smaller housing units is that it can supply the study area with much needed **transitional housing options**. According to survey results from the Town of Poughkeepsie Comprehensive Plan, numerous respondents wanted to see more housing that accommodates transitional periods in people’s lives, such as starter homes for families building assets and housing for elderly people looking to downsize or live in supportive housing (Carlos et al., 2021).

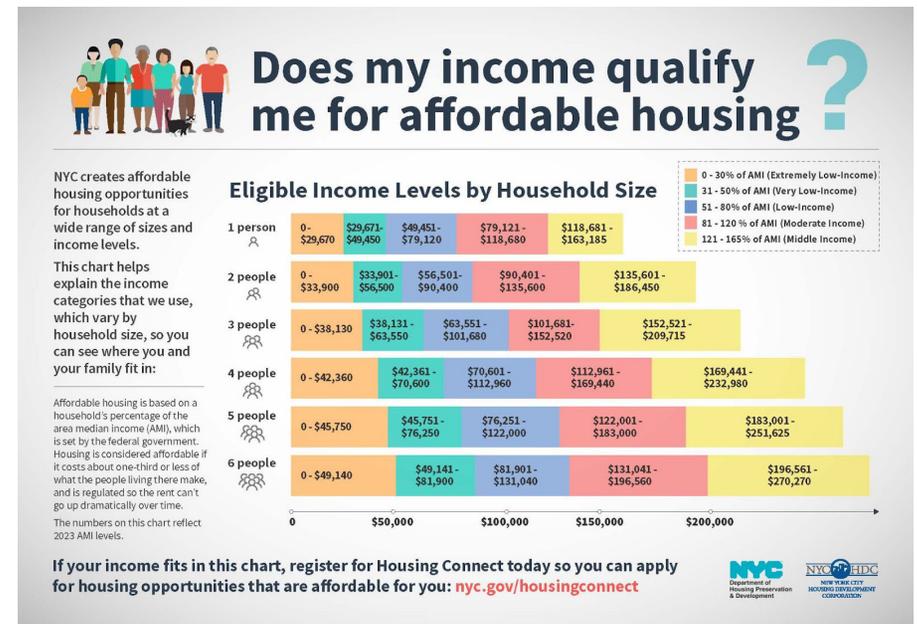
Another solution is to **build more housing units**. The Dutchess Plaza and Plaza 44 are obvious locations to look to build more housing units. Developers should be careful of planning to construct new buildings on the Dutchess Plaza, however, because of the risk of vapor intrusion. Vapor intrusion occurs when vapor forming chemicals seep into houses from an underlying source, such as contaminated soil, through gaps in the floor-wall connections on lower floors, especially basements (United States Department of Environmental Protection, 2023). Because of the remaining pollution from the old landfill on the Dutchess Plaza site, thorough environmental evaluations of this site should be conducted before proceeding with adding housing units to this site. For the Plaza 44 area, however, this is not a concern. The buildings that currently stand in this lot are single or double story buildings. If they are structurally sound enough, a second or third story of residential units could be added above them. This has

an additional benefit of creating housing located very close to existing and, hopefully, emerging commercial and recreational areas.

### 3. Require affordable housing in all residential zones.

Currently, **none** of the residential zones in the study area require affordable housing. The Town’s Comprehensive Plan mentioned that survey respondents had concerns about the affordability of housing options for the average person interested in moving to the Town (Carlos et al., 2021). One way to address this is to implement inclusionary zoning.

**Implementing inclusionary zoning**, also known as tiered zoning, requires a certain amount of housing to be available at affordable prices for people/households in a variety of income levels (Stefanski, 2019; NYC Housing Preservation and Development, n.d.). Often this is established by tiers of eligibility for certain housing prices based on both income level and household size (NYC Housing Preservation and Development, n.d.). For example, NYC established five income bands in their Housing New York plan, labeled as extremely low, very low, low, moderate, and middle income (Stefanski, 2019). “Rents (or sale prices) are set depending on the specific income range and household size for which a unit is reserved” (Stefanski, 2019). Eligibility for affordable housing is determined by which income band a household falls within (Stefanski, 2019). By requiring affordability and setting it up in their tiered fashion, people of a variety of income levels are encouraged/required/allowed to live in the same place (Speck, 2012, pp. 109-110). This helps to combat wealth and poverty becoming concentrated in different neighborhoods.



A variety of benefits emerge when a community includes households of variable income levels. First, people working different jobs, within different income levels, use streets in different ways at different times, keeping streets active at all times of day (Speck, 2012, p. 109). Additionally, mixing income levels within the same towns, villages, cities, etc. allows all members of the community to receive well funded community benefits. This includes schools, which are heavily affected by the amount of taxes collected within each school district zone. This will likely raise the quality of life for everyone, particularly those who are most disadvantaged currently. In particular, areas being rezoned to encourage mixed use development should be prioritized for requiring affordable housing. It will also allow people with fewer personal resources to expend less resources to meet their needs.

The image on the right demonstrates an example of how inclusionary zoning by tiers of eligibility encourages affordable housing in New York City (NYC Housing Preservation and Development).

#### **4. Be stricter in enforcing sidewalk regulations delineated in zoning laws.**

Almost every zone in the study area requires sidewalks of at least 5 feet along all roads. Based on our pedestrian audits, this requirement is variably followed and enforced. The Town needs to be stricter when approving development plans by making sure they have appropriate sidewalks within their plans. Additionally, the maintenance of sidewalks needs to be better regulated. Ponding was a large issue on street corners, highlighting their lack of accessibility. These and other issues need to be inventoried more frequently and/or regularly and then acted upon within a year of identifying them. If the Town does not want to hire people to conduct these audits, they can create a public feedback submission which allows people in the area to submit reports of disrepair and/or maintenance requests. Signs for this can be placed around the study area to create visibility and encourage engagement.

#### **5. More enforcement and protection of green and open space requirements within zoning laws.**

Though many of the zones in the study area have requirements and/or recommendations for the use of street trees, landscaped buffers between pedestrian environments and streets, and areas such as green courts, rarely were these environmental features found in the study area. Based on responses to the Town's survey in their Comprehensive Plan, "preservation of existing open spaces such as existing farmland and historic sites was...strongly supported" (Carlos et al., 2021, p. 9). When rewriting zones to be for mixed use, this desire should be included in the design standards once again. All development projects should have a green and/or open space component to them, whether it be the use of street trees or the preservation of land to be used as a park, agricultural space, or historical site.

Eastdale offers an example of what this can look like. Within Eastdale itself, there are few naturally green areas. Within the area the developer bought, however, is the newly made Creekside park which incorporates some walking and hiking trails in the areas surrounding Wappingers Creek. By converting this land to a park, the developers both provided a green space for residents to use close to their jobs and homes, but also created a buffer between their development and Wappingers Creek, hopefully preserving the health of the stream. This is not to say that Eastdale is perfect, however. Ideally, the developers would have incorporated more naturally green areas within the business and residential areas of Eastdale, particularly through planting real grass rather than using turf, and the preservation of some of the farmland that had existed there prior to development. Despite this, the addition of Creekside Park into the study area has the potential to become a great Town asset if maintained.

### D. Land-Use: Environmental

Within the scope of the aforementioned transportation and opportunity area changes, we highly recommend incorporating a number of natural environmental changes and improvements into those plans.

#### 1. Plant more street trees.

As a blanket recommendation, more street trees should be planted along the Dutchess Turnpike, especially along all existing sidewalks. Street trees provide numerous benefits, such as shade, shelter, traffic calming effects, and, if chosen and planted correctly, stormwater management.

Trees have a “large capacity to transpire water, intercept rainfall, and treat water quality” (National Association of City Transportation, 2017, p. 86). In order to incorporate street trees into a broader stormwater management system, tree wells/pits, essentially a box with a singular tree in it, should be constructed (National Association of City Transportation, 2017, p. 86). As shown below, tree wells should have walled sides, structured soil systems, and openings to allow runoff from impermeable surfaces in (National Association of City Transportation, 2017, p. 86). Constructing a short walled barrier and making sure the soil layers are structural sound will combat soil compaction, which will ensure water filtration occurs at an appropriate rate, and retain stormwater, which will eliminate flooding on sidewalks and streets (National Association of City Transportation, 2017, p. 86).

The image on the top-right shows a tree pit design for stormwater management (Wikimedia Commons, Mario Hains). The image on the bottom-right shows another tree pit design with permeable pavement and downspout planters (gownyc.org).



## 2. Require the installation of green and high albedo roofs

As air temperatures continue to rise due to climate change, urban areas such as the study area will become trapped in an intensifying urban heat island unless adaptive and mitigation measures are taken. Green roofs and high albedo roofs, which passively cool buildings and the surrounding areas, are two ways to address this issue.

Green roofs are simply roofs that have a vegetative layer on top of them (United States Environmental Protection Agency, 2023). This not only includes structures with rooftop parks and gardens but also buildings with mosses and other small, hardy plants growing on top of them (United States Environmental Protection Agency, 2023). Green roofs lower air temperatures through evapotranspiration, which can reduce roof temperatures “30–40°F lower than those of conventional roofs and can reduce city-wide ambient temperatures by up to 5°F” (United States Environmental Protection Agency, 2023, para. 2). Not only do they lower air temperatures, green roofs also help with stormwater runoff, capturing and filtering it (United States Environmental Protection Agency, 2023). There are two main types of green roofs: extensive and intensive green roofs (United States Environmental Protection Agency, 2023). Extensive green roofs are often simpler, consisting of small, hardy plants, lightweight, and require little maintenance once installed (United States Environmental Protection Agency, 2023). Extensive green roofs can be used on all roofs but would be particularly useful on slanted roofs, traditional house structures, and small business roofs – places where the owners may not be able to afford the maintenance required of intensive green roofs of where the roof is hard to access. Intensive green roofs are often more complex, possibly including full parks with trees, require more structural support due to the heavier plants and materials, require more financial investment and more maintenance (United States Environmental Protection Agency, 2023). Intensive green roofs can be key community assets, especially if constructed in publicly accessible and visible spaces, such as at schools and public libraries. An example of a green roof is shown in the image on the right of a Slovenian urbanscape (<https://www.sloveniabusiness.eu/success-stories/knauf-insulation-urbanscape-green-solutions>)



High albedo roofs, also called cool roofs, are made of highly reflective materials which allows them to remain cooler at peak temperature times of day (United States Environmental Protection Agency, 2023). Albedo is simply a measure of the reflectivity of a surface (Norsk Polarinstitutt, n.d.). The higher the albedo, the more reflective a surface is. Lighter colors are known to have higher albedo than darker surfaces (Norsk Polarinstitutt, n.d.). Therefore, a simple way to achieve higher albedo on surfaces is to paint them white or require that lighter colored building materials are used. The use of this principle is not restricted to roofs. Painting roads, parking lots, and other traditionally dark colored areas lighter colors can also help lower an area's ambient temperature. An example of a high albedo roof is shown in the Oakland rooftop garden in the image on the left (<https://www.soils.org/about-soils/green-roofs/>).

When considering whether to install green roofs versus high albedo roofs the following questions can be used to determine the best course of action:

**Do you have a thinly stretched budget or not?**

If yes, a high albedo roof is likely a better option because it can be done at lower costs, especially if all the roof needs is white paint. If not, install a green roof because it will last longer than high albedo roofs, saving you money in the long term (United States Environmental Protection Agency, 2023). Depending on how much money is available and the structure of the existing roof, consider whether an extensive or intensive green roof would be better.

**Is this a flat roof?**

If not, consider a high albedo or extensive green roof.  
If yes, consider an intensive green roof.

**Does the roof have the potential to become/is already a social meeting space?**

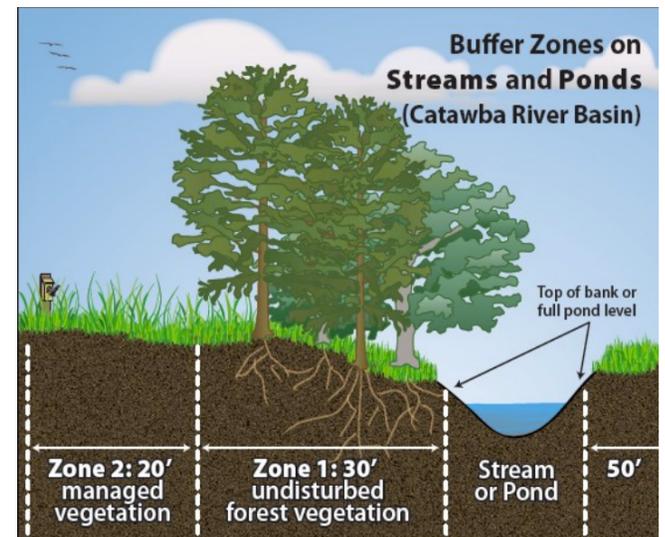
Examples of this include roofs above office buildings, multistory apartment buildings, government buildings, public libraries, etc. If yes, this space is already designated as a social space and there is access to it by community members, installing a green roof will likely improve the social atmosphere of the space because it will become a more desirable area to spend time in. COVID-19 exposed how gardening creates a connection to both the physical environment and social environment in where someone lives, improving the quality of their life (Schattenberg, 2022). Rooftop community gardens are a great way to incorporate this principle into urban heat island reduction.

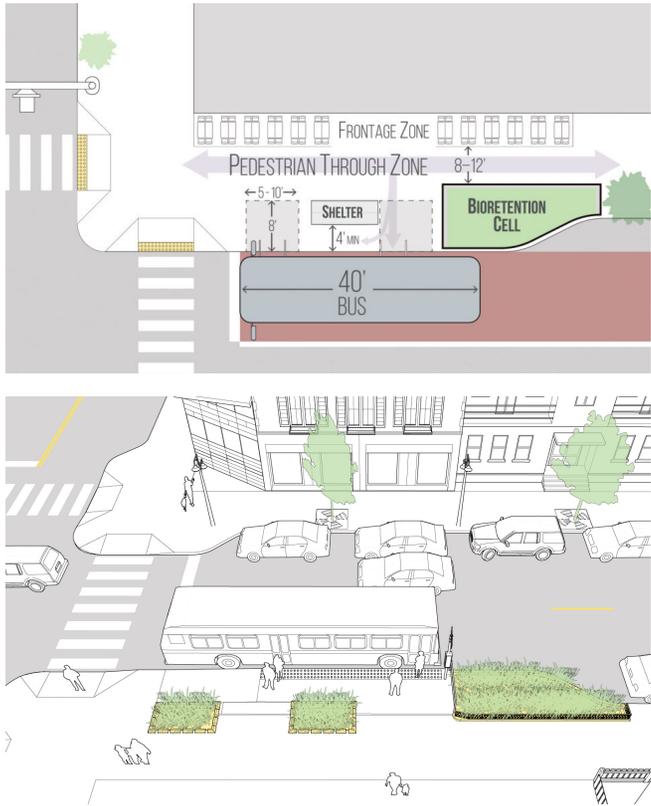
**Is the structure strong enough to support the installation of an intensive green roof infrastructure (including soil, drainage materials, insulation, various barriers, etc)?**

If not/unsure, it's best to go with an extensive green roof or high albedo roof just in case.  
If yes, go ahead with an intensive green roof!

**3. Implement the use of planted areas to control runoff from streets.**

First, road salt runoff into ground and surface water in the study area is a problem. This is mentioned in the Appendix: Existing Conditions Report, especially where the Casper Creek surfaces along Burnett Boulevard. One way to deal with this problem is to plant a proper buffer zone between the Casper Creek and Burnett Boulevard to prevent the majority of road salts and other pollutants from running into the creek. Below there are a number of native, salt resistant trees, shrubs, and other plants that can be used to accomplish this. The image on the right shows an example of a buffer zone (<https://files.nc.gov/ncdeq/Water%20Quality/>





The street tree wells/pits mentioned earlier are one such planted area, but they are not the only ones. Another is a bioretention planter, “stormwater infiltration cells constructed with walled vertical sides, a flat bottom area, and a large surface capacity to capture, treat, and manage stormwater runoff from the street” (National Association of City Transportation, 2017, p. 78). Bioretention planters allow water from impermeable surfaces to get filtered and drain back into the groundwater reserves in the area (National Association of City Transportation, 2017, p. 78). When redesigning bus stops, bioretention planters could be a great feature to implement. The walled sides of the planters could have benches alongside them, incorporating many functionalities into one area. The NACTO Urban Street Stormwater Guide images on the left show examples of these bioretention planters (NACTO, Urban Street Stormwater Guide, pages 96-97).

Another stormwater management element that can be expanded upon in the study area is bioretention swales. Bioretention swales are “shallow, vegetated, landscaped depressions with sloped sides...designed to capture, treat, and infiltrate stormwater runoff” (National Association of City Transportation, 2017, p. 82). Swales can handle low to moderate flows of runoff and are less expensive to implement than planters but they require more space for infiltration (National Association of City Transportation, 2017, p. 82). Eastdale has incorporated a number of bioretention swales into their redesign of the space, particularly along



parking lots and between their property and the neighboring industrial park. Other businesses and commercial centers could follow this example and install bioswales as a buffer between their parking lots and the street, or between storefronts and car designated spaces (such as streets and parking). Examples of bioretention swales can be seen in the images on the right-bottom (<https://www.asla.org/bioswales.aspx>) and right-top (NACTO, Urban Street Stormwater Guide).



A third feature that can be implemented are hybrid bioretention planters, which “combine elements of both swales and planters, featuring a walled side opposite a graded side slope” (National Association of City Transportation, 2017, p. 84). Hybrid planters increase the amount of vegetated space and infiltration area compared to planters, while not using quite as much space as swales, providing a softer streetscape for pedestrians (National Association of City Transportation, 2017, p. 84).. Another advantage of hybrid planters is that they allow redesigns to incorporate current curbs in the study area, cutting down on the costs associated with planters, which require the creation of extra walled edges. We envision that hybrid planters can be installed frequently along the Dutchess Turnpike, particularly between sidewalks and bike lanes, as a way to soften the grade change transition

between an elevated sidewalk and street level bike lane. An example of the incorporation of hybrid retention planters can be seen in the table from the Urban Street Stormwater Guide on the right (NACTO).

Recommendations for plants that can be used in these features can be found in Appendix 6B.

#### 4. Create a phytoremediation zone on the Dutchess Plaza Catalyst Site to filter the pollution from the underlying landfill.

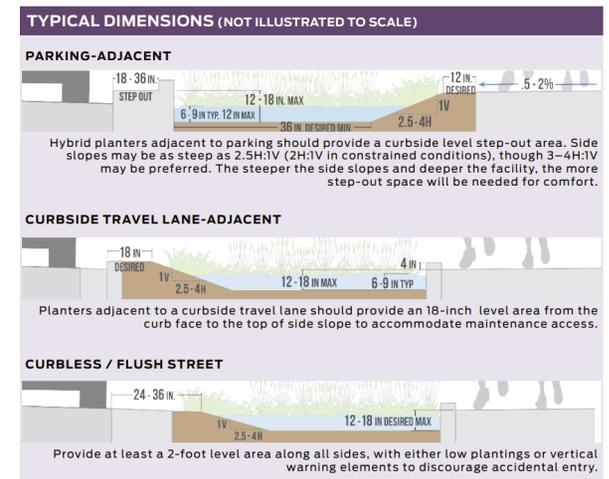
This filtering and purifying quality of plants can be used to control another source of pollutants plaguing the Casper Creek: runoff of groundwater from the landfill under Dutchess Plaza.

Phytoremediation is simply the use of plants to clean up contaminated environments (United States Environmental Protection Agency, 2012). Phytoremediation works particularly well in areas that have low levels of pollutants, such as old local landfills (United States Environmental Protection Agency, 2012). The types of plants used for phytoremediation are site specific. They should be native and need to be resistant to the main pollutants present in the area. Research should be done into the old landfill to determine what substances are contained in the underlying soil and groundwater and from there plants should be chosen that are relevant for the area. This area of phytoremediation should cover the designated park area outlined in the Dutchess Plaza Catalyst Site section (see page 39).

#### 5. Daylight the Casperkill.

Currently, the Casperkill is piped underground as it crosses the Dutchess Turnpike from the north, alongside the Dutchess Plaza, to the south. Within the Town, the Casperkill is the only stream that has had a significant amount of it piped underground (Carlos et al., 2021). Daylighting the Casperkill involves removing existing paved areas in order to bring the creek back above ground and restoring its natural flow and stream banks (Carlos et al., 2021). Daylighting can help with flood control, reducing downstream erosion, decreasing the chances of a sewage overflow, community and ecological revitalization, and improving the water quality (Trice, n.d.), almost all of which are issues the Casper Creek and the surrounding area desperately needs addressed.

Community members have identified the restoration of the Town's creeks and the Hudson River as the second most important issue to be invested in, so this change would likely be received very well (Carlos et al., 2021).



## **6. Diversify plants in the study area.**

Ensuring that a diverse array of plants is maintained within the study area provides protection from a number of environmental threats that plants face. First, pests and diseases are a common problem for all plants. One only needs to think of the Dutch Elm Disease epidemic in the late 1920s and early 1930s, which wiped out over 40 million all elm trees in North America and remains a significant threat to these trees today (D'Arcy, 2000), to understand the importance of plant diversity when dealing with diseases. With diverse plantings, even if a disease sweeps through and kills one type of plant, others will survive and grow to fill in the gaps.

The second issue is climate change. As the world heats up, many regional climates are changing, often faster than plants and animals can migrate. By planting plants that are both native to the historical climate in NYS while also integrating in plants from southern climates, the green infrastructure in the study area will be primed to survive regardless of whether global warming changes the area's climate subtly or drastically (Cleland, 2011). This is known as the insurance hypothesis (Cleland, 2011).

The third consideration is the protection of species, particularly those that are threatened and/or rare, by providing a diverse set of habitats in the study area (National Association of City Transportation, 2017, p. 87). In 2008 it was discovered that numerous areas within the Town are "co-locations for significant habitat complexes that support threatened and rare plant and animal species, including the Blanding's turtle, eastern box and wood turtles, Indiana and little brown bat, bald eagle and Kentucky warbler" (Carlos et al, 2021, p. 67). Because of this, additional sites within the study area should be assessed to see if they could be rehabilitated into key habitats for these species. A list of the habitat types these species inhabit and the native plants they require can be found in Appendix 6B.

## **7. Transition pavement on bike lanes, parking lots, and other low pressure/vehicle volume zones into permeable pavement.**

Currently, the pavement in the study area is mostly, if not entirely, impermeable. Because of this, all storm water either puddles on the pavement, floods the streets, or gets funneled into stormwater drains. Permeable pavement provides an alternative by allowing stormwater to drain directly through the surface it lands on. Permeable pavement can be implemented in a variety of forms. The first is porous asphalt or concrete (National Association of City Transportation, 2017, p. 89). Porous asphalt works best for bike lanes and other surfaces that need to remain as smooth as possible for ease of use (National Association of City Transportation, 2017, p. 89). The second is interlocking pavers which allow water to drain through and around the pavers (National Association of City Transportation, 2017, p. 89). Interlocking pavers have the potential to shift as they settle into the ground, creating slightly uneven surfaces, making them less ideal for bike lanes but very usable in parking areas (National Association of City Transportation, 2017, p. 89).

Permeable pavement works best on areas with shallow slopes of 5% or less (National Association of City Transportation, 2017, p. 88), so applying them throughout the entire study area does not make the most sense economically. Instead, as pavement deteriorates in parking lots, along flat sections of road, etc, these areas should be replaced with permeable pavement rather than putting money into repairing the impermeable pavement. The image on the bottom of the previous page illustrates what permeable pavement may constitute.

## **8. Incorporate environmental education and interaction into changes.**

1. Creating signs about green/high albedo roofs and how they work
2. Creating signs which explain how the bioswales/rain gardens work and placing them along the turnpike where bioswales are created
3. Creating signs about phytoremediation and placing them in the park area
4. Labeling the different plants being used in both the bioswale and phytoremediation projects
  - a. Also, explaining why these plants were chosen for their respective uses
  - b. Some plants I recommend are edible, such as blueberry bushes, so this labelling can include information about identifying edible plants
5. Creating a project where people can write to and about their favorite trees (and just general plants) along the Dutchess Turnpike and then choosing some to be publicly displayed next to the plants they are referencing.

Example in Melbourne: <https://www.theatlantic.com/technology/archive/2015/07/when-you-give-a-tree-an-email-address/398210/>

# 5. Implementation

We will outline 3 stages of development for the recommendations we make in the 4 previous subsections.

## **Stage 1** will be short term and low funded changes.

Taking the existing bus system, existing vehicles, and staff, extend the route coverage of existing bus routes (especially route L) to as many uncovered areas surrounding the Dutchess Turnpike as possible, and increase bus service frequency and punctuality.

Paint temporary bike lanes and sidewalks in the study area. This will involve marking out lane shifts on the roads that exist. – I'd say downsize automobile lanes, and adjust the location of them if necessary, throughout the Dutchess Turnpike. Research public reaction.

On narrower side roads, bike sharrows can be marked out to encourage drivers to be aware of and make space for bikes on the road.

There is also the option to add temporary objects to separate the vulnerable users, such as pedestrians and cyclists, from cars, such as cones, plungers, or potted plants, in order to elevate their safety.

Install bike racks at key destinations in the study area.

This includes all community centers, shopping plazas, public parks (including the Rail Trail), major bus stops, and residential districts.

Block off areas in the Dutchess Plaza that cars should not park in. Set up temporary community activity spaces, such as basketball courts (just need temporary hoops and paint) in an empty area. Meanwhile, put out planters, foldable tables and chairs, and create a sense of park in the empty space.

Implement all recommended zoning law changes, and start encouraging denser development and housing increase in the study area and beyond to foster the later increase in public services.

Plant more street trees. Protect the trees that exist in the study area. Especially increase actual vegetation coverage at Eastdale Village.

Install a temporary parklet at the Overrocker-Dutchess Plaza intersection.

