

TOWN OF RICHMOND Route 138 Corridor Study

Draft 02/24/25





Table of Contents

Section 1

Introduction1	
1.1 STUDY PURPOSE	
1.2 RICHMOND'S HOUSING GOALS	
1.3 STUDY OBJECTIVES	
1.4 ROUTE 138 EXISTING CONDITIONS	

Section 2

Housing Analysis	9
2.1 OVERVIEW	9
2.2 POPULATION TRENDS	9
2.3 EXISTING HOUSING STOCK	0
2.4 EXISTING AFFORDABLE HOUSING STOCK	11
2.5 ATTAINABILITY GAP	2
2.6 HOUSING DEMAND	3
2.7 RESULTS	17

Section 3

Infrastructure Assessment
3.1 OVERVIEW
3.2 STUDY AREA
3.3 ENVIRONMENTAL CONTEXT
3.4 EXISTING INFRASTRUCTURE
3.5 FINDINGS
3.6 RECOMMENDATIONS

Section 4

Recommended Actions
4.1 SUMMARY
4.2 RECOMMENDATIONS

INTRODUCTION

Section 1

Introduction

1.1 STUDY PURPOSE

Richmond's 2021 Comprehensive Community Plan (CCP) identified the Route 138 corridor as a key geography in the town's strategy for facilitating the provision of low and moderate housing.

Encouraging infill and mixed-use development along Route 138 was an important recommendation referenced in the plan. This area contains a variety of commercial and residential uses and multiple zoning districts for business, light industrial, planned development, low density residential, and public and government. The Town's water line runs along the corridor, and it is also located within the Urban Services Boundary, a designated area where the state promotes new growth and redevelopment efforts.

The plan additionally delineates the Wyoming-Route 138 corridor as a future Infill and Growth Area. It is highlighted as an area well positioned for higher density commercial, multi-family, and mixed-use development on its future land use map.

Because of these characteristics, the Route 138 corridor has the greatest potential to accommodate new multi-family housing in Richmond.

This corridor study is an initial step in implementing recommendations from the CCP and will help the town to pursue additional funding for housing development.

1.2 RICHMOND'S HOUSING GOALS

The Richmond community acknowledges its need for more affordable housing, particularly for seniors, and that it would benefit from a greater diversity of housing choices. At the same time, it recognizes a significant proportion of its land is protected from development due to environmental and physical constraints. This presents a challenge for not only identifying locations that would be able to accommodate increased residential density but also for attracting potential development partners that could provide low and moderate income housing in town.

2021 Comprehensive Community Plan Recommendations:

- Permit mixed-use development in Wyoming
- Evaluate privately owned underutilized parcels along Route 138 for possible rehabilitation or into age-restricted independent housing, congregate care, or assisted living
- Encourage infill and multifamily development to increase opportunities to add moderate income housing units.
- Route 138 identified as a Growth Center fit for higher density development



Figure 1.1 - Potential Suitable Areas for Affordable Housing

Source: 2021 Comprehensive Community Plan, Richmond, RI.

DRAFT

1.3 STUDY OBJECTIVES

To support the implementation of the CCP's housing recommendations, this corridor study aims to better understand housing from the market and infrastructure (transportation and wastewater) perspective. Additionally, it provides a high level infrastructure assessment to determine what ultimately supports or detracts from housing development in the area and what the Town will need to do to increase the viability of mixed-use and higher density development along the Route 138 corridor.

1.4 ROUTE 138 EXISTING CONDITIONS

LOCATION & STUDY AREA

Route 138, a 48.3 mile State-owned and maintained highway, traverses Rhode Island, from Exeter at the Connecticut State line to Tiverton at the Massachusetts State line. Approximately 6 miles of Route 138 crosses through Richmond, stretching from the Village of Wyoming to the eastern town line.

The study area is bounded by Route 3 (Nooseneck Hill Road) to the west and Route 112 to the east. This corridor is also referred to as Main Street in the Wyoming Village area



Figure 1.2 - Route 138 Corridor Study Area

west of I-95 and as Kingstown Road to the east of I-95. I-95 bisects Route 138 via an overhead bridge and has ramp access connecting Richmond north to Providence and south to New London, CT.

The corridor supports a mix of uses including, commercial, residential, recreation, farm land, and forested area. Richmond Town Hall and Richmond Elementary are also located along the route.

ZONING

The study area includes multiple zoning districts including General Business (GB), Light Industrial (LI), Planned Development (PD), Residential (R2), and Public and Government (PUB). The Planned Unit Development Village Center (PUD-VC) zoning district is just north of the corridor, adjacent to the PD district. The western end of the corridor from Stilson Road to the Richmond town line falls within the Aquifer Protection Overlay District (AQU). A small portion of the corridor also intersects with the Flood Hazard Overlay District at Meadow Brook by Meadow Brook Golf Course.

According to Richmond's Zoning Ordinance, dwelling units within mixed-use buildings and multi-family buildings of 5-12 dwelling units are permitted in the GB, PD, and PUD-VC zoning districts. Multi-family buildings of 13-28 dwelling units are permitted in only the PUD-VC zoning district (Section 18.16.010)

The following provides a brief overview of the different zoning districts and their permitted uses.

