Route 12 Corridor Study

Town of Ledyard, CT

July 2025

GOMAN+YORK
ADVISORY SERVICES

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Route 12 Corridor Study

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The Assignment

Route 12 Corridor Study

The Town of Ledyard retained Goman York Property Advisers LLC ("Goman+York") to assist the Economic Development Commission (EDC) in the creation of a Route 12 Corridor Study. The purpose of the study was to review the economic and physical conditions of Route 12, and to determine how to enhance the corridor. The report produced focused on the following areas:

- Economic Development Goals & Strategies on how to Achieve those Goals
- Zoning Analysis of the Corridor
- Comprehensive Market Analysis of Route 12
- Analysis of Past & Current Plans that impact Route 12
- Business & Development Attraction
- Engineering analysis of the corridor for transportation and pedestrian access and safety (conducted by our partner, Solli Engineering)
- Production of reality-based strategies that are achievable and actionable, and that meet the current and future needs of the community.

In creating this Route 12 Corridor Study, the Town of Ledyard, with assistance from Goman+York, conducted a well-attended public engagement session to solicit community input. Due to the interest from the community, an previously unscoped online survey was provided to cultivate further interest and feedback. In addition, Goman+York performed extensive demographic, socioeconomic, psychographic, market, and geofence analysis. This analysis and assessment were aimed at both establishing a baseline of existing conditions while developing a firm understanding of the market—*what is working and what is not working*. Furthermore, Goman+York evaluated existing policies, plans, regulations, infrastructures, and capacities to inform future potential. The end result of this planning process is this 2025 Route 12 Corridor Study.

Executive Summary:

Strategies for Improvement

Chapter 1: Why We Plan

The Town of Ledyard has long recognized the importance of the Route 12 corridor to the Town, and the number of opportunities present along that corridor. Understanding that an updated study of the opportunities and barriers along Route 12 would be beneficial, Ledyard retained Goman York Property Advisers LLC ("Goman+York") to assist the community with the creation of a Route 12 Corridor Study. To best facilitate the process, the Ledyard Economic Development Commission (EDC) oversaw the creation of this document.

Long-term and strategic planning requires a thoughtful and critical approach. Planning for economic development and redevelopment requires a systematic approach that balances the needs, wants, passions, and enthusiasms of the community against social, demographic, economic, environmental, and property rights considerations. This study includes a review of the existing conditions, both from a market and infrastructure standpoint, and includes a statement of policies and strategic interventions aimed at moving the market and (re)positioning Route 12 to be a competitive, healthy, and vibrant place.

The planning process utilized for this study was a five-step process:

Step 1. Where Are We Today?: The assessment of existing conditions (historic, demographic, land use, social, economic, and environmental) that influence Ledyard and Route 12. This was done to establish a baseline and to understand what is working and what is not working in terms of investment along this corridor.

Step 2. Where Do We Want to Be in the Future?: The process of public outreach and input provided an understanding of what the community wants, needs, and is willing and capable of working to achieve. This was accomplished through a community meeting and public engagement session, an online survey, and meetings with the EDC. The community input received is included as an appendix in this report, and has helped to inform the direction of the strategies included.

Step 3. How Will We Get There?: The planning process helped determine policies and strategic interventions aimed at moving Route 12 toward the desired outcomes.

Step 4. How Will We Know We Are on the Right Course?: With the desired outcomes and strategic interventions to be deployed to achieve those outcomes identified, Step 4 created measures to help inform the community if what we are doing is working—a means of measuring the effectiveness of implementation.

Step 5. Implementation: This plan provides a road map to the future—a detailed conceptual plan and project map to guide the improvements of Route 12.

Chapter 2: The Changing Landscape

To best understand Route 12 in Ledyard, it was first necessary to understand how and why development patterns have changed. The form and function of settlement patterns are forever changing around technological and transportation innovations, economics, and our socio-cultural ways of living in our environment—the built environments as our self-created human habitat (our ecosystem). For example, our first industrial mills and factories were located alongside rivers (their source of power), and towns and cities were constructed around them. Riverside locations were later diminished once electricity was invented, and electric power sources were provided. The arrival of rail resulted in the abandonment of many ports, as manufacturing relocated along the rail lines. Later, interstate highways further transformed and reorganized the location and site of industry at interchanges and access ramps (i.e., the industrial park) and large single-story buildings that consolidated production, assembly, and distribution on a single floor.

With the form and function of settlement patterns forever shifting and changing around technological innovations, modes of transportation innovations, economics, and our social-cultural ways of living in our built environment, our demographics, socioeconomics, and consumer behaviors also shift and change. This creates new ways of working, socializing, and recreating. Many, if not most, of these changes are the result of slow-moving variables, making it difficult to see and understand these shifts and changes in real time. Ledyard and Route 12, just like other communities and places, have been impacted by these shifts and changes.

Chapter 2 explores why and how the commercial, industrial, retail, hospitality, and residential landscapes have changed. Suburban retail strips, that became popular following the widespread ownership of automobiles, took the place of city centers. Now, these corridors have been impacted by the shift to e-commerce. The location, form, and function of retail spaces have been disrupted. This disruption has altered the outlook for commercial corridors.

The fact is that the retail landscape has changed and will continue to change. Consumers no longer shop and spend in the same ways as they did one or more decades ago. This has resulted in Route 12 struggling to compete for investment, prosperity, and vibrancy, and has further resulted in some properties becoming vacant or functionally obsolete.

Chapter 3: Existing Conditions – Demographics, Economics, and Psychographics

Comparing existing conditions to historical trends and future projections informs us about where Ledyard and Route 12 have been, where they are likely heading, and what potential policies and strategies may be implemented to manage change and create meaningful improvement. Chapter 3 explores demographic, economic, and psychographic trends and conditions, providing insights as to what is working and what is not working along Route 12 regarding population, economics, and consumer behavior.

Population

The demographics in Ledyard have changed and will continue to change. From 2010 to 2020, Ledyard's population increased by 2.3%, a rate which is higher than the State increase of 0.9%, and opposed to the decrease in population in the Southeastern CT Planning Region (which declined by 2.2%). The population growth seen in Ledyard is positive, as is the fact that the population is slightly younger than the State average. With a median age of 40.4, Ledyard is slightly older than the United States (38.9), but lower than Connecticut (41.2). The median age in Ledyard should offer opportunities for economic growth that communities with an older population may not see.

Labor Market & Jobs

Connecticut has experienced stagnant job growth for the past 35 years. For example, from 1985 to 1989 (5 years), Connecticut added approximately 103,000 (non-farm employment) jobs, but only 45,000 (non-farm employment) jobs from 1990 to 2020 (30 years). Jobs are the primary driver of demand for commercial space and housing. Population is the secondary driver, while household formations (the creation of new households) are a key driver of housing demand. With stagnant job growth and anemic population growth, demand for commercial space has been marginal while demand for housing (residential space) has been modest, household formations being driven by the increase in one- and two-person households.

The Ledyard Labor Market has remained effectively stagnant, adding just 30 jobs from 1994 to 2024, in contrast to statewide growth of over 207,000 jobs during the same period. While the pandemic contributed to recent job losses, recovery is occurring. Overall, the state and regional labor markets are mostly stagnant, with marginal losses and increases as the economy fluctuates. Ledyard's labor force and unemployment mostly mirror the state and regional labor market.

Unemployment

Ledyard has a Labor Force of 7,965 as of February 2025. Ledyard's labor force has increased at a rate higher than the State and regional level, at 2% compared to 1.1%. The percentage of unemployed workers in Ledyard at 3.9% is slightly lower than the State and regional level, at 4.5% and 4.4%, respectively.

Positioning Route 12 for Success

Executive Summary

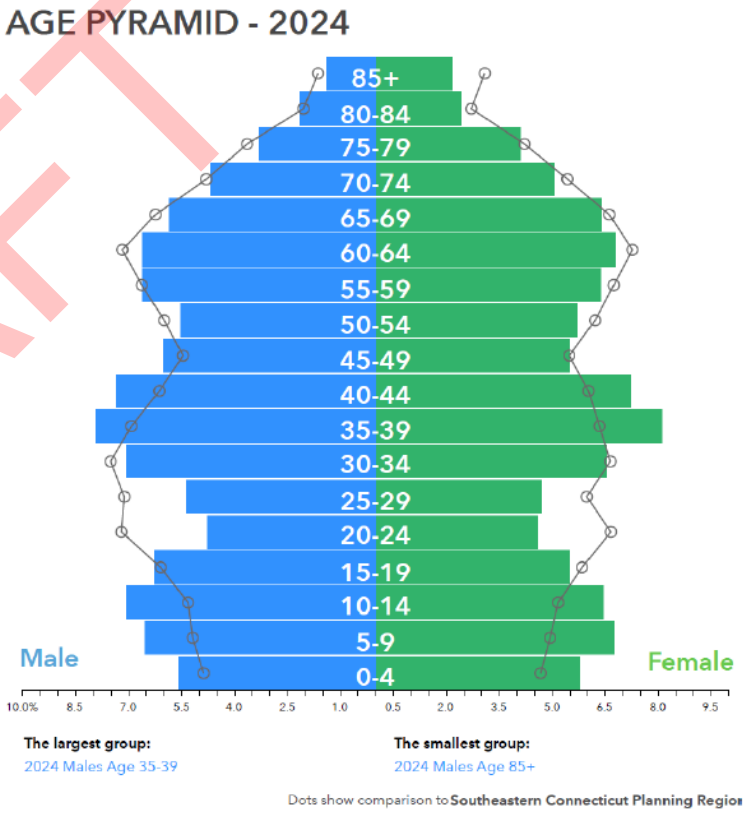
Psychographics & Consumer Segmentation

An in-depth analysis of Ledyard's consumers using ESRI's Tapestry Segmentation was performed. Tapestry combines demographics with consumer spending habits and psychographic behaviors to segment the population and neighborhoods. The Segmentations provide a detailed mosaic of socioeconomics and demographics. Tapestry Segmentation includes a broad spectrum of 14 LifeMode groups and 67 distinct Market Segments. The three most prevalent Segmentations in Ledyard are Green Acres, Parks and Rec, and Comfortable Empty Nesters, with Green Acres representing 43.4% of households. This segment is defined by self-reliant homeowners who have an avid love for nature and the outdoors. All of the primary tapestry segments emphasize homeownership, with a focus on appreciation for the environment and experiential activities.

Conclusions

Ledyard is a more youthful community than many of its neighbors and has a slightly higher amount of discretionary income as well. While Route 12 has seen little new economic investment in recent years, there is potential for growth based on the demographics of the community. An emphasis on experiential and activity-based businesses may be beneficial, due to the number of families in Ledyard. The number of jobs available to residents of Ledyard in the community and nearby is ample enough to provide a lower-than-average unemployment rate, and thus a more active population.

Ledyard Age Pyramid



Chapter 4: Existing Conditions – Physical Conditions and Market Analysis

Introduction

The analysis provided understanding of the corridor (location and conditions), situation (relative location), and physical character of Route 12 in Ledyard. The primary aim of this analysis is to best understand *why* and *how* the flow of investment (or not) occurs, and the potential to attract investment to Route 12. The corridor analysis included several variables and conditions to best understand *what is working* and *what is not working*.

Route 12 as a Site

Route 12 is located on the western side of Ledyard and serves as the eastern border of Gale's Ferry, before cutting through portions of it at the northern end. Route 12 is a State Highway that directly connects to the Naval Submarine Base New London. The roadway follows an alignment originally from the 1920s, and where commercial development exists along the roadway in Ledyard, such development typically occurs in strip centers.

Route 12's Situation

Route 12's situation, its relative location in the greater metropolitan region, provides good access to the greater region as a whole. Route 12 in Ledyard is proximate to New London and Groton to the south, and Norwich to the north. This access provides a greater number of people who could be attracted to developments in this area of Ledyard.

Property Condition Survey

A visual survey of the physical conditions of properties and buildings along Route 12 was conducted. This process revealed that a number of properties and buildings along Route 12 are in poor condition or could benefit from refurbishment. These properties are either entirely vacant (such as the former Kartway go-kart business at the corner of Christy Hill Road) or in need of modernization.

Commercial Real Estate Market

An analysis of the commercial real estate market by industrial, office, and retail asset classes was performed. The average age of retail spaces along Route 12 is 48 years, and the average age of office spaces is 75 years. These ages are concerning, and show that investment along the corridor has not been consistent over the years.

Traffic Counts

A basic analysis of Average Daily Traffic Counts along Route 12 was performed. This analysis reveals that traffic counts along this corridor range from approximately 12,000 average daily trips to a maximum of approximately 13,500 average daily trips. These numbers are comparable to the counts found on Route 32 across the river. The numbers found are generally high enough to attract some retail and restaurant development, but are not high enough to attract larger box stores.

Roadway Conditions

Solli Engineering has completed a traffic feasibility study to establish a comprehensive baseline for the Route 12 Corridor Study in Ledyard, Connecticut. The study focuses on a multi-modal assessment of a 5.6-mile segment of Route 12 through the Gales Ferry area, including six signalized intersections, several mid-block crossings, and surrounding access points. This report is intended to inform future transportation planning decisions, identify safety and mobility needs, and support the advancement of infrastructure improvements that align with community goals and regulatory standards.

Through the evaluation of traffic volumes, crash history, roadway geometry, pedestrian and bicycle accommodations, and public input, several key corridor needs were identified. These include the reduction of vehicle speeds, the introduction of safe and ADA-compliant pedestrian and bicycle infrastructure, signal modernization, improved lighting and signage, and enhanced intersection geometry and access management. The study incorporates detailed recommendations for both near-term improvements (e.g., striping, signage, signal timing) and long-term investments (e.g., sidewalk and bike lane construction, intersection reconstruction, and roundabout feasibility).

It is the professional opinion of Solli Engineering that the corridor presents significant opportunities to improve safety, connectivity, and multimodal access while preserving the Town's rural character and enhancing quality of life. With proper phasing, coordination with CTDOT, and community support, the corridor can be transformed into a more efficient, equitable, and context-sensitive transportation network.

Chapter 5: Public Outreach & Participation

Public Outreach and Participation

The EDC, with the assistance of its consultants, conducted a community meeting and presentation with participatory activities and conducted an online community survey. The consultant has also met monthly with the EDC to provide updates and receive direction.

The public engagement session was held on April 15, 2025 at the Ledyard Senior Center and was attended by approximately 50 residents. Following the attendance at that event, the EDC requested that a survey be developed to gather additional public input, which was taken by nearly 300 residents. The questions asked in the survey were designed to closely mirror the activities at the April 15 event.

Public Participation Activities

As part of the community engagement event in April 2025, the participants were encouraged to engage in interactive activities designed to gather input and insights from the community. These activities included:

- Continuums of Change
- Word Clouds: Prouds & Sorrys
- Word Clouds: Town Center Today & In the Future
- Ranking Community Investment Opportunities
- Investing in Route 12
- Traffic Concerns

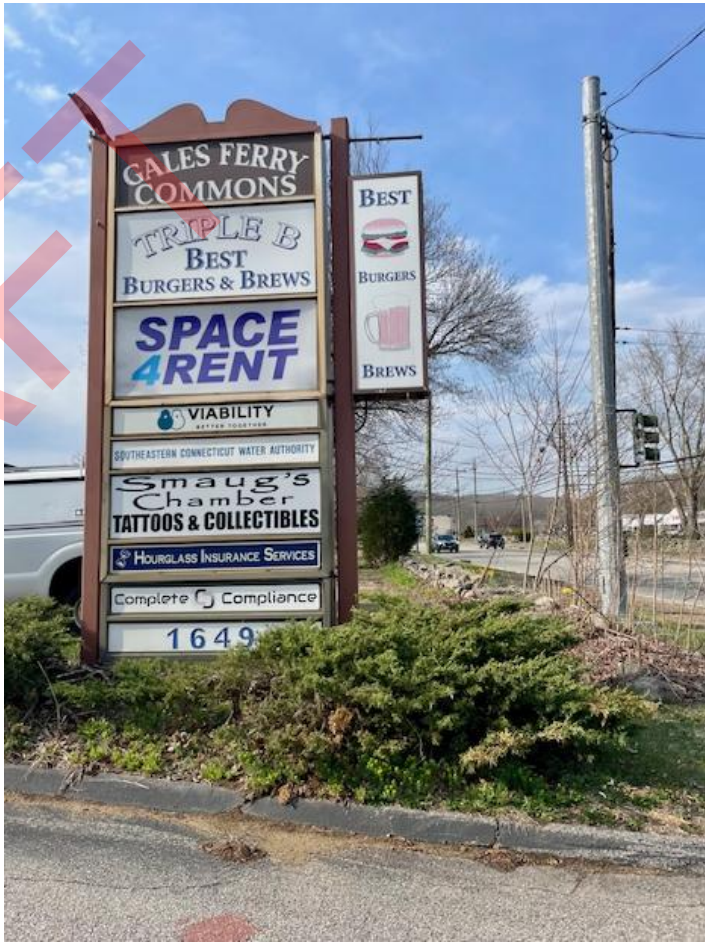
The engagement activities and survey were informative in the development of this study by noting a desire for greater restaurant and experiential development, and noting the desire that in general, the feel of Route 12 should remain unchanged.

Chapter 6: An Economically Sustainable and Resilient Ledyard

Economic development cannot be simply focused on the present. Successful economic growth requires communities to be cognizant of change and to plan for the future. Sustainability in economic development allows for the cultivation of diverse economic resources that will stand the test of time.

In developing an economic development strategy, it is important to acknowledge that the future holds many unknowns. Industries and business models that once were thought to last forever are now gone, and new, previously unconsidered economic innovations have taken rise. Therefore, a strategy must be flexible and allow for change to occur while ensuring success at every avenue.

A resiliency approach to economic development and governance is about Route 12 having the capability and capacity to adapt to change. This Study provides the groundwork for Ledyard to manage Route 12 in a successful, sustainable way.



Chapter 7: Route 12 Economic Development Strategy

When planning for the future of place, specifically when seeking to (re)position a place or market (a commercial district) to compete for investment and to create vibrancy and prosperity, it is important to ask the right questions and understand what it is that the community is trying to accomplish. For Ledyard and Route 12, the question asked and answered is: What current roadblocks limit the investment opportunities along the corridor, and what can be done to resolve those issues? Based on what has been learned through this extensive planning process, there are three primary problems to solve: Infrastructure and Physical Condition, Market, and Image:

- **Infrastructure and Physical Conditions:** The lack of sewer availability along Route 12 will continue to be a hindrance to the development of new commercial spaces and new residential development. In addition, there are numerous physical conditions which can and should be addressed, primarily concerning walkability/bikeability and roadway safety.
- **Market:** Mitigate functional obsolescence and grow market demand through strategic interventions aimed at right-sizing commercial space available and increasing the critical mass of population (households) within (and proximate to) Route 12 (i.e., multi-family housing and mixed-use development). Housing is where jobs go at night, and additional housing and residents will provide the market needed to entice investment. Additionally, the Town should consider a variety of economic incentive programs to spur economic growth along Route 12.
- **Image:** The areas along Route 12 contain a mix of scenic views of the Thames River and wooded areas, and suburban sprawl. The assets in the area should be emphasized, and previously prepared designs for the area could still be utilized. The Town can improve the image of Route 12 by focusing on aesthetics, design, brand, public spaces, and activating spaces (especially the Town Green) to be inviting and vibrant. Create higher standards of property maintenance and aesthetic appeal.