Pull out, organize, and distribute available fundings from the Moving Dutchess Forward Plan. Calculate fundings available to implement long-term, higher-cost changes, including purchasing new buses, hiring more drivers and staff, installing new bus stations, permanently implementing complete street transformations to the Dutchess Turnpike, increasing street connectivity, creation of public parks at the opportunity areas and more. Create execution processes for these specific changes. Decide if more funding and support are needed, and if so, create a timeline to obtain them.

**Stage 2** will be mid term and moderately funded changes.

When funding is secured, introduce new bus fleets, hire more drivers, and change bus routes. Gradually adopt the model presented in the Transportation section. Start by opening the Turnpike Main Line and the Arlington Loop Line which covers the most amount of residents. Guarantee acceptable and convenient service hours and frequencies.

Improve bus stop infrastructure, especially the major hubs along the turnpike. Install shelters, benches, illumination, bike racks, and bulletin boards. Publicize route schedules, maps, and all other services provided by the Dutchess County Transportation Council at all bus stops.

Connect Dutchess Rail Trail to the Dutchess Turnpike and the Stop & Shop Opportunity Area in order to facilitate access and encourage usage.

Start transforming segments of the Dutchess Turnpike into complete streets.

Install rain gardens at current sewer drains in the study area.

Transfer dutchess plaza to a more permanent third space. Renovate the abandoned buildings and incentivize businesses to open there.

Begin creation of community garden/urban food forest at Opportunity Area 2.

**Stage 3** will be long term and highly funded changes.

Install permanent, well-separated and shaded sidewalks and bike lanes throughout the study area, as modeled in previous sections.

Create planted medians in appropriate sections of the road.

Remove pavement from key areas in the Dutchess Plaza and turn it into the planned park area with actual green, lively grass.

Construct public green roofs where applicable.

As roads and other public spaces become less car-centric, car exclusive features like drive-thrus can be converted into sidewalk cafe spaces (Carlos et al., 2021).

When funding permits and density allows, fully adopt the planned public transit network to facilitate mobility and accessibility within the study area and beyond.

When possible, increase road connectivity and reorganize the road network as planned in previous sections in order to truly tie the study area into an navigable community.

This model of staged changes is inspired by the structuring of the Arlington Pedestrian Plan.

# 6. Appendix

## 6. APPENDIX AND REFERENCES

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# I. History Examined: The Changing Dutchess Turnpike and Poughkeepsie

The study area of our report, the Dutchess Turnpike, is a section of the contemporary Route 44 corridor located within the Town of Poughkeepsie. Its name, the Dutchess Turnpike, refers to its historic land use as the beginning stretch of a 35-mile historical turnpike road in the twentieth century that ran west to east from the Town of Poughkeepsie to a connection on the east end to the Goshen and Sharon turnpikes (New York State, 1804).

## Pre-IBM

According to the 1804 New York State Legislature, the *Dutchess Turnpike* was first chartered on April 2, 1802 by the Dutchess Turnpike Company (New York State, 1804). Turnpikes in the nineteenth century were private corporations that built and maintained a road in exchange for the right to collect fees from travelers (Klein and Majewski, 2008). The historical Dutchess Turnpike road served to connect the eastern towns of Dutchess County with the riverside town of Poughkeepsie.

Poughkeepsie (alongside Amenia, Beekman, Clinton, fishkill, North East, Pawlin, Rhinebeck, and Washington) was only designated as a town within Dutchess County fourteen years prior to the chartering of the Dutchess Turnpike. But while this town designation was appointed in alignment with new state and county jurisdictions at the time, when looking at the area’s built environment history, we can see that the cultural landscape of the town of Poughkeepsie was

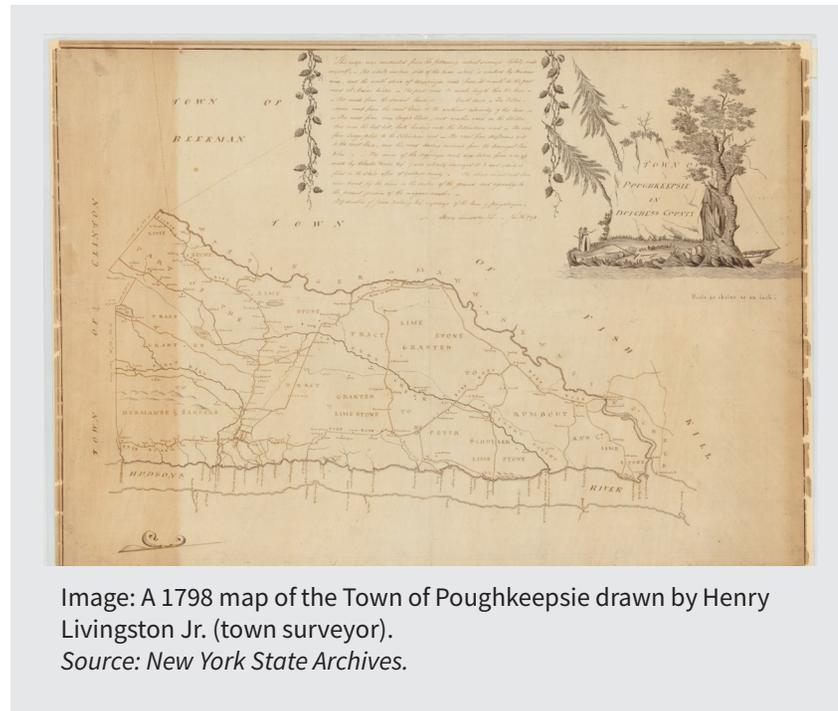


Image: A 1798 map of the Town of Poughkeepsie drawn by Henry Livingston Jr. (town surveyor).  
Source: New York State Archives.

established well before this.

As shown in the image above, the Town of Poughkeepsie at the turn of the nineteenth century featured a vibrant riverfront connecting to roads that led west into the town and the rest of Dutchess County. The Town of Poughkeepsie Historical Commission’s analysis shows that at the time that Livingston’s map was created—in 1800—the Town of Poughkeepsie contained 3,346 people. In the

early nineteenth century, the Town of Poughkeepsie served as an emerging river shipment center and local goods distribution center for Dutchess County as well as a port of entry for imported goods into the county. Aside from the thriving riverfront industry, land use in the town consisted of the commercial and residential center (in the contemporary city of Poughkeepsie) and surrounding agricultural land use (Larson Fisher Associates, 2011).

Correspondingly, the surrounding land use of our Dutchess Turnpike site area during the nineteenth century was rural and agricultural (which we can see through historical trends).

Throughout the course of the nineteenth century, the section of the Town of Poughkeepsie east of the Hudson, termed the Village of Poughkeepsie, grew as an industrial city. With the mid-century introduction of the train railroad to Poughkeepsie, the waterfront began being taken over by large industries that capitalized on the easy reception of raw materials and distribution of goods made possible by rail. The expansion and diversification of education and factory employment opportunities within the growing industrial area also led to an influx of immigrant laborers settling in Poughkeepsie.

It was not until 1854 that the western section of the town of Poughkeepsie became officially designated as the City of Poughkeepsie (west of our site), but the varying spatial characters of the urban city and rural town is apparent even in early spatial representations like Livingston's map (1798).

Within the city itself in particular, there was an evolving separation of class and ethnic groups with the land-use patterns corresponding to neighboring residents' occupation until the end of the twentieth century (Flad, 2009).

During this time, the Town of Poughkeepsie also steadily grew in population despite its rural character (amidst the diminishing of farming and rural economies in the late 19th and 20th centuries). The

Town of Poughkeepsie Historical Commission's analysis accounts the stability of the Town of Poughkeepsie throughout the turn of the twentieth century to the strength of the city's commerce (the Town's agricultural workforce shifted to market farming, supplying fresh produce to the city).

In the twentieth century, the Town of Poughkeepsie's population continued to gradually grow. We can link this growth to early suburbanization in alignment with the shift towards the private automobile in the 1910s. The Federal Aid Road Act of 1916 would provide funding for the main line of the Dutchess Turnpike to become incorporated into the New York state highway, becoming designated as NY 21 in 1924 (NYT 1924). Eleven years later, this road would be incorporated into a multi-state highway; in 1935, US44 was overlaid on the pre-existing NY 55 highway west of the Hudson River and overlaid on the Dutchess Turnpike road east from Poughkeepsie to Amenia.

Today's *Dutchess Turnpike* or section of the Route 44 corridor was first defined as early as 1935 to serve as a road for automobiles to traverse through. At this time, the surrounding land-use of the Dutchess Turnpike was largely agricultural but this would transform with suburbanization in the subsequent decades of post-war urban renewal.

We can see how the roads for suburbanization were paved (both literally and figuratively) along the Dutchess Turnpike corridor by the end of the Great Depression and the opening of the second World War. But the major suburbanization would occur following the introduction of the International Business Machines Corporation (IBM) into the Town of Poughkeepsie.

## IBM in Poughkeepsie

In 1941, the Munitions Manufacturing Company, a subsidiary of IBM, acquired its first plot of land in the Town of Poughkeepsie, south of the city. During the years of WWII, IBM expanded its facilities, absorbing MMC in 1943, and continuing its growth throughout the town of Poughkeepsie. By 1945, the Poughkeepsie IBM workforce consisted of 1,400 employees (Flad, 2009).

Flad mentions in his book, “Main street to Mainframes: Landscape and Social change in Poughkeepsie,” how during the war, IBM had little visible impact on the Town of Poughkeepsie apart from its facilities. By the end of the war, however, the combination of the national post-war housing shortage and the future anticipation of a growing IBM workforce in Dutchess County would lead to a transformation in the Town of Poughkeepsie’s landscape to 1) accommodate more housing, and 2) facilitate traffic for commuting (Flad, 2009).

IBM Poughkeepsie grew from a workforce of 1,800 people to a workforce of 15,500 people in 1965. By the 1980s, IBM (consisting of its Town of Poughkeepsie facilities and East Fishkill-established in 1963- facilities) accounted for 70% of all manufacturing employment in Dutchess County. In contrast to the significant percentage of county residents working for IBM, however, only 11% of the city residents worked for IBM (Flad 2009). This statistic tells us that although IBM



Image: IBM Building #002, South Road, 1948.

Source: *Dutchess County Historical Society*, courtesy IBM.

contributed to the county’s overall population and economic growth, it simultaneously contributed to the City of Poughkeepsie’s deterioration. IBM employees’ housing patterns followed national suburbanization trends; residential areas spread outwards away from the city, with workers choosing to live in houses in the towns across Dutchess County as opposed to the city centers. This suburbanization was both auto-centered and relatively homogenous in terms of race and social class: Flad tells us that “in 1980, Dutchess County was 91 percent white and 9 percent nonwhite, with most of the non white population living in the two cities of Beacon and Poughkeepsie, although the small but growing Asian population generally located outside the cities” (Flad, 2009, pg. 209).

In the decade following the establishment of IBM within the Town of Poughkeepsie, the land-use of the Town of Poughkeepsie, including the surrounding land-use of our Dutchess Turnpike study area, would slowly transform from agricultural to residential with white-collar IBM working commuters moving to reside in single-family homes sprawled across the land.

Flad mentions how “as late as 1950, anyone living in the town to the south of the city still shopped on Main Street in the central business district,” however this would quickly change in the following decades as commercial retailers followed the residential sprawl patterns. Furthermore, the construction of the East-West Arterial in 1974, running from routes US44 and NY55, would slice through the City of Poughkeepsie. This urban renewal-driven move would further spur the deterioration of the City and the growth of the suburbs. New shopping malls and strip developments, with lots of parking for auto-centered twentieth century consumption, populated the Town of Poughkeepsie landscape in the latter half of the twentieth century. And by the end of the twentieth century, supermarkets and most retail shops had left the city for the suburbs. According to Flad, by the end of the twentieth century, “for family food purchases, city residents were forced to travel to the major grocery stores in the town. For many of the poor without access to a car, transportation was an extra cost, either for taxi service

or on public buses that prohibited shopping carts and only permitted 4 bags of groceries per person” (Flad, 2009, pg. 320).

During the latter half of the twentieth century, the establishment of IBM and the general national trends of urban renewal would suburbanize the Town of Poughkeepsie landscape, transforming the historic agricultural landscape surrounding the Dutchess Turnpike into an automobile-centered landscape of interspersed residential and commercial land-uses. The Dutchess Turnpike landscape was shaped towards accommodating the needs of the automobile-owning, commuting, white-collar laborers residing in the Town of Poughkeepsie. According to Historical Commission Survey documents, the Dutchess Center was constructed at this time, in 1965 (Larson Fisher Associates, 2011).

Flad describes how:

“As Poughkeepsie and all other cities in the Hudson valley tried to cope with urban decline, an expanding population sought housing outside their boundaries, even beyond their older suburbs such as the town of Poughkeepsie. (Flad, 2009, pg. 321).”

As the definition of the city stretched, and suburbanization extended even further outwards, urban decline in the City of Poughkeepsie translated to declining conditions in the Town of Poughkeepsie. Furthermore, the significant downsizing of IBM in Dutchess County in the 1990s contributed to further decline within the area of Poughkeepsie.

From contemporary observation, we can see how the *Dutchess Turnpike* study area is neglected in many aspects and lacks a cohesive character and sense of place. There are closed businesses interspersed randomly, and frequently, along the corridor; vast underutilized plots of land as well as unsafe or deteriorating pedestrian/bike paths are a frequent sight. The place we see today is one shaped by a series of temporary economic flows and historical planning decisions that failed to acknowledge equity, accessibility, or the existing landscape.

In this section, we have summarized the nineteenth and twentieth century history of the City and Town of Poughkeepsie as well as the specific study area to contextualize the contemporary existing conditions within a larger local and national historical scope. In the following section and the subsequent parts of our report, we will look at, and analyze the *existing conditions* of the Dutchess Turnpike site in the twenty-first century.

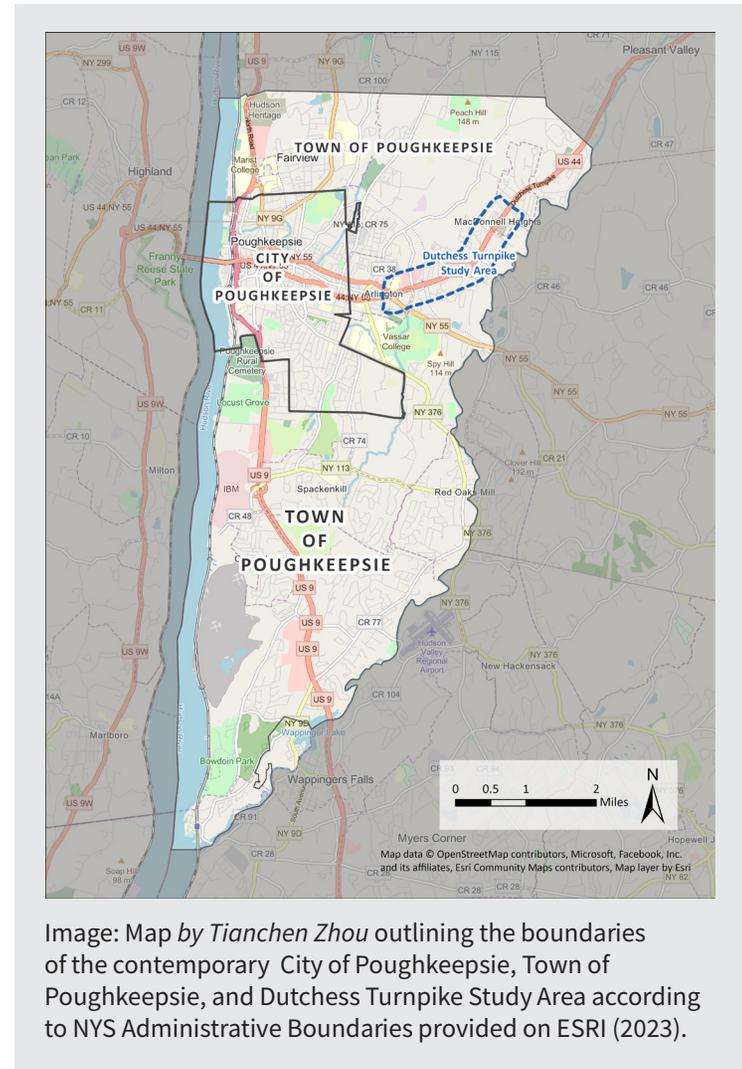


Image: Map by Tianchen Zhou outlining the boundaries of the contemporary City of Poughkeepsie, Town of Poughkeepsie, and Dutchess Turnpike Study Area according to NYS Administrative Boundaries provided on ESRI (2023).

# Contemporary Transformations within our Study Area

Before delving into the existing conditions, we want to highlight two contemporary transformations that we interpret as significant in contextualizing our *Dutchess Turnpike* study area.

The first transformation is the demolition of the old KMart in the Dutchess Center. After closing in 2018, the abandoned KMart was demolished in early 2023. All the businesses in an adjacent building to the KMart located in the same Dutchess Center are also all abandoned, with signs that we observed indicating that certain stores closed as late as 2021. There is still an operating Burger King in this plaza, however aside from the Burger King, this massive commercial land-use space is empty. The contemporary urban decay of this site is a great point of concern for the liveability and connectivity at the east end of our study area, however the site holds very interesting potential as a resource. The massive lot of impermeable surface is directly adjacent to the Casper Kill Creek. With the social abandonment of the plaza, the natural environment is slowly repopulating this site, as shown in the image to the right,

The Town of Poughkeepsie has identified the space of the Dutchess Center as an infill opportunity area with the recommendation to encourage redevelopment. We hope to explore this potential for positive transformation in our subsequent reports.



Image: Dutchess Center Kmart (2018)  
Source: Geoffrey Wilson,  
*Poughkeepsie Journal*



Image: Empty Lot of Demolished Old Kmart Site ft. plants growing through concrete surface (2023)

The second significant transformation is the establishment of Eastdale Village. Eastdale Village is a planned mixed-use development that has been in the making for over a decade. Since 2019, Eastdale Village has gradually been populated with small business and residents. The demographic of Eastdale Village is middle and upper middle-class; it appears to be attracting many new out-of-area residents and visitors to the *Dutchess Turnpike* area.

Although these two transformations are extremely significant in how they may alter the conditions of our study area, some of the quantitative data detailed in the following part of our report fails to specifically address the changes brought by the demolition of the old KMart and the development of Eastdale Village because the lack of availability of hard data post-2021. Despite this, we recognize the holistic importance of these contemporary transformations in our consideration of future recommendations.

In the next part of our report, we will discuss the existing conditions of the Dutchess Turnpike observed, recorded, collected, mapped, and analyzed by consultants at Turn the Pike LLC.



Image: Eastdale Village Aerial Plan (Eastdale Village)



Image: View of Eastdale Village (Eastdale Village)

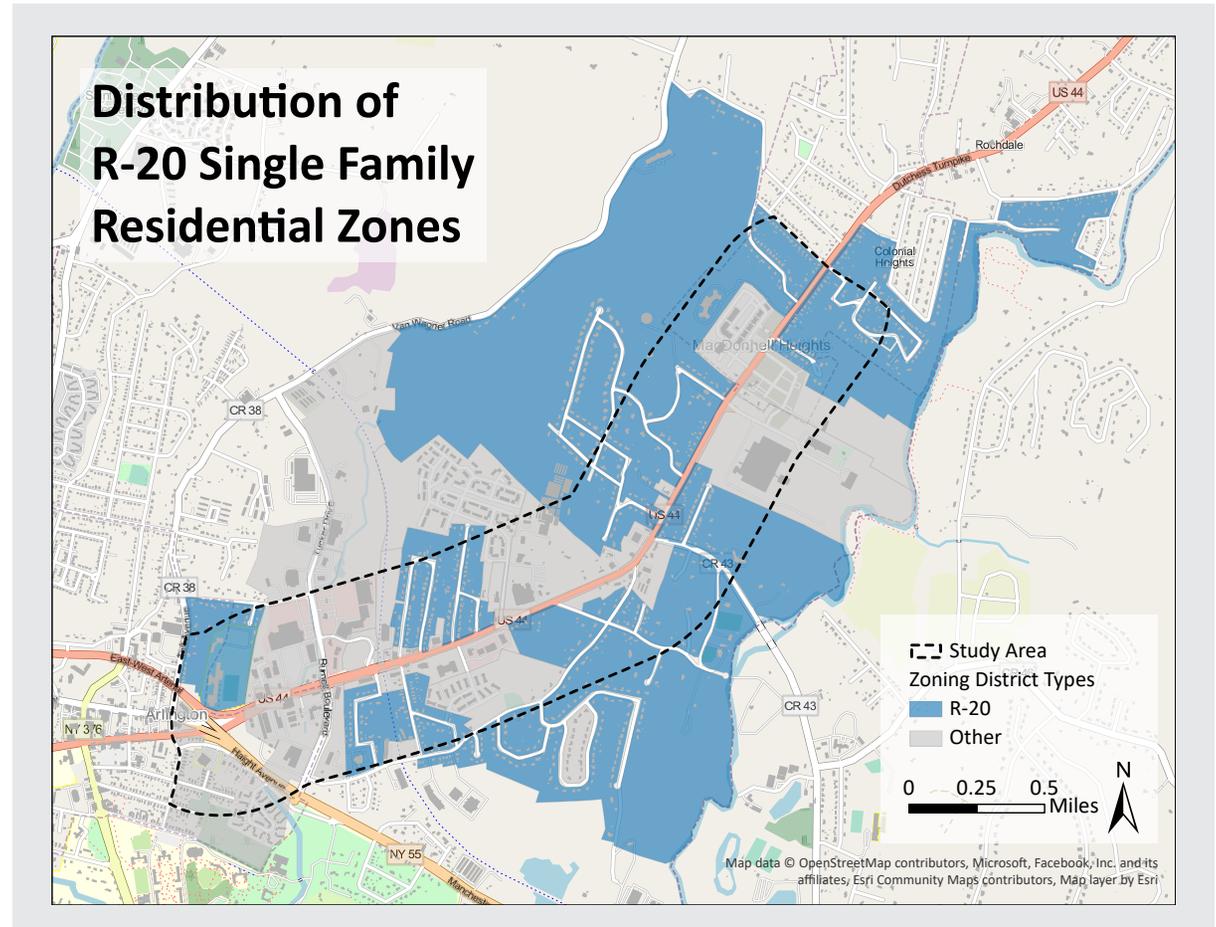
## II. Land Use and Zoning

Within the study area there are three main zone types – residential business, and town center. There is a small percentage, no more than 10%, of the study area that is classified as “Heavy Industry” or “Office Research.”

Zone Type	Map Symbol	Prevalence (# of zones, irrespective of size) ▼
Residence, Single Family: 20,000 square feet	R-20	30
Neighborhood Business	B-N	10
Highway Business	B-H	6
Arlington Town Center	ATC	4
Shopping Center Buisiness	B-SC	3
Office Research	O-R	3
MacDonnel Heights Center	MHC	2
Residence, Multifamily; Residential Under 1 AC Min	R-M	2
Heavy Industry	I-H	1

**Single family residence zones (R-20s)** are the most common, filling about half of the outlined zone. There are thirty zones labeled R-20 within the study area, most of which are small parcels of land clustered together into 5-6 main areas. The purpose of this zoning delineation is to “preserve the principally single-family residential development pattern within the Town’s established neighborhoods” and cluster homes for the preservation of open spaces (Town of Poughkeepsie, Zoning § 16, 2007). Single family dwellings as well as libraries, museums, parks, playgrounds, schools, family day cares, and public utility structures (to name a few) are allowed uses on land in these zones. Special permit uses include accessory apartments within single family dwellings, outdoor recreational spaces, and public swimming pools (Town of Poughkeepsie, Zoning § 16, 2007). The Town has specified a number of design standards within this zone. The notable ones include cluster subdivision, use of through roads rather than cul-de-sacs, 5-foot wide sidewalks that connect to other sidewalks, and the development of low-density uses, such as parks and educational amenities, that require large acreage. The maximum percentage of impervious surfaces allowed within each parcel is 35%. The maximum structure height is 35 feet or 2.5 stories (Town of Poughkeepsie, Zoning § 16, 2007).

Although there are common design standards, the various sections of this neighborhood can feel quite different from each other. About midway along the study area, on the north side of Dutchess Turnpike, there is a grouping of R-20 zones. Within this area there are some



very large homes, possibly 7,000 square feet each. Overall, the area has a very wealthy feel to it. As you move to the western part of this area, however, homes and properties start to get smaller and feel less imposing. Each pocket of R-20 zoning feels different from the other, but they do have some similarities. The main one that our group has noticed is that there are no sidewalks leading into or within the R-20 zones, even though sidewalks are mentioned in the design standards. This makes walking around these neighborhoods and accessing services from these neighborhoods semi-treacherous.