General Business (GB). This district provides areas for commercial uses that depend on greater volumes of

vehicular traffic and highway related uses. Typical uses include those which offer accommodations and services to motorists, specialized retail outlets and uses that are more community-oriented than those permitted in the neighborhood business district.

Light Industrial (LI). This district contains land that is considered suitable for more restrictive light manufacturing and related uses, such as commercial offices and warehouses, in order to protect the water quality of adjacent streams and wetlands.

Planned Development (PD). The planned district allows for a mix of residential and commercial uses with design standards and a unified site design that allows for the clustering of buildings, common open space, building types and land uses. Planned developments require approval by the Planning Board as land development projects or through the development plan review process.

Residence 2 (R-2). This district contains areas that are partially or fully developed at an approximate density of one dwelling unit per two acres and areas that are planned for future development at this density.

Public and Government (PUB). This district is for land owned by the town or by another governmental or quasi-governmental entity such as a chartered fire district or a regional school district.

Planned Unit Development-Village Center (PUD-VC). This district incorporates a mixture of residential uses at different densities, neighborhood businesses, professional offices, retail uses, governmental uses, and recreational facilities designed to create a distinct "sense of place" that has the scale and character of a traditional New England village center.

Aquifer Protection Overlay District (AQU). The district's boundaries correspond to those established by the RI Department of Environmental Management and the RI Department of Health Office of Drinking Water Quality to delineate the boundaries of the Wood-Pawcatuck River basin aquifer, wellhead protection areas, and groundwater recharge areas. Subdistrict A is comprised of the aguifer and all wellhead protection areas. Subdistrict B is comprised of the groundwater recharge areas. Development proposed within an Aquifer Protection Overlay District may be subject to additional zoning requirements, including hazardous waste management and additional permitting processes. Some uses are prohibited or would require a special permit to be developed in these overlay districts. As an example, a "general retailer in a building 20,000 sq. ft. or more gross floor area" is prohibited in Aquifer Protection Overlay subdistrict A, and is allowed by special permit in subdistrict B.

Flood Hazard Overlay District (FH). The purpose of the flood hazard overlay district is to protect the public safety, minimize property damage, protect watercourses from encroachment, and preserve the ability of floodplains to retain and carry off floodwaters.

The Future Land Use Map (Figure 1.3) included in the Town's 2021 Comprehensive Community Plan maintains the existing zoning districts and land uses. It also designates the Route 138 corridor within a new Wyoming/ Route 138 Infill and Growth Area.

Figure 1.3 - Future Land Use Map



RICHMOND COMPREHENSIVE COMMUNITY PLAN 2021



Source: 2021 Comprehensive Community Plan, Richmond, RI.

TRANSPORTATION

As a state-owned road, Route 138 is under jurisdiction of the Rhode Island Department of Transportation (RIDOT).

Route 138 intersects I-95, Route 2, and Route 112 in Richmond and serves as a major east-west connection through town. It sees 10,000 to 15,000 trips per day, which is below its traffic capacity. About 40% of these trips are pass-through traffic.

On average, about 7 crashes per month occur on the corridor. A roundabout was recently added at the east end of the corridor to help improve traffic and safety conditions.

While there is some pedestrian activity, limited sidewalks and crosswalks make for unsafe conditions.

INFRASTRUCTURE

Northeast Water Solutions, Inc. (NWSI) manages Richmond's water infrastructure system along Route 138. Currently, there is adequate capacity to add water users (i.e., new residents or businesses), however, water pressure and volume improvements may be needed for fire suppression.



Existing commercial buildings within study area.



Existing road condition along Route 138.

HOUSING ANALYSIS



Section 2

Housing Analysis

2.1 OVERVIEW

This housing analysis builds upon the findings of the Comprehensive Community Plan (CCP) by combining extensive quantitative data with consideration of the community's goals for its future to produce a 10-year housing production target. This housing target addresses gaps in housing types and affordability based on identified need within the Richmond community.

2.2 POPULATION TRENDS

Like elsewhere across the country, Richmond's older adult cohorts are growing while its middle-age and younger cohorts are shrinking. If these trends continue through the next decade, a significant majority of the population will be over 55 years old and there will be fewer adults at ages associated with starting and raising families.

In general, younger households are more likely to prefer familyoriented housing and neighborhoods whereas older households may have a broader range of preferences and priorities, including options for aging in place and senior housing.

Richmond's population has the potential to grow by about 8% over the next decade. While the overall household income mix may not change significantly, the 30-60% AMI group may grow faster than other groups. This potential growth, however, is contingent on the availability of housing that aligns new households' incomes and preferences over the same time period.

Figure 2.1 - Residents by age group



30% AMI 30-60% 60-80% 80-100% 100-120% >120% 3,037 households in 2024 2,500 2,000 1,500 1,500 0 2010 2012 2014 2016 2018 2020 2022 2024 2024 2026 2028 2030 2032 2034

Figure 2.2 - Richmond household change by AMI group

Data Sources: American Community Survey, 2022.

2.3 EXISTING HOUSING STOCK

Richmond's housing stock is comprised of predominantly owneroccupied detached single-family homes. Attached single-family and two to four family units make up the next largest category of housing type. Multifamily buildings with five or more units represent the smallest housing type in the community. There are more three-bedroom units than other unit size and very few onebedroom units.