While each solution to these problems is unique, they are also interconnected as integral components of Route 12. Therefore, the strategies that follow are aimed at improving the physical conditions, market, and image of Route 12.

Chapter 8: Roadway and Accessibility

Solli Engineering has completed this traffic feasibility study to establish a comprehensive baseline for the Route 12 Corridor Study in Ledyard, Connecticut. The study focuses on a multi-modal assessment of a 5.6-mile segment of Route 12 through the Gales Ferry area, including six signalized intersections, several mid-block crossings, and surrounding access points. This report is intended to inform future transportation planning decisions, identify safety and mobility needs, and support the advancement of infrastructure improvements that align with community goals and regulatory standards.

Through the evaluation of traffic volumes, crash history, roadway geometry, pedestrian and bicycle accommodations, and public input, several key corridor needs were identified. These include the reduction of vehicle speeds, the introduction of safe and ADA-compliant pedestrian and bicycle infrastructure, signal modernization, improved lighting and signage, and enhanced intersection geometry and access management. The study incorporates detailed recommendations for both near-term improvements (e.g., striping, signage, signal timing) and long-term investments (e.g., sidewalk and bike lane construction, intersection reconstruction, and roundabout feasibility).

It is the professional opinion of Solli Engineering that the corridor presents significant opportunities to improve safety, connectivity, and multimodal access while preserving the Town's rural character and enhancing quality of life. With proper phasing, coordination with CTDOT, and community support, the corridor can be transformed into a more efficient, equitable, and context-sensitive transportation network.

Positioning Route 12 for Success

Executive Summary

Route 12 has been an area of concern for the Town of Ledyard for a number of years, and has spurred a variety of previous studies and plans. In order to position Route 12 for economic success and vibrancy, Ledyard must work to create change, build confidence in the market, grow demand, and attract investment. To accomplish this, four overarching strategies should be considered:

- Implementing public infrastructure improvements, including but not limited to sewer availability, to promote economic growth.
- Enhancing pedestrian and bike accessibility.
- Offer a mix of financial incentives to encourage private investment which will not negatively impact the Town of Ledyard.
- Work with property owners to renovate or redevelop property along Route 12.

In addition, the following goals and tasks should be considered by the EDC and the Town:

- High level of attention to future site development plans to ensure designs that are embraced by the community and enhance pedestrian and bike access along the corridor.
- Landscape public spaces visible and accessible from the public right-of-way, install appropriate night lighting, improve sidewalks, and provide landscaped walkways through parking areas.
- Promote and allow (through zoning) a mix of uses within single or multiple-use sites or buildings, including a mix of retail, office, institutional, and residential uses.
- Encourage multi-family residential development along and near Route 12 with the aim of increasing population density and creating a critical mass of residents to support commercial activities.
- Ensure flexible zoning regulations are maintained to encourage the (re)development of properties.
- Celebrate and promote existing and new businesses along Route 12 to ensure their success into the future.

Positioning Route 12 for Success

Executive Summary

Route 12 Corridor
Ledyard, CT

Primary Focus Area
Ledyard, CT

Chapter One:
Why We Plan

What is Planning?

Planning is a process and practice that can be formal or informal. When informal, it is something we often take for granted or do not notice. For example, we plan our everyday lives what we need to do, where we need to go, and when we must be there. Informal planning works well in the short term but does not work as well in the long term.

Long-term and strategic planning requires a more thoughtful and critical approach. In addition, planning for economic development, unlike planning for our doctor's appointment, requires a systematic approach that balances the needs, wants, passions, and enthusiasms of the community against social, demographic, economic, environmental, and property rights considerations. So, what is planning?

Planning is a:

- process of preparing for the future,
- systematic approach to *problem-solving*,
- strategy for *improvement*,
- *continuous learning* and adjustment, and
- prediction of the future with the *risk of being wrong*.

"If a revitalization strategy does not take into account that any neighborhood [downtown] … is subject to consumer decision making, then that strategy (no matter how good it looks on paper) will run into trouble when it encounters the realities of the … marketplace."

David Boehlke, 'Great Neighborhoods, Great Cities' (2004: p. 5)

The Process of Creating the Route 12 Strategy and Plan

Motivated by slow economic growth and numerous prior studies and plans, Ledyard's Economic Development Commission (EDC) recognized the need to study Route 12 and determine how economic vibrancy and strength could be achieved and ensured along the corridor. To accomplish this, Ledyard retained Goman York Property Advisers LLC ("Goman+York") to assist the community with the creation of a Route 12 Corridor Study. The Ledyard EDC oversaw the development of this study.

The research into existing conditions commenced in December 2024 and has continued throughout the planning process until July 2025. The existing conditions analysis was extensive, covering macro- and micro-scale conditions of Route 12 and the community as a whole. The analysis of existing conditions began at a macro-level to understand the current and changing landscape of housing, housing structures, and individual real estate classes, as influenced by changing demographics and consumer demands. The analysis then focused on the demographics of Ledyard, with respect to the population's size, age, and socioeconomic trends. Building upon the social and demographic trends identified, the study then looked toward microeconomics, considering state, regional, and town labor markets, employment, and real estate markets, the analysis zooming in as closely as visits to individual shopping centers and attractions in Ledyard. The consultants reviewed the land uses along Route 12, beginning with an analysis of current zoning regulations. Route 12 was then evaluated as a real estate site, considering factors such as its location, market trade area, and traffic counts.

In addition to the EDC oversight and input, community outreach to residents and businesses was conducted from April 2025 through June 2025.

This project was kicked off publicly to residents and stakeholders in April through an informational session with activities to collect public opinions. The activities gauged perspectives on forward-thinking questions, asked participants to hypothetically allocate investment money toward projects and programs, rated community amenities and investments by their level of desire, identified sources of pride and sorrow along Route 12, and asked participants to describe Route 12 both currently and in their ideal future.

The community survey mirrored the activities at the engagement session and was made available virtually for a month, and produced nearly 300 responses. Like the engagement activities, the survey helped to inform this study by providing guidance and direction for desired development. The results of the public engagement session activities and the online survey can be found in the appendix of this document.

The public engagement was designed to gain insights from the participants while measuring the community's appetite for change and improvement along Route 12.

The consultant met monthly with the Ledyard EDC to report on the progress of this study, answer questions, and solicit feedback as to how the Commission wished to proceed. These three areas of feedback helped to inform the development of this study and the recommendations herein.

The Planning Process

The planning process utilized for this Route 12 Corridor Study was a five-step approach:

Step 1. Where Are We Today?

The assessment of existing conditions (social, demographic, economic, land use, and environmental) that influence Ledyard and Route 12. This is done to establish a baseline and to understand *what is working and what is not working* along Route 12.

Step 2. Where Do We Want to Be in the Future?

The process of public outreach and input provides an understanding of what the community wants, needs, and is willing and capable of working to achieve. Accomplished through a community meeting and an online survey, the community input is translated into the conceptual design of Route 12—setting outcomes for what the Town Center can be in the future.

Step 3. How Will We Get There?

This step determined and established policies and strategic interventions aimed at moving Route 12 toward the desired outcomes.

Step 4. How Will We Know We Are on the Right Course?

This step is designed to gauge the effectiveness of implementation. By taking the community input into consideration, this study is designed to be a document that receives public support for the future of the Route 12 corridor.

Step 5. Implementation

Provides a road map to the future—an action agenda to guide the future of Route 12.

The Route 12 Corridor Study

The Route 12 Corridor Study is a comprehensive study and analysis of the physical and economic conditions that shape Route 12. The analysis is designed to gain a firm understanding of the many variables and forces that influence Route 12 from an investment perspective.

The planning process is a thoughtful and engaging process of working through the unique community *needs and wants* as a means of determining how to best position Route 12 to compete for investment (development and improvement), wealth (Grand List value), and vibrancy (socio-economic activity).

This Route 12 Corridor Study concludes with a statement of policies and strategic interventions aimed at moving the market and positioning Route 12 in Ledyard to be a competitive, healthy, and vibrant place.

Chapter Two:
The Changing Landscape

Introduction

To best understand Route 12 in Ledyard, we need to understand *how and why* development patterns have changed. The form and function of settlement patterns are forever changing around technological and transportation innovations, economics, and our social-cultural ways of living in our environment—the built environments as our self-created human habitat (our ecosystem). For example, our first industrial mills and factories were located alongside rivers (their source of power) and towns and cities were constructed around them. Riverside locations were later diminished once electricity was invented, and electric power sources were provided. The arrival of rail resulted in the abandonment of many ports, as manufacturing relocated along the rail lines. Later, interstate highways further transformed and reorganized the location and site of industry at interchanges and access ramps (i.e., the industrial park) and large single-story buildings that consolidated production, assembly, and distribution on a single floor.

The same is true of residential development—housing type and location. The location and space of residential uses have also changed and continue to change. The pre-World War I era was dominated by higher-density urban housing and street-car suburbs, while the post-World War II era was dominated by mass suburbanization, sprawling single-family detached homes, owner-occupancy, and auto-oriented development.

Today, the pendulum is swinging back toward centers, multi-family, and renter-occupied residences—walkable communities have become an *amenity* sought by both residents and investors. In part, this shift includes a move toward mixed-use developments and communities that offer housing, commercial space, and other amenities—including spaces for social and recreational activities—in proximity. However, this shift is not only about the *new urbanism planning and design* movement but is more about the complexity of changes in demographics, household structure, generational preferences, and consumer behaviors. In short, new markets have emerged for mixed-use, multi-family, and compact communities that better suit the lifestyle needs of today's eclectic households. In addition, there is a symbiotic relationship between housing and commercial development—*housing is where jobs go at night* and where consumers of goods and services reside. Therefore, both housing developers and retail operators have realized the mutual benefits of housing proximate to retail. Planning for housing must be part of any economic development strategy in order to ensure a solid market for new commercial investment.

The Changing Landscape

With the form and function of settlement patterns forever shifting and changing around technological innovations, modes of transportation innovations, economics, and our social-cultural ways of living in our built environment, our demographics, socioeconomics, and consumer behaviors also shift and change. This creates new ways of working, socializing, and recreating. Many, if not most of these changes are the result of slow-moving variables, making it difficult to see and understand these shifts and changes in real time. Ledyard and Route 12, just like other communities and places, have been impacted by these shifts and changes.

While slow-moving variables are gradual, change itself is not gradual or constant. *Change is episodic*. That means it takes time for the slow-moving variable to add up, to create a critical mass that results in the *crossing of threshold* or what is commonly known as a *tipping point*. For example, beginning in the early 2000s e-commerce and online retailing were growing and slowly capturing retail market share from bricks and mortar retail—a slow-moving variable. Given enough time, at some point online retail would capture enough market share, crossing a threshold, and disrupting brick-and-mortar retail. Pre-pandemic this was starting to occur, most notable was the disruption of large regional malls. A threshold was being crossed, malls were collapsing, and episodic change in brick-and-mortar retail was underway.

Shock and disturbance, accelerate phenomena and processes that create tipping points. For example, the pandemic accelerated the slow-moving shift to online retailing, crossing a threshold, creating disruption in retail, and resulting in the collapse of already weak and struggling retail stores.

Demographic Changes in Household Structure and Housing

Changes in demographics and socioeconomics have transformed household structures. For example, in 1960 only 13.0% of housing units in the United States were occupied by 1-person households. Today, 28% of our nation's housing stock is occupied by 1-person households. The same is true in Connecticut, where 29.9% of Connecticut's housing units are occupied by 1-person households and 46% of Connecticut's renter-occupied housing units are 1-person households. Today 20.0% of Ledyard's housing stock is occupied by 1-person households and 32.4% of Ledyard's renter-occupied housing units are 1-person households.

These profound changes in household structure have meaningful consequences on household formation, population, income, and purchasing power.

The Changing Retail Landscape

In the early to mid-1900s, the primary location of retail was in city centers (i.e., downtown, and main street) and multi-story department stores. Over time department stores (and other retailers) shifted outward to suburban centers and retail strips. Later, the enclosed American mall came into vogue, located miles outside the central city, downtowns, suburban centers, and beyond retail strip centers, at interstate highway interchanges and access ramps, and anchored by large single- and two-story department stores. Next, the big box discount department stores and specialty retailers emerged on the scene, often favoring locations proximate to retail malls and other large retail clusters. Last and most recently, lifestyle centers appeared in a variety of locations, providing walkable outdoor environments that are often paired with residential development. Just as mill towns and industrial cities struggled with the changing location of manufacturing, many downtowns, main streets, suburban centers, retail strips, regional malls, and lifestyle centers have struggled with the changing location of retailing.

Today, with the arrival of e-commerce, the retail sector continues to change. However, the arrival of e-commerce retailing is not simply a spatial shift in the physical location of retail. E-commerce has created a shift to a virtual space that has captured approximately 16% of the total retail market. This shift has rendered some physical locations and retail spaces functionally obsolete. For example, when retailing moved from main street to malls, new uses and certain forms of retailing, such as personal service and restaurants discovered new opportunities on main street, backfilling into abandoned spaces, and creating new vitality on many main streets. With the shift to the virtual space of e-commerce, there has been a declining demand for physical space (bricks and mortar retail) to backfill in the abandoned physical space of retail—this is especially true for large regional malls.

This shift from the spatial location and physical space of past retail to the virtual space of e-commerce is at the core of media accounts of the '*retail apocalypse*' and '*dead and dying malls.*' While such accounts often over-dramatize the collapse of brick-and-mortar retail (and retailers), there are truths to the *apocalypse* and the struggles of the changing landscape of retailing—the pandemic further exposed the struggles of retail.

The fact is the retail landscape has changed and will continue to change. Retailing as we once knew it is being disrupted and transformed by technological and transportation innovations, economics, and the ever-changing behaviors of consumers. Simply put, consumers no longer shop and spend in the same ways as they did one or more decades ago. For example, not long ago, grocery shopping was a weekly activity of large food purchases for the week. Today grocery shopping has evolved into a form of foraging, multiple stops per week to pick up prepared foods for tonight's dinner or the ingredients needed for the next few meals.

It is important to note that during this century-long change in the spatial location and organization of retailing, the retail sector itself was also transformed from tailor-made, local, and individualized products to off-the-rack mass-produced products provided by national and global chains.

The pandemic exposed the weaknesses that had been growing in many retail sectors. The slow and persistent increase in online shopping before the pandemic pushed many forms of brick-and-mortar retail across thresholds and into collapse—this is especially true for the large regional malls, such as Crysal Mall in Waterford.

Retail development along Route 12 has become challenging in many aspects. While retail will still have a place along Route 12 for decades to come, it is important to acknowledge that existing retail is limited and concentrated in specific segments. The community outreach and community survey confirmed this, with the majority of Ledyard residents noting that they leave the community to do their shopping.

Retail along Route 12 focuses primarily on service, community, discount, or food and beverage-oriented establishments. While some national chains, such as McDonald's, CVS, and Dollar General exist, many of the commercial establishments are locally-owned. Without additional focus in this area with infrastructure and incentives, the retailers currently seen along Route 12 would likely be the extent of retail development. The addition of infrastructure amenities, however, such as public sewer, could increase the presence of larger commercial establishments.

89% of Respondents do more of their shopping Outside of Ledyard than Inside

The Changing Landscape of Food & Beverage

Since 1970, the restaurant industry (food & beverage) has been a growth industry with nearly a twenty-fold increase in sales. The proliferation of national chains, the rise of fast-casual, and increases in specialty products such as coffee and ice cream have satisfied consumer needs and wants. Today, Americans consume more food outside the home, than at home—the result of changing demographics and lifestyles. Hard hit by the pandemic, the food and beverage industry has been disrupted. New forms of food production and delivery have emerged, national chains have adapted and are bouncing back, while many independents still struggle. That said, the restaurant industry will recover and continue to grow as consumer demand for prepared foods and the social experience remains strong.

Route 12 is a suitable location for restaurants—the very reason many restaurants already exist along the corridor. Indeed, one of the newest constructed establishments in the area, Barkin' Barley, is a drink-oriented establishment. Today, the restaurants along Route 12 serve both the community and the region. The restaurants provide a mix of breakfast, lunch, and dinner service. Additional restaurants may be possible along Route 12, to serve the Ledyard community and the commuters who pass along the corridor to and from work.

The Changing Residential Landscape

Housing and residential development have also been impacted by changes in the form and function of settlement patterns and by changes in demographics, economics, and our social-cultural ways of living in our environment. The location and space of residential uses continue to shift and change.

The pre-World War I era was dominated by higher-density urban housing and street-car suburbs, while the post-World War II era was dominated by mass suburbanization, sprawling single-family detached homes, owner-occupancy, and auto-oriented development—the era in which Ledyard developed, in part. Today, the pendulum is swinging back toward centers, multi-family, and renter-occupied—walkability or walkable communities have become an amenity of housing development and town centers. In part, this shift includes a move toward mixed-use developments and communities that offer housing, shopping, office space, and amenities—spaces for social and recreational activities.

There is also a symbiotic relationship between housing and commercial development—*housing is where jobs go at night* and where consumers of goods and services reside. Therefore, both housing developers and retail operators have realized the mutual benefits of housing proximate to retail. Housing provides discretionary income to be spent in retail establishments, while proximate retail and commercial uses provide convenient amenities to households.

A variety of housing currently exists along the Route 12 corridor, ranging from larger single-family homes to small apartment buildings. In order to provide a market base for new commercial development, additional residential density should be contemplated by the Town. Here again, sewer infrastructure would be beneficial in spurring development.

The Changing Industrial Landscape

The early industrial mills and factories were located alongside rivers (their source of power) and towns and cities were constructed around them. Riverside locations were later diminished once electricity was invented and provided. The arrival of rail resulted in the abandonment of many ports, as manufacturing relocated along the rail lines. Later, interstate highways further transformed and reorganized the location and site of industry at interchanges and access ramps (i.e., the industrial park) and large single-story buildings that consolidated production, assembly, warehouse, and distribution on a single floor.