Image: Road through R-20 zone along Overocker Road. There are no sidewalks or curbs



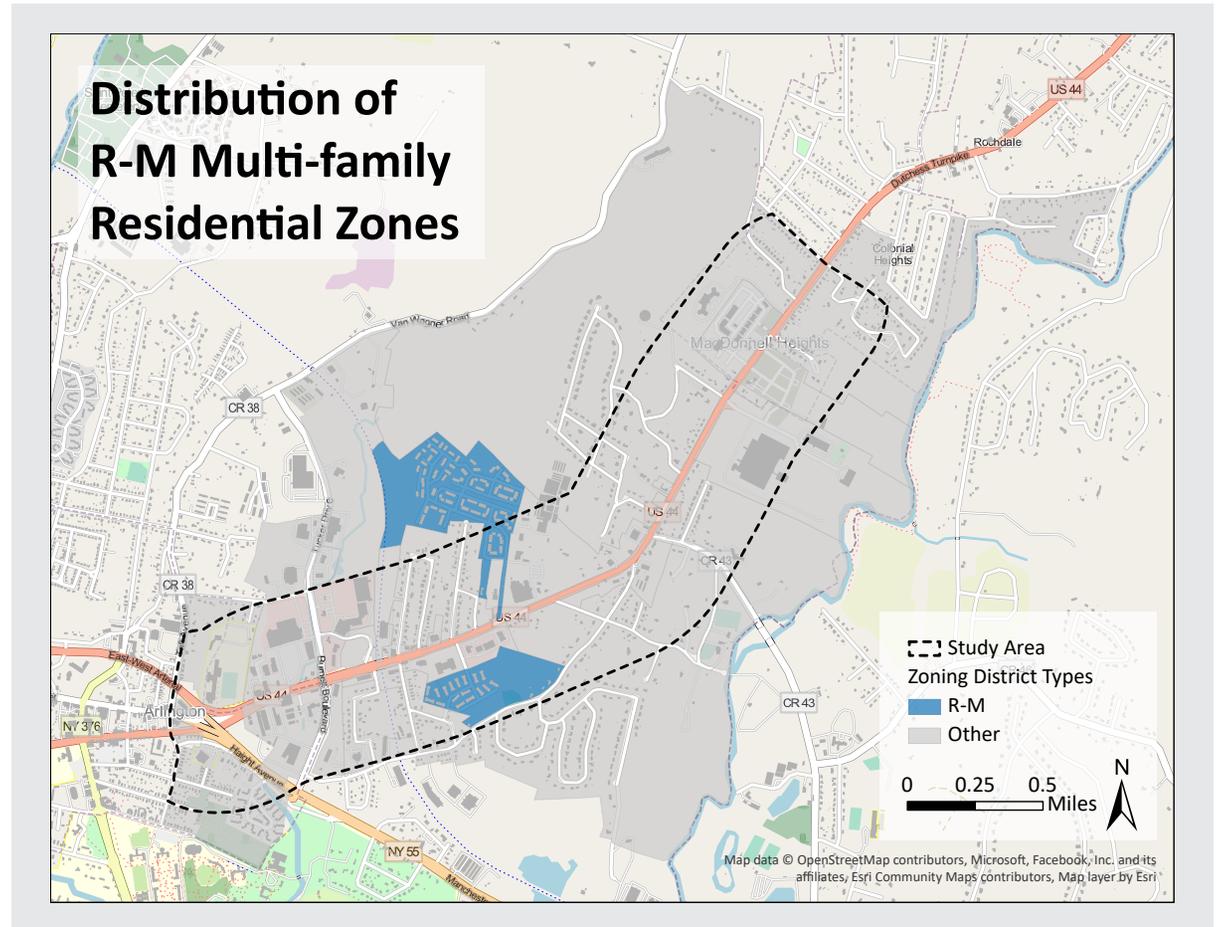
Image: Intersection in R-20 zone along Overocker Road. Notice that there are no crosswalks



Image: corner along Overocker Road and Dublin Lane. Notice the curved edges and no curbs or sidewalks, allowing cars to drive without slowing down at turns.

There are two parcels of land zoned as **multifamily residences (R-M)**. These areas occupy about 5% of the study area. They are “intended to promote low- to mid-rise multi-unit residential development” (Town of Poughkeepsie, Zoning § 17, 2007). Within this zone, multi-, two-, and single-family dwelling are allowed as well as parks, hospitals, playgrounds, and other uses similar to that for R-20 zones (Town of Poughkeepsie, Zoning § 17, 2007). Recreation areas for resident use only, as well as private tennis courts and multifamily and private swimming pools are permitted special uses. Design standards for this zone specify that sidewalks should be 5+ feet in width and connected to other sidewalks, parking should be located to the side or rear of buildings, and small landscaped front yards are encouraged (Town of Poughkeepsie, Zoning § 17, 2007). A slightly higher percentage of impervious land coverage is allowed in this zone in comparison to R-20, with the maximum percentage totalling to 40%. For 1-2 family residences, maximum building height is 35 feet or 2.5 stories but for multi-family residences the maximum building height is 40 feet or 3 stories (Town of Poughkeepsie, Zoning § 17, 2007).

We have only walked through one of the R-M zones in the study area, located next to the Arlington Plaza. The residential development in this area is called Canterbury Gardens. The housing units in Canterbury Gardens are 1-2 bedroom apartments, with free heat and hot water. Within the apartment complex is a system of sidewalks and curbs with open green spaces and trees. The area looks well maintained, but slightly unfriendly for kids to play in or non-residents to use. Potentially added as a way to combat this, on the south edge of the



development is Overrocker Park, a public park maintained by the Town of Poughkeepsie. This park falls within the R-M zone but is bordered on its other sides by R-20 zoning. The park, which has a fence along the side that borders Overrocker Road, contains a small baseball diamond, an open basketball court, and a fenced playground for small children. The park is open during daylight hours. Though a more inviting space than Canterbury Gardens, there are ample signs within the park stating that there is video surveillance of the park. When leaving the park via Overrocker Road there are no sidewalks. Overrocker Road is a dangerous road to walk along, with cars going as fast as 35 miles per hour on the road when we walked it. This divides the R-20 zone from the park.



Image: Entrance to Canterbury Gardens. Speed limit shown is 10mph. There is a private property sign.



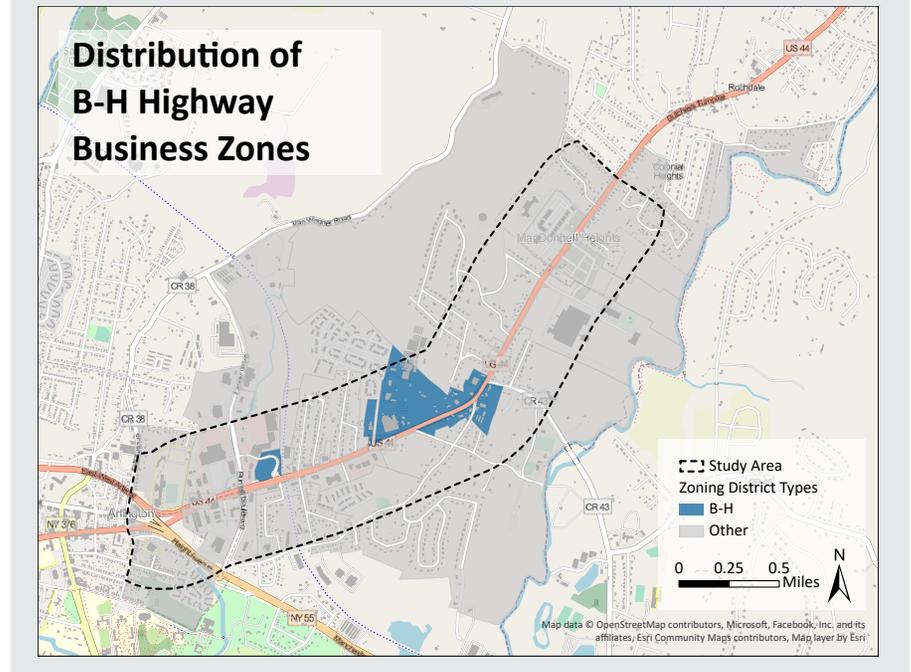
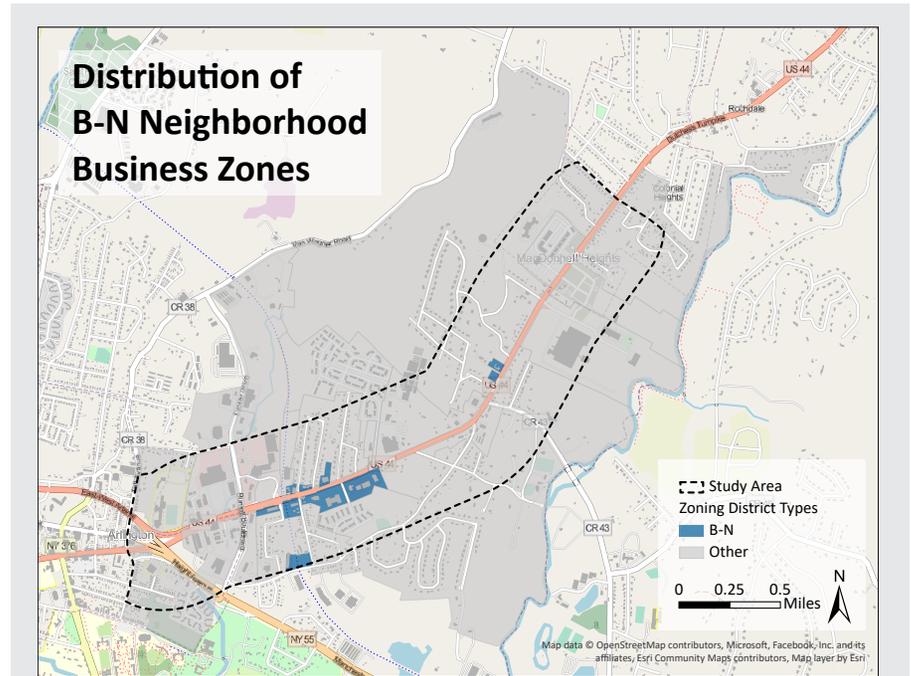
Image: Clothing and shoes donation collection box in Canterbury Gardens.



Image: One of two mailbox areas within Canterbury Gardens. Notice that there are sidewalk, curbs, and communal green spaces.

Various business zones make up about a quarter of the study area. The three business zones present are **Neighborhood Business (B-N)**, **Highway Business (B-H)**, and **Shopping Center Business (B-SC)**. Neighborhood Business has the highest number of zones, totalling at 10 within the study area, but each covers only a very small portion of the land. The purpose of B-N zones are “to provide convenient shopping facilities of sufficient variety to supply daily requirements of adjacent residential areas” within a development that is the same scale of the surrounding structures (Town of Poughkeepsie, Zoning § 33, 2007). Personal service and retail businesses as well as restaurants are permitted but cannot have drive-in’s or drive-thrus. Banks in the zone, however, can have drive-thrus (Town of Poughkeepsie, Zoning § 33, 2007). Libraries and offices are also allowed in this zone (Town of Poughkeepsie, Zoning § 33, 2007). Some notable special uses include bars and taverns, automobile repair shops, school age child care centers, and public pools (Town of Poughkeepsie, Zoning § 33, 2007). New construction must fit in with the existing structures (in terms of structural design, material use, etc.), major changes to the landscape should be avoided, and sidewalks 5+ feet in width and separated from the road by 5+ ft tree lawns are required (Town of Poughkeepsie, Zoning § 33, 2007). The maximum allowed impervious surface coverage in each section zoned as B-N is 75%, with buildings allowed to be no taller than 35 feet or 2.5 stories (Town of Poughkeepsie, Zoning § 33, 2007).

Highway Business zones fill the gap that Neighborhood Businesses leave, namely providing a place for “commercial establishments that typically require direct auto access to and visibility from a major arterial highway” (Town of Poughkeepsie, Zoning § 35, 2007). This zone is intended to be used for businesses that need to be along a highway arterial for “economic survival,” do not fit well into residential areas, and those that need “large amounts of land area for storage, parking and other site requirements” (Town of Poughkeepsie, Zoning § 35, 2007). Drive-in/thru services are allowed in this zone as well as nurseries and greenhouses, vegetable stands, supermarkets, and both indoor and outdoor recreational spaces (Town of Poughkeepsie,



Zoning § 35, 2007). Dispensaries, bars, and warehouses are granted special permission in this zone (Town of Poughkeepsie, Zoning § 35, 2007). Design guides state that the development of public parks, commons, or small pedestrian plazas with amenities such as benches and landscaping is encouraged along with the reuse of structures already in place. Sidewalks should link and be 5+ feet in width (Town of Poughkeepsie, Zoning § 33, 2007).

When walking past most of B-N and B-H, landscaping does little to soften the harshness of the turnpike much. The businesses that have made an effort to landscape small sections of their property closest to the sidewalk are the most pleasant to walk past. Many of them are using native plants in their landscaping, which is within the stated design standards but nonetheless nice to see. The smaller areas with these zones do not create or heavily influence traffic along

the turnpike, but there is one area of exception. The intersection between the Arlington Plaza, zoned as B-N, and Adams Family Faircare Farms, zoned as B-H, is a very heavily trafficked zone and has a high percentage of the total crashes along the study area. Many highly frequented businesses are located between both of these zones, including the CVS and Starbucks in Arlington Plaza and Adams, as a major employer and supermarket in the area.

Just past the Adams commercial center, within the same clump of B-H zoning, lies our first catalyst zone. This area currently has an empty lot, some unused storefronts, and an abandoned diner. There are some functioning businesses in this area, such as a Walgreens, Dunkin Donuts, and gas station. This area could become another hub of activity along the Dutchess Turnpike, breaking up the seemingly open stretch of road between Adams and Eastdale.



Image: Arlington Animal Hospital parking lot and building as seen from Dutchess Turnpike



Image: Medical strip mall to the west of Arlington Plaza, zoned as B-N.

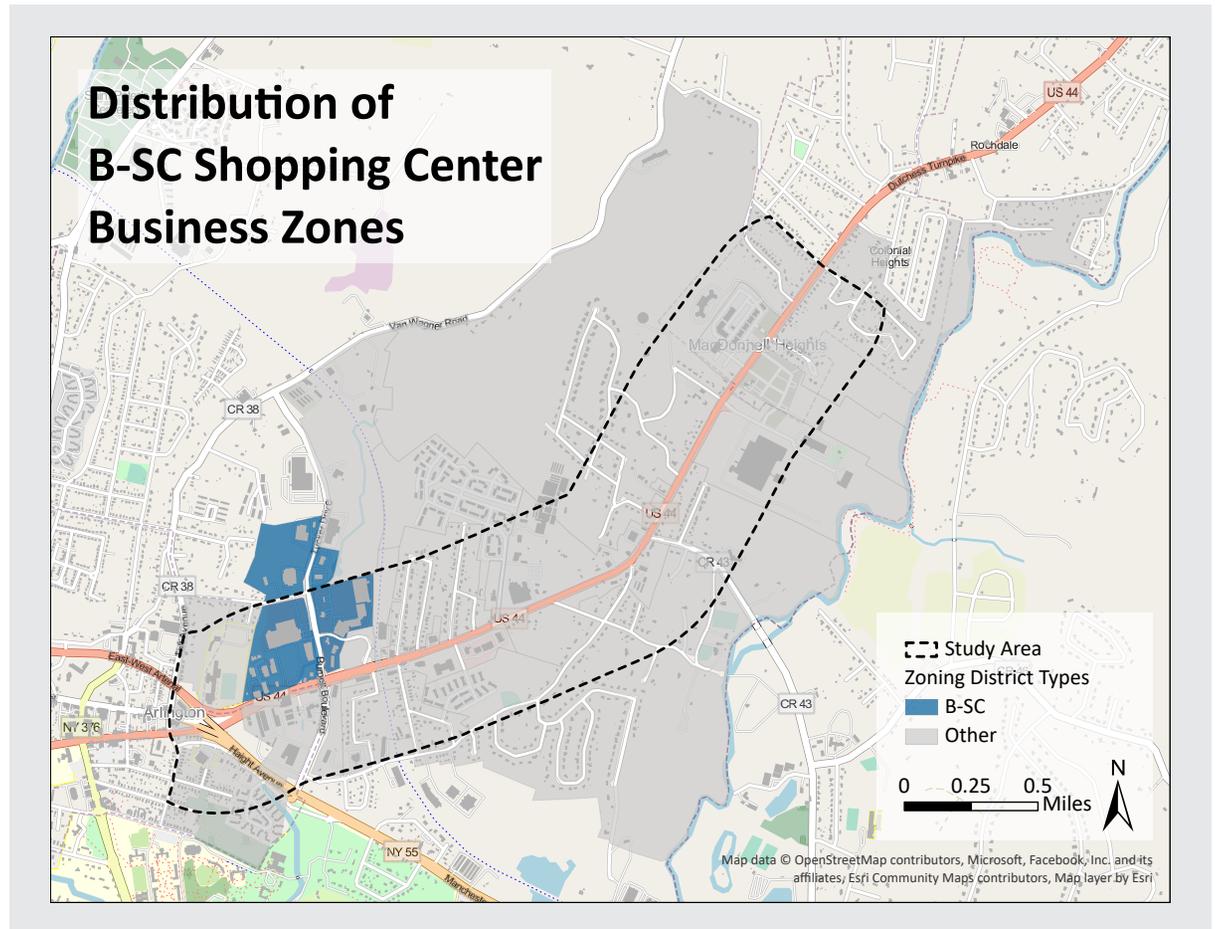


Image: Laundromat and cleaners businesses along the Dutchess Turnpike, zoned as B-N



Image: landscaped front of Arlington Auto & Tire business, as seen from the Dutchess Turnpike

The third business zone, **Shopping Center Business (B-SC)**, is an important one within our study area because the abandoned Dutchess Plaza, identified as a catalyst zone by our group, lies within an area zoned as B-SC. There are only two areas that have this zoning in the study area – the Dutchess Center and Plaza 44. B-SC zones exist to “provide locations suited to the requirements of multi community or regional shopping” (Town of Poughkeepsie, Zoning § 36, 2007). The purpose statement also directly mentions that these business centers rely heavily on automobile traffic and therefore must be located in areas where the traffic they produce will not cause issues. The permitted and special uses include most of what is allowed in B-N and B-H zones, with the notable inclusion of outdoor dining facilities (Town of Poughkeepsie, Zoning § 33, 2007). The Town of Poughkeepsie Zoning descriptions have a lengthy description of design standards for B-SC zones. First, landscaped buffers should be created around every lot, except when the side of a lot borders a residential property. Parking spaces should be broken up into 20 spot maximum sections, the space should prioritize pedestrian comfort, avoid or disguise flat roofs, and “all parking islands must be generously landscaped with native vegetation.” The zoning description also encourages commercial developments to have “small green spaces, courts, squares, parks, plazas, and similar spaces that can also function as community gathering places to provide transitions and ensure compatibility with surrounding noncommercial uses” as well as for this zone to include “parks, commons, or small pedestrian plazas with amenities such as benches and landscaping” (Town of Poughkeepsie, Zoning § 33, 2007). When thinking of how to transform the study area into an area that invites a sense of place rather than a corridor to pass through, these



guidelines within the B-SC zone create opportunity for our reimagings.

The Dutchess Plaza, in its current state, is used mostly as a zone to drive through to bypass the Burnett Boulevard-Dutchess Turnpike intersection. Within the past 5 years the K-Mart and other businesses within the two main buildings in the lot have closed or moved locations. This past year the old K-Mart building was demolished, making the lot feel larger and emptier than before. It was an eerie experience walking through the large, mostly uninterrupted, lot. The other building still stands, with mostly empty storefronts. There appears to be electricity and plumbing systems within the buildings

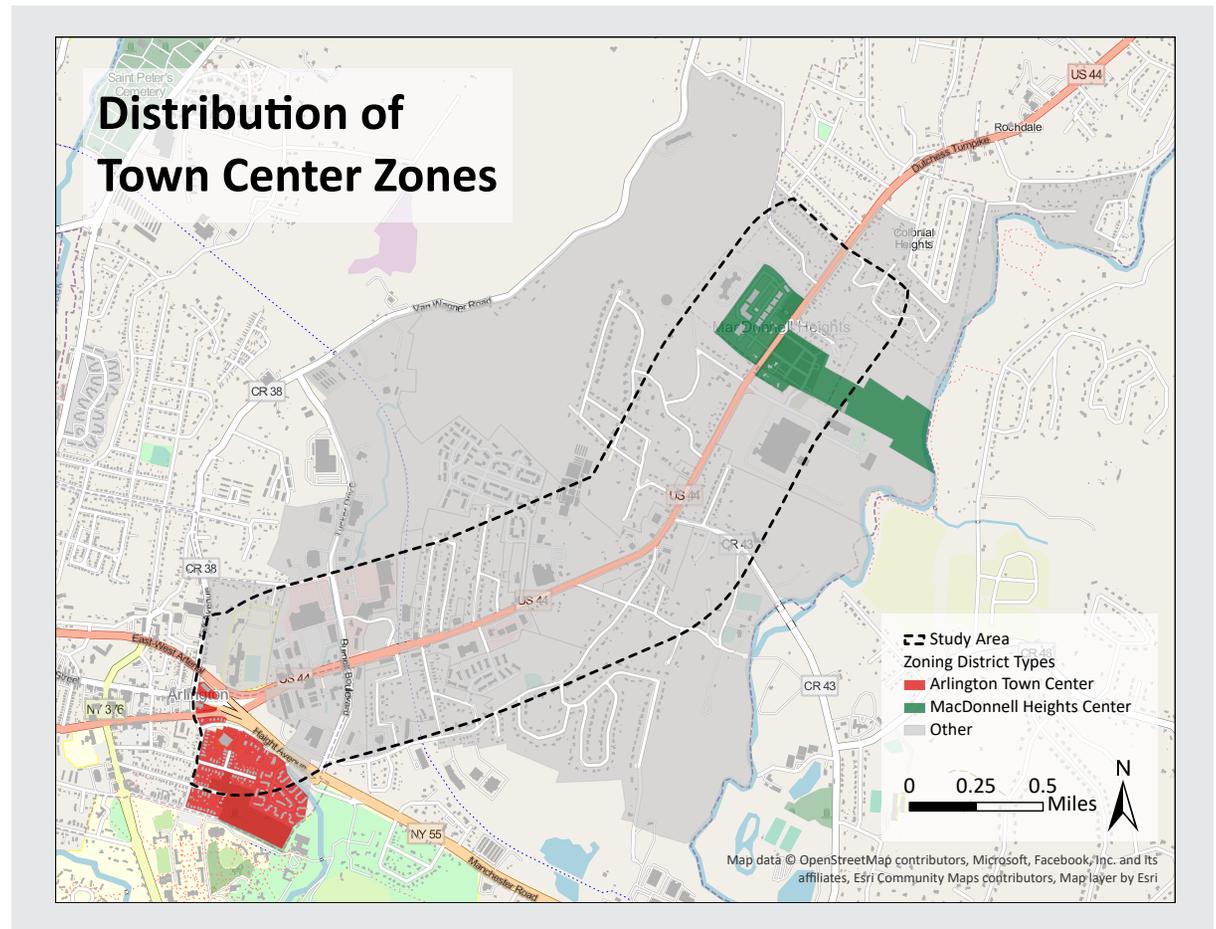
still, in addition to flooring and ceilings. Because of its current state of minimal use, the Dutchess Plaza is another catalyst zone within our study area. The longer these storefronts are left empty, the further they will fall into disrepair. Right now there is large potential for various uses

in this space, such as transforming it into a green space and/or creating a comfortable outdoor dining area. For these reasons, it is in the Town's best interest to redevelop this area in the next few years.



Images: Shopping Center Business Dutchess Center Plaza (B-SC) in Study Area: Abandoned Dutchess Center Plaza

The final zoning category, **town centers**, is one that we find to be extremely beneficial for the creation of people-centered areas. Arlington Town Center (ATC) is the first town center zone in the study area. This zone exists in the southwestern corner of the study area, with its northern boundary being the start of the Dutchess Turnpike and its eastern boundary being Route 55. The purpose of this zone is to promote integrated residential and commercial land use, create a prominent positioning of civic buildings and central green spaces in order to enhance community identity and public interaction, promote pedestrian activity through a safe and walkable environment, and minimize the visual impact of the automobile by managing the placement and screening/landscaping of parking areas (Town of Poughkeepsie, Zoning § 22, 2007). Through this, an interconnected street system for both pedestrian and vehicular traffic should emerge. When looking at the northern area of Raymond Avenue and the side streets that sit to the north of Vassar College, this vision does emerge. The permitted and special uses within this zone encapsulate much of the residential and business zones, with the exclusion of warehouses (Town of Poughkeepsie, Zoning § 22, 2007). Design standards require mixed use, no single story buildings, maintenance of shrubbery and trees to improve automobile visibility, and sidewalk trees that are resilient to salt (Town of Poughkeepsie, Zoning § 22, 2007). There are also stipulations in place for reduced parking requirements which were not stated in previous zoning regulations (Town of Poughkeepsie, Zoning § 22, 2007). ATC zones are allowed to have up to 95% impervious surfaces with buildings a maximum of 45 feet or 3 stories tall or 75 feet or 5 stories with special permission (Town of Poughkeepsie, Zoning § 22, 2007). This area has been in place for



a number of decades, but there is a new town center zone within our study area that is more connected to the issues we will be discussing in this report.

The MacDonnell Heights Center (MTC) zone is located where Eastdale now exists. The zone was created to accommodate “the emerging mixed-use center” (Town of Poughkeepsie, Zoning § 27, 2007). This area was previously the Frank Brothers Farm property but over the past several years it has become a thriving residential and commercial area. Other purposes of this zone include promoting mixed-use for an

integrated community, promoting pedestrian activity through walkable streets and creating an interconnected street system, minimizing visual impact of cars, creating a critical mass of employees, shoppers and residents within close proximity, providing public gathering spaces, and preserving natural and historic spaces to “enhance a sense of place, greenway connections and natural edge conditions” (Town of Poughkeepsie, Zoning § 27, 2007). The permitted and special uses are essentially the same as the Arlington Town Center (Town of Poughkeepsie, Zoning § 27, 2007). Maximum impervious surface coverage varies through this zone, being as low as 60% for detached single-family units and as high as 100% for nonresidential or mixed use structures that are attached units (Town of Poughkeepsie, Zoning § 27, 2007). Similarly, maximum building height varies, with 28 feet or 2 stories for detached single-family units being the lowest and 50 feet or 4 stories for nonresidential or mixed use structures as attached

units being the highest (Town of Poughkeepsie, Zoning § 27, 2007). It is notable to mention that neither of these town centers are required to have affordable housing according to the Town zoning policies.

Eastdale is the most comfortable place within the study area to be a pedestrian. There are wide sidewalks and inviting storefronts throughout the area. Despite this, Eastdale still feels scaled to automobiles rather than people. The parking lots do not have sidewalks within them and don’t feel adequately broken up by green spaces, making them almost hostile towards pedestrians. The contrast between the design of the buildings and landscape within Eastdale and the rest of the study area can be jarring and feels somewhat artificial. That being said, it feels much safer to be a pedestrian in Eastdale compared to most other parts of the study area.