Most of Richmond's existing multifamily units are rentals and they tend to be smaller than owner-occupied units.

The majority of homes in Richmond were constructed between 1970 and 1999 and before 1940. Since 2010, comparatively few units have been built, and the rate of construction seems to be slowing into the current decade. Slower housing construction could be associated with low demand for growth. Alternatively, potential growth could be considered constrained and not realized due to a shortage of new housing supply.

Household size and the presence of children are

primary drivers for bedroom count with larger families desiring more bedrooms than smaller households. However, other factors such as income and the incremental cost of extra bedrooms also influence these preferences. In most places, ownership units generally offer more bedrooms than rental units. As with structure type, this is not exclusively a result of the market reflecting household preferences. Few single family houses contain less than 3 bedrooms so, if they dominate the local ownership supply, there will not be many small ownership units available. Conversely, most rental units contain fewer than 3 bedrooms so households interested in renting a larger unit may have limited options to choose from. This misalignment is at least somewhat driven by the fact that it is less capital efficient to build small houses and large apartments even if there may be some demand for them.

Figure 2.3 - Existing units by structure type



Figure 2.4 - Existing units by number of bedrooms



Figure 2.5 - Age of existing housing

Year built	Units	Share	Cumulative share
2020 or later	60	2%	2%
2010 to 2019	195	6%	8%
2000 to 2009	318	10%	18%
1990 to 1999	608	19%	36%
1980 to 1989	670	21%	57%
1970 to 1979	700	22%	78%
1960 to 1969	237	7%	86%
1950 to 1959	88	3%	88%
1940 to 1949	0	0%	88%
1939 or earlier	379	12%	100%

DRAFT

2.4 EXISTING AFFORDABLE HOUSING STOCK

Today, about 3.45% of Richmond's housing stock is considered low-or-moderate income housing (LMIH) as defined by Rhode Island's Low and Moderate Income Housing Act. Of these, 107 LMIH units, none are reserved for seniors.

This leaves Richmond approximately 200 units short of meeting the State's 10% LMIH threshold requirement.

As stated in the CCP, Richmond has struggled to increase and maintain its supply of LMIH. In recent years, however, comprehensive permit developments have started to increase the number of LMIH units within Richmond's housing stock. Some of these developments have included:

- Fox Run Condominiums (2021) The multifamily housing development includes 100 owner-occupied dwelling units in 14 multi-unit buildings. Twenty-five of the units are reserved for low or moderate income families.
- Hillsdale Road A small development that included one LMI single family unit.
- **Richmond Ridge (2019)** A multifamily development near the village of Shannock provides 32 low income rental units. It was sponsored by Women's Development Corp.

These recent developments highlight the potential for comprehensive permits to facilitate LMIH development in Richmond. Furthermore, they demonstrate recent developer interest in using the comprehensive permit process to construct multi-family housing in Richmond.

Table 1 - LMIH units by tenure in Richmond

Tenure	# of Units	% of Total
Ownership	31	30%
Rental	33	32%
Other	40	38%
Total	104	

Note: "Other" accounts for special needs housing arrangements.

3.45% OF RICHMOND'S HOUSING

STOCK IS CONSIDERED LOW-

MODERATE INCOME HOUSING



Fox Run Condominiums in Wyoming Commercial District. Source: Fox Run Condos.

The *Low and Moderate Income Housing Act* requires all Rhode Island towns and cities to have 10 percent of its housing stock designated as lowincome or moderate-income housing.

Data Sources: RIHousing, 2023.

2.5 ATTAINABILITY GAPS

Like nearly all places in the country, Richmond includes a number of cost burdened households that have not found housing they can comfortably or stably afford. About 23% of Richmond homeowners are cost-burdened, meaning they spend 30% or more on household income on housing costs.

Home sales prices in Richmond have increased more rapidly since 2020 than over the previous several years, especially among higher-priced homes. While in some parts of the country, prices began stabilizing in 2023, this is not yet the case in Richmond.

The average asking rent for a newly occupied unit in Richmond has also been rising for the past decade at a relatively steady pace. This differs from other parts of the state where this growth rate has accelerated since 2020 and has not yet stabilized.

In Richmond, the cost of a median price home has not been affordable to households earning the median income for many years. Currently, the median price is more than double what the median household income could afford if buying today. This represents Richmond's existing attainability gap.

While solving this challenge in a short time frame is not realistic, adding new units that better align with what is affordable to Richmond residents would help ease local attainability pressure.

> Figure 2.8 compares the median listing price in Richmond with the home value affordable to a household earning the median household income. A wider gap means higher barrier to entry for first-time homebuyers and increased risk that an existing resident might be priced out of the community if they choose or need to move to a different house.

Figure 2.6 - Home sale prices

Average price by tercile (Upper, middle, and bottom third of prices)









Can a household with a median income afford a median home price?



Data Sources: Zillow; FRED, Federal Reserve Bank of St. Louis; CommunityScale, 2024.

2.6 HOUSING DEMAND

In order to calibrate future housing production to best meet the community's needs, two factors must be established: how many units are needed in total and what is the right mix of unit types and prices. This section addresses each of these factors to inform recommendations that effectively meet local need and reflect the community's values and priorities.