With these changes in the location, form, and function of industry, there have also been changes in how production (and consumption) are performed. Fordism, the stockpiling of raw materials and finished products, gave way to just-in-time manufacturing, a process where raw materials are delivered and used for scheduled manufacturing runs, and finished products are shipped to the end-user when they come off the production line. With technological advances, there have also been changes in the way work is performed. For example, automation in manufacturing and warehousing has changed the design of buildings and a number of employees.

With changes in production, there have also been changes in consumption. E-commerce and online retailing have driven demand for logistics, the distribution, and transportation of goods and services to end users—the consumer. Most importantly, in addition to the traditional e-commerce retail of say Amazon, new virtual products and services, such as meal delivery (i.e., Daily Harvest, Hello Fresh, and Blue Apron) are further increasing the demand for logistics.

The ever-increasing demand for logistics has given rise to global logistics and delivery firms such as DHL, UPS, and FedEx. The rise in the need for and importance of logistics has created new demand for fulfillment centers, processing facilities, warehouses, and distribution centers. Such facilities require good highway access near population centers and large, mostly flat, parcels of land. With limited land available in the urban and suburban core, such facilities are more often located in outer-suburban and ex-urban locations that provide access to the regional market.

Ledyard has two primary areas of industrial development along Route 12: the former Dow Chemicals site to the north, and the industrial business parks to the south. The Dow Chemicals site, with its port, railroad, and highway connections, make it a valuable and viable piece of land for industrial usage in the future. The smaller industrial sites to the southern end of Route 12, while they are not a regional-level of industrial development, are valuable for a community like Ledyard in that they provide necessary services and operations to the residents. While these uses will not draw in visitors or inspire residents to visit Route 12, they are located in such a way to ensure they do not impact the viability of the focus area. They are also important in providing tax revenue to the grand list. Any new businesses or developments of a similar scale in that area should be encouraged by the community.

Chapter Three:

Existing Conditions – Demographics, Economics, & Psychographics

Introduction

The Route 12 Corridor Study is intended to provide insight into the current conditions along Route 12, both in terms of physical conditions and market conditions, with an end goal of determining how the corridor can compete for economic investment. Investment, defined as time, effort, and money, and especially commercial investment, is desired in order to propel Route 12 into a vibrant and successful commercial corridor. By analyzing the demographics, socioeconomics, and other market forces, a deeper understanding is gained of this area in Ledyard.

Comparing existing conditions to historical trends and future projections informs us about where Ledyard and Route 12 have been in the past, where they are likely heading, and what potential policies and strategies may be implemented to manage change and create meaningful improvement. The wealth of understanding gained from this analysis, when properly interpreted and translated, offers unique insights into the challenges facing Route 12, and the potential policy tools and approaches Ledyard can employ to best attract and guide investment and development along the corridor.

Understanding existing conditions provides context to the multiple and dynamic variables that influence the trajectory of Route 12 and inform us about future potential. Ultimately, understanding the existing conditions helps to inform us of what required and plausible approaches, strategies, and interventions can be employed by the Town.

Population

Ledyard's demographics have changed and will continue to change. From 2010 to 2020, Ledyard's population increased by 2.3% to 15,413, a rate higher than the State of Connecticut and in opposition to the 2.2% decrease seen in the Southeastern CT Planning Region, of which Ledyard is a part. The U.S. Census estimates that Ledyard's population increased even further to 15,575 in 2024.

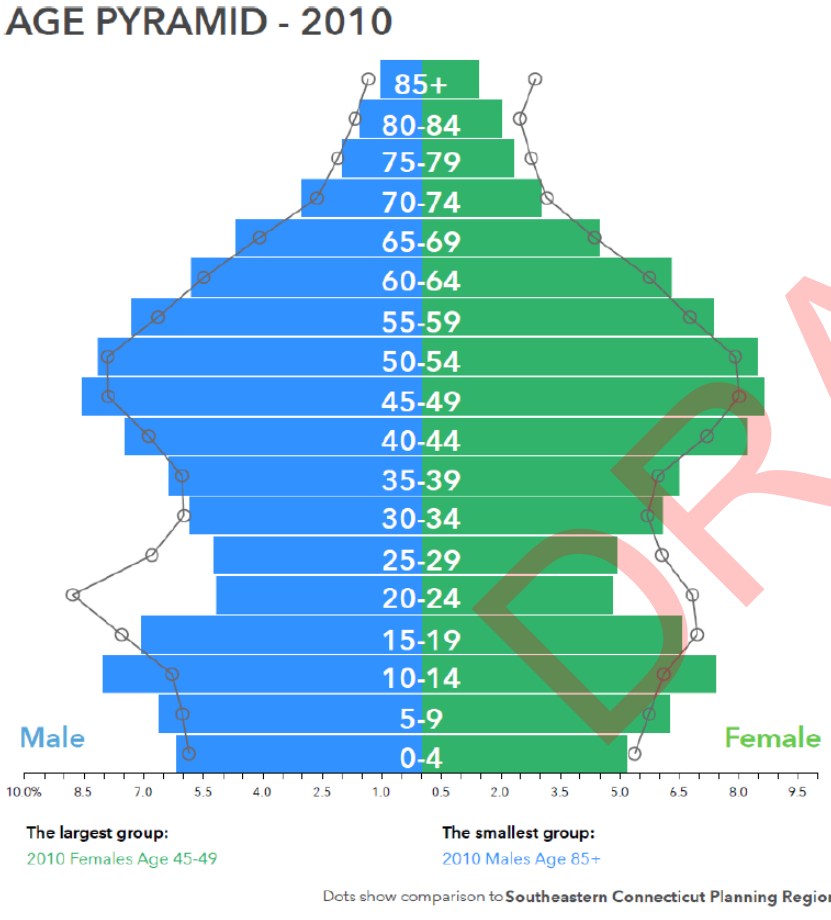
Ledyard's population growth is positive, as is its median age. With a median age of 40.4, Ledyard is slightly younger than the median age in Connecticut (41.2), but slightly older than the United States median (38.9). While the median age is not significantly lower than the State, it tells us that Ledyard is likely more family-focused than other communities, and has a population that is largely still within the workforce.

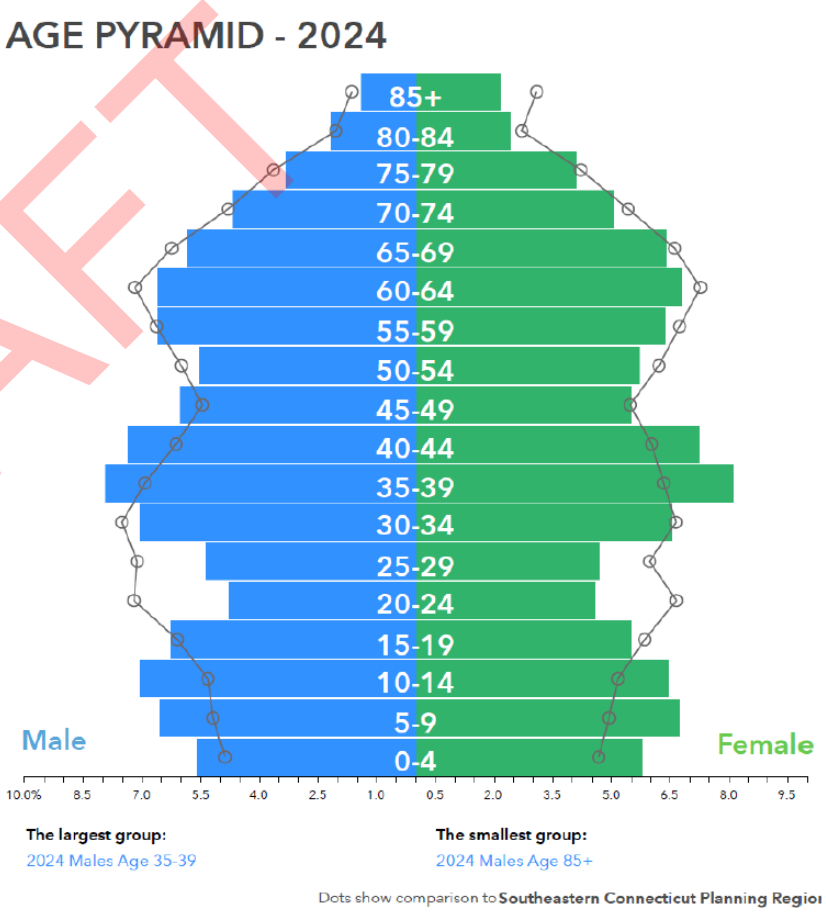
As seen from the age pyramids on the following page, Ledyard currently has three significant age groups, with school-aged children being one, their parents at ages 30-35 being another, and those near retirement being a third, with ages ranging from 55-69. This could tell us a number of things. First and foremost, this tells us that young adults typically leave Ledyard to either attend college or acquire their first job, and do not return until they are ready to (or already do) have a family. When comparing to the 2010 age pyramid, the numbers could also suggest that empty nesters leave Ledyard, possibly due to a lack of smaller housing for downsizing. In both cases, this likely points to a lack of housing availability for starter houses and apartments and housing for retirees.

Total Population	Population 2010	Population 2020	Population Change	% Change 2010-2020
Connecticut	**3,574,098**	**3,605,944**	**31,846**	**0.9%**
Ledyard	**15,051**	**15,413**	**362**	**2.3%**
Capitol Planning Region, CT	973,957	976,248	2,291	0.2%
Greater Bridgeport Planning Region, CT	318,004	325,778	7,774	2.4%
Lower Connecticut River Valley Planning Region, CT	175,685	174,225	-1,460	-0.8%
Naugatuck Valley Planning Region, CT	448,716	450,376	1,660	0.4%
Northeastern Connecticut Planning Region, CT	96,617	95,348	-1,269	-1.3%
Northwest Hills Planning Region, CT	115,247	112,503	-2,744	-2.4%
South Central Connecticut Planning Region, CT	570,023	570,487	464	0.1%
Southeastern Connecticut Planning Region, CT	**286,714**	**280,430**	**-6,284**	**-2.2%**
Western Connecticut Planning Region, CT	589,135	620,549	31,414	5.1%

Demographics, Economics, & Psychographics

Route 12 Corridor Study





Labor Market & Jobs

Connecticut has experienced stagnant job growth for the past 35 years. For example, from 1985 to 1989 (5 years), Connecticut added approximately 103,000 (non-farm employment) jobs and only 45,000 (non-farm employment) jobs from 1990 to 2020 (30 years). Jobs are the primary driver of demand for commercial real estate space and housing. Population is the secondary driver, while household formations (the creation of new households) are a key driver of housing demand. With stagnant job growth and anemic population growth, demand for commercial space has been marginal while demand for housing (residential space) has been modest—household formations being driven by the increase in one- and two-person households.

The Norwich-New London Labor Market has primarily remained consistent with the State, increasing at the same rate and maintaining approximately the same percentage of unemployed individuals. The labor market in Ledyard has grown at a slightly higher rate of 2% in the past year, with the unemployment rate slightly lower than the State and regional average (3.9% versus 4.5% and 4.4%, respectively).

The relatively positive labor market in Ledyard is reflective of its slightly younger than average age. With a younger population overall, a greater number of people remain in the workforce. Ledyard is also conveniently located near several large regional employers: Electric Boat, Naval Submarine Base New London, Mohegan Sun, and Foxwoods.

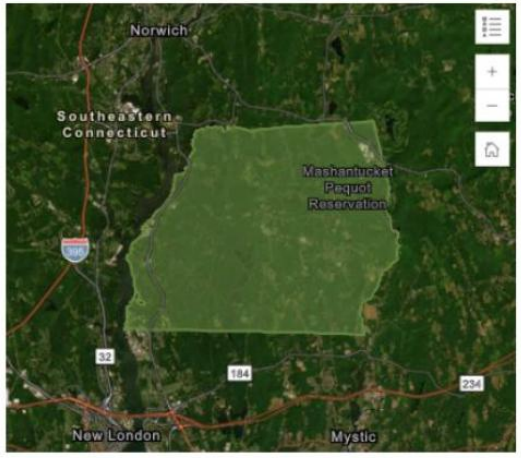
Connecticut	Feb 24	Feb 25	% Change
Labor Force	1,914,300	1,934,500	**1.1%**
Unemployed Persons	73,600	86,400	**17.4%**
% of Labor Force Unemployed	3.8%	4.5%	**0.7%**

Norwich - New London - LMA	Feb 24	Feb 25	% Change
Labor Force	141,400	143,000	**1.1%**
Unemployed Persons	5,200	6,200	**19.2%**
% of Labor Force Unemployed	3.7%	4.4%	**0.7%**

Ledyard	Feb 24	Feb 25	% Change
Labor Force	7,807	7,965	**2.0%**
Unemployed Persons	251	309	**23.1%**
% of Labor Force Unemployed	3.2%	3.9%	**0.7%**

Demographics, Economics, & Psychographics

Route 12 Corridor Study



Source: Esri, Esri-U.S. BLS, ACS, Esri-MRI-Simmons, Esri-Data Axle
Esri forecasts for 2024, 2029, 2018-2022
© 2025 Esri

Community Profile & Trends

Geography: County Subdivision

15,395	2.61	36,821	534	2.4%	40.4	$129,582	$1,943,964
Population	Avg Size Household	2024 Retail Goods (Avg)	2024 Total Businesses	Unemployment Rate - 2024	Median Age	Average HH Income	Average Net Worth

Housing Stats

$323,100	6,207	$1,190
Median Home Value	2024 Total Housing Units (Esri)	Median Contract Rent

Household Income

Annual Household Spending

$2,624	$297	$7,974	$8,911	4,389
Apparel & Services	Computers & Hardware	Groceries	Health Care	2024 Food Away from Home

Education

3%	26%	31%	40%
No High School Diploma	High School Graduate	Some College	Bachelor's/Grad/ Prof Degree

Projected Growth

15,245	6,238	42,667
2029 Total Population (Esri)	2029 Total Housing Units (Esri)	2029 Retail Goods (Avg)

Tapestry segments

6A Green Acres	2,552 households	43.4% of Households
5C Parks and Rec	1,153 households	19.6% of Households
5A Comfortable Empty Nesters	914 households	15.6% of Households

Community Profile & Socioeconomics

The Community Profile on the prior page depicts Ledyard as a mostly middle-market community in the context of Connecticut and the Norwich-New London Region. Ledyard is not a poor, distressed community, and the average household income is generally in keeping with the average seen throughout the State of Connecticut. Ledyard is also an educated community, with 40% of residents having at least a bachelor's degree. Interestingly, we see that over a third of the money spent on food is spent at restaurants as opposed to in grocery stores.

Psychographics & Consumer Segmentation

Goman+York performed an in-depth analysis of Ledyard's consumer segmentation using ESRI's Tapestry Segmentation. Tapestry combines demographics with consumer spending habits and psychographic behaviors to segment the population and neighborhoods. This Segmentation provides a detailed mosaic of socioeconomics and demographics. Tapestry Segmentation includes a broad spectrum of 14 LifeMode groups and 67 distinct market segments. The three most prevalent Segmentations in Ledyard are Green Acres, Parks and Rec, and Comfortable Empty Nesters, which are summarized on the following page. These categories generally emphasize home ownership, some discretionary income, and an appreciation of nature and experiences.

Conclusions

Ledyard is a community that, unlike many other communities, is not overtly hindered by an aging population. The job market is relatively strong, and the average household income allows for discretionary spending. These are all positive aspects.

Based on these findings, the question becomes: how is economic development encouraged in Ledyard to increase the commercial side of the grand list, and entice residents (and visitors) to spend discretionary income in the community? With the majority of residents responding to the engagement activities and survey noting that they do the majority of their shopping outside of Ledyard, there should be potential to increase economic growth along Route 12.

Demographics, Economics, & Psychographics

Route 12 Corridor Study

- 2,552 Households
- 43.4% of Households
- Median Age: 45
- Average Income: $86,100
- Top Employments: Professional Services, Management

Green Acres: The Green Acres lifestyle features country living and self-reliance. Avid do-it-yourselfers, they maintain and remodel their homes with all the necessary power tools to accomplish the jobs. Gardening, especially growing vegetables, is a priority, again with the right tools, tillers, tractors, and riding mowers. Outdoor living features a variety of sports: hunting and fishing, motorcycling, hiking and camping, and even golf.

- 1,153 Households
- 19.6% of Households
- Median Age: 42
- Average Income: $69,300
- Top Employments: Professional Services, Management

Parks and Rec: These suburbanites have achieved the dream of home ownership by purchasing homes within their means. Their homes are older, often townhomes and duplexes. Many of these families are two-income married couples approaching retirement age; they are comfortable in their jobs and their homes, and budget wisely, but do not plan on retiring anytime soon or moving. Neighborhoods are well established, as are the amenities and programs that support their now independent children through school and college. The appeal of these kid-friendly neighborhoods is now attracting a new generation of young couples.

- 914 Households
- 15.6% of Households
- Median Age: 49
- Average Income: $82,300
- Top Employments: Professional Services, Management

Comfortable Empty Nesters: Independent, active seniors nearing the end of their careers or already in retirement best describes Golden Years residents. This market is primarily singles living alone or empty nesters. Those still active in the labor force are employed in professional occupations; however, these consumers are actively pursuing a variety of leisure interests—travel, sports, dining out, museums, and concerts. They are involved, focused on physical fitness, and enjoying their lives. This market is smaller, but growing, and financially secure.

Chapter Four:

Existing Conditions – Physical Conditions & Market Analysis

Introduction

The Route 12 Corridor Study is aimed at understanding the site (location and conditions), situation (relative location), and physical character of the corridor. The primary aim of this study is to best understand the current flow of investment (or lack thereof), and the potential to attract investment to Route 12. The study reviewed numerous areas to determine current successes and roadblocks, and future opportunities:

- The demographics and socioeconomics discussed above,
- Real estate asset classes and market conditions,
- Site selection criteria to understand the strengths and weaknesses of Route 12 in the context of attracting investment
- Current traffic counts along Route 12

Route 12 as a Site

Route 12 in Ledyard is a small portion of Route 12 as a whole, which runs from Groton City to the south to the Massachusetts State Line to the north. Route 12 in Ledyard is characterized by automobile-centric design patterns, with strip shopping centers and small offices along the central portion, light industrial and commercial uses along the southern portion, and housing throughout the corridor. While some sidewalks do exist, there is often a lack of connectivity between developments and amenities, making walking difficult. Bike infrastructure is also lacking. No bus lines currently operate along Route 12 in Ledyard. While the corridor is serviced by public water, there is no access to public sewer.