Images: Eastdale Village Development

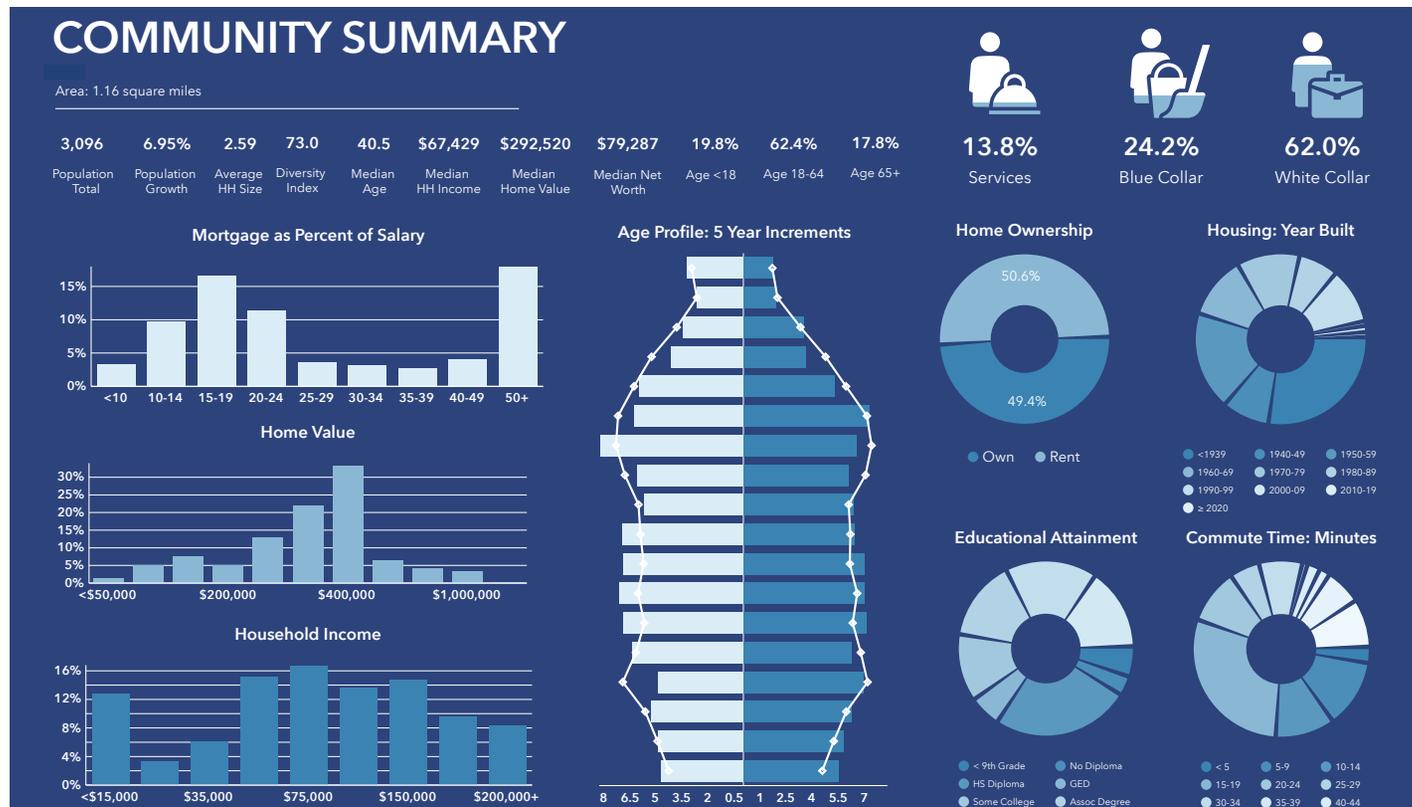
The **Office Research (O-R) and Heavy Industry (I-H) zones** can be found in two places along the Dutchess Turnpike within the study area. Their importance is less about what can be built on these zones, because we will likely not be advocating for changing these zoning designations or what is currently built on them, but mainly because of the traffic they generate. An O-R zone is found next to the Arlington Town Center zone, in the south-western corner of the study area. This area contains the Arlington Fire District, the Town of Poughkeepsie Transportation Department, the Dutchess County Traffic Safety building, and the Town of Poughkeepsie Recreation building. This indicates that there is likely a high traffic volume of government sponsored vehicles in this area that may mobilize in groups. Because of this, this area of Burnett Boulevard and the Dutchess Turnpike needs

to be able to accommodate this sudden influx of traffic, in particular fire trucks and police cars which require civilian cars to move to the side of the roads.

The I-H zone is located in the north-eastern quadrant of the study area, to the west of Eastdale. Within this zone is a large industrial park which likely generates a lot of truck traffic. This makes the main intersection within Eastdale quite noisy. It also means that the Dutchess Turnpike along this area needs to be able to accommodate large trucks on the road that are turning in and out of both the industrial park and Eastdale. An analysis of pollution generated by the industrial park should also be conducted to see how it affects Creekside Park and the Wappingers Creek, which are located right next to the industrial park.

### III. Demographics

We used US Census Data from 2010 and 2020, ACS 2017-2021 data, and ESRI projections of 2023 and 2023-2028 data for our demographic information. We have created a series of comparative and analytical tables, graphs, and maps condensing pertinent demographic information relating to population and housing unit totals, racial and ethnic composition, and socioeconomic composition. We also looked at population characteristics in the study area, focusing on civilian occupation/industry, education, civilian health and health insurance coverage, and place of work, means of transportation and travel time.



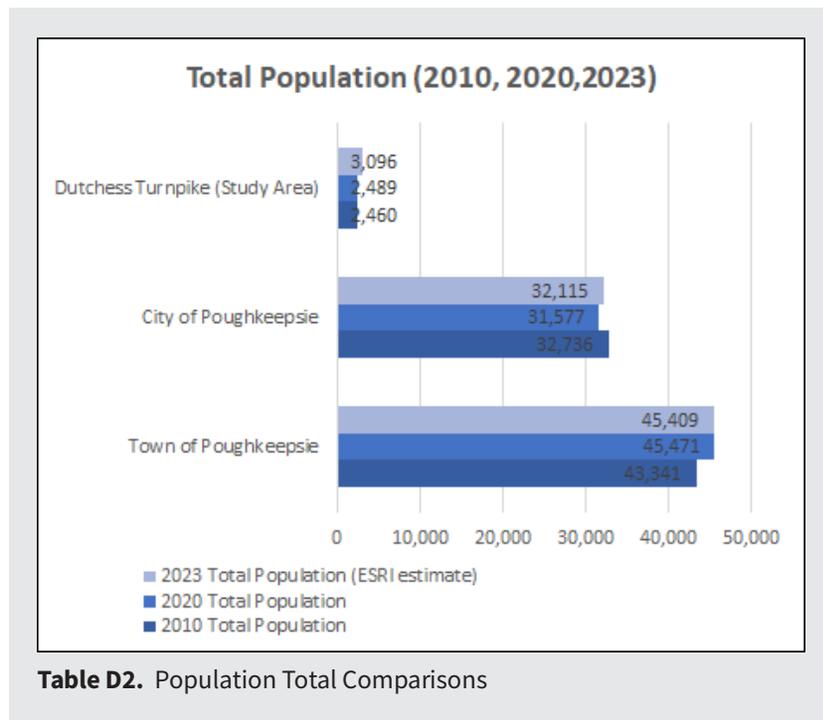
**Figure D1.** Dutchess Turnpike Study Area Community Summary Infographic generated by ArcGIS Online Community Analyst Tool

## Population Totals

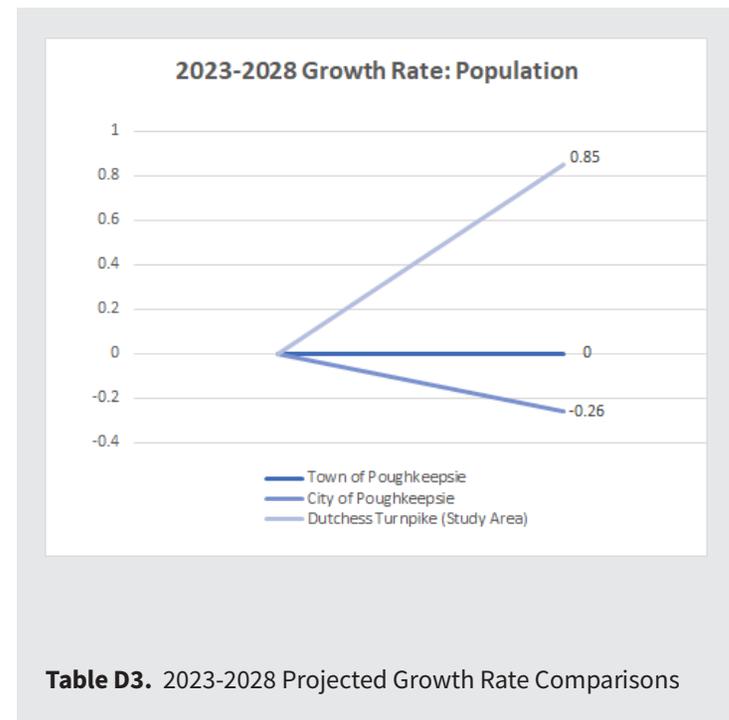
The Dutchess Turnpike Study area has had a steady increase in population since 2010 that differs from the population growth trends of the City and Town. Significant to note is the rapid growth of the population between 2020 and 2023 and the large projected growth (as compared to the City and Town whole). We can likely account this to the new large-scale housing development of Eastdale Village within our study area, which according to their website, hosts over 400 apartments (Eastdale Village).

**Table D1.** 2010, 2020, and 2023 and Projected 2023-2028 Population Totals

	2010 Total Population	2020 Total Population	2023 Total Population (ESRI estimate)	Projected Growth (percentage)
Town of Poughkeepsie	43,341	45,471	45,409	0.00%
City of Poughkeepsie	32,736	31,577	32,115	-0.26%
Dutchess Turnpike (Study Area)	2,460	2,489	3,096	0.85%



**Table D2.** Population Total Comparisons



**Table D3.** 2023-2028 Projected Growth Rate Comparisons

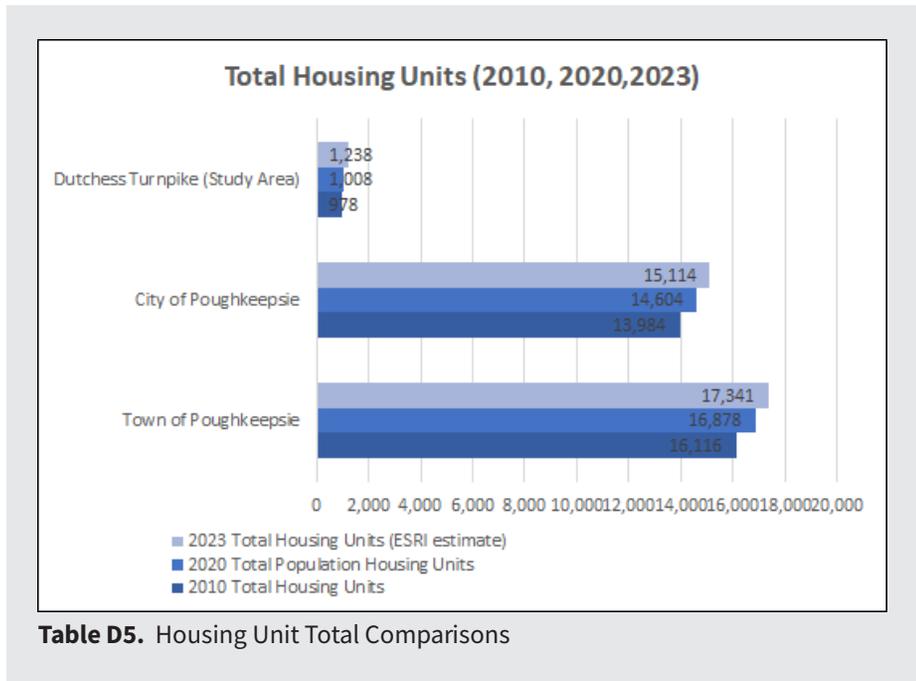
## Housing Unit Totals

We can see an increase in the number of housing units generally in the study area and the town and city of Poughkeepsie. The growth rate of housing units in the study area, however, is very significant proportionally to the existing housing units in the study area.

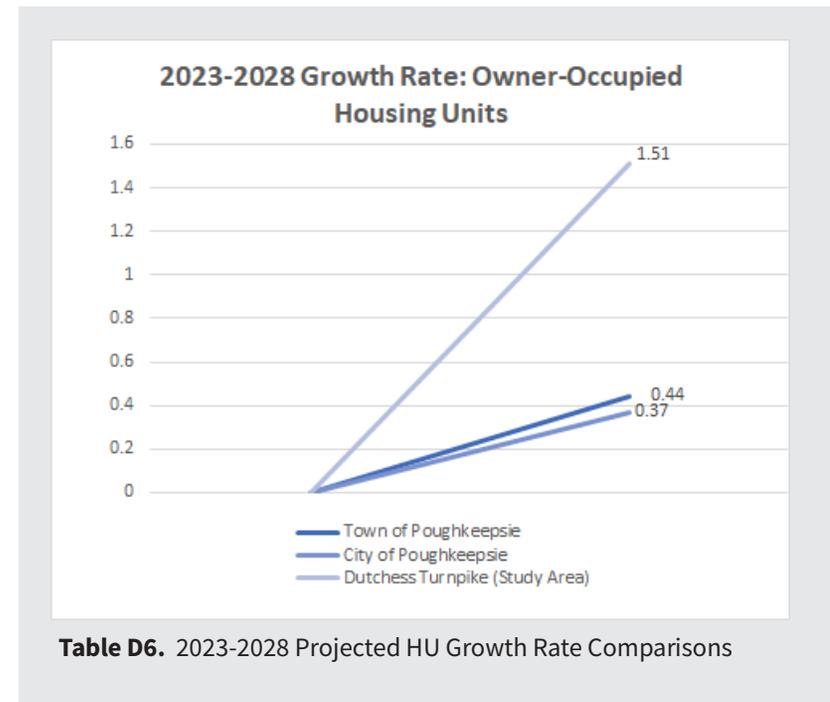
The rapid increase in number of housing units in our study area points to the importance of the Dutchess Turnpike as a space for planned redevelopment. Because in recent years, the Dutchess Turnpike has grown and will continue to grow significantly in population and in housing unit number, the study of the Dutchess Turnpike’s revitalization is pertinent for Poughkeepsie’s liveability and connectivity.

**Table D4.** 2010, 2020, and 2023 Housing Unit Totals and Projected 2023-2028 Owner-Occupied Housing Unit Totals

	2010 Total Housing Units	2020 Total Population Housing Units	2023 Total Housing Units (ESRI estimate)	Projected Growth of Owner-Occupied Housing Units (percentage)
Town of Poughkeepsie	16,116	16,878	17,341	0.44%
City of Poughkeepsie	13,984	14,604	15,114	0.37%
Dutchess Turnpike (Study Area)	978	1,008	1,238	1.51%



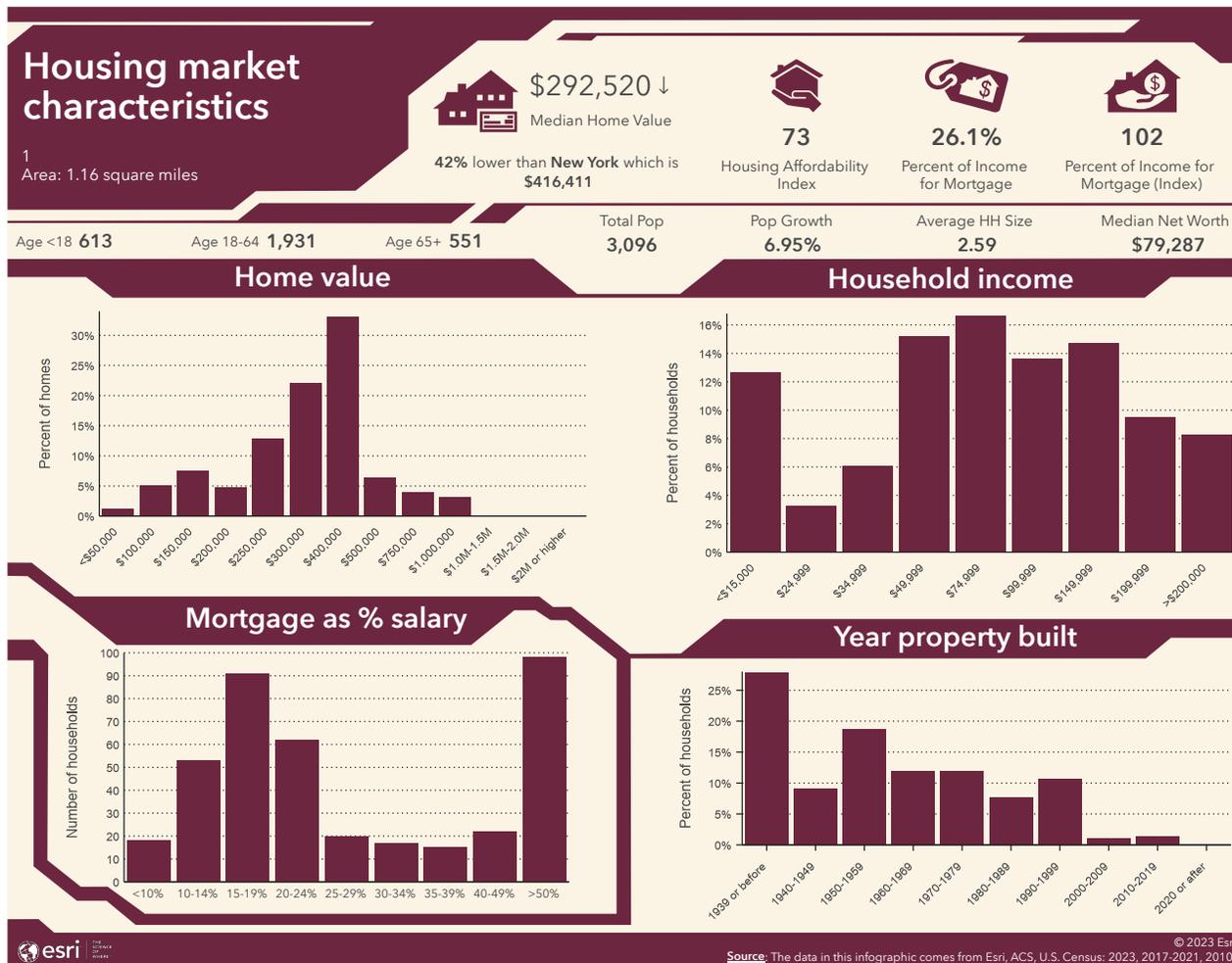
**Table D5.** Housing Unit Total Comparisons



**Table D6.** 2023-2028 Projected HU Growth Rate Comparisons

## Housing Market Characteristics

The following infographic provides us with look at the housing market characteristics in the study area. The 2023 median home value is \$292,520 which is significantly lower than the median home value of the overall Town of Poughkeepsie (\$328,691). Despite this, we can see that there exists high home value disparity with a bell curve in home value. The low housing affordability index of 73 indicates that buying a home is very difficult in this area, which we can see emphasized by the significant number of households that spend greater than 28% of their salary on mortgage (most banks recommend keeping mortgage payment under 28% of gross income). We can see that our study area is characterized by high levels of wealth disparity and home unaffordability, a problem that our future planning suggestions may look to address.



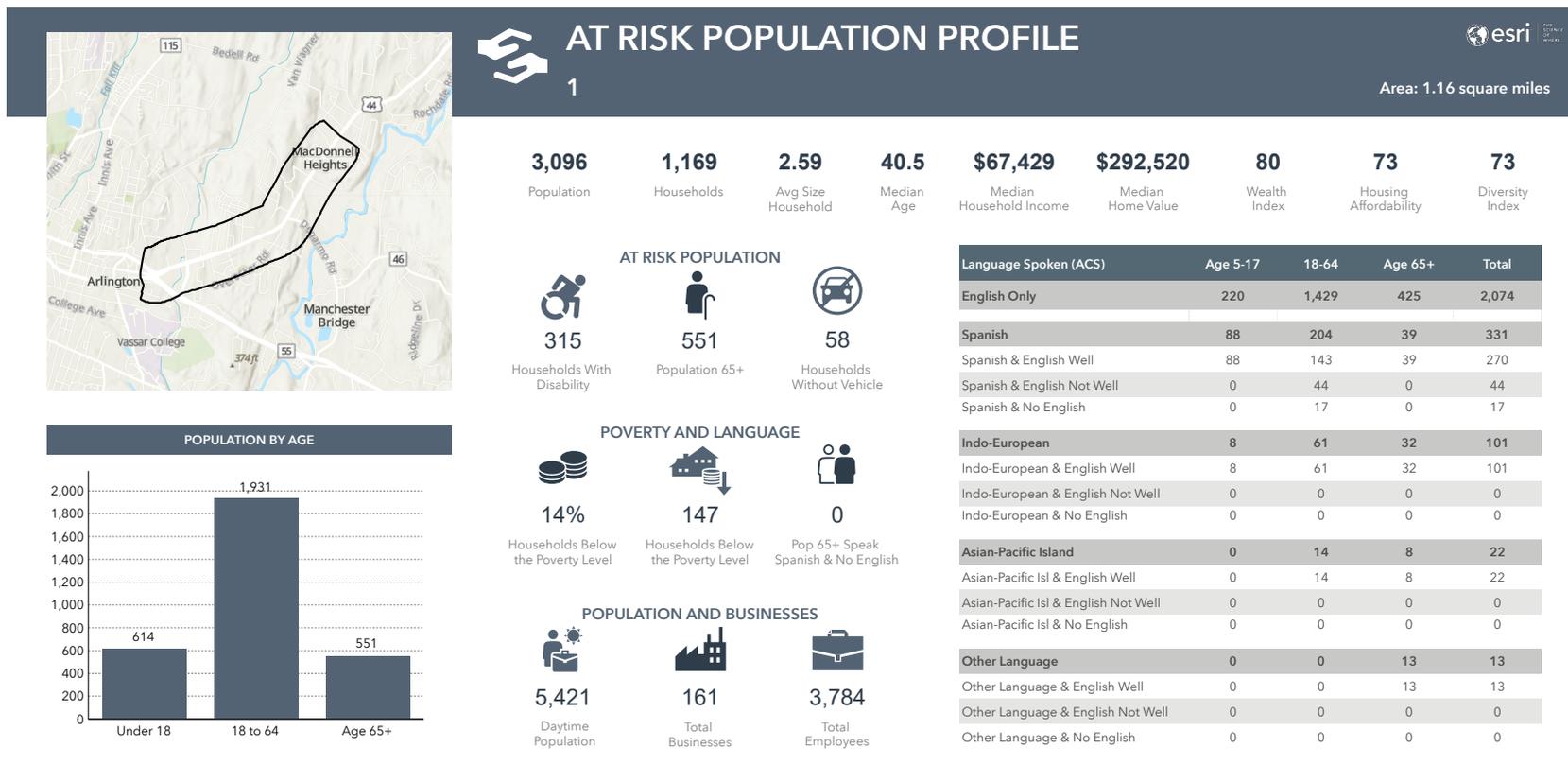
**Figure D2.** Dutchess Turnpike Study Area Housing Market Characteristics Infographic generated by ArcGIS Online Community Analyst Tool

## At Risk Populations within Study Area

The following infographic provides us with a comprehensive look at the statistics about the "at risk" or vulnerable populations within our study area.

We define "At Risk Populations" as populations who face greater health inequities at a systemic level. The Center for Control and Protection (CDC) calls the factors that lead to health inequities the "social determinants of health, which are defined as nonmedical factors that influence health outcomes. These determinants include poverty, unequal access to health care, lack of education, stigma, and racism.

In the following sections, we will go into deeper analysis of the racial and socioeconomic composition of our study area to better understand how and where the existing conditions of the turnpike may disproportionately affect individuals residing in our study area.



Source: Esri, ACS, Esri-Data Axle, Esri forecasts for 2023, 2028, 2017-2021.

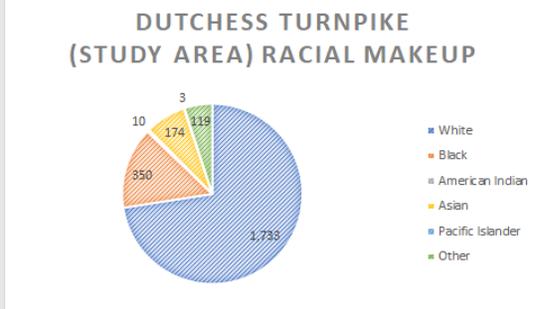
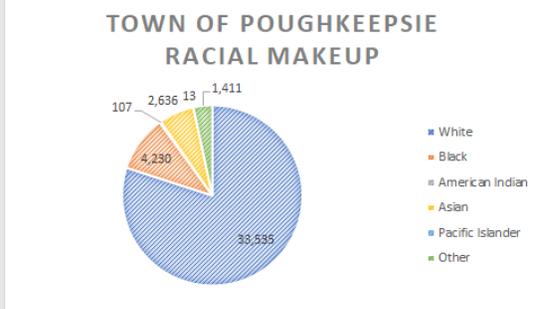
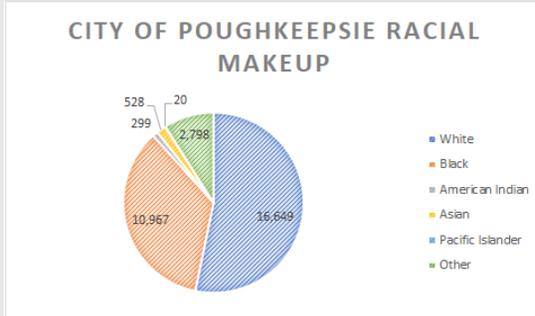
© 2023 Esri

**Figure D3.** Dutchess Turnpike Study Area At Risk Population Profile Infographic generated by ArcGIS Online Community Analyst Tool

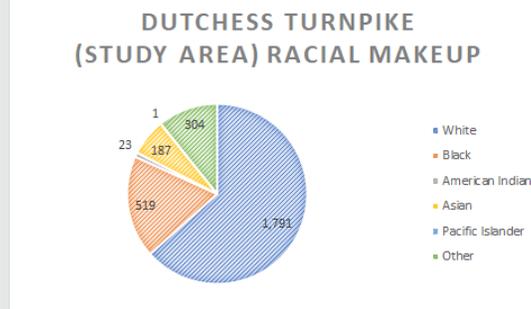
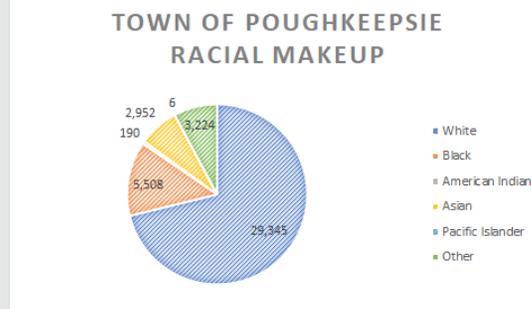
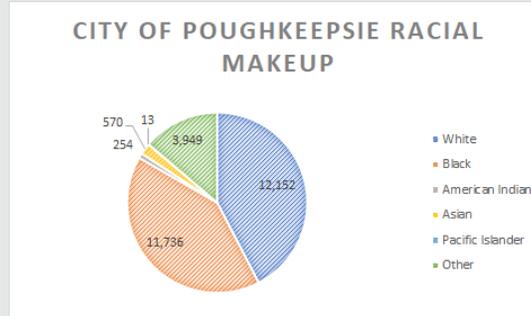
## Racial Composition

We can see by the comparison of Figures D5-D7 that the study area, like the rest of Poughkeepsie, is becoming more racially diverse from 2010 to 2028.