Richmond's housing demand is driven by a number of factors that include unmet demand among existing residents and new growth among projected and potential future residents. Unmet demand of current residents include those that fall within Richmond's attainability gap as well as potential downsizers who may prefer to live in a smaller unit than what they currently have. Demand from future residents is created through organic growth,

Table 1 - Potential supply shortages across different price points

Ì.

the local workforce, and the additional market capture of those who are or may be looking to live in the Richmond area.

The gap analysis in Table 1 compares Richmond's distribution of household incomes to its mix of housing options by cost to uncover potential supply shortages at different price points. The analysis identified a shortage of 660 units across a range of price points and bedroom counts. Adding units at these price points and bedroom counts would help take pressure off existing residents currently experiencing cost burden.

RICHMOND'S HOUSING SUPPLY IS ~ 660 HOUSING UNITS SHORT OF MEETING EXISTING DEMANDS

Ĩ

	0-1 beds	2 beds	3 beds	4+ beds	Total
<\$800	43	31	15	5	94
\$800-\$1,650	107	97	47	16	267
\$1,650-\$2,200	44	57	38	10	149
\$2,200-\$2,750	14	27	22	11	74
\$2,750-\$3,300	6	12	12	6	37
>\$3,300	2	9	14	13	38
Total	216	235	149	61	660

Data Sources: American Community Survey, 2022; CommunityScale, 2024.

POTENTIAL DOWNSIZING SENIORS

According to Harvard University's Joint Center for Housing Studies, about 5% of seniors move each year, in favor of housing units that better meet their needs, preferences, and life stage requirements. In most cases, this involves selecting a smaller unit, often preferring newer construction over older.

Those most likely to downsize are smaller senior households currently living in larger units. At a rate of 5% per year, this population generates demand for 172 units suitable for small senior households in Richmond.

ORGANIC GROWTH PROJECTION

The organic growth projection shown in Figure 2.9 estimates the range of expected change in household numbers over the next 10 years. Richmond has the potential to grow modestly over this period, adding 219 households.

In addition to responding to projected growth, housing production will be need to accommodate the new households that are expected as well as help maintain the overall health and quality of the existing housing stock. Every local market should maintain sustainable vacancy rates and offer hospitable housing stock to best serve community residents. Some housing production is often necessary to keep each of these indicators in a healthy range.

Table 2 - Potential downsizing seniors

10 year downsizers (and the units needed to accommodate them)	172
Potential annual downsizing rate	5%
65+ households of 1-2 people in 3+ bedroom units	343
65+ households	656

Figure 2.9 - Production needed to keep up with 10-year growth



Organic household growth: 219 units forecasted from 2023 to 2033. **Overcrowding adjustment:** 0 units. The local rate of 2.1% is higher than the national average of 3.3%.

Replacement housing: 40 units. 0.05% of the housing stock is replaced annually, which includes uninhabitable or obsolete units requiring replacement.

Vacancy adjustment: 0 units. The local rate of 10% is above the healthy market minimum of 5% for ownership and rental combined. Vacancy is the "slack" in the housing market (too low and prices can spike, too high and neighborhoods can suffer blight) Substandard adjustment: 0 units. The local rate of 2.5% is lower than the national average of 4.5%. Substandard housing is measured by incomplete plumbing or kitchen. It is the portion of units that are functionally inadequate.

Data Sources: American Community Survey, 2022; CommunityScale, 2024.

DRAFT

DRAFT

CAPTURING REGIONAL MARKET RATE DEMAND

In addition to organic growth, Richmond could capture a larger share of the overall regional market by proactively building housing units tailored to attract households currently shopping for a new home or apartment.

This could be particularly impactful if the households attracted by this proactive development were not otherwise projected to move to Richmond. Drawing from this regional market, Richmond could absorb up to 65 units per year.

In Table 3, below, shaded units could be built market rate and without subsidy. Unshaded units would likely require assistance.



Condominiums in the Fox Run development on Stilson Road near Route 138.

Cost	0-1 bed	2 beds	3 beds	4+ beds	
Below \$750	595	425	295	95	-
\$750-\$1,250	1760	1665	695	280	
\$1,250-\$1,750	1145	1410	775	230	
\$1,750-\$2,250	845	1150	875	255	
\$2,250-\$2,750	370	675	635	265	1
\$2,750-\$3,250	145	430	565	230	L
\$3,250 and above	170	470	665	785	l

Table 3 - Housing unit mix to capture regional demand

In table 3, shaded units could be built market rate and without subsidy. Unshaded units would likely require assistance.

RICHMOND'S TOTAL HOUSING DEMAND

Table 4 and Figure 2.11 illustrate how Richmond's 10-year housing demand translates into household income levels.

While this distribution reflects expected demand over the next 10 years, it does not necessarily coincide with the housing production target in the following Results section. Housing for each income level requires a different set of policies, programs, and subsidies to build. In many cases, there simply is not enough capacity to meet the full demand right away.



Figure 2.11 - Total demand by source and income level

Figure 2.10 - Household growth, observed and potential



Table 4 - Expected housing demand by household income

	Total demand
AMI	(units)
<30%	107
30-60%	355
60-80%	152
80-100%	136
100-120%	377
>120%	635
	1,762

Data Sources: American Community Survey, 2022; CommunityScale, 2024.