Route 12's Situation

Route 12's situation, its relative location in the greater region, serves as a state-owned and operated roadway connecting Groton to the south and Preston to the north. While Ledyard does not have direct access to the Interstate Highway System, Route 12 does provide access to the rest of the region, particularly when combined with Routes 2 and 2A. Additionally, Interstate-95 is accessible from Route 12 in Groton. The very nature of Route 12 ensures that there is connectivity and accessibility to surrounding municipalities in the region.

Commercial Real Estate Market

Goman+York also performed an analysis of the local and regional commercial real estate market by industrial, office, and retail asset classes. Route 12 contains a mix of commercial/retail, small office, and industrial areas, which provides an eclectic blend of uses as seen throughout the corridor. The table to the right provides an inventory of commercial spaces along Route 12. Of note is the average age of the retail and office spaces. In general, commercial spaces have a projected lifespan of approximately 40 years. Many of the buildings along Route 12 are older than this average, and usually show that added investment is required in order to maintain relevancy and utility.

Traffic Counts

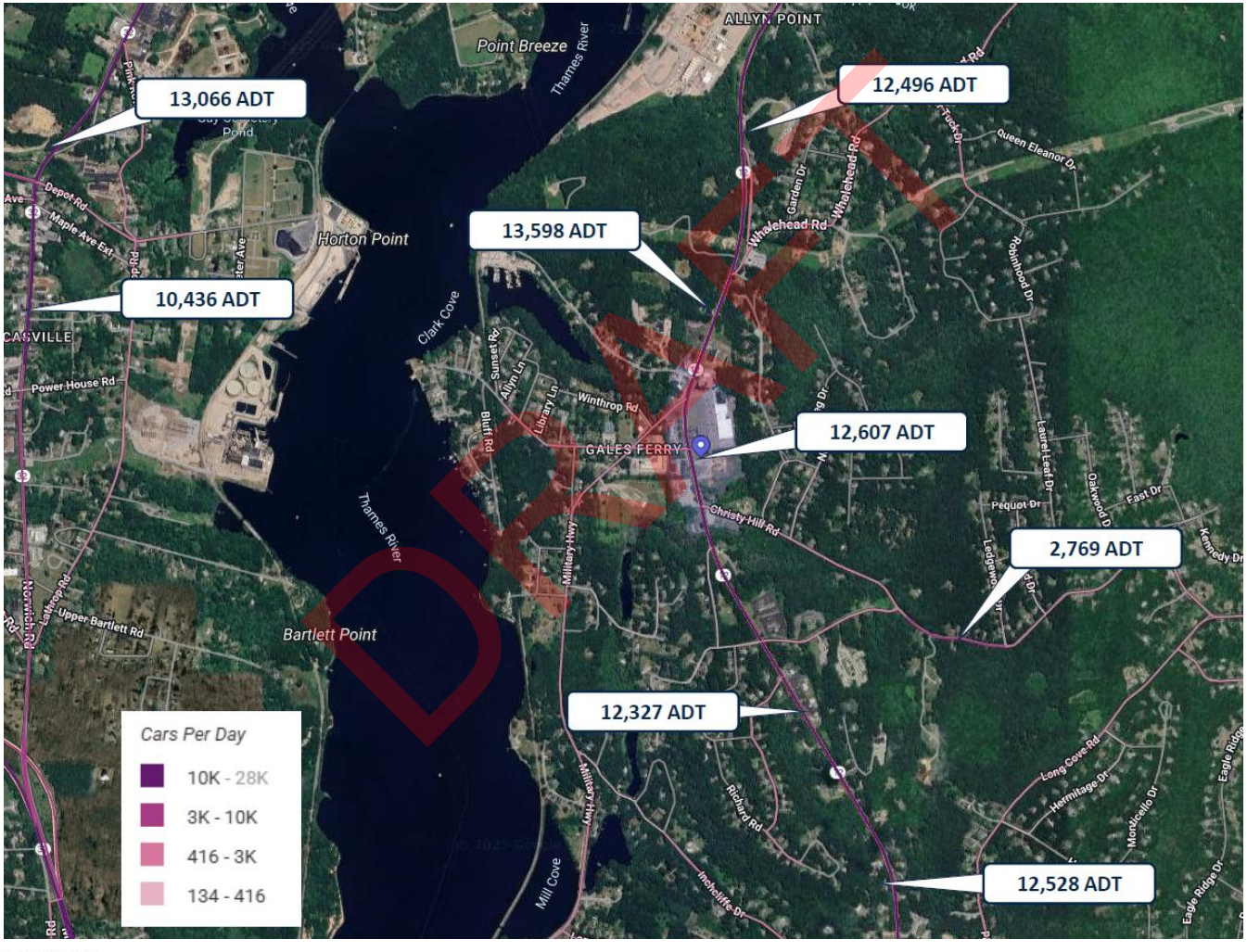
Goman+York reviewed traffic counts along Route 12 to determine the number of vehicles that pass along the corridor on an average day. Throughout the route, the average daily trips (ADT) range from counts in the low-to-mid 12,000s to the mid-13,000s. For retail locations, average daily traffic counts are typically considered above and below the traffic count threshold of 15,000 vehicles per day. The higher the count is from 15,000, the stronger the site is for retail; the lower the count is below 15,000, the weaker the site. While the likelihood of attracting national chains is slim due to the current counts, Route 12 in Ledyard has some potential to attract a mix of smaller retail, restaurants, and businesses.

Ledyard Commercial Real Estate Inventory

Row Labels	# of Properties	Inventory SF	Avg Year Built
Flex	5	43,133	1989
Retail	43	622,160	1977
Office	17	140,622	1950
Industrial	7	488,210	2004
Grand Total	**69**	**867,488**	**1980**

Route 12 (and environs) Traffic Counts

Route 12 Corridor Study



Site Selection Process

To best understand how Route 12 is competing and to determine its overall potential to better compete as a location for business (and residences), the site selection process is used to frame and evaluate Route 12 as a site for commercial activity. Site selection is a process of *decision-making for a new business location*—how retailers and other businesses select a location and site. The site selection process typically follows the following 10 steps:

- Visibility Market Area Analysis
- Viable Submarket Analysis
- Trade Area Definition
- Demographics and Psychographic Analysis
- Competitor Identification and Analysis
- Trip Generator Identification and Analysis (office parks, industrial developments, central business districts, multi-family development, etc.)
- Traffic Counts and Traffic Pattern Analysis
- Area (location) Selection (multiple possible sites)
- Site Selection (specific location)
- Financial Analysis (projected sales, site development cost, return on investment, etc.)

Site Selection Location and Site Considerations

Much of the site selection analysis is covered by the demographic, socio-economic, and psychographic analysis elsewhere in this Study. Therefore, what is of greatest interest regarding Route 12 in the context of site selection is the site location and site considerations. The location and site considerations include:

- Visibility
- Accessibility
- Regional Exposure
- Population Density
- Population Growth
- Operational Convenience
- Safety & Security
- Adequate Parking
- Adequate Signage

Based on these considerations, it was determined that Route 12 has good local visibility, accessibility, parking, population growth, safety, and security. Regional exposure, population density, and signage are fair. Operational convenience, with its lack of a sewer system, ranks lowest on the list. Therefore, there is some strength in terms of site selection for Route 12, which is positive and indicates both underperformance today and greater potential in the future.

In the context of market analysis, four key criteria that are considered for retail locations are total population, total number of households, median household income, and average daily traffic counts. The trade area for Route 12 reveals strong market thresholds for population, households, and median household income. Ledyard's median household income ($107,774) is well above the United States median of $67,521 and higher than Connecticut's median household income of $90,213.

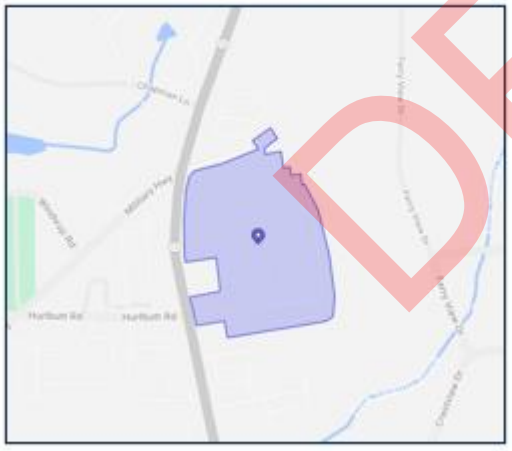
Many of the buildings and commercial operations along Route 12, and particularly in the focus area, are relatively well-kept and in good condition. While there are certainly potential areas of improvement (additional accessibility, enhanced landscaping), we do see a level of care for the area. Some of the older strip centers and commercial buildings could benefit from façade improvements., There are some properties, however, that are in much greater need of repositioning and improvement, with a particular focus being the Kartway parcel.

Geofencing Analyses

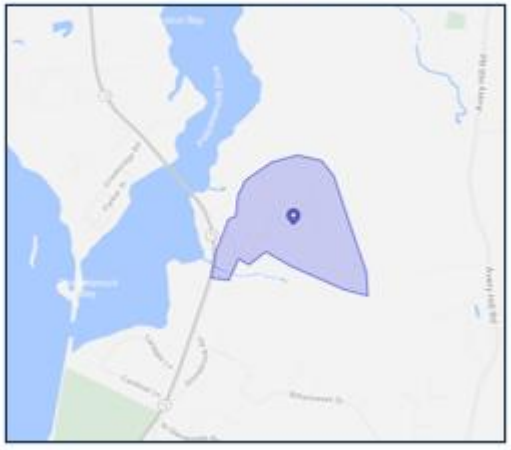
Goman+York performed a geofence analysis for two popular properties located along Route 12: Riverside Mall and Holmberg Orchards. The geofencing tool from Placer.ai collects geolocation data from mobile devices in an anonymized fashion. It allows us to analyze how many people are visiting these sites, where they are coming from, and more specific details like the length and time of their visit.

The following pages break down different data that was obtained from preparing these geofence analyses.

Riverside Mall Geofence



Holmberg Orchards Geofence



Riverside Mall Geofence

Route 12 Corridor Study

To better understand the trade market area of the businesses along Route 12, Goman+York performed a geofence analysis of Riverside Mall and Holmberg Orchards. The findings of the geofence analysis inform us of several interesting pieces of information. The details are broken down below and on the following page; however, the key points are that the average median age for a site visitor is fairly young at 35, and the average household income for visitors to the site is fairly high at $109,226. This tells us that there is some disposable income going to the site. From a marketing perspective, these are good signs for future potential at this site and locations nearby. As Route 12 is a commuting route for those working at Electric Boat and the Submarine Base, it is likely that visitors stop in this area on the way to and from work.

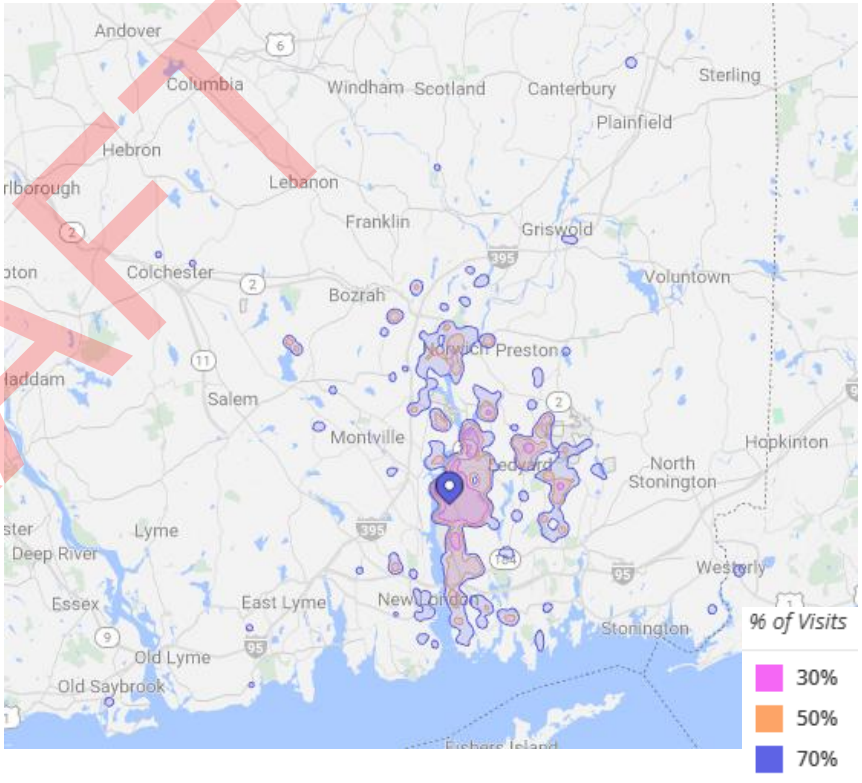
Summary of Riverside Mall Visitor Origins

- 66% of Visitors Originate from the Top 10 Zip Codes

Trade Area Statistics

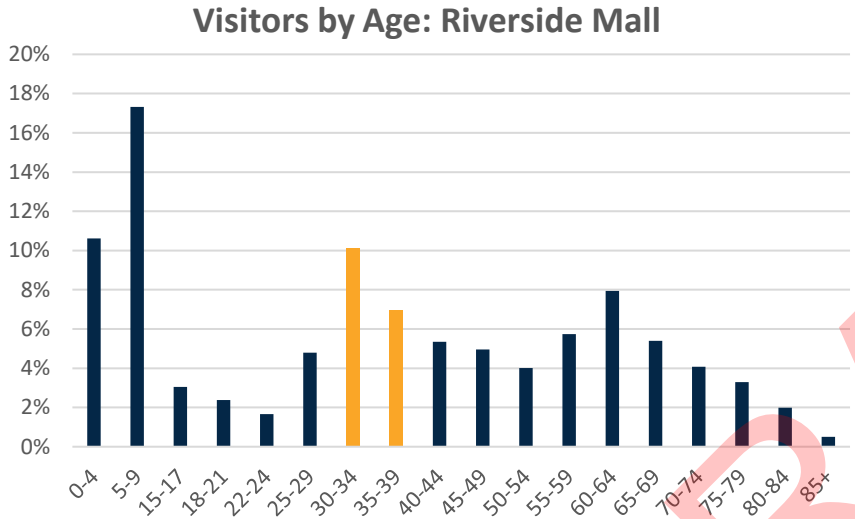
Top **30%** of visitors within 50 Miles

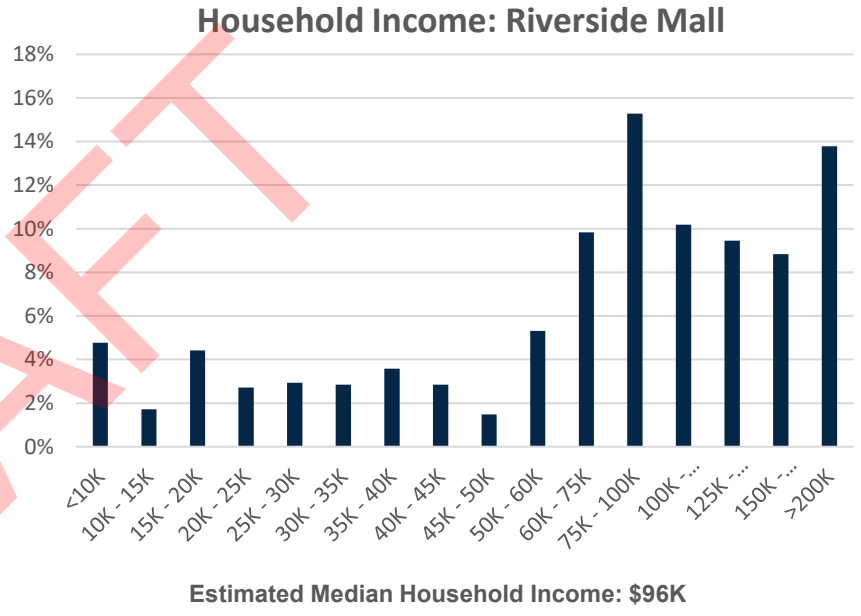
- Population: 6,336
- Weighted Median Age: 35
- Household Average Income: $109,226



Riverside Mall Geofence

Route 12 Corridor Study



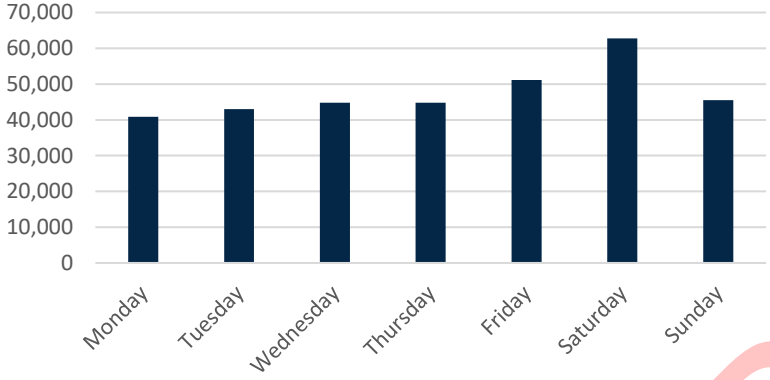


Estimated Median Household Income: $96K

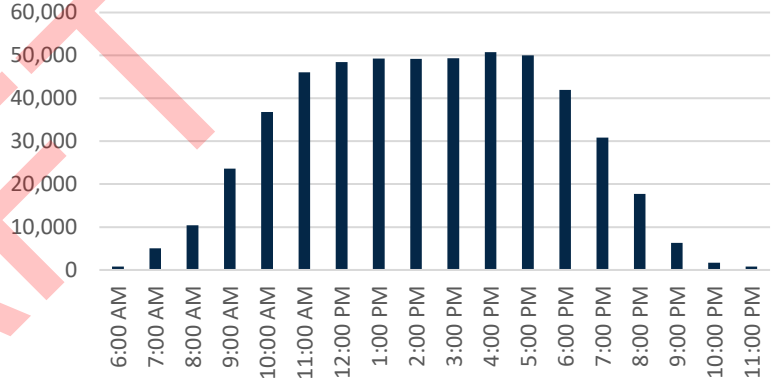
Riverside Mall Geofence

Route 12 Corridor Study

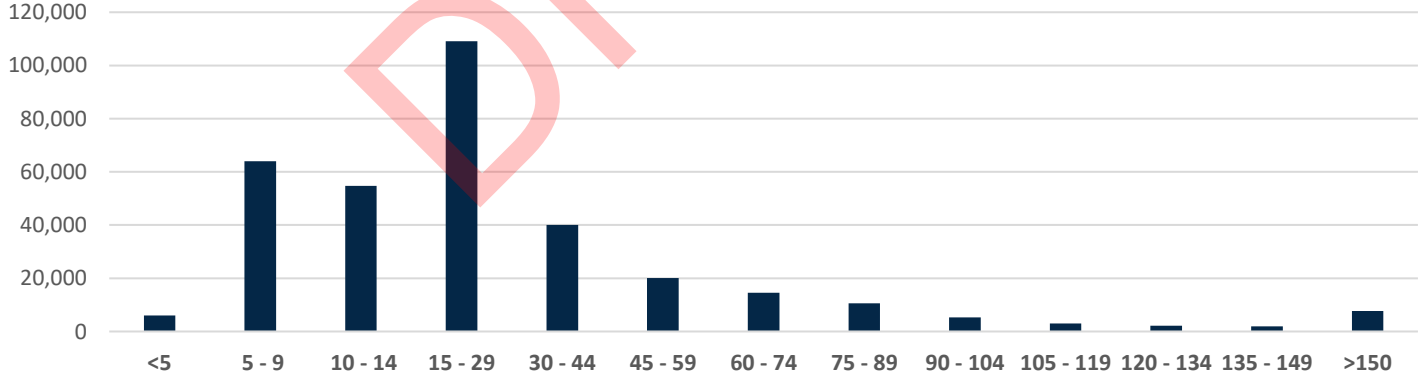
Annual Daily Visits: Riverside Mall



Annual Hourly Visits: Riverside Mall



Annual Visit Duration: Riverside Mall



Holmberg Orchards Geofence

Route 12 Corridor Study

The findings of the geofence analysis for Holmberg Orchards has some key differences in the data found, in that the age breakdown of visitors is slightly younger, and the income is slightly lower. We see a much wider spread of visitors from across the region, as shown on the map to the right. Additionally, we find that, unsurprisingly, the busiest days of visitation are clearly the weekends (whereas Riverside Mall has a more regularly dispersed pattern, albeit with Saturdays the busiest day). As Holmberg Orchards is more of a destination than Riverside Mall, the findings here are mostly expected.