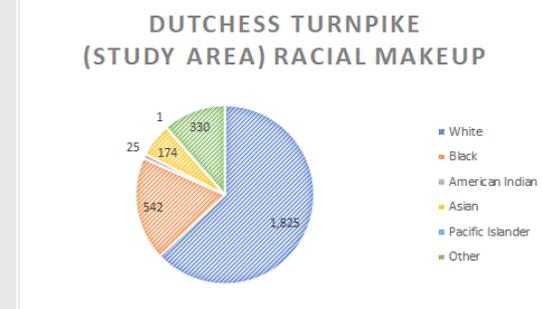
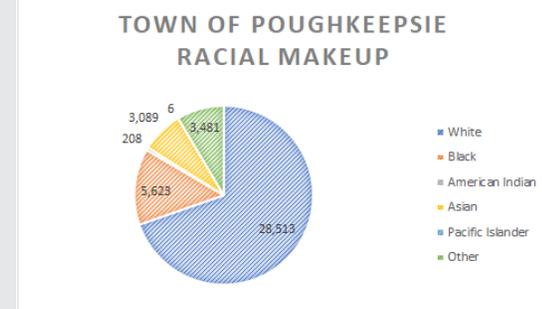
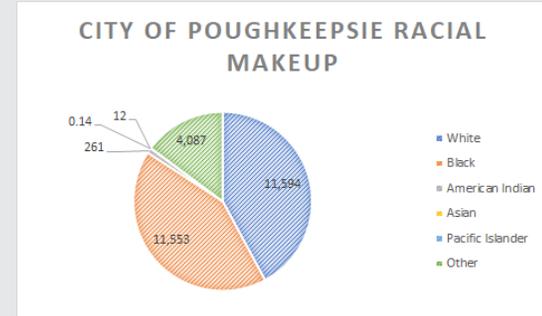
We must prioritize the health and safety of BIPOC communities who have historically been disproportionately affected by poor conditions of the built environment. The increased racial diversity of our study area calls for increased attention to the revitalization of the study area.



**Table D7.** 2010 Racial Makeup Comparison



**Table D8.** 2023 Racial Makeup Comparison

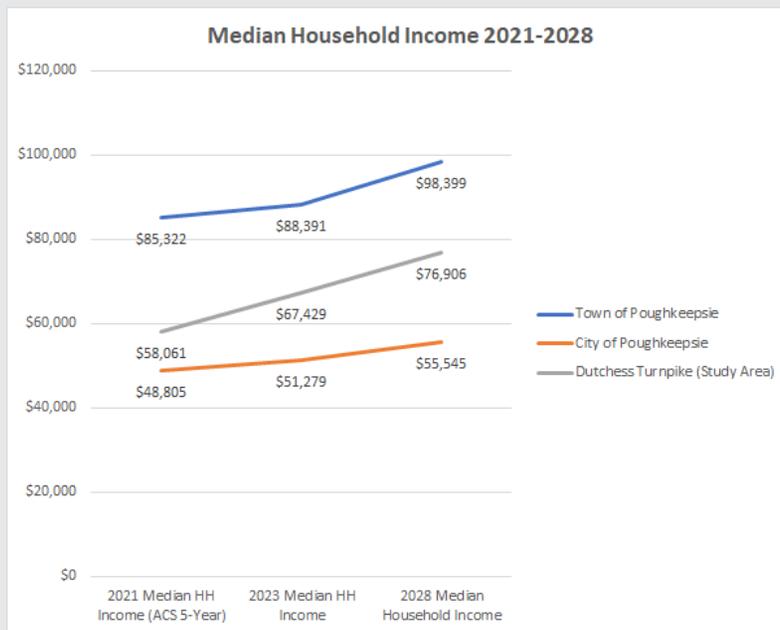


**Table D9.** 2028 Racial Makeup Comparison

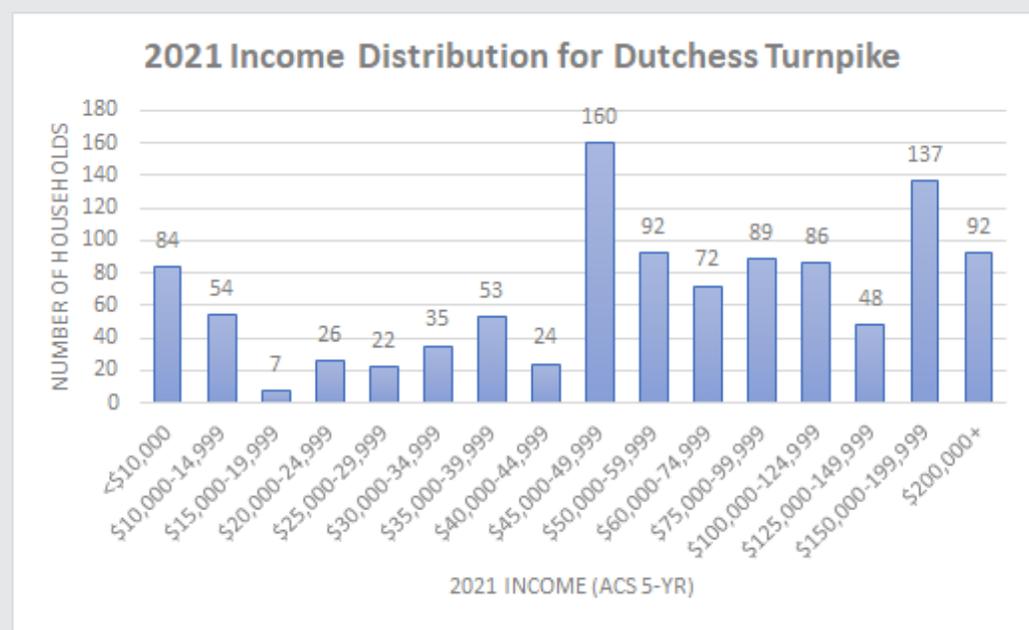
## Socioeconomic Composition and Distribution

The median income for our study area was 2021 was \$58,061 and is projected to grow according to ESRI projections. As we can see by the graphs, this median income is above that of the City of Poughkeepsie but lower than the Town of Poughkeepsie. The median income of the Dutchess Turnpike is also lower than the national average of 2021 which was \$76,330 (ACS 5-Yr, 2021). Interesting to note in Table D10. is that median income projected growth line is projected to be the most steep within our study area, compared to the other geographical regions, which we may conclude to be as a result of the "middle-income" housing development of Eastdale Village.

But as we can see Table D11., the median income is a poor representation of the overall area because there exists a significant distribution of household incomes along the Dutchess Turnpike study area. Despite the limited area of the study, there exists vast income disparities. We looked to map these income disparities to plan our recommendations paying attention to socioeconomic vulnerability and need.



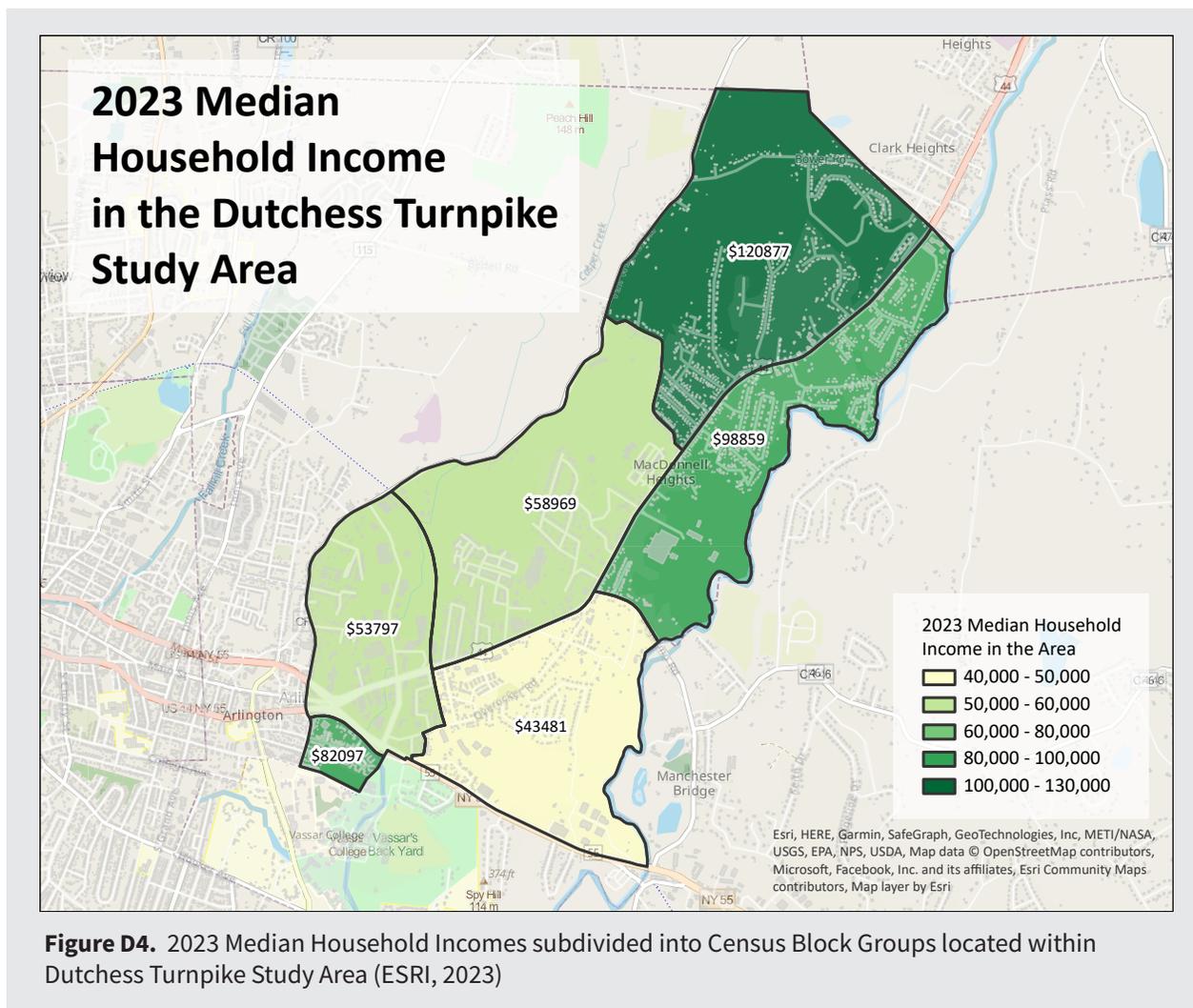
**Table D10.** 2021-2028 Median Household Income Comparison



**Table D11.** 2021 Income Distribution for Dutchess Turnpike Study Area

We mapped out 2023 Median Household Incomes according to census blocks within our study area to obtain a greater understanding of the geographic distribution of income. The Census Block groups within our study area are Block 360271402.011 with a median income of \$98,859, Block 360271402.012 with a median income of \$43,481, Block 360271402.021 with a median income of \$120,877, Block 360271402.022 with a median income of \$58,969, Block 360271403.012 with a median income of \$53,797, and Block 360274100.003 with a median income of \$82,097.

As we can see in Figure D4., the median income is lowest on the western section of the Turnpike. In our future planning recommendations, we will keep the large income disparities between geographic census block groups in the study area in mind. We will look to focus our attention in improving areas with a greater socioeconomic need.

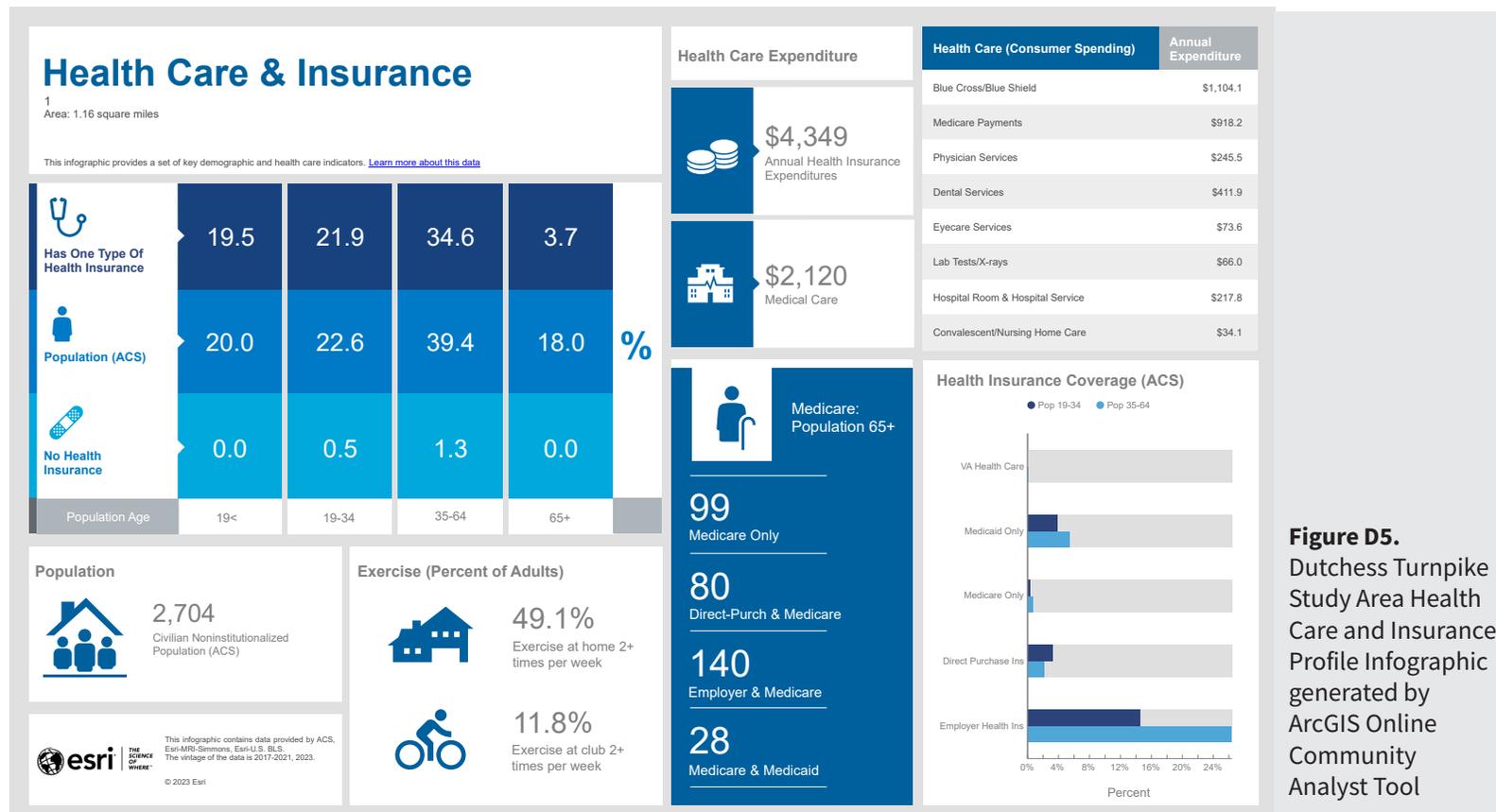


## Health

The following infographic shows us the population with health insurance and health care expenditures of the population. Most of the population is covered by health care insurance.

Furthermore, when we observed the study area, we saw a prevalence of medical practices alongside the Dutchess Turnpike corridor with an urgent care and various specialized physician and dentistry practices.

According to this information, health care and health coverage do not seem to be an area of need in our study area, although further research may call for looking into the types of injuries/illnesses encountered by residents in the study area to find if, and what, aspects of the built environment contribute to poor health outcomes.

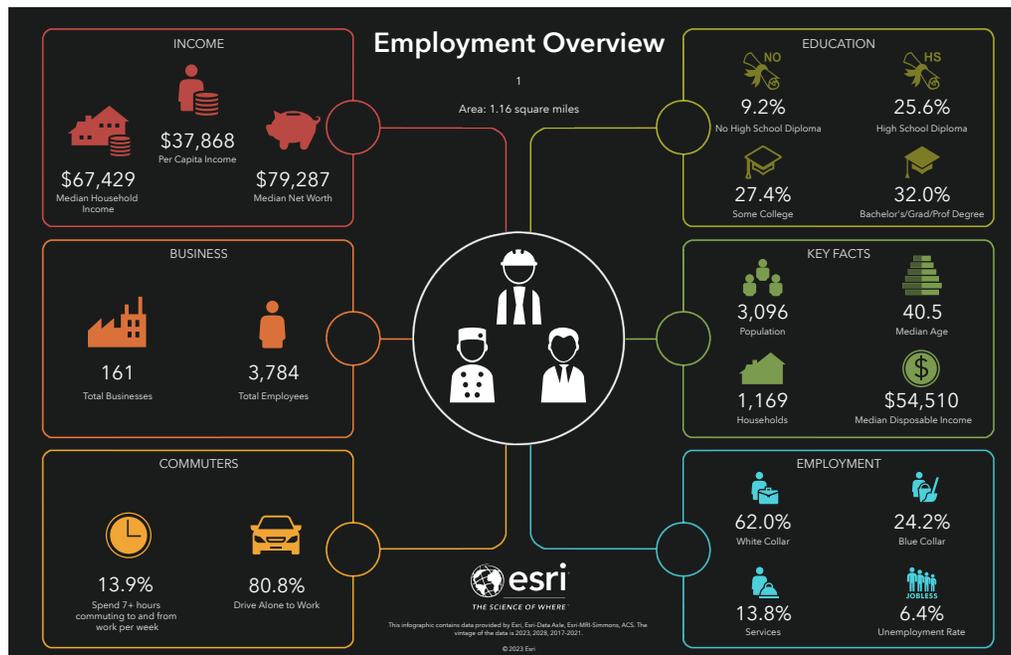


**Figure D5.** Dutchess Turnpike Study Area Health Care and Insurance Profile Infographic generated by ArcGIS Online Community Analyst Tool

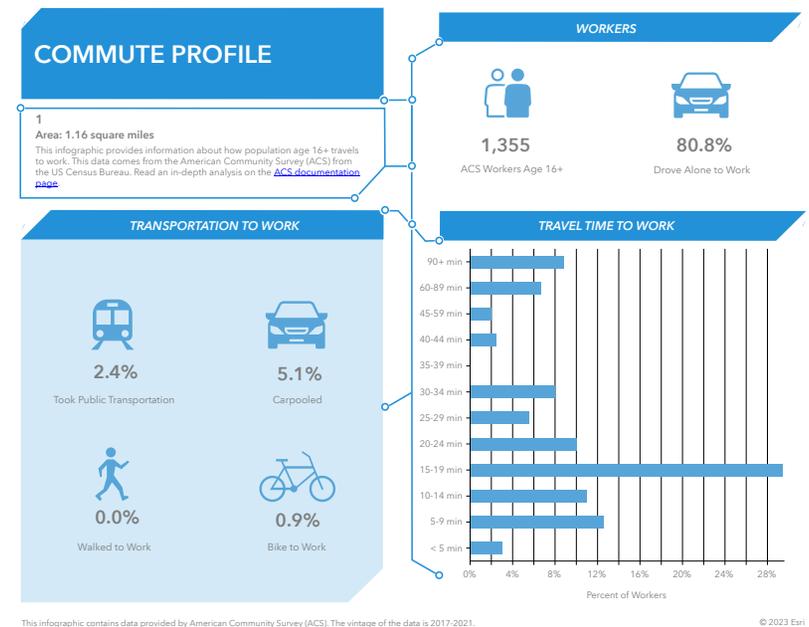
## Occupation and Commute

The following infographics provides a general employment and commuting overview. Most of the residents within our study area (62%) are white-collar workers and 6.4% are unemployed. Most of the commuters living in the area drive alone to work.

As we can see in Figure D7., there is a significant percentage of the population that has a commute time of under 20 minutes. This tells us that better public transportation infrastructure and networks can be utilized by the population. Right now, only 2.4% of individuals use public transportation but our future planning and urban design measures can work to increase this percentage.



**Figure D6.** Dutchess Turnpike Study Area Employment Overview Infographic generated by ArcGIS Online Community Analyst Tool



**Figure D7.** Dutchess Turnpike Study Area Commute Profile Infographic generated by ArcGIS Online Community Analyst Tool

## IV. Transportation

In this section, we will investigate the existing transportation conditions of the study area. We will first study the formation and situation on the roads in the target region; then, evaluate the walkability and bikeability of these roads and consider their users' experiences; next, inspect existing public transit services and surrounding communities' access to them; and finally, analyze the traffic patterns, car crash data, and examine the safety of people within this zone.

### *Information on Roads and their Walkability & Bikeability*

#### **The Dutchess Turnpike (U.S. Route 44)**

The Dutchess Turnpike is the biggest and only corridor that runs through the study region. Therefore, learning about how it is used is the core of our study. We have discovered that the Dutchess Turnpike features three distinctive sections, as revealed by Tables T1 and T2.

#### **Other Adjacent Roads**

On both sides of the Dutchess Turnpike, many smaller roads connecting to residential neighborhoods, companies, factories, or small businesses can be found. They are mostly 30-ft wide, in two lanes, but sidewalks, crosswalks, and bike lanes are non-existent. An example of this is given in the pictures below. Moreover, these roads are poorly planned and organized, as they are not interconnected and form no network; instead, they pop out randomly along the Dutchess Turnpike, which is the only way for residents to move in and out of this region, resulting in unnecessarily high pressure of traffic and commute on the turnpike as the main corridor. The only exception in which high-quality, safe, and complete streets are provided to local people is within the Eastdale Village, also shown in the collection of images to the right.