DRAFT

2.7 RESULTS BARRIERS TO NEW HOUSING DEVELOPMENT

Т

Though informed by the demand analysis, Richmond's 10year housing production target calculation is constrained by factors of development feasibility. For example, market-supportable housing production is limited by the realistic annual capacity of local and regional developers, availability of adequate sites, and local infrastructure capacity to support the new development.

Low and moderate income housing (LMIH) may be introduced as part of a comprehensive permit application (the counts in Table 5 assume new development includes 10% LMIH). The Town could also consider ways to incorporate LMIH into new development projects to help make progress toward an expanded inventory of committed-affordable housing.

Table 5 - New housing production targets by income and development pathway



NEW PRODUCTION CONSTRAINED BY DEVELOPER AND INFRASTRUCTURE

CAPACITY

	Federal and	state programs	Market-su	Ipported	
	LIHTC,	Comprehensive		Without	
AMI	vouchers, etc.	permit	With incentives	incentives	Total
<30%	0	0	0	0	0
30-60%	0	16	0	0	16
60-80%	0	27	0	0	27
80-100%	0	0	0	0	0
100-120%	0	0	121	21	142
>120%	0	0	192	48	240
	0	42	313	69	425

Data Sources: American Community Survey, 2022; RIHousing, 2023; CommunityScale, 2024.

Figure 2.12 - Richmond's 10-year housing demand translated into income levels

ı

HOUSING PRODUCTION TARGET

Based on the preferences of the households corresponding to the demand trends in Richmond described in the previous section, most new housing units in Richmond should be 2 bedroom or smaller. A minority should be 3 and 4 bedroom, similar to the predominant unit sizes that currently exist in town.

Table 6, above, breaks down the housing production target by bedroom count and monthly cost. Table 7 translates monthly cost into a home purchase price or an apartment rental rate (after accounting for primary housing costs like utilities and property tax).

NEW DEVELOPMENT SHOULD FOCUS

ON SMALLER UNITS

predominant unit sizes that	\$2,200-\$2,750	0
	\$2,750-\$3,300	28

Table 6 - New housing production targets by monthly cost and bedroom count

Monthly cost	0-1 beds	2 beds	3 beds	4+ beds	
<\$800	0	0	0	0	0
\$800-\$1,650	6	6	3	1	16
\$1,650-\$2,200	10	10	6	2	27
\$2,200-\$2,750	0	0	0	0	0
\$2,750-\$3,300	28	54	41	19	142
>\$3,300	31	75	81	54	240
	75	144	131	75	426

Table 7 - Monthly costs translated into purchase price and rental rate

Monthly cost	Max price	Max rent
<\$800	\$67,754	\$670
\$800-\$1,650	\$159,725	\$1,488
\$1,650-\$2,200	\$219,236	\$2,017
\$2,200-\$2,750	\$278,747	\$2,547
\$2,750-\$3,300	\$338,258	\$3,076



Affordable multifamily rental homes at Palmer Pointe development in Barrington, RI.

Data Sources: American Community Survey, 2022; CommunityScale, 2024.

NEW DEVELOPMENT SHOULD INCLUDE RENTAL, MULTIFAMILY, AND TOWNHOMES

A new development's housing tenure (rent/own) and structure type is influenced by a number of factors including household preferences, the development financing climate, construction costs, and developers' preferred model. Due to the number of contingencies involved, this study does not attempt to pin down precise tenure and structure type recommendations.

However, given Richmond's very high concentrations of ownership and detached single-family, new development would be more desirable to the households on the market if the overall tenure were more balanced between ownership and rental and between single-family and townhome/multifamily.

In general, state and national benchmarks are a reasonable reflection of long-term tenure preferences with the exception that today's market trends somewhat more toward townhomes and multifamily.



Townhomes at Shannock Falls. Source: WDCHOC.



Figure 2.13 - Existing housing stock tenure comparison





Data Sources: American Community Survey, 2022; CommunityScale, 2024.

INFRASTRUCTURE ANALYSIS



Section 3

Infrastructure Assessment

3.1 OVERVIEW

To support analysis of the Route 138 corridor's potential for multifamily housing, a high-level infrastructure assessment was completed to determine whether the existing water and sewer systems have the capacity for additional housing units. The assessment also examined other potential impacts that would need to be addressed.

The analysis was informed by infrastructure experts at Northeast Water Solutions, Inc. (NWSI), Rhode Island Department of Transportation (RIDOT), and the Town of Richmond. Their collected input and records helped to develop a better understanding of the existing system conditions, identify areas of concern, and anticipate future planned improvements. The analysis also made determinations on whether the system's current water and sewer infrastructure could support new multifamily housing development based on existing data.

While not exhaustive, the analysis includes recommendations on the type and location of the water and sewer improvements that will be needed to support more housing in the study area. The findings and recommendations are summarized in this section with additional supporting documentation included in the report appendix. The analysis serves as an important first step for better understanding what would be required should Richmond decide to move forward with additional multifamily housing development along the Route 138 corridor.



Kingstown Road Bridge. Image Source: RIDOT.



Roundabout at Route 138 intersection with Route 112. Image Source: RIDOT.

3.2 ENVIRONMENTAL CONTEXT

FLOOD HAZARD

The majority of the Route 138 corridor is not located in a Flood Hazard Overlay District. A small segment towards the east end of the corridor, however, intersects with the Flood Hazard Overlay where Meadow Brook crosses Kingstown Road by Meadow Brook Golf Course. The Flood Hazard Overlay District maps are included in the appendix of this report.