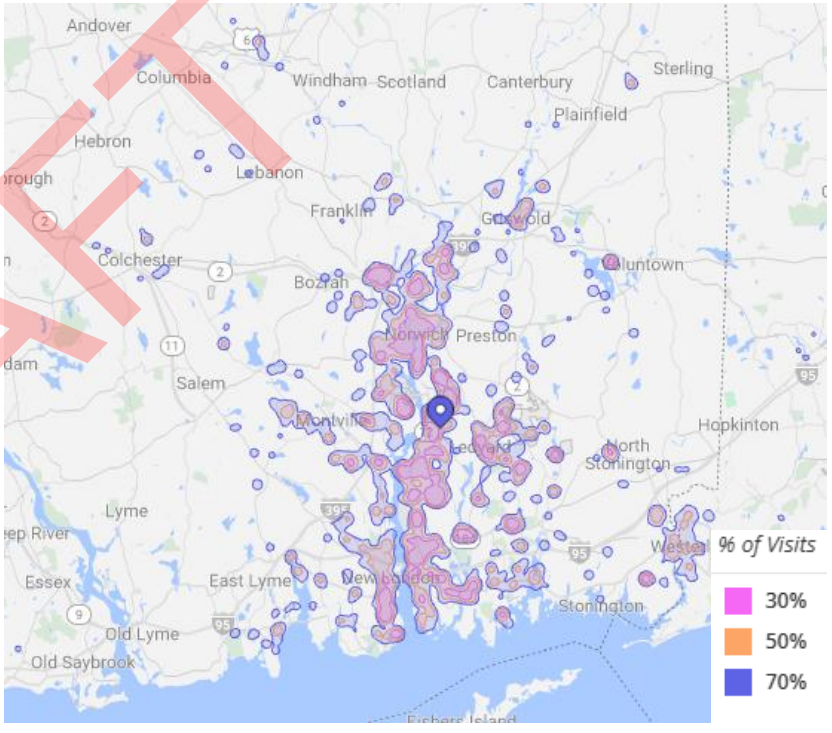
Summary of Holmberg Orchards Visitor Origins

- 53% of Visitors Originate from the Top 10 Zip Codes

Trade Area Statistics

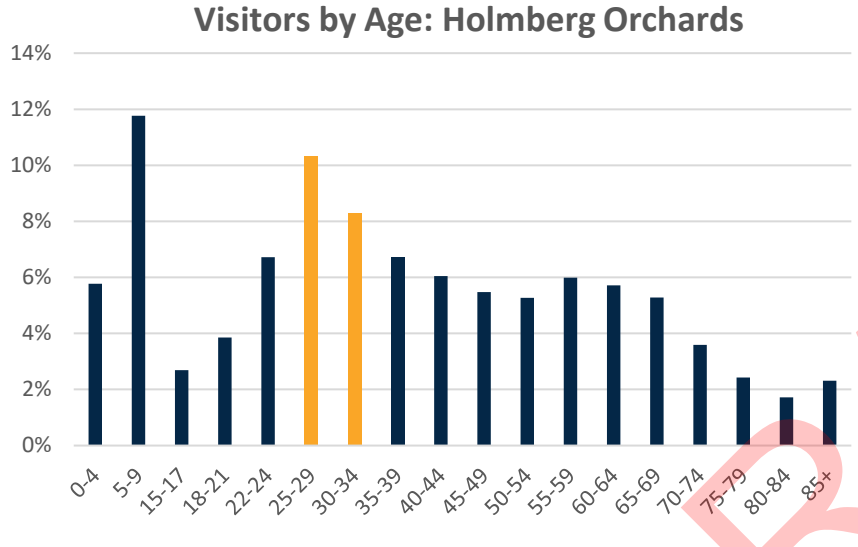
Top **30%** of visitors within 50 Miles

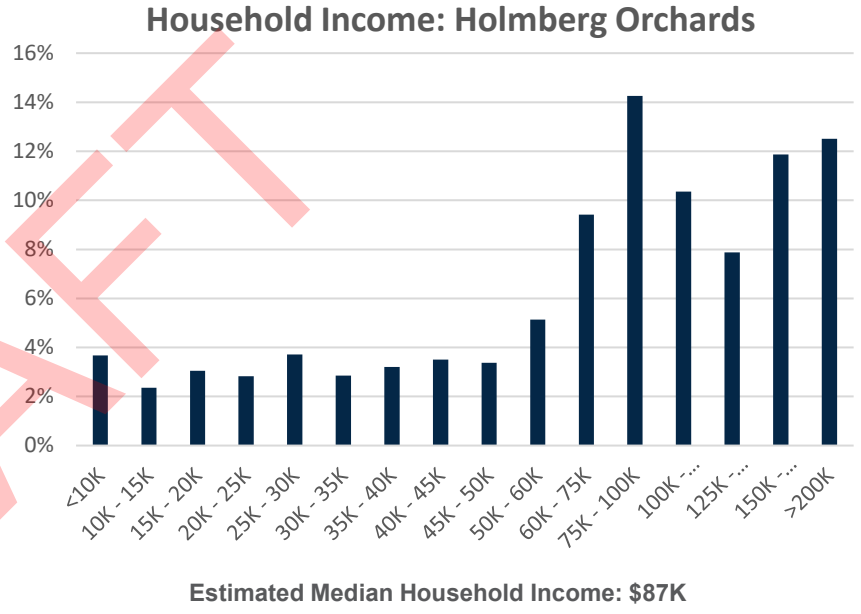
- Population: 44,689
- Weighted Median Age: 35
- Household Average Income: $92,949



Holmberg Orchards Geofence

Route 12 Corridor Study



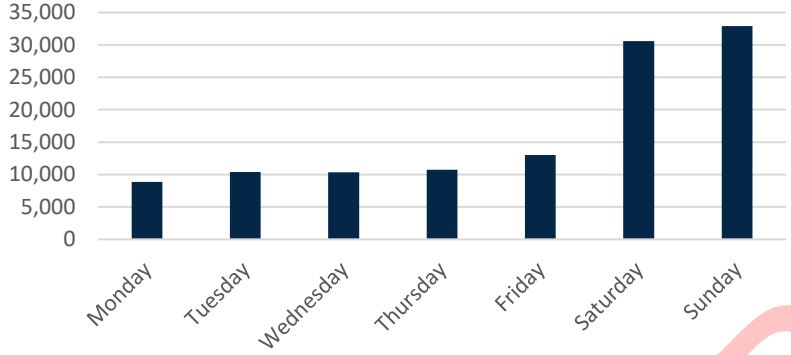


Estimated Median Household Income: $87K

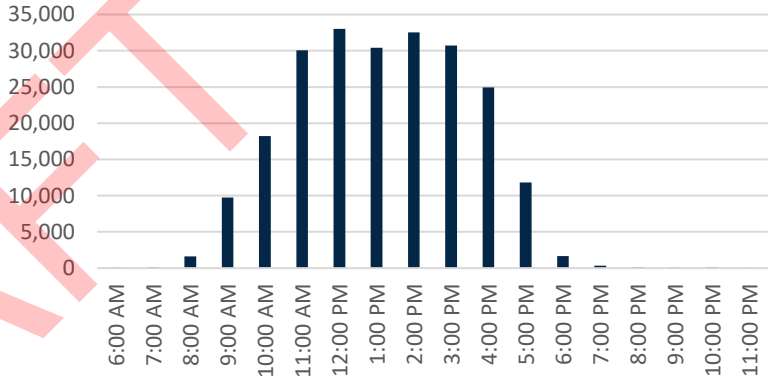
Holmberg Orchards Geofence

Route 12 Corridor Study

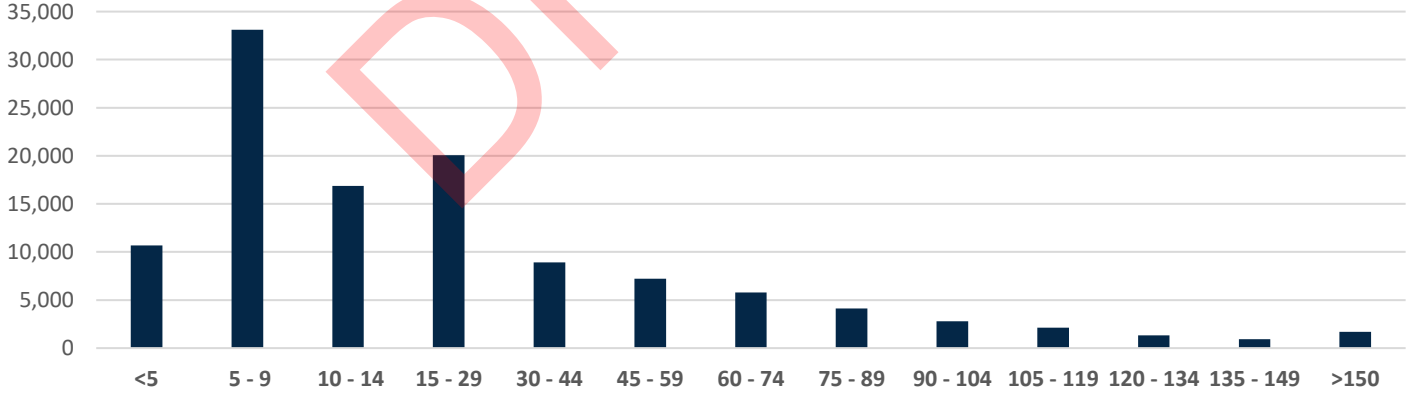
Annual Daily Visits: Holmberg Orchards



Annual Hourly Visits: Homberg Orchards



Annual Visit Duration: Holmberg Orchards



The Amenities of Place and Place-Making

When thinking about a community and efforts to create improvements to the Route 12 Corridor in Ledyard, it is important to consider the amenities of place and *place-making*. Society has changed. The way we live has changed, and as a result, communities need to adapt. This means that how we think about and plan for places like Route 12 also needs to change. Place-making—a process of strengthening connections between people and the places they share and communities they live in—is a phrase used in planning to describe the collaborative process of shaping the public realm. Another phrase, *third space*, describes all the places other than home (1st space) and work (2nd space) where we spend our free time. The Route 12 Corridor contains a mix of residential (1st space), workplace (2nd space) and recreational/entertainment (3rd space) uses.

As discussed earlier, demographic changes are driving changes in the way we live, the way we work, and the way we consume (and socialize). As a result of technological and demographic changes, shifts have occurred across most consumer markets. How and where we shop, eat, recreate, socialize, and travel have changed over decades and across generations. One of the most notable changes across society is the rise of the *experience economy*, a society where consumers (residents) seek out, purchase, and engage in experiences—just as they purchase goods and services. This has elevated the importance, value, or status *of the experience*, in the context of place-making, *third space*, and planning for Route 12, and has given rise to what can be called *the amenities of place*.

It is no longer enough for a place to simply be clean, safe, vibrant, and aesthetically pleasing—even though these qualities of place remain critically important.

The Amenities of Place and Place-Making

Today's consumers (residents and visitors) have greater and new expectations of places they seek out for entertainment. Consumers are not simply seeking out and buying goods and services, they are also seeking out and *buying into the experience* that the place offers. Typically, this includes aesthetics, emotions, experience, and even a sense of social status. It is as much about fulfilling their *passions and enthusiasms*, as it is about a need or want such as getting a meal in the local restaurant. They desire more from a place. *They want amenities and the experience of place.* The amenities of place are simultaneously tangible and abstract. For example, tangible amenities may be nice cafes, outdoor dining, and public spaces, while abstract amenities are the collective experiences that the place provides—how the place engages the senses and emotions of consumers and how the place offers a unique experience.

This concept of the *amenities of place* is important to recognize, understand, and embrace in planning for improvement and investment. The amenities of place must be in focus when thinking through planning, policy, and decision-making on design, use, density, infrastructure, and civic space.

Amenities of Place along Route 12

Route 12, as mentioned previously, has a number of strong natural and visual assets throughout the corridor. These amenities must be nurtured, enhanced, invested in, preserved, and protected. They also need to be part of Ledyard's economic development narrative, marketed, and embraced. The following are some of the amenities of place along and near Route 12 in Ledyard:

- Thames River
- Stoddard Hill State Park
- Ledyard Public Schools
- Gales Ferry Public Library
- Ledyard Parks and Rec and Senior Center

These amenities of places are assets to Ledyard and Route 12—they are qualities of place that make Route 12 unique and scenic. These amenities, and additional roadway and landscaping improvements, can be leveraged to speak to and engage the needs, wants, passions, and enthusiasms of today's consumers (i.e., residents, visitors, entrepreneurs, and investors). These amenities are the ingredients of place and place-making, and they can *strengthen connections between people and the places they share and communities they live in*.

Ledyard must continuously invest in its assets. Specifically, Ledyard must invest in the public realm of these assets, paying close attention to detail, physical character, and maintenance. That means *doing the little things and doing them well* (e.g., cutting the grass, sweeping the streets, painting the crosswalks, planting flowers, etc.). While Route 12 is a State-maintained roadway, there are opportunities to work with the State to improve the aesthetics, safety, and functionality of the roadway (see Chapter 7 for additional information on roadway planning).

Conclusion

Route 12 in Ledyard appears to send mixed messaging to potential investors. By some metrics, the site location considerations, the corridor has some meaningful strengths that suggest it can perform better than it does. For example, the younger age of the population in the area and the relatively high level of income provide a market for potential commercial development. The traffic counts, while not as high as would be necessary to attract larger scale commercial development, are generally high enough to support successful local establishments. Route 12 also has fair to good visibility, accessibility, safety, and security that further demonstrate market potential. With that said, there are some detractors. The type of development along Route 12, focusing on strip malls and auto-centric visitation, is a market that is not as vibrant as it once was. The largest downfall along this corridor, however, is the lack of sewer infrastructure.

Due to the population disbursement of the Town of Ledyard and along Route 12, there is not a critical mass of residents in order to drive any large scale, town center style improvements. If the goal of the community is to develop that type of environment, there would need to be a focus on additional residential development, primarily with an eye towards multi-family dwellings. This too, however, becomes challenging, without sewer infrastructure.

There are a number of benefits to Route 12 as a whole, which are appreciated by the residents of the community (as can be found in Chapter 5 of this study). A significant portion of the corridor remains either undeveloped or softly developed, with the natural landscape of trees, hills, and the Thames River. These features provide a significant element of place to Route 12, which is why the recommendations of this study focus on certain areas of the corridor and are not intended to promote large-scale development on every piece of land. Instead, the focus area (found on page 17) should be the primary target of any community action.

From a commercial perspective, Route 12 has not kept pace with changes in consumer behaviors—needs, wants, passions, and enthusiasms. At its core, Route 12 is a state highway that is primarily designed for vehicle movement. In order to attract additional investment, the corridor would need to experience additional placemaking (roadway design, landscaping, accessibility), particularly in the focus area, to become a more attractive place for businesses and visitors.

The good news is that Route 12 is not distressed and has not crossed a threshold into collapse and complete disinvestment. Therefore, Route 12 can be repositioned to help attract investment and to become a vibrant and prosperous amenity to the community. A number of strategies to accomplish these goals are found in Chapter 7 of this study.

Chapter Five:

Public Outreach & Participation

Public Outreach and Participation

The Ledyard Economic Development Commission, along with the assistance of their consultants (Goman+York), conducted a community presentation and engagement session in April of 2025. Based on the success of the session and the desire for additional input, an online survey was prepared to replicate the activity sessions that were held at the in-person engagement session. Between the engagement session and the survey, over 300 responses were received from the community.

The activities conducted and highlights of the survey are summarized on the following pages. The full outreach and survey results are found in the Appendix of this document.

Public Participation Activities

As part of the engagement session in April of 2025, the participants were encouraged to engage in interactive activities designed to gather input and insights from the community. These activities included:

- Continuums of Change
- Prouds & Sorrys
- Words Describing Route 12 Today
- Words Describing Route 12 in the Future
- Community Investment Opportunities Ranked
- Investing in Route 12

The Prouds and Sorry Activity is open-ended, allowing participants to name three things they are proud of on Route 12 and three things they are sorry about on Route 12. The Words Describing Route 12 Today is also an open-ended format that allows the participants to choose any 3 words that they feel best describe Route 12 today and again in the future, once improved. Therefore, as open-ended activities, these provide the most honest perspective of the community participants as to how they think and feel about Route 12.

The word clouds on the right show the findings of the Prouds and Sorrys activity—the larger and bolder the word, the more frequently it was used.

Sorrys

Prouds

Public Participation Activities

The word clouds below show the findings of the Existing Conditions and Future Outcomes activity—the larger and bolder the word, the more frequently it was used. Most telling is the community participants' commentary on roadway conditions (congested, speeders) and appearance (hodge-podge, unattractive, needs beautification) in the existing conditions. The Future Outcomes are as telling in what they do not want to see (no quarries, no large apartments) as what they are looking for (open space and parks, village commercial, and businesses for residents).