**Figure T1 and T2.** Dublin Lane in Overocker Park



**Figure T3.** Eastdale Ave

**Table T1: Road Features of Three Sections of the Dutchess Turnpike**

	Section 1	Section 2	Section 3
<b>Location</b>	Arthur May School to Longview Rd	Longview Rd to Victory Ln	Victory Ln to the end of Eastdale Development
<b>Length</b>	0.5 mile	1.15 miles	0.4 mile
<b>Sidewalk availability and information</b>	Yes, on both sides of the turnpike. Width: 7-10 ft. Poorly separated from the road lanes only by 2-4 ft curbs.	None, except from Longview Rd to Cherry Hill Dr, for 0.25 mile on the south side. The 8-10 ft wide curbs are used as sidewalks.	Yes, on both sides of the turnpike. Width: sidewalks are more than 25 ft near the Eastdale Ave and are effectively separated from the road using light poles, trees, roadside parking zones, and the raised curb; 7-10 ft for the rest.
<b>Crosswalk availability and information</b>	Only at the Burnett Blvd & Dutchess Turnpike intersection; available on only three sides of the four. Unavailable elsewhere.	Only at the Cherry Hill Dr & Dutchess Turnpike intersection; available on only two sides of the four. Unavailable elsewhere.	Only in the Eastdale Village development area where crosswalks are very well established. Unavailable elsewhere.
<b>Road width and components</b>	Generally 68 ft, 4 lanes. Increases to 82 ft, 6 lanes at intersection with Burnett Blvd. Curbs: 2-4 ft.	Mostly 40 ft, 2 lanes with 8-10 ft curbs. Increases to 47 ft, 3 lanes at intersections.	Mostly 40 ft, 2 lanes with 8-10 ft curbs. Increases to 50 ft, 4 lanes near the intersection with Eastdale Ave, where curbs were reduced to 2 ft wide but street-side parking is introduced there.
<b>Speed limit, sign visibility, and vehicle speed</b>	Speed limit is 30 mph but there are no speed limit signs. The 85th% speed of vehicles is 45.4 mph in 2022.	Speed limit is 40 mph but there are no speed limit signs. The 85th% speed of vehicles is 48.8 mph in 2022.	Speed limit is 25 mph within Eastdale Village. Due to traffic lights at the Eastdale Ave intersection, vehicles travel significantly slower. Speed limit sign is installed, but only 150 ft from the intersection.
<b>Photo example</b>			

*The 85th% vehicle speed data and the speed limit information are contributed by the New York State Department of Transportation.*

**Table T1.** Road Features of the Three Sections of Dutchess Turnpike.

**Table T2: Existing Infrastructure and Categorization of Intersections on Dutchess Turnpike**

Intersecting Road Name From West to East	At this intersection, is it... / are there...					Categorization (based on traffic volume)
	Traffic Control?	Crosswalks?	Sidewalks?	Accessible Ramps?	Well lit at night?	
<b>Burnett Blvd</b>	Lights for vehicles and pedestrians	3/4 sides	4/4 sides	4/4 sides	Fair	<b>Category I Intersection</b>
<b>Catskill Ave &amp; Peckham Rd</b>	Stop sign	2/4 sides	2/4 sides	4/4 sides	Fair	<b>Category III Intersection</b>
<b>Longview Rd</b>	Stop sign	None	2/4 sides	None	Fair	<b>Category III Intersection</b>
<b>Durocher Terrace &amp; Janet Dr</b>	Stop sign	None	1/4 sides	None	Fair	<b>Category III Intersection</b>
<b>Dorland Ave</b>	Stop sign	None	1/4 sides	None	Poor	<b>Category III Intersection</b>
<b>Cherry Hill Dr, Arlington Plaza, and Adam's</b>	Lights for vehicles and pedestrians	2/4 sides	2/4 sides	2/4 sides	Fair	<b>Category II Intersection</b>
<b>Overlook Rd</b>	Stop sign	None	None	None	Very bad	<b>Category III Intersection</b>
<b>Overrocker Rd</b>	Stop sign	None	None	None	Very bad	<b>Category II Intersection</b>
<b>De Garmo Rd</b>	Lights for vehicles only	None	None	None	Poor	<b>Category II Intersection</b>
<b>Ridge Rd</b>	Stop sign	None	None	None	Very bad	<b>Category III Intersection</b>
<b>Edwin Rd</b>	Stop sign	None	None	None	Very bad	<b>Category III Intersection</b>
<b>Barness Dr &amp; Victory Ln</b>	Lights for vehicles and pedestrians	4/4 sides	2/4 sides	4/4 sides	Poor	<b>Category II Intersection</b>
<b>Eastdale Ave</b>	Lights for vehicles and pedestrians	4/4 sides	4/4 sides	4/4 sides	Good	<b>Keep existing; improve vegetation coverage and biking facilities</b>
<b>Darrow Pl</b>	Stop sign	2/4 sides	2/4 sides	2/4 sides	Fair	<b>Category III Intersection</b>
<b>Concord Vlg Dr</b>	Stop sign	1/4 sides	1/4 sides	2/4 sides	Poor	<b>Category III Intersection</b>
<b>Thomas Ave</b>	Stop sign	None	None	None	Very bad	<b>Category III Intersection</b>
<b>James St &amp; Macdonnell Heights</b>	Stop sign	None	None	None	Very bad	<b>Category III Intersection</b>

**Photo Examples**

Intersection Category	I	II	III
	 <p><i>Example Location: Burnett &amp; Turnpike</i></p>	 <p><i>Example Location: Overrocker &amp; Turnpike</i></p>	 <p><i>Example Location: Edwin &amp; Turnpike</i></p>

**Table T2.** Existing Infrastructure and Categorization of Intersections on Dutchess Turnpike.

## **Walkability and Bikeability Summary**

Based on the information collected above, we conclude that the roads in our study region are not designed for the vulnerable users at all.

For pedestrians, significant inconsistencies are observed in sidewalks, crosswalks, speed limit signs, and all other infrastructure necessary to guarantee safe and pleasant walking experiences to them. When Jordan and Charlie conducted field visits, they were often honked at by cars when walking along the Dutchess Turnpike. This has happened especially constantly in Section 2 where there were no sidewalks.

## **Public Transit Availability**

Map T1. provides key information for our discussion.

### **Existing Routes and Services**

It is no secret that coverage of the bus system in Dutchess County is poor. In the study area, there are many residential zones and employment centers inaccessible by bus, as identified in the map above. Moreover, the existing bus services are highly unavailable: they are often not on time and the service frequency is low, resulting in long wait times.

Also, despite the buses operate on a “flag stop” system (which means they’ll pick up anyone along the route that waves at the bus), this service option is poorly advertised. Within the team of Turn the Pike LLC, none of the team members were aware of it until Ms. Emily Dozier, senior planner of the Dutchess County Transportation Council, explained it for them.

### **Bus stops**

Bus stops are not well marked at all for the most part in the study area, as revealed in the following images. All bus stops in the study area feature only a steel pole with a tiny “bus stop” logo on top. There are no benches or chairs for passengers to rest while waiting, and there is no shelter space for passengers to be inside under unideal weather

Bikers are put in an even more unfortunate position, as there has been a complete absence of bike lanes and racks. The only infrastructure designed (partially) for bikers is the Dutchess County Rail Trail, a mix-use pathway for bikers and pedestrians. Nonetheless, the Rail Trail is poorly connected to the rest of the study area: people using the Dutchess Turnpike need to take many detours – from the Turnpike to the Burnett Blvd, then onto the Love Rd, going pass more than a few poorly maintained cargo stations, trash dumps and abandoned sites – before they could reach the entrance to the Rail Trail.

conditions.

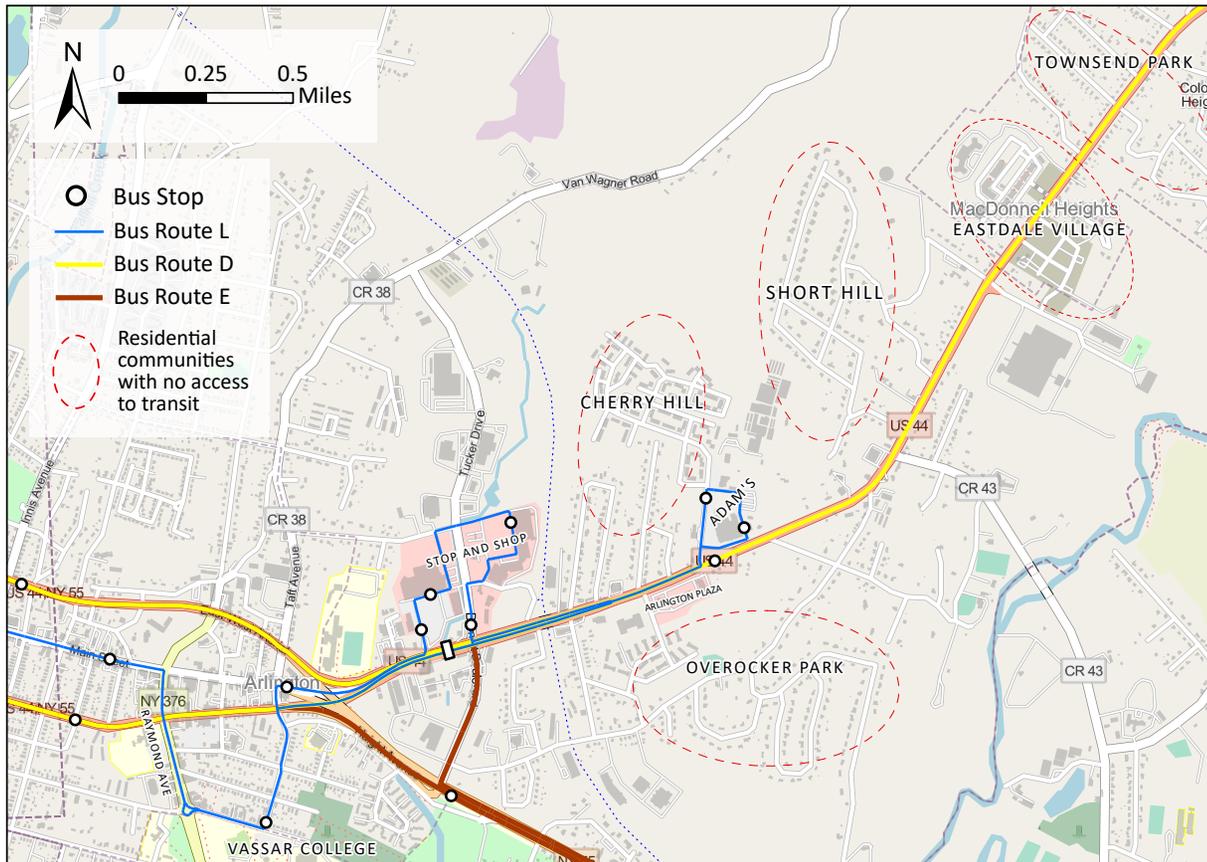
At Eastdale Village, shelters and benches are installed at bus stops. However, the lack of Dutchess County Public Transit signs and the especially low service frequency of Route D make the bus stop infrastructure completely unused by residents.

### **“Behind the Curtains” of our research**

During Jordan’s field visit, they tried to use the bus to go to Stop and Shop and CVS for a quick errand. It took them an hour and a half because the bus was late. Since the bus does not run frequently enough, they needed to walk up the turnpike to CVS and j-walk to get across the Dutchess Turnpike. They ended up missing the bus at Adams because the stops were not clearly labeled. They then had to hustle back down the turnpike to catch the next bus at Stop and Shop.

Due to these aforementioned reasons, the buses in Dutchess County have been suffering from low ridership and little revenue, which forms an unsustainable negative feedback cycle and further discourages future expansion of the existing network and increase of services.

# Public Transit Services on Dutchess Turnpike and Communities without access to them



Frequency of Bus Services	Route L	Route D	Route E
<b>Mondays to Fridays</b>	Every 30 minutes from either Adam's or Stop & Shop 30 services per day	Every 2-3 hours 8 services per day	Every 15 minutes in peak directions; every 1-3 hour(s) during other times 28 services per day
<b>Saturdays</b>			Every 30 minutes to 2 hours 22 services per day
<b>Sundays</b>	Every hour for all stations 8 services per day	No service	Every hour during peak 3 services per day

Created by: Turn the Pike LLC.  
 Transit data from the Dutchess County Transportation Council  
 Map data © OpenStreetMap contributors, Microsoft, Facebook, Inc. and its affiliates, Esri Community Maps contributors, Map layer by Esri

**Map T1.** Public Transit Services (DCG, 2023)



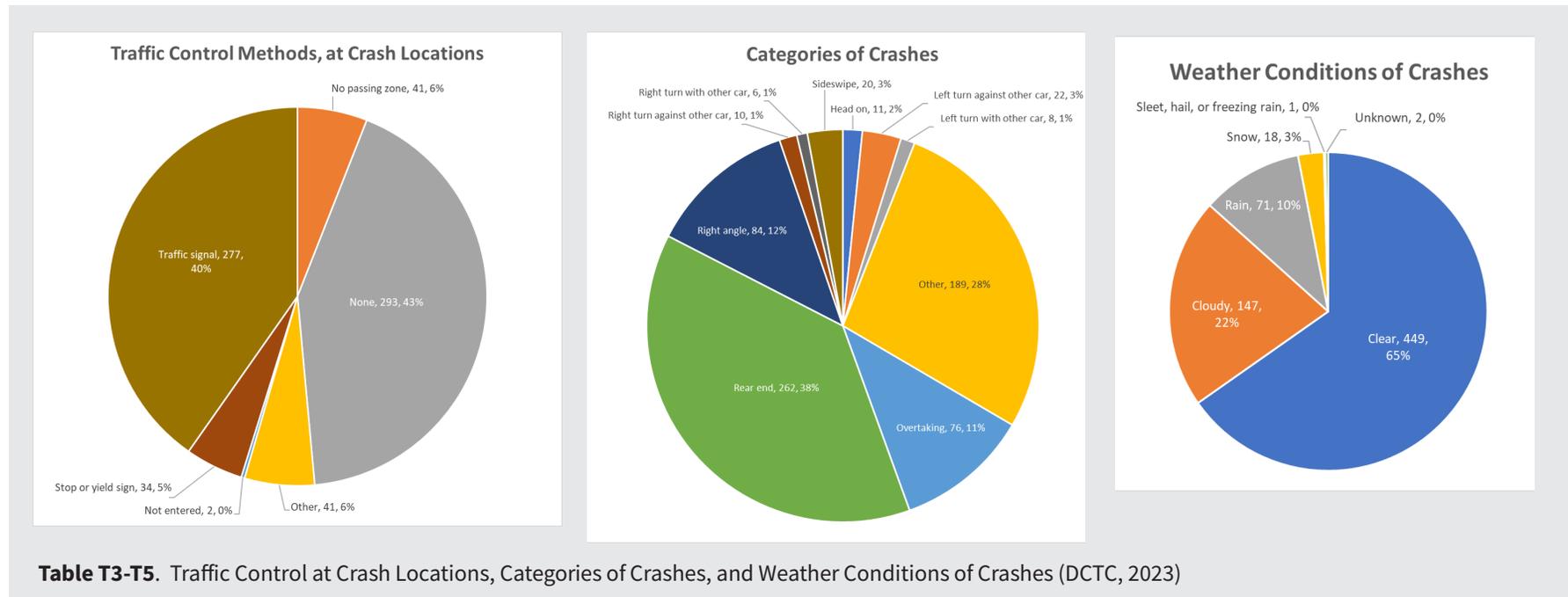
**Figure T4 & T5.** Bus Stops: Dutchess Turnpike-Burnett Blvd, and Stop & Shop

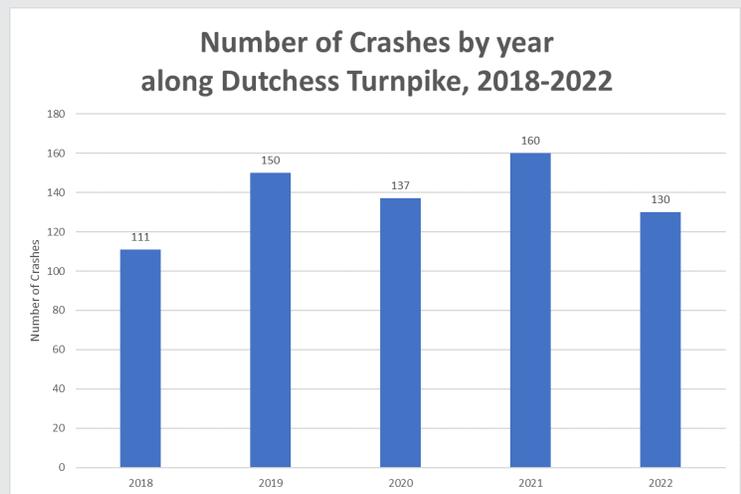
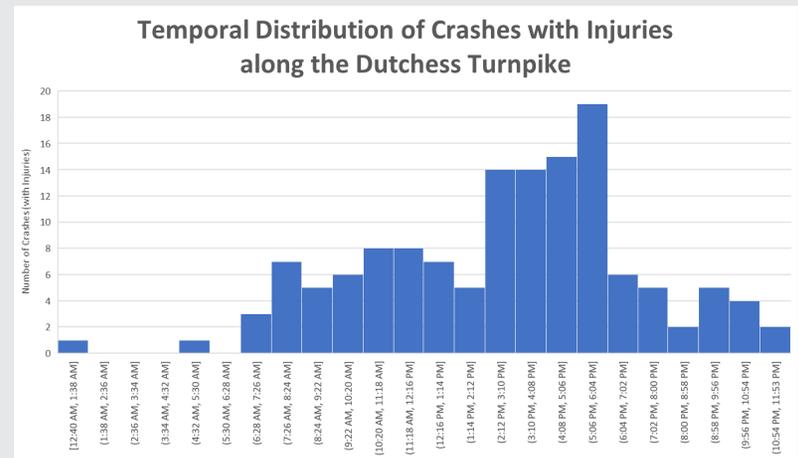
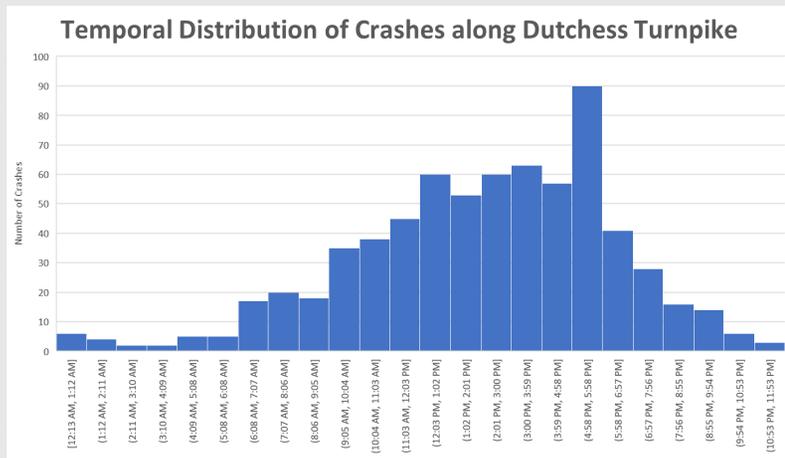


**Figure T6:** A Bus Stop at Eastdale with no Dutchess County Public Transit Sign

## Traffic Data Analysis

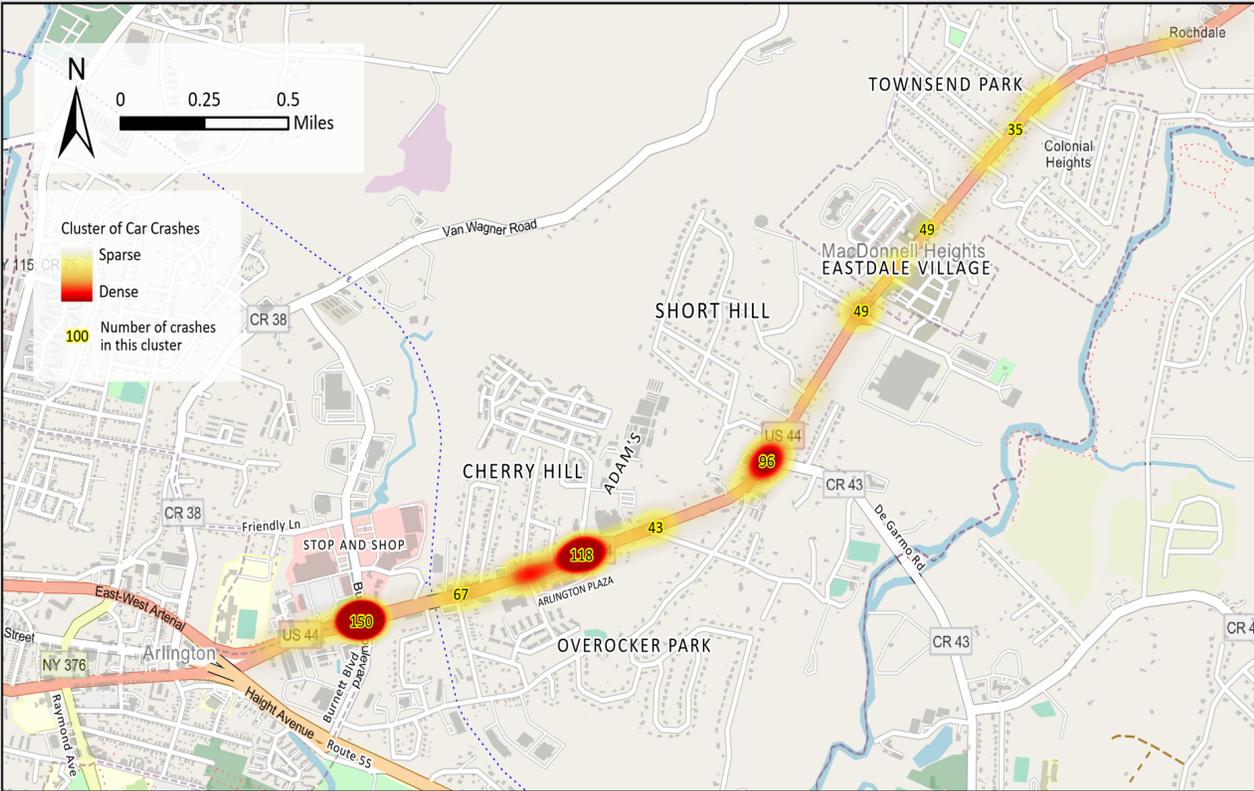
We have obtained vehicle crash data that had taken place along the Dutchess Turnpike from 2018 to 2022 from the Dutchess County Transportation Council (DCTC) and analyzed the location, category, weather condition, and time of crashes. Our results are included in the map and charts below.





**Table T6-T8.** Temporal Distribution of Crashes and Injuries, and Annual Count of Crashes (DCTC, 2023)

# Distribution of Crashes, 2018-2022 along the Dutchess Turnpike



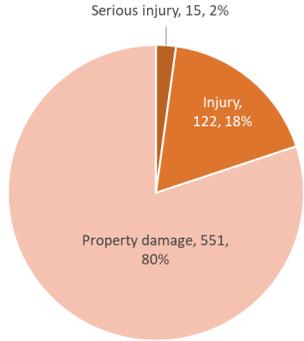
Among the 688 recorded car crashes that happened on the Dutchess Turnpike from 2018 to 2022, a total of 189 people were injured, among which 18 were severely injured.

Crash data from the Dutchess County Planning Department

Map data © OpenStreetMap contributors, Microsoft, Facebook, Inc. and its affiliates, Esri Community Maps contributors, Map layer by Esri

**Map T2.** Crash Cluster (DCTC, 2023)

## Categories of Injuries



A total of 688 Crashes has happened on the Dutchess Turnpike from 2018 to 2022.

**Table T9.** Categories of Injury (DCTC, 2023)

The following conclusions are drawn from these analyses:

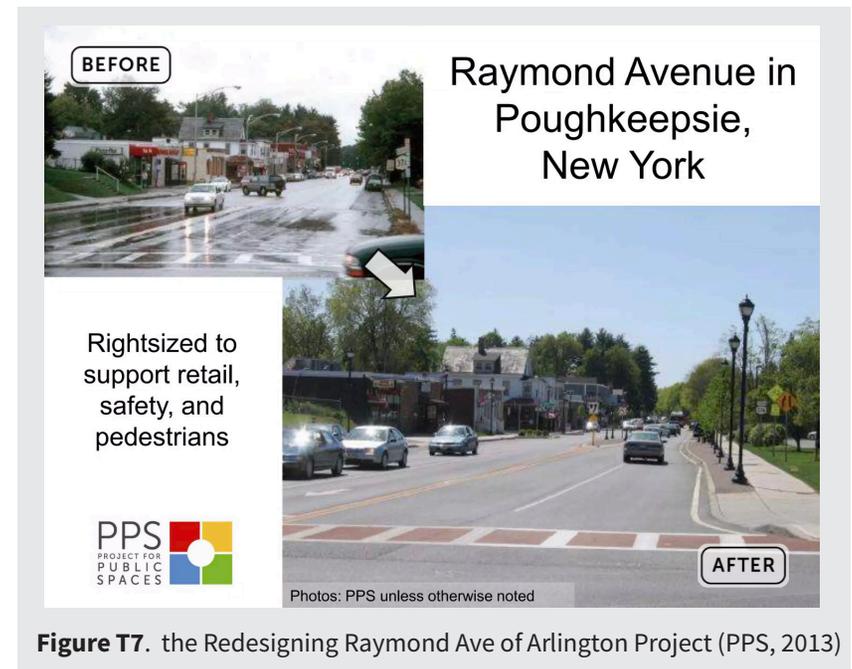
1. The cluster analysis has revealed that crashes are most prevalent at major road intersections (especially at Burnett Blvd and De Garmo Rd, which both serve as important North-South stretching corridors in the study area) as well as at major business clusters (including Stop & Shop, Adam's, Arlington Plaza, and Eastdale Village). This is not surprising given the high transportation demand at these key locations. This is further backed up by the statistics that 45% of crashes happen at traffic signals or stop and yield signs.

2. As previously discussed in Table T1, speeding is an outstanding issue in the study area. This issue is supported by the fact that rear end and overtaking are two of the most common crash categories along the Dutchess Turnpike, given the most common cause of both is vehicle speeding.

3. The fact that 449, or 65%, of all crashes happen when the weather is clear means that weather is not the reason to blame; the need for better street design is highlighted.

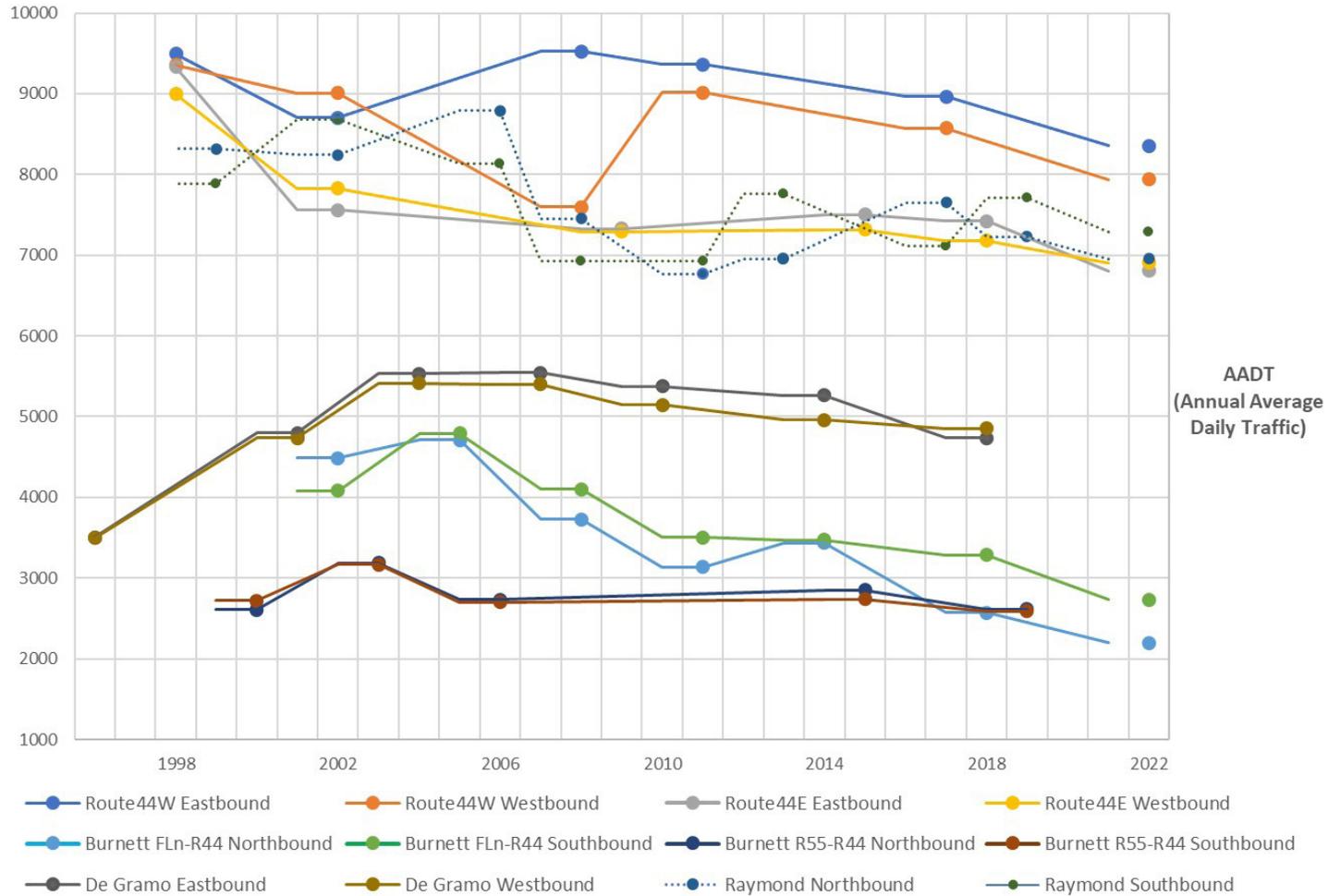
4. The number of crashes is the highest from 5PM to 6PM everyday. According to traffic counts data from DCTC, this is also the period of time when the Dutchess Turnpike is the busiest. Thus, it is highly urgent for responsible offices to develop measures to ensure safety when the roads are used by the highest number of people.