SOILS

The majority of soil along the corridor is not hydric. Some areas do exhibit hydric soils and other soil constraints, however, which can have an impact on the location and depth of building foundations, utility, and drainage infrastructure. Further geotechnical evaluations are recommended to analyze the subsurface conditions to understand how it would impact the ability to develop each specific site.

GROUNDWATER PROTECTION

The Route 138 corridor is not located within a Community Wellhead Protection Area (CWPA) or groundwater reservoir. The western end of the corridor, from Stilson Road to Nooseneck hill Road in Wyoming is a part of a Groundwater Recharge Area. Consideration for water quality and groundwater protection will be important for future developments in this area and may require additional permitting effort.

3.3 EXISTING INFRASTRUCTURE

WATER INFRASTRUCTURE

Based on the data and resources provided by RIDOT and NWSI, an existing 12" ductile iron (DI) water service runs beneath Route 138 throughout the length of the corridor. According to NWSI, the 12" water main is in good working condition. There are existing fire hydrants serving buildings and infrastructure on Route 138. The system has a 500,000-gallon elevated spheroid potable water storage tank northwest of the Elementary School, opposite Meadow Brook Golf Course. There is also a 300,000-gallon standpipe serving the system off Old Kenyon Road. Prior fire flow analyses indicate substantial capacity (>1,300 gallons per minute). According to NWSI, the daily system water demands are on the order of 75,000 gallons per day (gpd), which is a fraction of the full system capacity.

Additionally, there is a closed pipe drainage system consisting of catch basins and DI pipe or reinforced concrete pipe (RCP). The drains discharge via flared end sections to surface basins or to perforated pipe infiltration systems adjacent to the roadway.

SEWER INFRASTRUCTURE

There is no public sewer system in Richmond or along Route 138. According to town personnel, many of the businesses and residents in the area are serviced by private septic systems.

TRANSPORTATION INFRASTRUCTURE

Route 138 is a two-lane roadway except on either side of the I-95 ramps where it expands to four lanes for a short distance, mostly to accommodate dedicated left turn lanes at intersections. There are five signalized intersections, all of which are located in the western end of the corridor between Nooseneck Hill Road (Route 3) and the Stop & Shop plaza east of I-95. A roundabout was installed at the Route 112 intersection at the eastern end of the study corridor in 2024.

The only sidewalks are located in the western end of the study corridor and there are no bicycle facilities anywhere. There are narrow sidewalks immediately adjacent to the roadway extending from Nooseneck Hill Road to the RIDOT park-and-ride lot just east of I-95. There are only three marked crosswalks across Route 138 however, located at Nooseneck Hill Road and the two signalized intersections at the I-95 ramps. The sidewalk is crossed by many driveways in the Wyoming village area creating potential pedestrian-vehicle conflict points. While some people are observed walking in the area, it is an uncomfortable environment for pedestrians with very limited opportunities to safely cross the road.

The only transit service in the study corridor is the RIDOT park-and-ride lot just east of I-95. It has a shelter and bench for commuters waiting for the 95X bus which travels between Providence and Westerly. It provides four trips per day, three following commuter trends and one "reverse commute".

3.4 FINDINGS

WATER

Future mixed-use and multi-family housing developments would tie into the existing water service along Route 138 for potable and fire protection water services. According to NWSI, the existing water main is in good working condition, however the age and condition of the water main, laterals, and hydrants should be verified to understand if replacement or repair of the existing infrastructure is necessary. NWSI believes the system has sufficient capacity to support new development, however, additional analysis and fire flow testing should be performed to confirm capacity of the existing water system.

SEWER

Future developments would require an on-site wastewater treatment system (OWTS) for their operations. A wastewater treatment plant would be utilized to treat wastewater from the development prior to discharge to a subsurface leaching field. Factors that will determine the size and type of septic system for the development will be sewer demand, subsurface conditions (soil conditions and infiltration rate, depth to ledge, depth to groundwater), and the type and sensitivity of the receiving water body. A hydrogeologic study and subsurface evaluations should be performed on each site to determine these factors. Future developments must reserve on-site areas of suitable soils to accommodate the footprint of a wastewater treatment plant facility and subsurface leaching field, as well as associated setbacks to adjacent water bodies, resource areas, building foundations and utilities.

STORMWATER

Stormwater runoff associated with future developments would likely be managed on-site for each development, using techniques such as surface basins and infiltration systems. Future developments will need to reserve on-site areas of suitable soils to accommodate the footprint of a surface or subsurface infiltration system. A geotechnical investigation at potential development sites is recommended to identify soil conditions and depth to groundwater or bedrock that would affect this stormwater management design.

TRANSPORTATION

Traffic volumes along Route 138 in the study corridor appear to be lower than estimated capacity. In the Wyoming area west of I-95, data indicates approximately 10,000 trips per day with an estimated capacity of 16,000 trips. Near the Stop & Shop plaza east of I-95, data indicates approximately 15,000 trips per day with an estimated capacity of 18,000 trips. Further east, those figures are 14,000 daily trips compared to 16,000 estimated trip capacity. About 40% of trips along Route 138 are passthrough trips beginning and ending outside of Richmond.