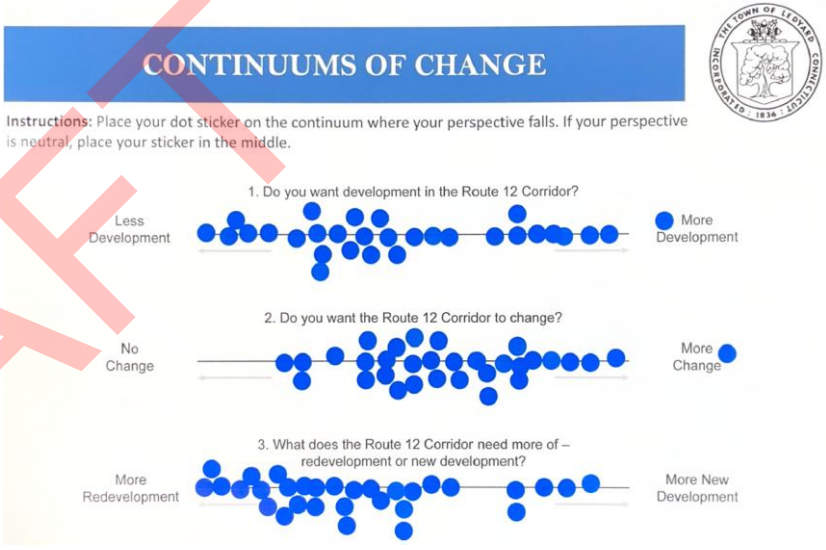
Existing Conditions

Future Outcomes

Public Participation Activities

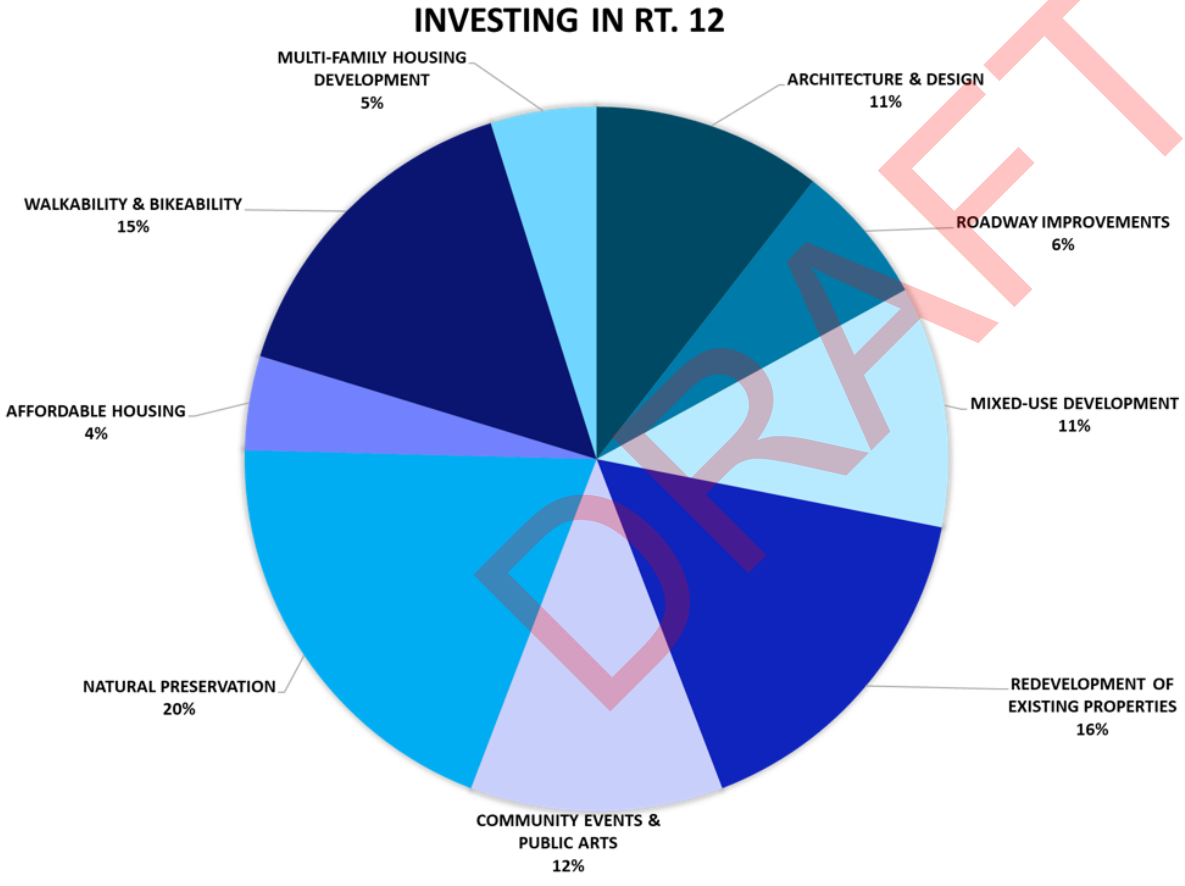
The Continuums of Change activity allows participants to place their dots on a continuum between two statement outcomes. These allow us to take the community's temperature on issues and gauge their appetite. An example of this is to the right, and the full results can be found in the appendix to this document. These were interesting in that the responses had a wide range of answers. In general, a slight desire for change was seen; however, an emphasis on the protection of the existing conditions was present.

The final activity shown on the following page is Investing in Route 12. Participants are provided with $100 in denominations of the following bills: 1 = $50, 1 = $20, 2 = $10, and 2 = $5. Therefore, the participants can only invest in six items but are confronted with 9 possibilities. In addition, as the organizers, we know how many participants, how much money, and how many of each bill are taking part. This allows us to analyze the investments. Most notable in this activity is that natural preservation was the highest investment, with redevelopment of existing properties and walkability/bikeability coming in close to each other at second and third, respectively. Affordable housing and multi-family housing were at the bottom of the list of responses.



Investing in Route 12

Public Kick-Off Engagement Activities

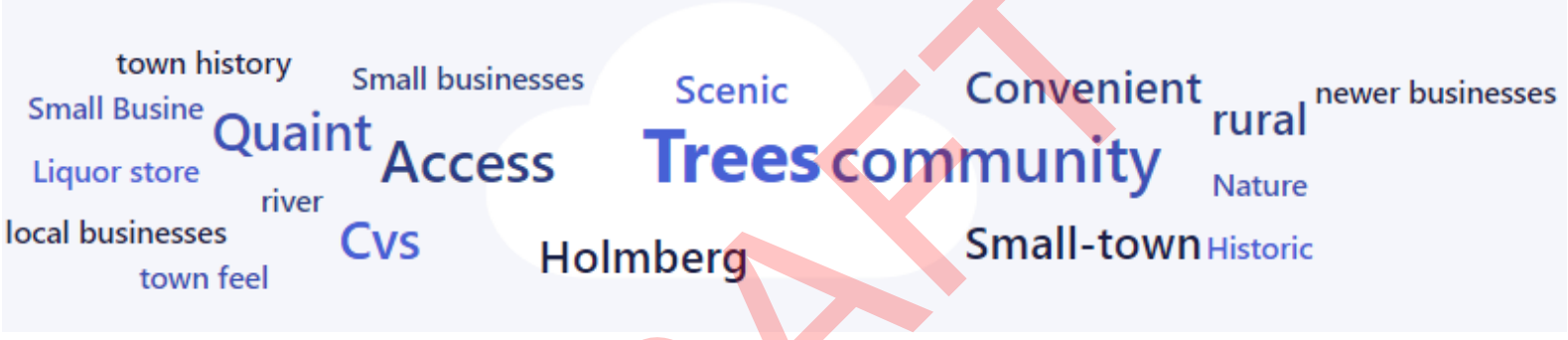


Investments	Total
Natural Preservation	$725
Redev Of Existing Properties	$595
Walkability & Bikeability	$570
Community Events & Public Arts	$430
Mixed-Use Development	$400
Architecture & Design	$385
Roadway Improvements	$240
Multi-Family Housing Dev	$180
Affordable Housing	$160

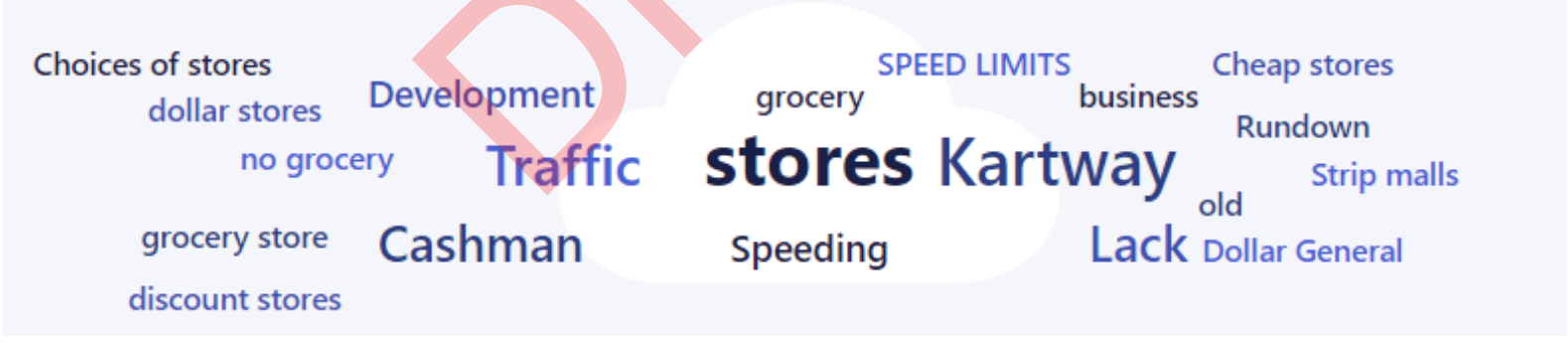
Key Notes

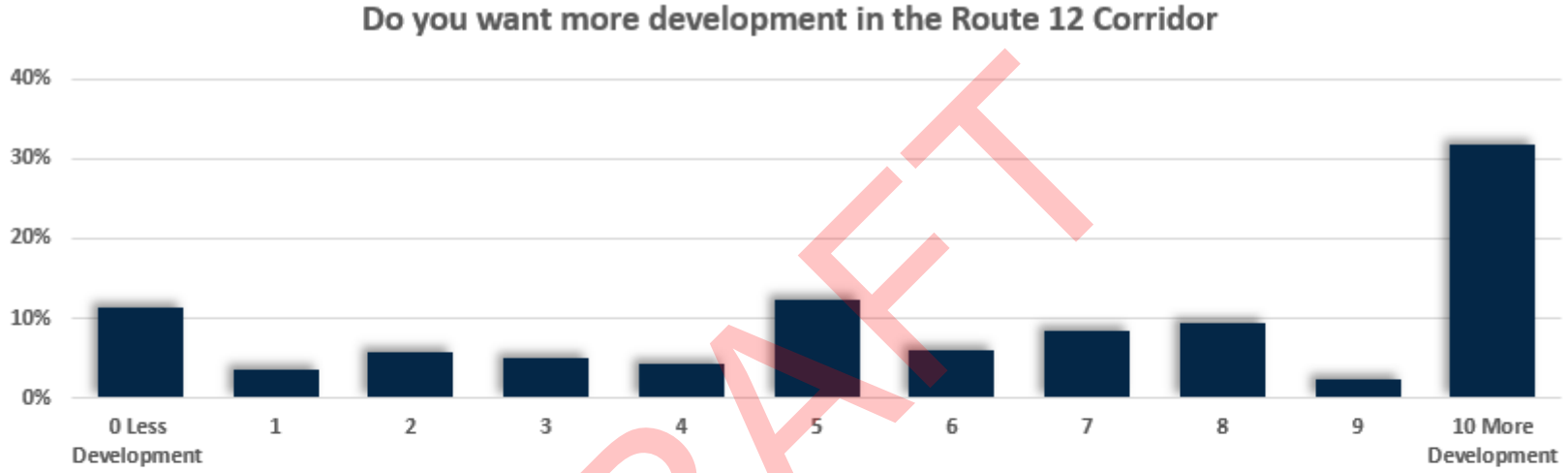
- Natural Preservation received the most **$20 & $50 bills** with **16** total. Mixed-Use Development was second with **10**.
- Redevelopment of Existing Properties received the most **$5 & $10 Bills** with **29** total.

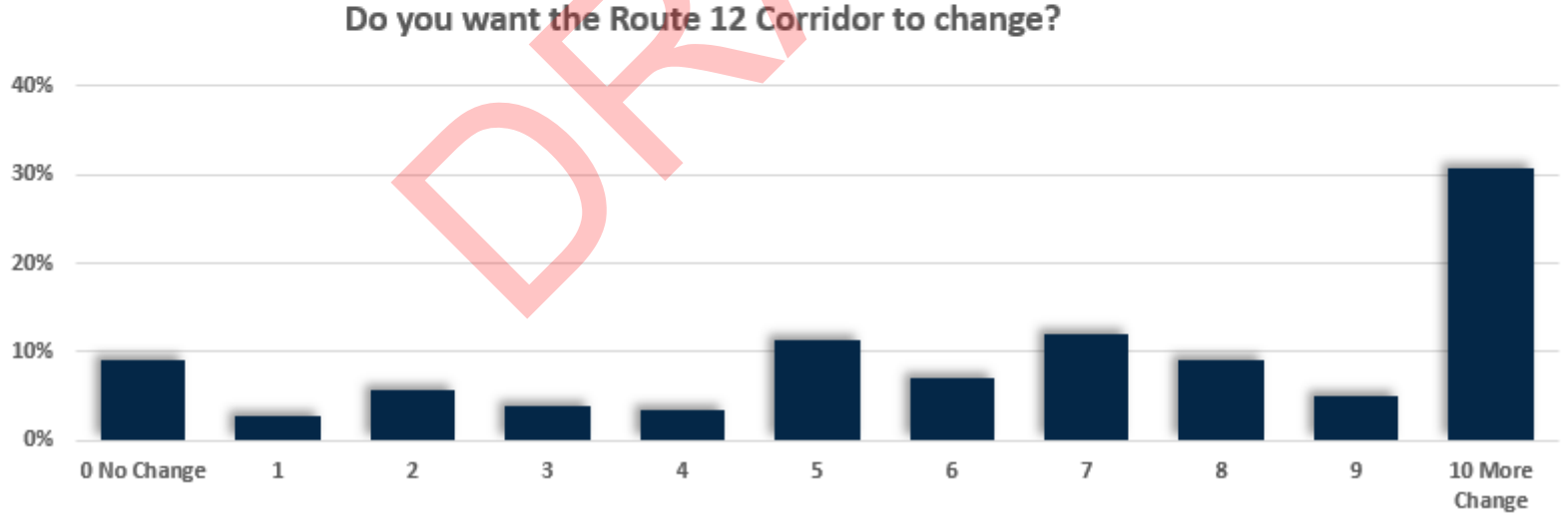
Prouds



Sorrys




Do you want more development in the Route 12 Corridor
40%
30%
20%
10%
0%
0 Less Development
1
2
3
4
5
6
7
8
9
10 More Development


Do you want the Route 12 Corridor to change?
40%
30%
20%
10%
0%
0 No Change
1
2
3
4
5
6
7
8
9
10 More Change

Public Participation Conclusions

The public engagement yielded interesting results for Route 12. Often, there are clear areas that the public believes should be focused on, and clear areas that the residents would like to avoid. We do see some of that in this situation (multi-family housing is the clear lowest priority, and natural preservation is high), we see a mix of what the community is looking for in terms of development. There is agreement that most residents do the majority of their shopping outside Ledyard, but when combining the in-person engagement with the online survey results, we only see a modest desire for additional growth. We do see a clear desire for additional pedestrian and bicycle connectivity.

In results like this, it becomes clear that the community is looking for a balanced approach to change. Wholesale changes and significant alterations to the existing landscape are not desired, but there is an appetite for additional amenities and entertainment venues (food and beverage, activity areas, etc.) within the community.

Based on these results, the economic development strategies for Route 12 in the following chapters embrace a balanced approach to future development of the Route 12 corridor. The strategies in this report will assist the Town in generating additional development and investment into Route 12, while maintaining the community that the residents appreciate.

Chapter Six:

An Economically Sustainable & Resilient Ledyard

Introduction

A critical aspect of positioning a community (or the Route 12 Corridor) to compete for investment and to create a successful corridor is to work within the framework of sustainability and resilience. While the concepts of sustainability and resiliency are often most associated with environmental management and may appear abstract or idealistic, sustainability and resiliency provide a pragmatic framework for thinking about place, economic development, planning for success, and decision-making. This chapter provides a framework, a means for Ledyard to conceptualize and understand sustainability and resiliency, for working towards a more sustainable and resilient Route 12.

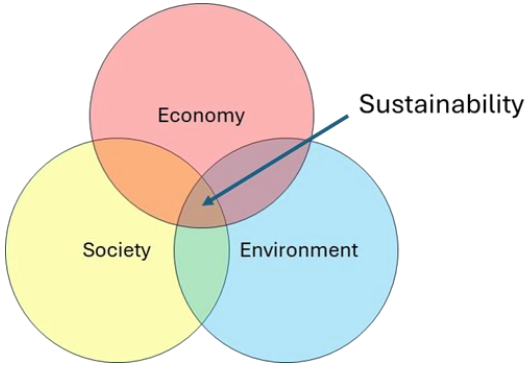
Sustainability

The concept aim of sustainability is embodied in this study. The widely accepted definition established by the United Nations *1987 Brundtland Report* (the World Commission on the Environment and Development) explains sustainability as follows:

> *"Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs. Doing so must integrate and balance economic, environmental, and social goals."*

The key to understanding sustainability and achieving sustainable development is to recognize the symbiotic relationship of the three core elements: Economic, Environmental, and Social. For Route 12 to be sustainable, efforts to create improvement cannot simply work at one or two of the core elements but must work at all three. In addition, the core elements emphasize the importance of *balance*, that one outcome (i.e., environmental sustainability) cannot be achieved if the community is not also economically and socially sustainable. Like many communities, Ledyard embraces environmental sustainability but is more cautious about embracing economic and social sustainability. For example, concerns that economic development is in opposition to the environment, or that housing and density are something for other communities to address.

This Study seeks to elevate awareness of the symbiotic relationship of the sustainable development core elements and to create a dynamic balance between social well-being, economic prosperity, and environmental quality. Ledyard must work at all three of the core elements, and the Route 12 corridor is where the focus of economic sustainability should occur, along with the opportunity to better address housing and social sustainability.



Resiliency

Resiliency is the capacity of a system to absorb shock and disturbance and still *retain functions and structures*. In the context of Route 12, a resiliency approach shifts the focus from simply seeking to achieve the community's desired outcomes *to building capacity to adapt to and manage change*. Route 12 is a complex, adaptive system with multiple variables and forces at work that influence market, land use, development, and investment. Such forces include economic, social, and environmental elements—the core elements of sustainability. These forces work at varying intensities, competing at times, and cooperating at other times. Together, these elements contribute to the Corridor's physical and social character and overall potential.