We have also performed analysis on the changes in traffic volume of the Dutchess Turnpike and two intersecting streets (Burnett Blvd, which connects Route 55, Dutchess Turnpike, and Friendly Ln; and De Garmo Rd, which is another crucial connection between Dutchess Turnpike and Route 55) from 1996 to 2022. Moreover, we have compared them to another example quite close to the study region: Raymond Ave in Arlington (Figure T7), which has undergone transformations from a car-centered road to a complete street by definition, featuring reduction in car lanes and expansion in spaces for pedestrians and bikers. The results are shown in Table T10.



**Figure T7.** the Redesigning Raymond Ave of Arlington Project (PPS, 2013)

## Changes in Traffic Volume of Dutchess Turnpike (Route 44) and Intersecting Streets (Burnett Blvd and De Gramo Rd) *also with Comparison to Raymond Ave in Arlington*



*\*As defined by Dutchess County Transportation Council, the west section of Route 44 goes from Arlington to De Gramo Rd, and the east section of which extends from De Gramo Rd to Pleasant Valley.*

**Table T10:** Traffic Change History 1996-2022 (DCTC, 2023)

From this analysis, the following conclusions are drawn:

1. The Dutchess Turnpike has been and will continue to be the busiest road in the study area. The second busiest road in the study area is Burnett Blvd; at their intersection we have seen the biggest cluster of vehicle crashes, as revealed in Map T2. The third busiest road in the study area is De Garmo Rd; at this intersection we also have seen a considerably large cluster of vehicle crashes. Combining these results with the observations from Table T1, we have identified a pressing need to fix the extreme lack of safety-centered infrastructure along the Dutchess Turnpike, especially at road intersections.
2. The traffic volume of all roads in the study area reached its peak around the year 2006, and it has been slowly declining since then.
3. The fact that 449, or 65%, of all crashes happen when the weather is clear means that weather is not the reason to blame; the need for better street design is highlighted.
4. Raymond Ave in Arlington has only two lanes, and its size is only half to a third of the western section of Dutchess Turnpike. Nonetheless, the amount of car traffic Raymond Ave is able to take on with little congestion is only 10% to 20% less than the latter. Thus, concerns about reducing the amount of car lanes on the Dutchess Turnpike as part of future plans to build a complete street will increase congestion is unnecessary. When better means and systems to guide traffic is installed, shrinking spaces for cars does not reduce efficiency; on the other hand, it frees up more space for other vulnerable road users and results in a more equally empowered community.

# V. Environment

In this section, we will describe and analyze the existing conditions of the environment, split into three sections:

- 1) Natural Environment
- 2) Historical Environment
- 3) Cultural Environment

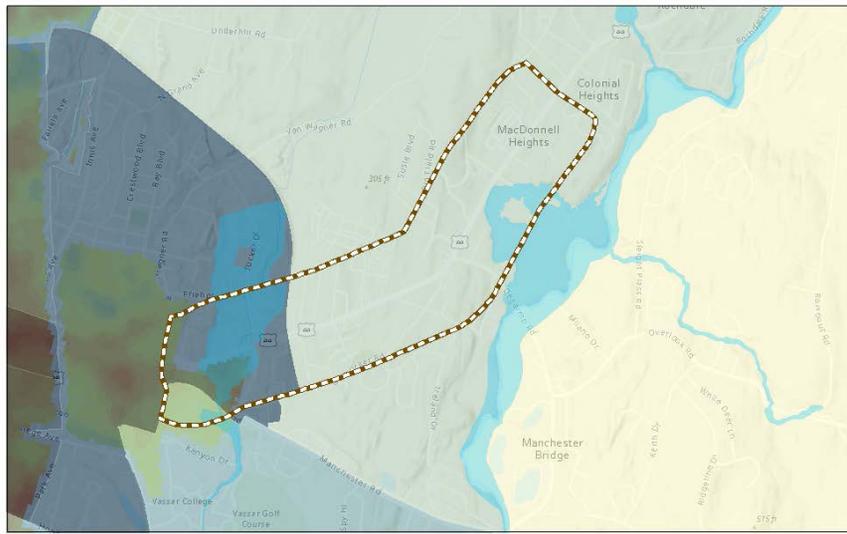
### ***Natural Environment***

In order to understand the environmental conditions of the study area we conducted observational fieldwork with some participant portions, mapped out key environmental zones and data within the study area, and read through Health of the Casperkill, Dutchess County, New York 2009 report compiled by the Vassar College Environmental Research Institute, Cornell Cooperative Extension (CCEDC) Environment Program, and Casperkill Watershed Alliance. The 2009 Casperkill report highlighted three main problems for the Casperkill within our study area. First, there is a high level of pollution in the stream that has seeped in because of the remnants of the landfill that used to exist where Dutchess Plaza is today. Second, runoff from de-icing salts has made the stream more conductive than it should be. Third, there is a lot of trash within the Casperkill which is likely linked to the surrounding shopping centers (Menking et al. 2009).

Heat is the deadliest natural disaster in the US each year. In 2021, 190 people in the US were killed by heat compared to 146 from floods, 106 from cold weather, and 104 from tornadoes (Chow, 2022). Heat places strains on power grid infrastructure, making the risk of power outages

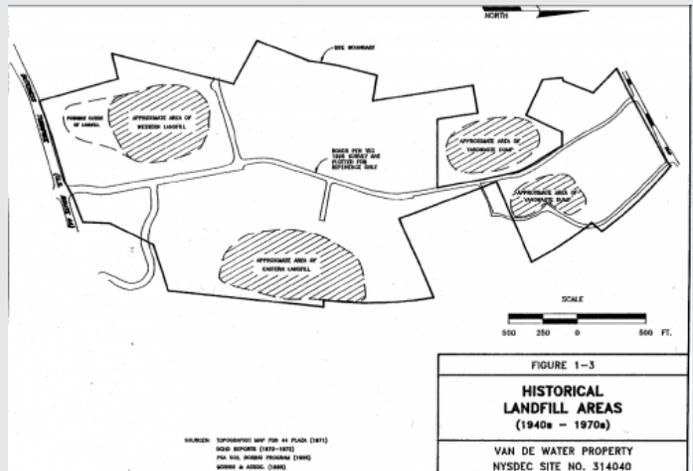
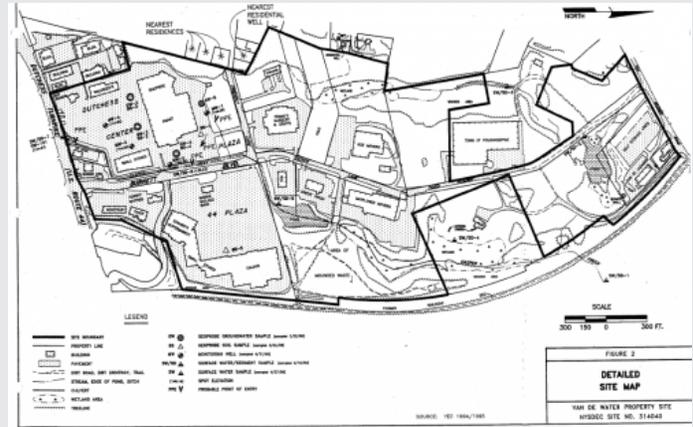
greater (Walker, 2023). Given that many adaptations to heat rely on a steady power supply, such as air conditioning, the overlapping of extreme heat events and power outages can make their effects even more deadly (Walker, 2023). Urban heat islands (UHIs) are a geographical phenomenon by which more urbanized areas are hotter than their rural counterparts (Climate Central, 2021). As shown in the map on the next page, areas with more impermeable surfaces and darker surfaces tend to suffer from more severe heat island effects. If the study area follows its current trend of increasing urbanization and climate change worsens, efforts to prevent extreme heat island effects need to be taken.

### Environmental Vulnerabilities Map



11/14/2023  
 ■ STUDY AREA OUTLINE  
 ■ SFHA(100-YEAR) FLOOD ZONE, FBMA  
 ■ Heat Health Census Tracts  
 ■ > 47  
 ■ < 3  
 ■ Full Range Heat Anomalies - USA 2021  
 ■ Red: Band\_1  
 ■ Green: Band\_2  
 ■ Blue: Band\_3  
 ■ World Hillshade  
 0 0.2 0.4 0.65 0.8 mi  
 0 0.33 0.65 1.3 km  
 ERI: NASA, NOAA, USGS, FEMA; ERI: NERC, Gornik, SPM2021, GeoTechnology, Inc., METRASA, USGS, ERI, NRC, US Climate Watch.

Image: Environmental Vulnerabilities Map

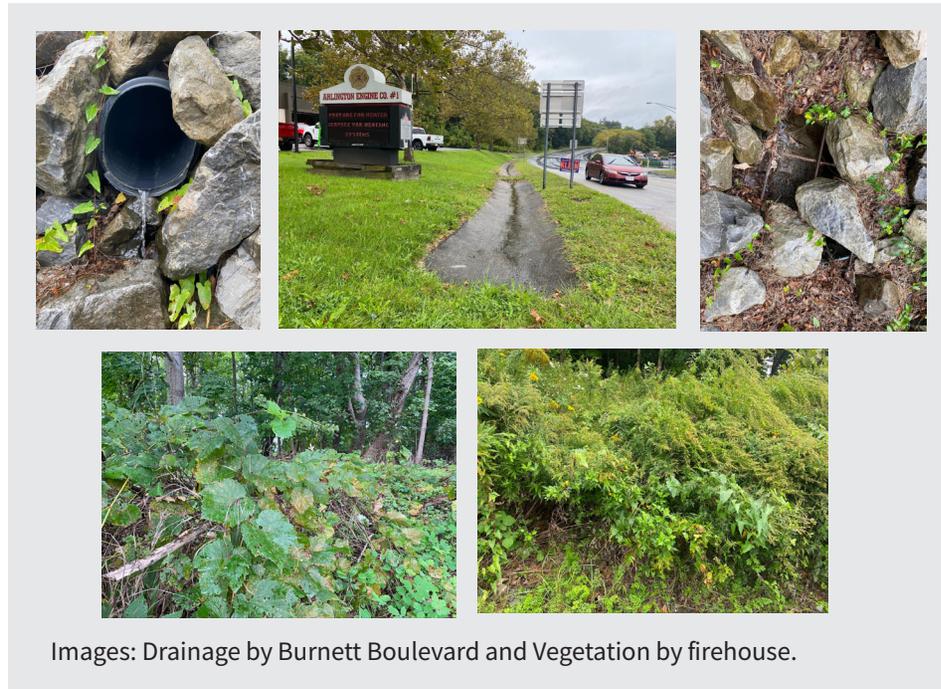


Images: Urban Heat Islands (Source: <https://pages.vassar.edu/casperkill/the-burnett-boulevard-extension-site-from-brickyard-to-landfill-to-shopping-plazas/>)

When walking along the study area, the environmental conditions and issues became more obvious. Many of the sidewalks that do exist within the study area do not have street trees on either side of them. This leaves a large portion of the pedestrian zone unprotected. The southwestern part of the study area highlights this problem best because it has the largest area of connected sidewalks and is part of older development, which means that the trees here are older and larger. Despite this, the vast majority of sidewalks are unshaded. In Eastdale, the issue of minimal shading is currently caused by young trees within the new development. Over the next decade or so, as the trees grow, it will become clear if the development has adequate tree coverage.

To give the reader a better understanding of what it feels like to walk within the study area, what follows is a narrative of the study area composed from the participant observation conducted.

On Saturday, September 23rd, 2023 from 2pm-5pm there was light rain and cloudy weather within the study area. It was about 60 degrees Fahrenheit. The fieldwork began just west of the study area, at the bus stop on Vassar's north side. The bus was slightly late. We rode it until the first stop on the Dutchess Turnpike, outside of the government buildings on the southside of the corridor. We began walking from here. On the southwest corner of the Burnett Boulevard-Dutchess Turnpike intersection lies the firehouse. We saw that there were drainage channels on the side of the road here and decided to see where they led. We followed them to the edge of the firehouse parking lot and saw that there was a drainage area here. Numerous bits of trash had fallen into the sunken area, including a plastic sheet. We decided to grab as much trash as we could from the drainage area to prevent it from clogging the grates.



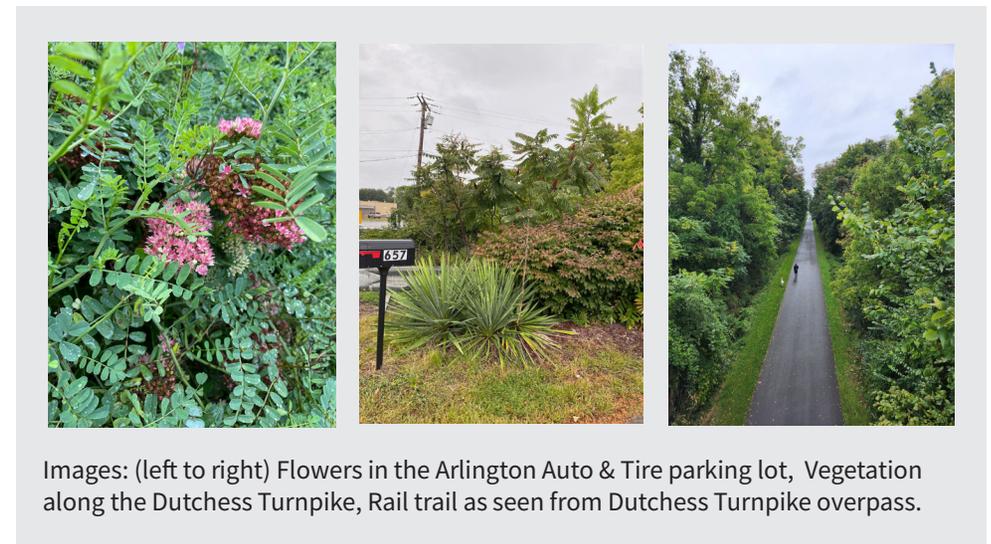
Images: Drainage by Burnett Boulevard and Vegetation by firehouse.

On the south border of the firehouse property was a small forested area with dense shrubs on the north facing side but a forest with middle-aged seeming forest and limited gaps in the foliage, causing very little growth on the forest floor. Within the dense shrub area we observed solidago, mullein, queen anne's lace, ailanthus, bedstraw, morning glory, poison ivy, and mugwort.

While noting observation in this area, the Turnpike corridor had a definite impact on the experience. Our position as pedestrians felt very exposed while looking at the drainage system. It did not feel very unsafe to walk onto the shoulder of the road to look into the forest, likely because there was a fair amount of grassy area next to the yard or so wide paved shoulder, which provided space between us and the traffic. We were constantly aware of Burnett Boulevard though.

A second factor that heightened our awareness of the surroundings was a young man, who appeared to be a firefighter, that was hanging around the inside of the fire station with the large door that firetrucks pass in and out of was open. He watched us pass by for the first time to go look at the drainage system that was set up on the south-west corner of the property. When we passed back the second time (with litter in our hands, headed back to the turnpike) he was standing in the entryway. I felt a bit watched and uncomfortable. Despite this, I asked the person if we could throw out litter that we had taken out of the drainage next to the station in the station's dumpster. The man said yes.

After this we continued walking. The sidewalks narrowed when we crossed over the Rail Trail which made the perceived safety we felt on them decrease. Despite this, looking over onto the Rail Trail was very pretty. We saw a person walking their dog below us on the trail. When we passed by various Neighborhood Business zones, such as the ones containing Arlington Auto & Tire and Arlington Animal Hospital, the sidewalks felt more relaxing since there was no longer a hard barrier on one side and the Dutchess Turnpike on the other. The additional contribution of landscaping outside of some businesses also made the space feel more welcoming. The plants used were typically native, which is a good sign.



The next major area we reached was Canterbury Gardens. The housing complex is easy to find off of the dutchess turnpike. When you turn down Janet Drive you immediately see a sign for the complex as well as private property and trespassing signs. Before you can get to Janet Drive off of the Turnpike, the sidewalks end. This made walking into the development feel unsafe. Once in the complex the sidewalks resumed. There was ample green space, mostly in the form of mowed lawns and small, scattered flower beds. On the edges of the housing small frosted areas were left intact. A stream, which is not the Casperkill or the Wappingers Creek, passes through a forested area on the western side of the complex. The water in the stream has a slightly blue tinge to it.

When I first entered Canterbury Gardens, I felt nervous and unwelcome due to the trespassing and private property signs. Typically when I've passed the area I've been curious about it, but because I am usually driving I never enter because the signs are specifically there to deter automobile traffic through the complex. Once I got into the complex I felt comfortable in it. Immediately the noise and chaos of the Dutchess Turnpike was diminished and then hidden as I moved further into the complex. The space felt very nice and it is in a surprisingly walkable area considering that there is a medical strip mall located on the north border of the complex and Adams is less than a quarter of a mile from the development and is accessible by sidewalks and a crosswalk.

Heading further into the residential area, we found an entrance to Overrocker Park on the complex's southeast edge. Once inside, the signs labeling the park were in somewhat obvious spaces but there wasn't signage outside of the park in Canterbury Gardens to indicate that it was there. We essentially came upon the park because one of us knew it was there and had us walk in the right direction. Even then, it was kind of a random area to enter through. We saw one person in the park, an older woman walking her dog. She headed into Canterbury Gardens with her dog after they finished their loop.

The park itself is a grass field with recreational sports spaces including a small baseball diamond, basketball court, and fenced in playground.



Images: Planting bed, vegetation, and drainage pipe in the Canterbury Gardens

The park felt like a nice place to come and hang out with friends, especially if you were a younger kid. Its location next to Canterbury Gardens also felt good because within the private housing complex the open spaces there did not feel friendly for children to play in (it felt like they catered to an older population). The park might be used mainly by grandchildren who visit their grandparents in Canterbury Gardens. The park feels removed from the turnpike's urban landscape. The park was quiet, you couldn't hear the traffic from the turnpike, and there weren't many cars passing by on its south side. Immediately upon leaving the park on its south side, however, it felt dangerous to be a pedestrian because there were no sidewalks.



Images: Overocker Park

We continued our walk not on the turnpike but along Overocker Road to get a feel for the neighborhoods that exist along the corridor. The walk was mostly pleasant except for the fact that cars kept passing uncomfortably close to us; there were no marked places to cross the street, and, most of all, there were no sidewalks or curbs. The pleasant feeling of the walk came from the ample greenery around us as well as the character of the homes along the street.

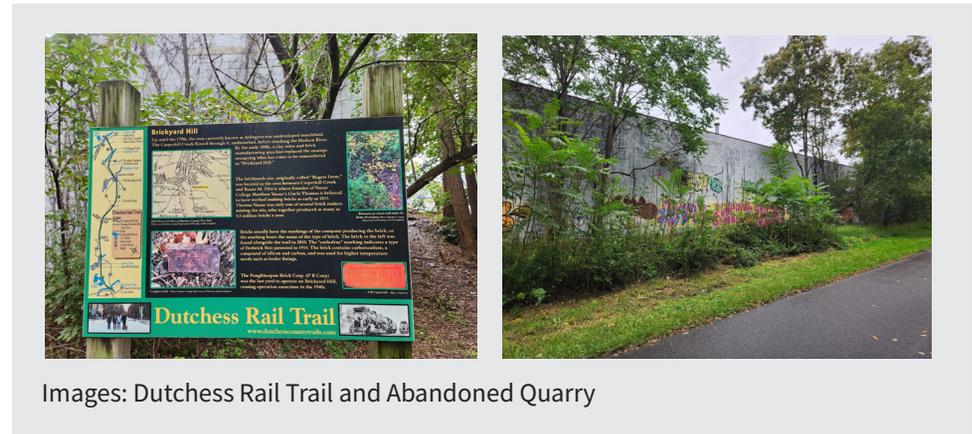
We reconnected with Dutchess Turnpike where Overocker Road intersects it by the Dunkin Donuts. From here we walked back along the Dutchess Turnpike, this time on its north side. We faced similar issues here, with no sidewalks or crosswalks, as we did on the majority of the rest of the turnpike. As we approached Adams from the east there was a large field with a patch of wildflowers and other plants as well as a willow tree. We saw jewelweed and smelled something like manure, so we figured out that this area must be a septic field. There was also purple loosestrife, cattails, Japanese knotweed, garlic mustard, morning glory, and some aster varieties



Images: Pictures from Walk along Overocker Road and Turnpike



We continued walking along the turnpike until we found what looked like a small industrial park, on the east border of the Rail Trail. There were some abandoned warehouses tucked into this area and then an unofficial access point onto the Rail Trail. The trail was very quiet which contrasted starkly with the corridor above it. The trail felt like a nice place for a casual/leisurely walk or bike ride. I did not think of it as a path to use to get to work or other non-leisurely activities (e.g., to get to stores, to go to the doctor’s office, etc.). The trail feels separated from important destinations within Poughkeepsie which might bar it from non-leisurely use. Leaving the Rail Trail we found what appears to be an abandoned quarry, blocked off and labeled as private property, between the Turnpike and Stop and Stop.



Images: Dutchess Rail Trail and Abandoned Quarry

We headed out of the Stop and Shop lot and crossed Burnett Boulevard again, this time into the abandoned Dutchess Plaza to look at the Casperkill. Standing in this area, the traffic was quite loud and overwhelming at times. There is an intersection (the south one leading into Plaza 44) that crosses over the Casperkill in this area, making the space feel like one that you should pass through rather than spend time around. There is no signage around this segment of the stream to indicate that it is the Casperkill. There is a small zone, about 1-2 yards wide, of shrubs and other underbrush present around the stream by the plazas. Even with this, the steam is clearly visible to pedestrians from the sidewalk. In relation to Burnett Boulevard, the Casperkill is no more than a few yards away from it. The proximity to the road and lack of sufficient buffers around the stream is a key



Images: Various views of the Casperkill

environmental issue to address when re-imagining the corridor, since waterways are key corridors within the environment.

We finished our field work by walking out of the study area along the Dutchess Turnpike. The walk was safer but less visually interesting or relaxing due to the lack of greenery in the area.

Two weeks later, on Saturday, October 7th, 2023 at 2pm we headed out into the study area again. We intended on observing the conditions of Eastdale, Creekside Park, and the surrounding area. Unfortunately, there was heavy rain this afternoon, so our fieldwork was less thorough than the previous time.

The environment within Eastdale felt heavily manufactured and regulated. The turf and gravel patches rather than grass, the small, separated trees along the streets, and the overall lack of large green spaces contributed to this feeling. The edges of Eastdale are forested, however, which creates a contrast and sense of a border between Eastdale and the surrounding areas. The intersection of Eastdale's main road with the turnpike is extremely loud, making it hard to converse with people standing next to you without yelling.

Creekside Park lies on land that was a part of the farm that used to exist where Eastdale is now, but was donated to the Town of Poughkeepsie to be made into a park. There are no trail maps on the Eastdale or Industrial Park entrances to Creekside Park, so we do not currently know how long they are or where exactly they go. The trails themselves are not accessible like the Rail Trail is, but they do provide a very peaceful place if you are in them. There is no noise from the Turnpike and, in our case, the rain was lightened when we were in them. In early November someone from our group may go back to Creekside Park and



see what the trails look like further in.