Two issues noted in the corridor are backups caused by drivers attempting left turns in the Wyoming area, especially at peak hours, and high speeds. The Wyoming area has many driveways serving a variety of businesses but no dedicated left turn lane. Drivers attempting to make a left turn have to stop in the travel lane and wait for a gap in oncoming traffic which causes delays. Police data noted an average speed of 57 mph along the eastern segment of the study corridor prior to the posted speed limit being reduced from 40 to 35 mph.







Route 138 corridor in the Wyoming area.

Data Sources: Replica, Fall 2022 dataset.

POTENTIAL LOCATIONS FOR HOUSING DEVELOPMENT

Zoning along the corridor generally allows for housing in mixed-use buildings and multifamily buildings with limits on the number of units per building. In the Wyoming village area, there are several redevelopment opportunities where vacant or underused sites could provide new housing and/or commercial uses. There are a few sites east of I-95 that could be redeveloped, and several large tracts of undeveloped land that could be developed for economic and/or housing purposes. Redevelopment opportunities exist within the General Business (GB) district but would require zoning relief or rezoning to add multifamily to commercial sites.

3.5 RECOMMENDATIONS

WASTEWATER PLANNING

Creating a public sewer system to support new development along part of the Route 138 corridor would require significant planning and expense. If a public sewer system is determined to be feasible and desirable, it would eliminate the need for OWTS for individual economic development or housing projects which could reduce development costs. Without a public system, new housing and commercial projects will continue to require OWTS which will limit the intensity of uses and require larger amounts of land.

Without doing actual testing the following outlines the steps the Town would need to follow to explore adding public wastewater treatment and disposal facilities serving the Route 138 corridor area.





Source: 2021 Comprehensive Community Plan, Richmond, Rl.

Development Planning to Identify Potential Sewer Service Area and Overall Wastewater Design Flows. This would include analyzing the following existing

planning documents:

Zoning maps

- Municipal parcels
- Vacant parcels
- Existing and proposed development
- Potential redevelopment
- Identify Potential Service Area and Design Flow Estimates

Identify Environmental Concerns. This should include the study of the following topics:

- Water Supply Wells, Groundwater Quality and Nitrogen Loading Limitations
- Aquifer Protection Districts
- Surface Water Quality

Develop Schematic Wastewater Collection System

Layout. The layout should take into consideration the following components:

- Gravity Collection System
- Pump Stations
- Low-Pressure Pump System

Identify and Complete a Preliminary Assessment of Potential Wastewater Treatment Plant (WWTP) Sites. Several elements need to be considered when identifying potential WWTP locations. They include, but are not limited to:

- Location, Elevation and Site Constraints
- Sensitive Receptors/Considerations
- Design Capacity and Expansion Potential
- Influent Characterization Municipal, residential, institutional, commercial, industrial, special waste
- Treatment Requirements
- Treatment Options and Facility Footprint
- Solids Handling
- Odor Control
- Special Considerations

Identify and Evaluate Potential Effluent Disposal

Options. Different options are available depending on the area's local context, including:

- Disposal to a Surface Water
 - Stream / River
 - Capacity
 - Classification
 - Restrictions
 - Hydraulic and Contaminant Loading
 - Discharge Limitations
- Groundwater Disposal
 - Discharge limitations
 - Open sand beds or subsurface
 - GW Injection
 - Determine Potential Loading rates and disposal system size
 - Hydrologic and Hydrogeologic Assessment (See below)
- Investigate Potential Reuse Options
- Preliminary Assessment of Potential Options

Perform Hydrologic and Hydrogeologic Assessment.

Several assessments are helpful for determining the suitability of an area for future wastewater infrastructure. The following help in further defining existing conditions and constraints:

- Regional Soil Mapping
- Soil Investigations
 - Topography
 - Soil Characterization

- Long-Term Acceptance Rate of the Soils
- Hydraulic Conductivity
- Depth to Groundwater
- Depth to Bedrock
- Saturated Thickness / Transmissivity
- Soil or Site Limitations
- Sensitive Receptors
 - Surface water
 - Wetlands
 - Existing Wells
 - Potential Groundwater Supplies
 - Nitrogen Sensitive Areas
- Hydrogeologic Modeling and Assessment of Groundwater Discharges

Develop Schematic Designs. Designs should reflect the findings of the preceding assessments and evaluations.

Develop Preliminary Cost Estimates. Understanding project and implementation costs can support long-term planning, prioritization, and the identification of potential funding resources.

Identify Financing Options. Developing a plan for different financing options can aid in scenario planning as well as spreading project costs across different funding mechanisms. This can support a phased approach to implementation and increase a large infrastructure project's overall feasibility.

TRANSPORTATION PLANNING

Since the Route 138 corridor is an identified Infill and Growth area for the Town, additional steps should be taken to understand the potential transportation-related impacts of new development and improve conditions for drivers, pedestrians, and bicyclists.