A key factor in achieving resiliency is *diversity*. A complex, adaptive system that is over-reliant on a single element, for example, a specific industry (economic sector), a certain type of housing (single-family homes), or a singular use (retail) is less resilient, more susceptible to disturbances, and at greater risk of losing functions and structures. Detroit, for example, was over-reliant on the automobile industry, an industry that collapsed under the economic forces that disrupted automotive manufacturing—economic forces that were beyond Detroit's (as a government) control.

Community-scale economic development is inherently a top-down governance structure that assumes we (government) have adequate knowledge—we often assume a degree of confidence as to what is right, or best, or what is to come, and how to best plan for what we need and want. However, resiliency and creating a resilient Route 12 are counterintuitive to conventional top-down governance structures and how we engage in economic development, since the future is unknown and change is inevitable. Therefore, a resiliency approach to economic development shifts the focus from attempting to predetermine the future to building capacity and adaptability for an unknown future.

A Resiliency Approach

A resiliency approach to economic development should:

- start with *embracing change—accepting that things change,*
- recognize that Route 12 and Ledyard are *always shifting* around multiple equilibria and that change is *not continuous or gradual,* but *episodic,*
- not *presume sufficient knowledge, but the recognition of our ignorance,*
- *keep options open*, fostering *novelty* (innovation) and *experimentation* (entrepreneurship), while embracing, not trying to resist or constrain *change*,
- *not assume future events are expected, but that they will be unexpected*,
- *embrace diversity* (in all its forms),
- pay close attention to the slow-moving variables of change,
- embrace and encourage *redundancies* and *overlapping responsibilities*, and incorporate both *top-down* and *bottom-up structures*, and
- not seek to *predict or preordain the future*, but *to devise systems that can absorb and accommodate future events in whatever unexpected form they may take*.

A resiliency approach to economic development and governance is about Route 12 having the capability and capacity to adapt to change—this includes managing the everyday and doing the little things very well.

Chapter Seven:

Route 12 Economic Development Strategy

Introduction

Having studied the current physical and economic conditions of Route 12 in Ledyard, the Town needs to consider several questions:

1. Is the current condition of the Route 12 corridor, both from a design and market standpoint, adequate for the needs and wants of the Town?
2. If not, how can we change and improve the corridor?
3. Is the Town willing to invest (in time and resources) in the improvement of Route 12 for the betterment of the community as a whole?

This chapter will provide guidance that will help the Town answer these questions.

Status Quo

While commercial markets do occasionally grow and develop with little municipal intervention, these situations are few and far between and typically only occur in strong markets with high demand. In the case of Ledyard and Route 12, with the current limitations as they exist (specifically, the lack of sewer, moderate but not high traffic counts, and competing commercial markets in neighboring communities), it is doubtful that meaningful commercial growth and economic development will occur along Route 12 without the direct involvement of the Town. In other words, *if the Town chooses to do nothing, the situation along Route 12 will very likely remain the same*.

A fair number of residents who responded to the online survey and attended the public engagement session in April of 2025 noted that they *did not want to see change* occurring along Route 12, and *are content with it the way that it is*. An understandable perspective, since change invokes fears of the unknown. However, from an economic development perspective, however, the 'no action' strategy to maintain the status quo, would continue stagnate growth and little or no growth in the commercial grand list, which would be counter to the objectives of the Economic Development Commission and ensure that the tax burden remain on the residential grand list. Therefore, it is advisable that a strategy for economic development be adopted.

It is important to remember that change is always inevitable, and the purpose of planning is not only to embrace change, but equally important, to manage change. If the Commission decides that the current condition of Route 12 is inadequate for the community, the following pages provide possible options on how to promote economic development and the success of Route 12 in a meaningful, intentional way.

Route 12 Investment Strategy

Route 12 is a mixed-use corridor that is currently challenged by a lack of adequate infrastructure and outdated functionality. To overcome these challenges, Ledyard must work to *promote change* and increase the attractiveness of the corridor (both from a physical and market point of view). To accomplish this, the Route 12 strategy should include the following action items:

- Implement public infrastructure improvements, primarily focused on sewer line expansion, to increase the attractiveness of the corridor for additional density and development.
- Enhance pedestrian accessibility, roadway safety, and bikeability along the corridor.
- Offer financial incentives to encourage private investment, to both attract new businesses and to improve existing buildings.
- Ensure that zoning allows for a swift, simple, and certain process for the review and (if desired) approval of projects.
- Encourage the development of new housing along the corridor to provide a built-in market for new commercial development.
- Work with property owners to refurbish or redevelop properties that show a lack of investment.
- Protect and enhance the areas of natural beauty along Route 12, while improving existing landscaping and ensuring that public rights-of-way are well-maintained and attractive.
- Promote and celebrate economic victories along Route 12 and throughout Ledyard.

Each of these items will be discussed in greater detail in the next pages, while also providing potential sources of funding (if necessary) for project initiation and completion.

Roadway Design and Accessibility

A major theme received from Ledyard residents regarding Route 12 was the lack of pedestrian accessibility, dangers of bicycling along Route 12, and traffic concerns in the area. While the next chapter will delve into much greater detail regarding possible roadway and accessibility improvements, it is important to note that pedestrian access and walkability are a critical step in improving the attractiveness of Route 12, both aesthetically and from a market perspective.

Currently, there is a patchwork of sidewalks and connectivity throughout Route 12, and even in the focus area. There are sidewalks that start and stop abruptly, do not connect to neighboring properties, and provide poor access to the stores and businesses where people would want to walk to. This should be addressed in any strategy moving forward.

As Route 12 is a State-owned roadway, any work and improvements in the right-of-way will require approval from the Department of Transportation. While this does add an extra hurdle, it could potentially open the door for funding and participation from the State for improvements. As the State is currently striving to improve accessibility and safety, especially with its newly formed Vision Zero Council (established in 2021), the State could be willing to partner on improvements in this area. The Town should review grant and funding sources for accessibility from the State, and work with its legislative delegation to lobby for improvements.

Infrastructure Improvements

As has been noted in a variety of previous studies and plans regarding Route 12, and has been discussed in the prior chapters of this study, the lack of sewer availability will continue to be a barrier to investment and development of meaningful scale. Sewer accessibility exists to the south along Route 12 in Groton and to the north along Route 12 in Preston. The lack of availability in Ledyard is an immediate deterrent for investors. While alternatives exist in the form of septic systems, it is an expensive and lengthy design and permitting process that will drive up the costs of development. From an environmental perspective, a sewer system would also be preferable to limit the impact on groundwater.

In reviewing the various characteristics and polices that exist along Route 12, it is likely that *the lack of sewer capabilities along the corridor is the single greatest barrier to economic development* of any significance. The first step in addressing this topic would be to commission a sewer feasibility study to determine where a connection could be made, if there is adequate capacity of the existing system to service the new areas, and to determine the cost of such an improvement. The cost analysis should include the development potential in the corridor and future tax revenue to determine the return on investment. While this process will be lengthy and require careful budgeting, it will help to address an important deficiency facing Route 12. For this action item, the Town should work closely with the Southeastern CT Council of Governments, as they will have invaluable resources and information to assist in the process.

Financial Incentive Programs for Businesses

In order for a business to open, relocate, or expand, the decision must make financial sense for the owners and stakeholders. This means that if there is a gap in financing or funding, the project will likely not come to fruition. This is where a municipality can step in with financial incentive programs. These programs can take a number of different approaches and are discussed here. This list can be considered as a menu of options. The Town could choose to implement one, a combination, or all options.

Tax Incentives

Ledyard should consider the utilization of its Tax Abatement Policy and Program in accordance with Section 12-65b (Agreements between municipality and owner…of real property…fixing the assessment of such property…) of the Connecticut General Statutes to provide tax fixing agreements (or tax abatements) for the development, renovation, or redevelopment of commercial properties along Route 12. The following is a framework for thinking about the tax abatement policy and how to structure tax abatement incentives:

- The policy should be flexible in its structure and utilization to avoid binding the Town or applicants to abatements that may not work.
- Abatements should be structured to fix the current tax value for tax paid so that Ledyard does not lose the existing taxes paid by the property. In this way, the tax abatement will never result in a loss for the Town.
- Consider a flexible sliding scale abatement structure that utilizes the number of years the abatement is available, and the percent value of abatements offered, considered in the context of financial need (financial feasibility) of the proposed redevelopment and the desired public/community outcome of the proposed development.
- Consider using the tax abatement authority to fix taxes on commercial properties that perform renovations. For example, when an existing business or property performs substantial improvements, especially exterior renovations that improve the physical appearance of the property, provide a tax fixing agreement that abates the value of the new improvements for 5 years.

Permit Fee Reductions or Waivers

If a project of significance is being proposed and requires additional financial incentive, the waiver or reduction of building permit fees may be incentive enough for the business to locate in Ledyard. This should be considered on a case-by-case basis, and financial need should be considered in determining whether or not a reduction or waiver is justified.

Small Business Loans

The Town of Ledyard could establish a loan/grant program for small businesses. These loans would typically be structured in a low-interest format and would require a partnership with a bank or credit union. The Town would need to create such a program with review processes, request limitations, and possible uses for the funds. The potential uses for the funds could be for training of staff, IT upgrades, advertising, signage, etc. An added possibility is to structure the loan in a forgivable format, where the remainder of the loan is forgiven if payments are made on time and ownership of the business is maintained for a set number of years.

Façade Improvement Loans

Façade improvement loans would work in a manner similar to the small business loans, however they are directed towards the owner of the building as opposed to the owner of the business (while the owner of the business could still apply, the lasting benefit of the improvements to the physical structure of the building would be realized by the property owner).

Façade improvement loans have been used successfully by a number of municipalities throughout the State of Connecticut. They are particularly useful in areas with many outdated buildings. This type of program is not only helpful to the individual property owners, but the improvements help to increase the aesthetic appeal of the area as a whole and are a tangible sign of investment in the targeted area. This program, in particular, may be of benefit to Route 12.

Similarly to the small business loans previously discussed, this program would require specific parameters and guidelines to be reviewed and approved by the Town.

A Note on Financial Incentive Programs

The programs described here can be broken into two categories: those that require no upfront investment from the Town, and those that require seed money to fund. The tax abatements affect only potential future tax revenue collected by the municipality. As a result, the Town never experiences a loss in funding (indeed, as the abatements would likely be set up to reduce the added value of the property on a descending scale, the municipality would always enjoy added revenue, which would increase every year through the duration of the abatement). This is a strategic route for incentive programs, as it costs nothing to the Town.

The second set of programs would require an initial monetary investment from the Town of Ledyard. In order to initially fund the programs, the Town would need to set aside money that could be applied for by loan applicants. Eventually, with repayments, the fund would be self-sustaining. While the programs are highly beneficial, particularly to small businesses, Ledyard would need to dedicate funds. There are possible grant programs that could fund these programs initially, which would need to be researched. A partnership with a bank or credit union would be required in order to process the loans.

Housing – Where Jobs Go at Night

Businesses seek areas that have a critical mass of potential patrons and a workforce for their operations. Housing is where jobs go at night; in other words, housing equates to new jobs and economic development. Without an adequate supply of housing available, businesses are more than likely going to seek an alternative site. The Gales Ferry area, which encompasses most of Route 12 in Ledyard, has a population of approximately 1,000 residents, or only 6% of Ledyard's population. While Ledyard as a whole has a significantly higher population, the residential density along Route 12 is very low. Density, a critical mass of housing, is needed in the Route 12 corridor to bolster the economic vitality of existing businesses and to improve the attractiveness of the corridor for new businesses.

There is a symbiotic relationship between housing and commercial districts and businesses. Households provide the consumers to frequent the businesses, while businesses provide amenities--products and services--to the housing, the households. Additional housing in this area would likely be a benefit not only to attracting new commercial development along the corridor, but would also assist in the need for new housing in Southeastern Connecticut as a whole.

Multifamily housing is permitted through a site plan approval in the Gales Ferry Development District, which is a strong feature of the Zoning Regulations. The difficulty, however, continues to be the lack of sewer accessibility. While housing can be designed with septic systems, it is a more expensive and complicated process that deters development from the area. Additionally, certain pieces of land may not be suitable for septic systems. Therefore, sewer access again becomes a critical component of the development of Route 12.

The survey responses and public interaction were largely negative to high-density multifamily housing, which is not unexpected. In Connecticut as a whole, multifamily housing is generally viewed negatively. However, there are significant benefits to such housing development. In the case of an economic study such as this, the most tangible benefit is a larger and more localized customer base for businesses along Route 12.

A Focus on Opportunity Properties

A major step in positioning Route 12 to compete for investment, prosperity, and vibrancy will be to engage property owners (and developers) in the process. The aim is to create confidence, build community pride, and grow demand.

The following is a preliminary step-by-step framework for engaging the owners of opportunity properties with the aim of encouraging and creating improvement and investment.

- Identify opportunities for potential private property improvements and investment. These properties could include sites in poor condition (the Kartway site), outdated condition (such as the various strip malls in the focus area), or sites in the Gales Ferry Development District that are currently vacant or underutilized.
- Engage 'opportunity' property owners individually in discussions about improvements and investments in their property and the Town's willingness to partner with public incentives (once designed and implemented).
- If 'opportunity' property improvements require more than basic rehabilitation, also engage the development community (developers) in discussions of potential uses and incentives with the aim of connecting developers with property owners.

The Town of Ledyard adopted a fairly robust "Ordinance Concerning Blight and Public Nuisance" in 2023. As an additional tool, the Town should support code enforcement along Route 12 and utilize the blight ordinance when necessary or helpful.

Zoning Improvements

Economic development is similar to the flow of electricity or water: investment flows in the path of least resistance. If there is less resistance in a surrounding community, investment is more likely to locate there. The Ledyard Zoning Regulations are quite promising in this area. The Gales Ferry Development Zoning District, which encompasses the focus area of the study, is particularly flexible in what is allowed by right or by site plan approval (without the need for a public hearing timeline). This is a positive aspect for Route 12 and shows that work has already been done in this area to attract investment.

Zoning and municipal policies should be designed in a way that is swift, simple in certain in order to attract economic development. In that way, they provide decisions in a timely manner (ideally without the need to apply to multiple boards and commissions where and when feasible), they are easy to understand, and they provide clear direction of what is desired and what is likely to be approved. This is not to say that regulations should approve every application. Rather, they should simply be clear about what will and will not be approved. Too often, regulations are written with many caveats that allow the deciding board or commission a significant amount of discretion. While such discretion is often seen as desirable, for an applicant, it can be a deterrent.

While the Zoning Regulations themselves seem to be favorable for economic growth, Ledyard should consider ways to decrease the amount of time applications spend waiting and before the commission(s), and develop reference documents that can be used by small business owners to quickly know what is needed to proceed with their proposals.

Natural Resources and Aesthetics

The residents of Ledyard overwhelmingly spoke in favor of preserving the natural resources and beauty along Route 12. There is no doubt that this is an area which is benefitted from natural features, and those aspects of the corridor should be embraced, preserved, and enhanced. A key problem confronting the commercial areas of the corridor, however, is the lackluster image. Ledyard should work to elevate the expectations and standards of property maintenance along Route 12 to create pride and build confidence. Improving the aesthetics of Route 12 is a relatively low-cost tactic Ledyard can implement, which will provide some of the greatest and most visible returns. To accomplish this, Ledyard should implement a Corridor Beautification program that includes the following:

- Establish a yearly budget for aesthetic improvements.
- Invest in flowers/plantings in the public realm—flowerbeds at gateways and on public lands.
- Lead by example and ensure that public properties maintain the highest quality of landscaping, lawn care, and building maintenance.
- Engage property owners to plant and display flowers, elevate their standards of lawn care, and invest in building maintenance and exterior improvements.
- Establish or work with a garden club to help with implementation and maintenance.

Promote and Celebrate Victories

It is important for municipalities to regularly check in with their businesses and stakeholders to ensure their needs are being met and to determine if they need assistance. It is far easier to keep a business local than to attract a new one. Therefore, the Town should implement some programs that interact with and support local businesses:

- A simple and time/cost-effective way to engage businesses would be to host quarterly (or bi-annually) meet & greets at the town hall for business stakeholders. This could promote collaboration amongst businesses, but also foster a supportive relationship between the business community and the Town.
- Consider a similar meeting as above to target and engage property owners in discussions about investment and (re)development.
- Engage in more frequent meetings with owners who are looking to invest in the near term. Discuss incentives that Ledyard could provide to help facilitate investment.

In addition, the Economic Development Commission should celebrate local business successes. Some simple ways of doing this include the implementation of a 'ribbon cutting' program for new businesses and existing business expansions, the implementation of a yearly 'Business Investment' award program for new businesses, expansions, and significant improvements. An award for high-quality property maintenance would go a long way in encouraging and promoting higher standards of aesthetic improvements and pride in ownership.

Conclusions and Next Steps

If Ledyard has decided that the growth and development of Route 12 is important, and has reviewed possibilities for promoting that growth, the third main question becomes important. Is the Town willing to invest, with time and money, into the betterment of Route 12? Economic development does not happen overnight, and the process takes years or decades to come to fruition. There are also financial investments that the Town must make in order to position Route 12 for success. While this can be daunting, the possibilities are largely worth the investment.

The strategies listed on the previous pages are not all equal. While the provision of sewer access along the corridor would likely have the largest impact, it is also likely the longest, most complex, and costly venture. Reviewing and improving application processes costs only staff time, but will not have as big an impact. Therefore, the Economic Development Commission should review the items, determine what can be done easily and at low cost, and move forward with those items while planning and budgeting for the larger and more in-depth items.

Route 12 in Ledyard has many opportunities. The Town of Ledyard can oversee the growth and development of the corridor into a thriving and vibrant economic area that the residents of the community will appreciate for generations to come.