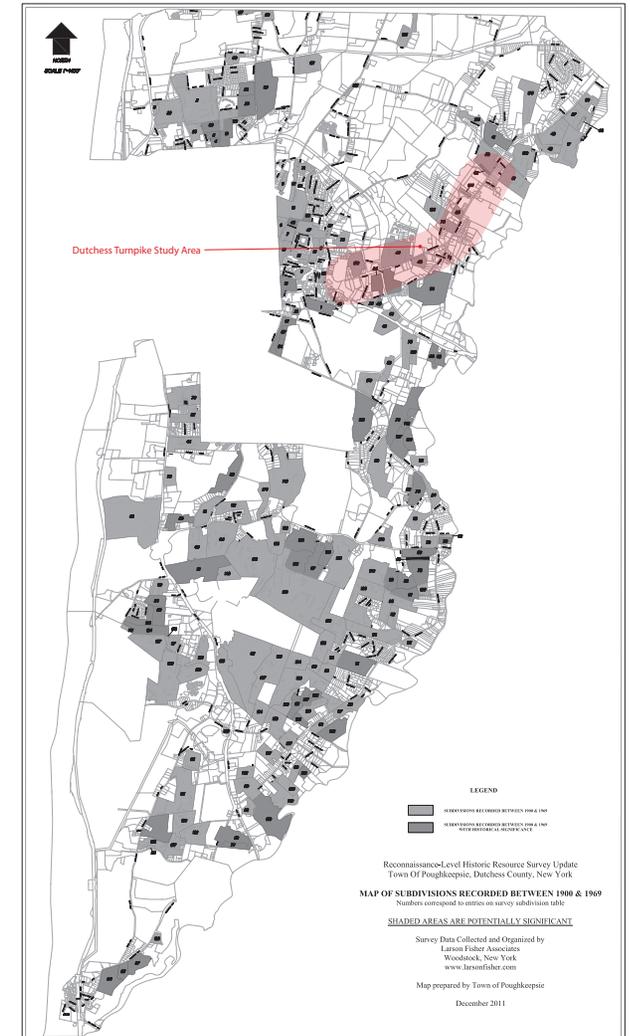
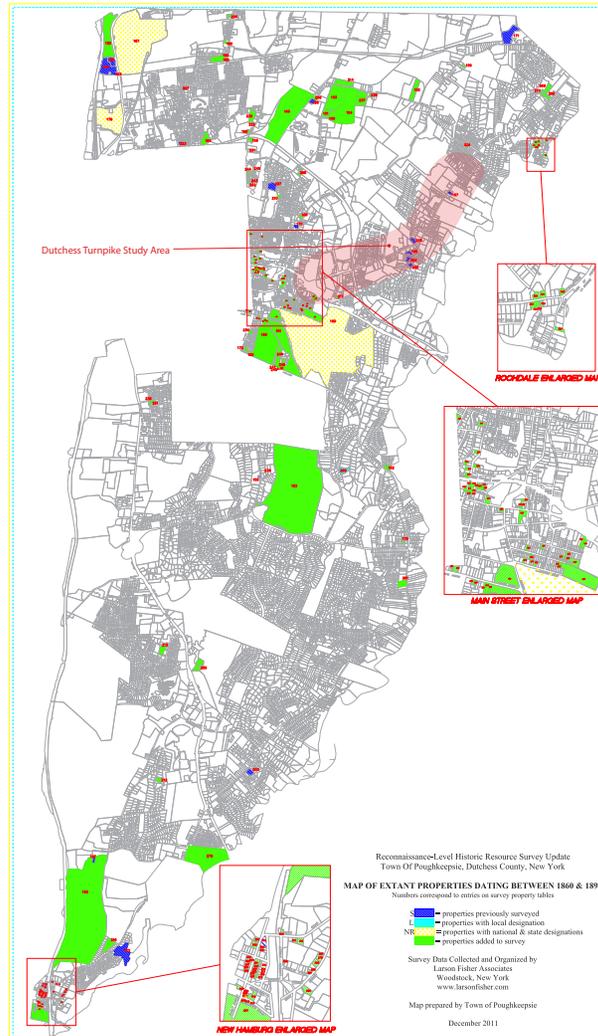
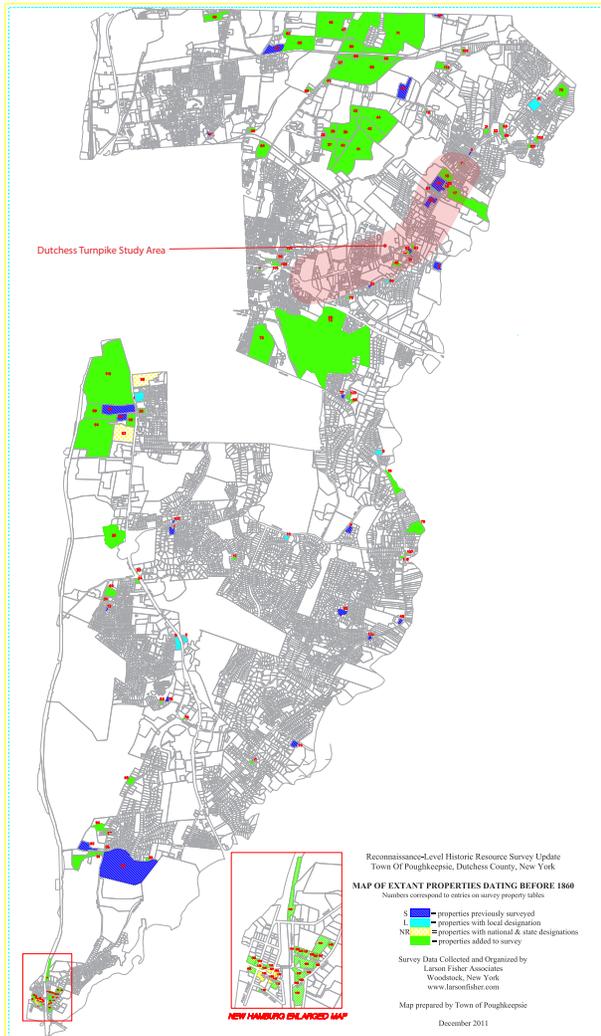
As a whole, the natural environment varies widely within the study area. There are pockets of quiet space and greenery located right next to the Dutchess Turnpike. The turnpike itself is consistently loud and overwhelming to be near. Locations of green spaces, such as the Rail Trail, Overocker Park, and Creekside Park, are not labeled from the turnpike, causing them to feel hidden and not for common use.

There are thriving ecosystems all along the Turnpike, and with more intentional incorporation of native plants and ecosystems along the turnpike, the space could be transformed into one that feels more like a place.

# Historical Environment

In order to understand the historical environment of the study area, we read through the Town of Poughkeepsie Reconnaissance-Level Historic Resource Survey Update 2011 report compiled by Larson Fisher Associates.

This report highlighted and contextualized the historically significant extant properties and subdivisions in the town. We used the following maps to locate the historical assets within our study area. The following list mentions the properties marked as "Local Landmarks" or "National Register listed" in the Historical Commission Survey Report.



## Historical Properties (local landmarks)

(57) 925 Dutchess Turnpike  
*The Common School*  
year built: 1840  
typology: old schoolhouse



Image: The Common School  
Victorian cottage with intricate gingerbread detailing.  
Source: *Town of Poughkeepsie website.*

(80) 110 Overocker Rd  
*Parish-Overocker House*  
year built: 1850  
typology: residential home



Image: Parish-Overocker House  
Residential home constructed circa 1840. Flat roof,  
eaves and cornice are consistent with Italianate style.  
Source: *Town of Poughkeepsie website.*

## Cultural Environment

It is difficult to gauge the cultural environment of our study area without directly talking to users of our study area. Because of the limited time frame of our study, we instead attempted to obtain a partial understanding of the cultural environment by pinpointing and mapping out spaces/institutions of “cultural significance,” found using the Google Search engine. Following is a list of various "cultural assets" we deemed relevant due to their value as community or religious organizations (note: all mission statements information for these cultural spaces were found on the respective websites of the organizations).



Germania of Poughkeepsie

German cultural organization

"For over 170 Years, Germania of Poughkeepsie has been dedicated to the preservation of, and the education of the public about German and German American Heritage and Culture.

Germania of Poughkeepsie offers plenty of family friendly activities year round. In the German tradition of Gemütlichkeit, all are invited to explore each of Germania's many festivals, heritage & sport clubs, events and activities."



American Legion Post 1302

veteran community organization

"Since our charter , Arlington American Legion Post 1302 has been welcoming VETERANS from all branches of our Armed Forces. Today, we continue to welcome all military personnel serving our country. Joining our Post enables you to continue serving your God, Country and Community. Our mission is to implement the goals, aspirations, dreams, peace and blessings for our country, friends and families embodied in our preamble"



Arts Mid-Hudson

non-profit arts service organization

"Arts Mid-Hudson's initiatives engage and promote the arts across the Mid-Hudson region, benefiting our artists, arts organizations and communities.

Through advocacy, exhibitions, performances, folk arts programs, festivals, awards and more, we bring creative offerings to artists, educators, venues, students and those who enjoy the region's vast bounty of arts, bridging cultures, inspiring creativity and transforming communities."



### New Beginnings Alliance Church

alliance church

"New Beginnings is a Christian & Missionary Alliance congregation located in Poughkeepsie, NY. We strive to be Christ-centered, Family-friendly, and Mission-minded disciples of Jesus Christ."



### Mid Hudson SDA (Seventh-Day Adventist) Church

French-speaking protestant church

"Bienvenue à Mid-Hudson French SDA Church de Poughkeepsie, NY. Nous sommes une communauté chrétienne et nous aimerions que vous vous joigniez à notre famille. Veuillez vous joindre à nous pour l'étude de la Bible, le culte et la prière."

## VI. Existing Planning Studies

Our team has read and studied various existing planning studies. We will consider previously-made recommendations when moving on to the next phase of our project: creating a planning report. The following is a series of summaries of past reports that we have studied.

### ***Town of Poughkeepsie 2030 Comprehensive Plan Update***

*Report prepared by Town of Poughkeepsie Comprehensive Plan Review Committee, Town of Poughkeepsie Planning Department, Nelson, Pope, and Voorhis, LLC., and in association with Metropolitan Urban Design Workshop*

This comprehensive plan update updates and builds on the framework created in the 2007 Poughkeepsie Town plan which encouraged development of the town around "Centers and Greenspaces."

The 2021 plan update recommends focusing mixed-use, walkable infill development both in existing Town Centers as recommended by the 2007 report, as well as in vacant and underutilized commercial land and abandoned industrial sites. There is an emphasis on the revitalization of greyfields and brownfields, rather than greenfields, or historically-developed and temporarily-abandoned sites, rather than undeveloped sites. This idea is very relevant in our particular study area, as there exists multiple, what we call, "catalyst sites:" large plots of previously-used, abandoned land.

The comprehensive plan uses a framework focusing on the four E's of sustainability, namely: economic sustainability and resiliency, equity (social equity and environmental justice), environmental sustainability, and energy efficiencies.

The recommendations for our site in this plan include the specific mention of the Dutchess Center Plaza as a unique single parcel for infill opportunity and a mention towards the maintenance of commercial and residential character along the corridor.

The report specifically mentions the Dutchess Plaza within our site as a unique infill opportunity that could be repurposed as a community mixed use center accompanied by improved connections to the Arlington area (particularly useful because of its key location on Route 44 as a major thoroughfare in the Town of Poughkeepsie). Some community recommendations for the land use of this site were a mixed use center, a community center, and an "eco--park."

The report also mentions how along route 44, smaller scale commercial uses and residential to commercial conversions should be maintained as opposed to constructing major commercial developments. The report also encourages increasing access from our study area to services in other existing centers of the town.

## **Reconnaissance Level Historic Resource Survey Update**

*Report prepared by Larson Fisher Associates*

This report is an updated historic resource survey performed by a historic preservation planning firm, Larson Fisher Associates. This report updates and expands the existing survey of historic properties before 1900 and also assesses the significance of industrial and residential development in the twentieth century.

The Survey Update provides relevant information about the town's history, referenced in the first part narrative of our report. It also provides recommendations for local designations within the area.

Mentioned in this report are two historical assets from 1800-1860 designated as local landmarks located in our study area.

## **Health of the Casperkill, Dutchess County, New York.**

*Report prepared by Vassar College Environmental Research Institute, Cornell Cooperative Extension (CCEDC) Environment Program, and Casperkill Watershed Alliance*

The Casperkill has a C rating from NYS Department of Environmental Conservation meaning humans can not drink from or swim in it but it is deemed okay for fish populations to live in. The main conclusion of this report is that the Casperkill is suffering from “urban stream syndrome” which is when urban pollution and disruption of the stream’s ecosystem causes it to degrade. The main issues facing the Casperkill are high salinity and bacterial contamination from flooding. The writers recommend planting native vegetation along banks, minimizing the use of salt on roadways, properly maintaining septic systems, on-site

There are also plots of land (see in the third map in our Part 2. Environment section) from 1910-1969 deemed historically significant within our study area. They are mentioned as significant because they are dated from before the WWII era (despite this era being before large-scale suburbanization). According to this report, these residential subdivisions have distinctive architectural characteristics from the period between the World Wars. Although Larson Fisher Associates does not specifically mention historical designations or planning recommendations for these sites, they are deemed as significant within the scope of the Historical Commission study.

infiltration of stormwater, zoning that requires clustered development, and developing recreational spaces along the stream to improve the connection between individual humans, their environment, and their community.

## ***Previous Studies on Transportation***

The east-west stretching arterial through Poughkeepsie, which the Dutchess Turnpike is a part of, has long been posing issues for the people of the Dutchess County. Over the past three years, plans and proposals have emerged, as summarized below. Nonetheless, some of these plans are focused on other sections and aspects in the town.

In the 2030 Comprehensive Plan Update for the Town of Poughkeepsie (2021), Routes 44 and 55 are described as “physical barriers that split the town between north and south.” It is reflected in this comprehensive plan proposal that pedestrians and bikers are exposed to safety risks on Route 44, along which traffic should be slowed down and better guided, and sidewalks and bike lanes should be improved. This plan continues to propose using the Arlington Business District (in which the redesign of Raymond Ave in Arlington, Poughkeepsie is an integral part) as a model to realize complete street developments along Routes 44 and 55. Other recommendations including making spaces available and accessible for pedestrians and bikes, better connecting the rail trail and the creek, and renovating transit stops are also included. Nonetheless, during our field visit to the study area, we have

found that very little recommendations from this proposal have been implemented, if at all.

Two more proposals were developed by MJ Engineering and Land Surveying P. C. in March 2021 and Creighton Manning LLP in March 2022. The former focused on the arterial section from the Routes 44-55 junction to the Poughkeepsie Train Station and Route 9 from Walkway over the Hudson to Columbia Street. The latter focused on redesigning the Main Street from Fairmont Ave in Arlington to S/N Grand Ave in the City of Poughkeepsie. Both plans have incorporated land use analysis and traffic research, and have concluded by proposing to build complete streets with more accessible space for pedestrians and bikers, calmer traffic, and safer environment for all road users. In our proposal, we look forward to using our plan for the Dutchess Turnpike to further extend the coverage of complete streets in Poughkeepsie.

## 6B: Vegetation Recommendations and Vegetation Needs

### Vegetation Recommendations for Stormwater Drainage and Street Trees

#### Salt Resistant Native Trees

\*\*highly recommended!!!

#### Swamp White Oak (*Quercus bicolor*)\*\*

This tree is extremely versatile. Aside from being salt resistant, it can tolerate both compacted soils and drought as well as wet areas because it is flood tolerant (from dec.ny factnatives). Being able to grow in compacted soils is very important for plants in urban areas because these soils are often extremely compacted due to construction and other urban development.

#### Eastern Red Cedar (*Juniperus virginiana*)

There are a few advantages of planting this tree. First, it is salt resistant. Second, it grows well in acidic soils, which are more common in urban environments. Additionally, it thrives in dry, harsh, rocky sites, which means that it does not need a lot of soil to grow, making it easier to plant in urban environments where soil is often lacking. Additionally, the small blue, berry-like cones on female trees are a food source for many birds. Though the tree needs full sun to grow, this will not be hard to find in an urban environment where most buildings are not taller than three stories.

#### Salt Resistant Native Shrubs

Serviceberry, Shadbush (*Amelanchier arborea*)

The shadbush would contribute to the beautification of the area across most seasons. In the spring the bush has delicate white flowers in early spring. In the summer, the bush grows edible berries. In the fall, the leaves on the bush turn vivid fall colors.

This bush needs well drained soil to grow. Fortunately, most of the soils in this region are well-drained, making it an ideal environment for this shrub.

#### Buttonbush (*Cephalanthus occidentalis*)\*\*

The flowers of this bush attract butterflies, hummingbirds and native bees. Given the decline in pollinator species populations, it is very important to grow plants that support these species. In NYS, the buttonbush is classified as a top wildlife species.

Additionally, the state specifically mentions that this bush is good for rain gardens.

Bayberry (*Morella carolinensis* (formerly *Myrica pensylvanica*))\*\*

This shrub is a coastal species in NYS, it is a good urban shrub because of high salt tolerance and resistance to insects and diseases. Because it is a coastal species it is also flood tolerant.

#### Virginia Rose (*Rosa virginiana*)

The Virginia Rose would also contribute to the beautification of poorly maintained roadside areas because of its glossy leaves and large, pink

flowers in spring and summer and its spectacular fall colors. In addition to being salt tolerant, this shrub is also semi-drought tolerant which will be an asset under the current uncertainty of climate change. Last summer NYS experienced a month-long drought from late July to late August. Highbush Blueberry (*Vaccinium corymbosum*)

**Blueberry bushes** need acidic soil to grow, which may give them an advantage in urban environments, which tend to have more acidic soil. Planting blueberry bushes also provides a food source for animals and humans.

The above recommendations are made based on the following two sources:

<https://www.nycgovparks.org/greening/greenbelt-native-plant-center/garden-species-lists/garden-salt> → Identifies plants which are naturally salt resistant

[https://www.dec.ny.gov/docs/lands\\_forests\\_pdf/factnatives.pdf](https://www.dec.ny.gov/docs/lands_forests_pdf/factnatives.pdf) → identifies plants that are native to NYS that are recommended for landscaping

The New York Flora Association also released a report in 2011 with a guide for creating native plant rain gardens. These plants are mostly smaller than trees and shrubs, so they might be best for planting in highly visible areas where visibility for drivers and cyclists is key.

[https://nyflora.org/wp-content/uploads/2020/02/NYFA\\_Newsletter\\_Vol\\_22\\_2\\_2011.pdf](https://nyflora.org/wp-content/uploads/2020/02/NYFA_Newsletter_Vol_22_2_2011.pdf)

## **Preliminary Vegetation Recommendations for Phytoremediation of Dutchess Plaza**

<https://www.sciencedirect.com/science/article/pii/S2666765722000394>

<https://newyork.plantatlas.usf.edu/results.aspx>

Of the 16 plants examined in this study on phytoremediation, only one was listed as native to NYS, the *Xanthium strumarium*, also known as the common cockleburr. The cockleburr filters cadmium (Cd), lead (Pb), nickel (Ni), and zinc (Zn) from soil (source). Of the plants studied, the cockleburr had the highest bioconcentration factor for Ni (BCF of 1.651), Cd (BCF of 1.574) and Pb (BCF of 1.048) (source). This means that the cockleburr is able to store these heavy metals at concentrations higher than the medium (here, that is soil) that it is extracting them from (Kafle et al., 2022)

Of the 16 plants examined in this study on phytoremediation, only one was listed as native to NYS, the *Xanthium strumarium*, also known as the common cockleburr. The cockleburr filters cadmium (Cd), lead (Pb), nickel (Ni), and zinc (Zn) from soil (source). Of the plants studied, the cockleburr had the highest bioconcentration factor for Ni (BCF of 1.651), Cd (BCF of 1.574) and Pb (BCF of 1.048) (source). This means that the cockleburr is able to store these heavy metals at concentrations higher than the medium (here, that is soil) that it is extracting them from ([https://www.epa.gov/pesticide-science-and-assessing-pesticide-risks/kabam-version-10-users-guide-and-technical-3#:~:text=Bioconcentration%20factors%20\(BCFs\)%20are%20calculated,which%20the%20pesticide%20was%20taken.](https://www.epa.gov/pesticide-science-and-assessing-pesticide-risks/kabam-version-10-users-guide-and-technical-3#:~:text=Bioconcentration%20factors%20(BCFs)%20are%20calculated,which%20the%20pesticide%20was%20taken.)). The higher the BCF, the better, so planting *Xanthium strumarium*, particularly its variants, *gladbratum* and *canadense*, the two which are listed as native to NYS, is highly recommended for the Dutchess Plaza contamination zone.

# Habitat and Vegetation Needs of Threatened and Rare Species within the Town of Poughkeepsie

Species	Status	Natural Habitat	Important Notes
Blanding's turtle (all information gathered from <a href="https://www.dec.ny.gov/nature/animals-fish-plants/blandings-turtle">https://www.dec.ny.gov/nature/animals-fish-plants/blandings-turtle</a> )	Threatened	<ul style="list-style-type: none"> <li>Inland shallow waters and marshy ponds</li> <li>NOT main channels of rivers</li> <li>Vernal (temporary) pools and emergent wetlands are also important habitat areas, as sandy soils are often used as nesting grounds</li> </ul>	<ul style="list-style-type: none"> <li>The most significant threat to this species is vehicle crashes with adult female turtles.</li> </ul>
Eastern box turtle (all information gathered from <a href="https://nationalzoo.si.edu/animals/eastern-box-turtle#:~:text=Because%20they%20are%20so%20energetic,commercial%20trade%20of%20this%20species">https://nationalzoo.si.edu/animals/astern-box-turtle#:~:text=Because%20they%20are%20so%20energetic,commercial%20trade%20of%20this%20species</a> )	Vulnerable	<ul style="list-style-type: none"> <li>Often found near areas that experience heavy rainfall, as well as streams and ponds</li> <li>"Shrubby grasslands, marshy meadows, open woodlands and field forest edges" are also key habitats (para. ?)</li> </ul>	<ul style="list-style-type: none"> <li>Many deaths are caused by vehicle crashes.</li> <li>Roads also often cross through and disrupt their remaining habitats.</li> <li>These turtles are also often captured and sold internationally as exotic pets.</li> <li>Protective measures could include creating wildlife crossings, road signs, and developing replacement habitats.</li> </ul>
Wood turtle (all information gathered from <a href="https://www.fws.gov/species/wood-turtle-glyptemys-insculpta">https://www.fws.gov/species/wood-turtle-glyptemys-insculpta</a> )	Species of Greatest Conservation Need (SGCN)	<ul style="list-style-type: none"> <li>During the winter they hibernate in forested streams.</li> <li>During nesting and for foraging they will move to open grasslands, especially in the spring, barren, and sandy shores.</li> <li>They will then return to forested areas.</li> </ul>	<ul style="list-style-type: none"> <li>Threats to this species include habitat loss and fragmentation</li> <li>Injury and death also often occurs from agricultural machinery and vehicle crashes</li> <li>Invasive plants in nesting habitats, worsening water quality, disease and illegal capture for pet trade are also threats</li> </ul>
Indiana bat (all information gathered from <a href="https://www.dec.ny.gov/nature/animals-fish-plants/indiana-bat">https://www.dec.ny.gov/nature/animals-fish-plants/indiana-bat</a> )	Endangered	<ul style="list-style-type: none"> <li>These bats winter in caves and mines.</li> <li>Their non-wintering habitat is not well-known.</li> </ul>	<ul style="list-style-type: none"> <li>Human disturbances can often occur within caves and mines.</li> <li>To deal with this problem, access pointsot these areas can be gated off and/or agreements with landowners can be made.</li> </ul>
Little brown bat (all information gathered from <a href="https://www.fws.gov/species/little-brown-bat-myotis-lucifugus">https://www.fws.gov/species/little-brown-bat-myotis-lucifugus</a> )	Under review	<ul style="list-style-type: none"> <li>Their habitats include both human-made and natriall occurring spaces.</li> <li>These bats winter in caves and mines.</li> <li>In the summer they are often found in "trees, artificial structures, bat houses, under rocks and in piles of wood" (para. ?)</li> <li>They forage above streams and on the edges of other bodies of water.</li> </ul>	<ul style="list-style-type: none"> <li>Most detahs hacc occurred from white-nose syndrome, a new fungal disease</li> <li>Deaths from wind turbines have also had a significant impact on population numbers</li> </ul>
Bald eagle (all information gathered from <a href="https://www.dec.ny.gov/nature/animals-fish-plants/bald-eagle">https://www.dec.ny.gov/nature/animals-fish-plants/bald-eagle</a> )	Threatened	<ul style="list-style-type: none"> <li>Habitat preferences include "undisturbed areas near large lakes and reservoirs, marshes and swamps, or stretches along rivers where they can find open water and their primary food, fish" (para. ?)</li> </ul>	<ul style="list-style-type: none"> <li>Pesticides (particularly DDT) have had a major impact on reproduction. Most of this ingestion and exposure occurred from bioaccumulation in fish living in polluted waters.</li> <li>Logging and development along forests has also caused a major loss of habitat and disruption of reproductive behaviors (such as nest abandonment)</li> </ul>
Kentucky warbler (all information gathered from <a href="https://abcbirds.org/bird/kentucky-warbler/#conservation">https://abcbirds.org/bird/kentucky-warbler/#conservation</a> )	Declining	<ul style="list-style-type: none"> <li>Forests with a dense understory are necessary for this bird. It is often foudnin deep deciduous forests.</li> <li>Often they are found close to water, particularly creeks, rivers, and swamps.</li> <li>This bird winters on lowland and lower foothill regions with forests.</li> </ul>	<ul style="list-style-type: none"> <li>Habitat loss and degradation is a major threat to this species.</li> <li>The over-browsing of forest understory by white-tailed deer has been a major contributor to this.</li> </ul>

# References

## INDIVIDUAL CREDITS

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Sharon Nahm

*introduction written by*  
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### 1) Introduction

#### History and Context

*Sharon Nahm*

#### Demographics

*Sharon Nahm*

#### Comprehensive Maps

*Tianchen Zhou and Sharon Nahm*

#### Goals and Recommendations Summary

*Jordan Shamoun*

#### Study of Existing Plans

*Tianchen Zhou and Jordan Shamoun*

### 2) Public Outreach Plan

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### **3) Goals and Visions**

*Tianchen Zhou and Jordan Shamoun*

### **4) Recommendations**

#### **Transportation**

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#### **Opportunity Areas**

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*Visuals by Sharon Nahm*

#### **Land Use: Zoning**

*Jordan Shamoun*

#### **Land Use: Environmental**

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### **4) Implementation**

*Tianchen Zhou and Jordan Shamoun*

## **Appendix: Existing Conditions**

### **History Examined: The Changing Dutchess Turnpike and Poughkeepsie in the Nineteenth and Twentieth Century**

*researched and written by:*

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### **Contemporary Transformations within our Study Area**

*researched and written by:*

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## **Land Use and Zoning**

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*photographs by:*

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## **Demographics**

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## **Environment**

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### ***Historical Environment & Cultural Environment***

*researched and written by:*

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**TURN THE PIKE LLC.**  
Community Planning Consultants

Dutchess Turnpike Plan. December 13, 2023