Develop a corridor access management plan for this segment of Route 138. This would include a comprehensive analysis of existing land uses and traffic generators in and near the corridor, a consideration of future redevelopment sites, and recommended strategies to maintain or enhance multimodal access. Elements to consider include:

- Spacing of site access points
- Driveway design to safely accommodate drivers and pedestrians crossing the driveway
- Turn lane requirements
- New pedestrian and bicycle infrastructure
- Potential to reserve space if future roadway widenings are anticipated

Explore creating a center turn lane in Wyoming in conjunction with potential future redevelopment. This area has a concentration of business uses as well as several vacant or underused sites that could be redeveloped for housing or new commercial uses. A center turn lane would be the most effective way to address current delays in the area but requires more right-of-way than currently exists. Redevelopment of a large parcel(s) or assemblage of parcels could incorporate an easement or dedication of land along the roadway to provide the space necessary to install a new turn lane, which would improve access to the site as well as other sites nearby. Doing so would also require relocating existing utility poles.

RECOMMENDED ACTIONS



Section 4

RECOMMENDED ACTIONS

SUMMARY

As identified in Richmond's Comprehensive Plan, the Route 138 corridor presents the greatest opportunity for incorporating higher density commercial, mixed-use, and multifamily housing development within the Richmond community. Its connectivity to major state roadways and existing public transit makes it an ideal location for these uses. Additionally, the corridor's existing GB, PD, and PUD-VC zoning districts allow for mixed-use and multi-family buildings of varying densities, creating a base regulatory context that the Town can continue to build on.

Currently the town lacks housing opportunities for older residents looking to live in senior housing and for young professionals and families who grew up in Richmond and are now looking for their own home. There are limited rental options and owning a home is becoming increasingly more expensive and out of reach for residents.

Targeting greater density along the Route 138 corridor would allow Richmond to better meet its current and future residents evolving housing needs. Beyond meeting current resident needs, increasing higher density mixeduse and multifamily housing in this area will allow Richmond to make further progress towards the State's 10% low-and-moderate-income housing requirement.

This report's analysis indicates increasing multifamily housing development along the Route 138 corridor is possible without significant impact to existing transportation and water infrastructure. Currently, new projects are constrained by on-site septic requirements which limit density and increase the amount of land required. Adding new public sewer infrastructure along this corridor would remove this impediment but presents the largest challenge, however, due to the lack of existing sewer in the immediate area and the cost to plan and install a new system.

Should the community decide to prioritize greater mixeduse and multifamily development along the corridor, the Town should consider a wastewater planning process to determine locations for potential public wastewater treatment systems and effluent disposal options for new development.



Existing commercial area along Route 138.

The following recommendations identify key action areas the Town will need to pursue to support higher density mixed-use and residential development along Route 138 as recommended in the 2021 CCP.

RECOMMENDATIONS

Housing

Support a wider spectrum of housing types that include multi-family and townhouse options to accommodate seniors and young residents, as well as single family.

- Incentivize a mix of unit sizes, number of bedrooms, and unit types in market rate and lowand-moderate-income housing developments during the development plan review process.
- Incentivize the development of starter homes with in-unit or attached-unit accessory dwelling units (ADUs) to increase affordability of homeownership.
- Incentivize the development of senior housing

Provide more rental housing options.

- Incentivize mixed tenure in new housing developments during the development plan review process.
- Identify potential development partners that align with the Town's housing goals.

Encourage infill development and adaptive reuse of underused commercial properties into mixed-use, multifamily, and affordable housing.

• Identify and evaluate the feasibility of potential opportunity sites for affordable housing development.

Study additional barriers to housing development in PD, PUD-VC, and other zoning districts, as appropriate.

• Build relationships with developers to better understand local regulatory barriers and other constraints to development.

Infrastructure Improvements

Further evaluate the condition of existing water infrastructure.

- Verify the age and condition of the water main, laterals, and hydrants to assess if replacement or repair of existing infrastructure is necessary.
- Perform fire flow testing to confirm capacity of the existing water system to support fire protection.

Review existing stormwater management requirements in Route 138 corridor zoning districts

- Ensure existing zoning regulations and the development plan review process facilitate on-site stormwater management.
- Encourage geotechnical investigation at potential development sites to identify soil conditions, groundwater depth, or existing bedrock that would affect on-site stormwater management design.

Increase sewer infrastructure capacity along Route 138 corridor.

• Implement a wastewater planning process to identify potential wastewater treatment plant (WWTP) sites, explore effluent disposal options, develop schematic designs, and evaluate costs and financing options. DRAFT

Transportation Improvements

Develop a corridor access management plan for this segment of Route 138.

- Provide property owners and prospective developers with information about traffic and site access considerations and mitigation expectations.
- Include a menu of potential strategies such as internal circulation networks on large sites, consolidated curb cuts, and improved pedestrian and bicycle facilities.

Explore creating a center turn lane in Wyoming in conjunction with potential future redevelopment.

- Encourage redevelopment proposals in the Wyoming area to consider including an easement or dedication of land to provide the space necessary to install a new turn lane in Route 138, which would improve access to the redevelopment site by reducing delays.
- Coordinate with RIDOT and the project sponsor to discuss feasibility, location, cost, and other factors.
- Consider the type of redevelopment relative to the feasibility of dedicating land: proposals with significant frontage along Route 138 could provide the necessary space for a new center turn lane at one time. Proposals with less frontage may only be able to reserve the space so it is available if adjacent parcels redevelop in the future.



Top and bottom: Varying intersection and curb cut conditions along Route 138 corridor.



APPENDIX