SOLLI ENGINEERING

Chapter Eight:
Roadway & Accessibility

Study Area

The following study area intersections were taken into consideration for this study:

Signalized Intersections

- Route 12 at Route 214 (Stoddards Wharf Road)
- Route 12 at Dow Chemical Road
- Route 12 at Military Highway
- Route 12 at Hurlbutt Road
- Route 12 at Christy Hill Road
- Route 12 at Long Cove Road

Area Roadway Network

Existing Roadway Conditions

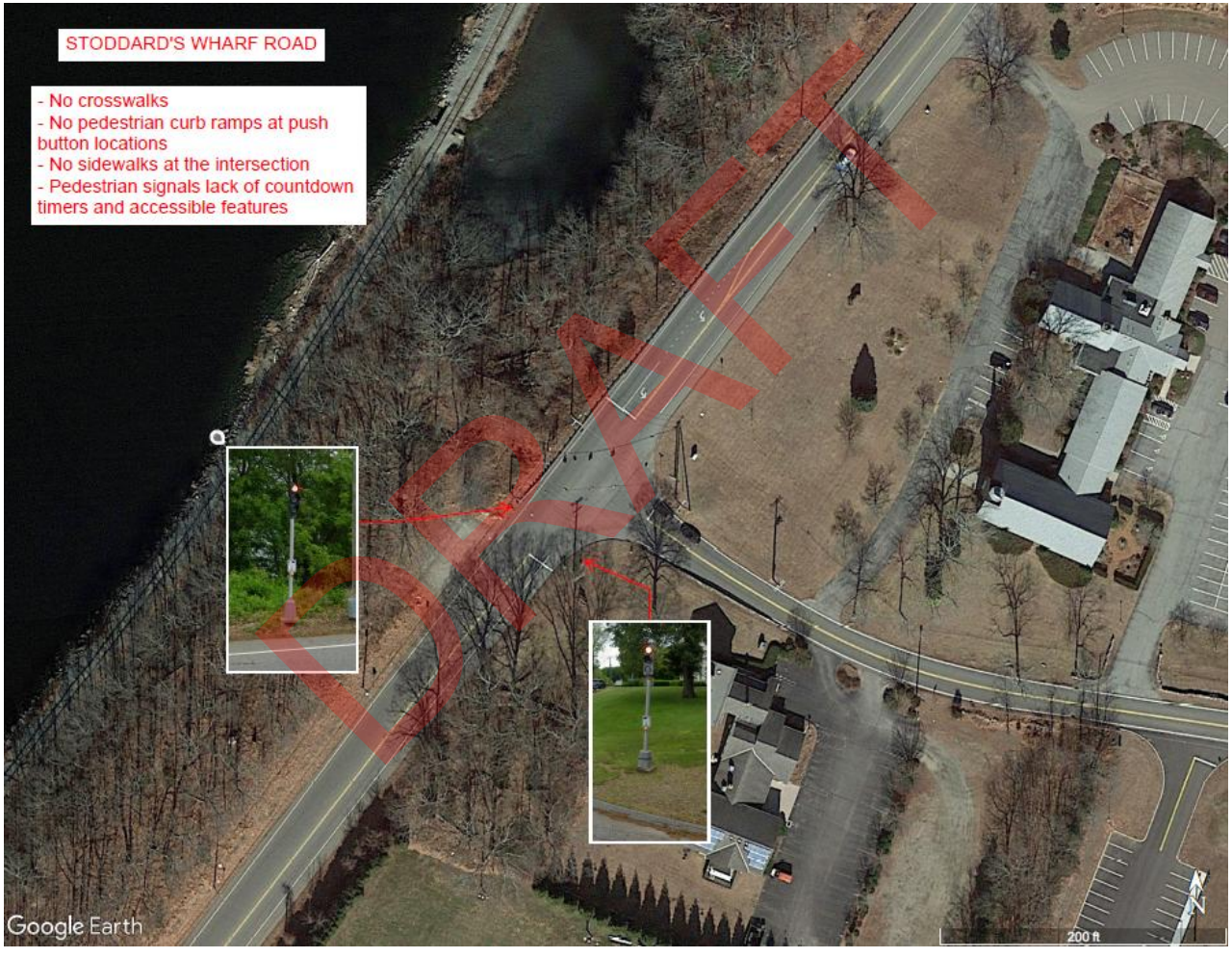
Route 12 is a state-owned, north-south, principal arterial roadway that extends approximately 5.6 miles through the western side of Ledyard, Connecticut, parallel to the Thames River. Throughout Ledyard, Route 12 is a two-lane, bi-directional roadway with additional left and right-turn lanes at signalized intersections. The posted speed limit ranges from 35mph to 45mph.

Intersections

- ***Route 12 at Route 214 (Stoddards Wharf Road)*** is a signalized three-legged intersection. The westbound approach of Route 214 consists of a single full-movement lane. The northbound approach of Route 12 includes one 15-foot-wide full-movement lane. The southbound approach of Route 12 consists of a 95-foot-long, 10-foot-wide left-turn storage lane and an 11-foot-wide through lane. Four-foot-wide shoulders are present along both the northbound and southbound approaches of Route 12. Pedestrian accommodations at the intersection are limited. The Route 12 northbound approach is equipped with 8-inch, three-section signal indications and pedestrian push buttons on both sides; however, there are no crosswalks or sidewalks at any leg of the intersection, including at the pedestrian signal locations. Route 214 provides access to several community facilities adjacent to Route 12, including public elementary and middle schools, athletic fields, a church, and a social service organization. East of Route 12, Route 214 connects to residential areas, Ledyard Center, and Route 117.
- **Route 12 at Dow Chemical Driveway** is a signalized, three-legged intersection. The eastbound approach from the Dow Chemical Driveway consists of a dedicated left-turn lane and a dedicated right-turn lane. The northbound approach on Route 12 includes a 150-foot-long left-turn storage lane and a single through lane. The southbound approach consists of one through lane and a separate right-turn lane. All travel lanes at this intersection are 12 feet wide, with 12-foot-wide shoulders along both the northbound and southbound segments of Route 12. Pedestrian push buttons are installed on the steel span pole located east of Route 12 and on the signal control box located to the west. However, no marked crosswalks or sidewalks are present at or near the intersection. The posted speed limit in the vicinity of the intersection is 45 miles per hour.

Roadway and Accessibility

Study Area



Roadway and Accessibility

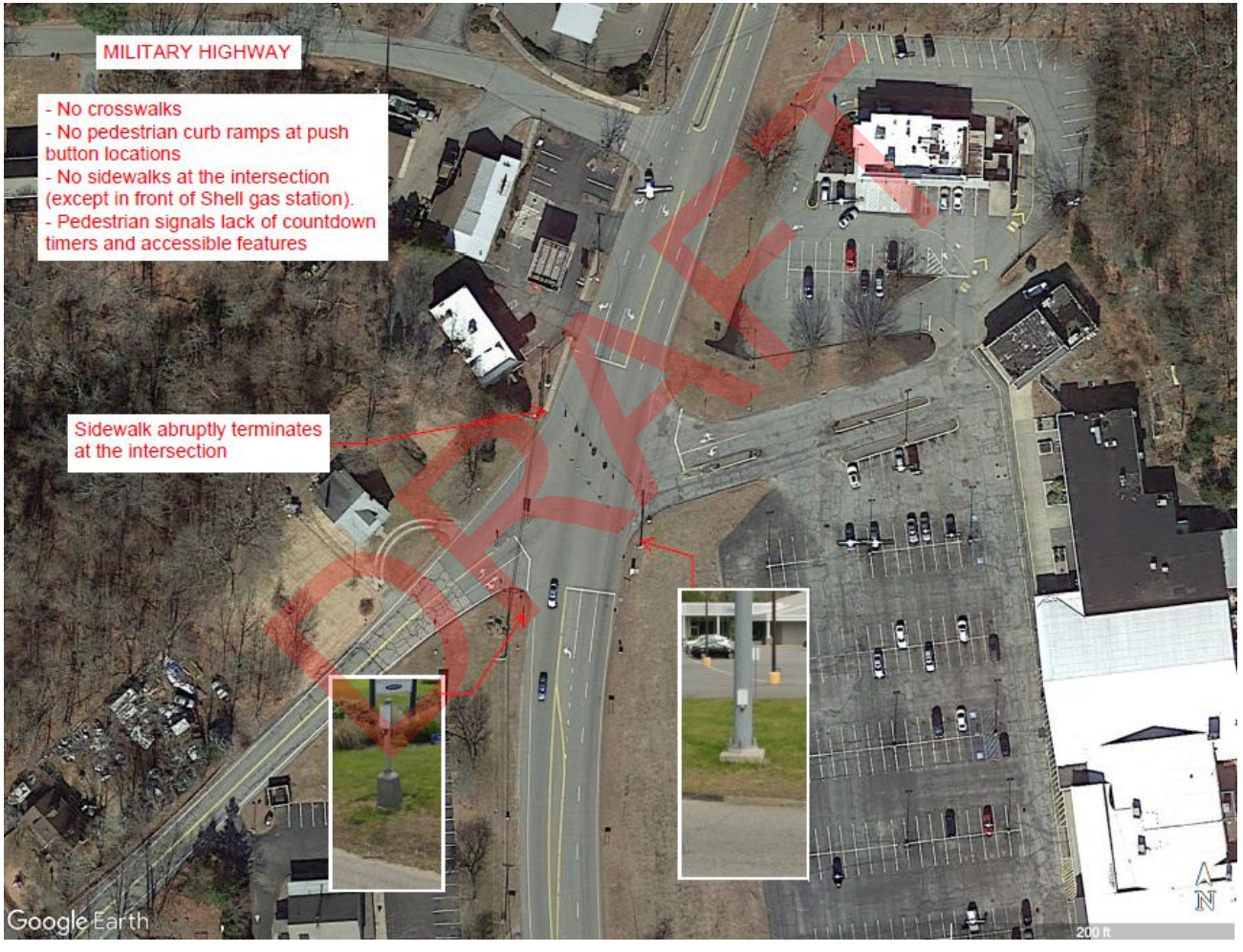
Study Area

"Signal Ahead" warning signs are installed along Route 12 for both northbound and southbound traffic. The southbound warning sign is enhanced with flashing beacons to increase driver awareness of the upcoming signal.

- **Route 12 at Military Highway** is a signalized, four-legged intersection. The eastbound approach from Military Highway consists of a dedicated left-turn lane and a shared through/right-turn lane. The westbound approach from the Riverside Mall driveway includes a left-turn lane and a shared through/right-turn lane. The northbound approach on Route 12 provides a 10-foot-wide left-turn lane, an 11-foot-wide through lane, a 12-foot-wide shared through/right-turn lane, and a 3-foot-wide shoulder. The southbound approach on Route 12 consists of a 10-foot-wide left-turn lane, an 11-foot-wide through lane, and a 12-foot-wide right-turn lane. Pedestrian push buttons are present on the northbound approach, located on a pedestal on the east side of Route 12 and on a steel span pole on the west side. However, there are no pedestrian signal heads, crosswalks, or sidewalks at these locations. The only existing sidewalk at the intersection is located along the west side of Route 12, north of Military Highway, adjacent to the Shell gas station property frontage. The posted speed limit in the vicinity of the intersection is 35 miles per hour.
- **Route 12 at Hurlbutt Road** is a signalized, four-legged intersection located approximately 500 feet south of Military Highway. The eastbound approach from Hurlbutt Road consists of a single 12-foot-wide, full-movement lane. The westbound approach from the Riverside Mall driveway includes a dedicated left-turn lane and a shared through/right-turn lane. On Route 12, the northbound approach includes a left-turn lane, a shared through/right-turn lane, and a 4-foot-wide shoulder. The southbound approach provides a left-turn lane, a shared through/right-turn lane, and a 6-foot-wide shoulder. All travel lanes on Route 12 at this intersection are 11 feet wide. At the northbound approach, pedestrian push buttons and pedestrian countdown signal heads are mounted on steel span poles on either side of Route 12. A marked crosswalk spans the northbound leg, with ADA-compliant curb ramps provided at both ends. A sidewalk is present along the west side of Route 12 and the south side of Hurlbutt Road, adjacent to the CVS Pharmacy property frontage. However, the sidewalk network is discontinuous, with no pedestrian facilities extending across adjacent properties. The posted speed limit in this area is 35 miles per hour. Approximately 600 feet west of Route 12, Hurlbutt Road and Military Highway intersect, providing local access to residential and commercial properties, as well as key community destinations such as the Gales Ferry Cemetery, Public Library, and the Thames River Launching Ramp.

Roadway and Accessibility

Study Area



Roadway and Accessibility

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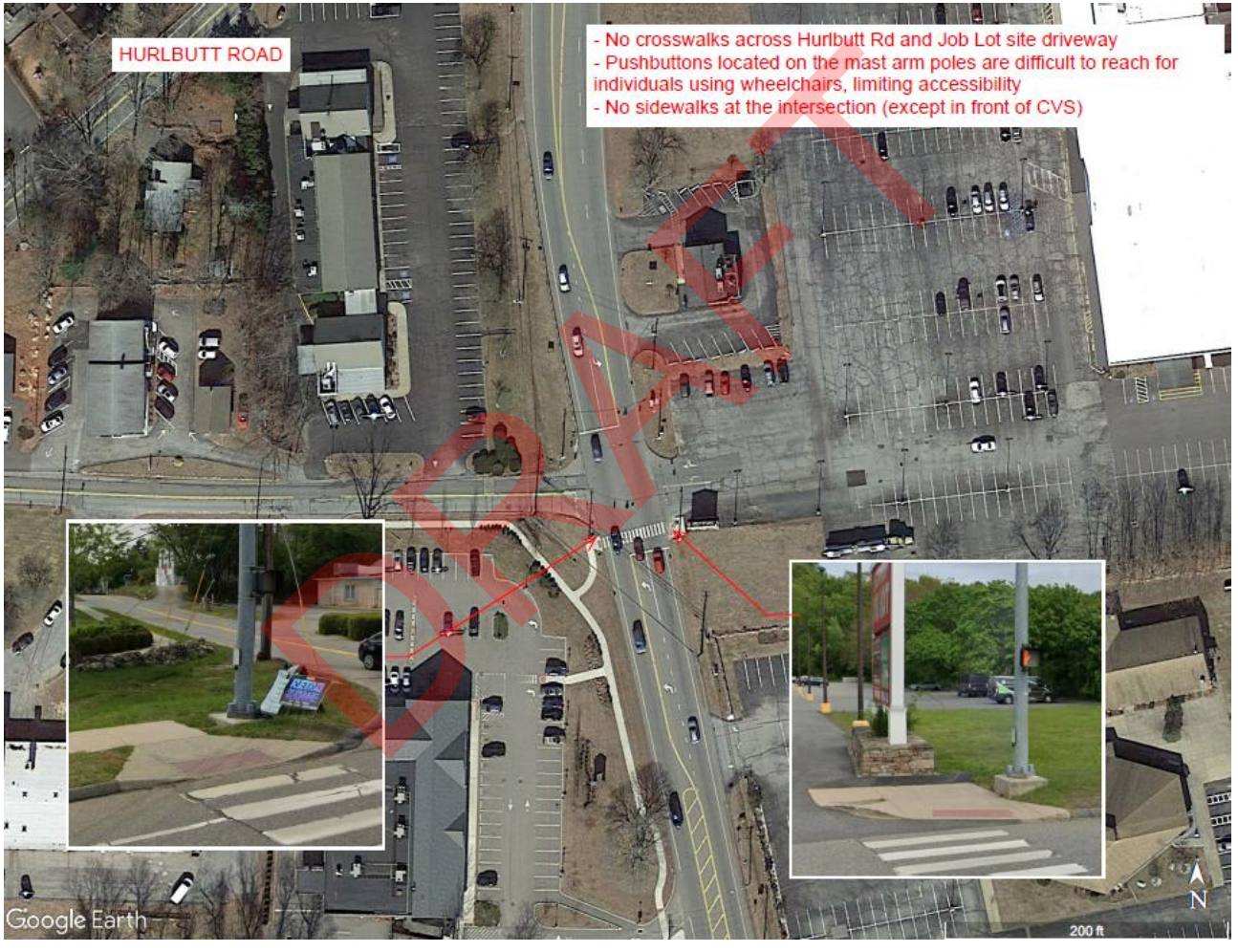


- **Route 12 at Christy Hill Road** is a signalized, four-legged intersection located approximately 600 feet south of Hurlbutt Road. The eastbound approach from the Gales Ferry Commons Driveway consists of a single full-movement lane. The westbound approach from Christy Hill Road also provides a single full-movement lane. The northbound approach on Route 12 includes an 11-foot-wide left-turn lane, a 12-foot-wide shared through/right-turn lane, and a 4-foot-wide shoulder. The southbound approach provides an 11-foot-wide left-turn lane, a 13-foot-wide shared through/right-turn lane, and a 4-foot-wide shoulder. Pedestrian push buttons are present on steel span poles located on either side of Route 12 at the southbound approach. However, no pedestrian signal heads, crosswalks, or sidewalks are present at the intersection. The posted speed limit in this area is 35 miles per hour. Christy Hill Road provides local access to residential neighborhoods located east of Route 12.
- **Route 12 at Long Cove Road** is an uncoordinated, signalized four-legged intersection. The eastbound and westbound approaches from Long Cove Road each consist of a single full-movement lane. The Route 12 northbound approach includes one 12-foot-wide full-movement lane and a 9-foot-wide shoulder. The southbound approach consists of one 12-foot-wide full-movement lane and an 11-foot-wide shoulder. At the southbound approach, pedestal-mounted pedestrian push buttons are installed on either side of Route 12, adjacent to pedestrian curb ramps. However, these ramps are not equipped with detectable warning surfaces and are not connected to any sidewalks. Additionally, the intersection lacks pedestrian signal heads, marked crosswalks, and sidewalks. The posted speed limit in this area is 45 miles per hour. Advance warning signage includes a “Signal Ahead” sign located approximately 1,500 feet south of the intersection and a “When Flashing, Stop Ahead” sign with flashers located approximately 600 feet south of the intersection. Long Cove Road provides local access to residential areas on both sides of Route 12 and connects to Military Highway approximately 0.8 miles west of the intersection.

Roadway and Accessibility

Study Area

Roadway and Accessibility

Study Area

Traffic Volumes

Traffic volume data was obtained from the Connecticut Department of Transportation (CTDOT) traffic monitoring stations located along Route 12 and Route 214 in Ledyard, CT. Data from nine stations includes vehicle volume and classification information collected in February 2024, May 2020, and October 2017. The table below summarizes the count station data collected, followed by a concise set of key observations and traffic patterns.

Corridor-Wide Observations & Traffic Patterns

- Most Route 12 stations carry 11,500–14,500 vehicles per day, with Stations 032 and 076 recording the highest AADT.
- Station 029 (Route 214) has significantly lower volume, as expected for a collector route.
- Volume growth since 2020 ranges from ~60% to 70%, recovering from pandemic-era lows.

Route 12 Corridor – CTDOT Traffic Count Summary (Feb 2024)

Station	Location	AADT	NB/EB AADT	SB/WB AADT	85th % Speed	Truck %	Posted Speed
084	Rt. 12 – 5.3 mi N of Whalehead Rd	11,900	6,000	5,900	52.8 mph (combined)	1.9%	45 mph
030	Rt. 12 – 5.1 mi N of Chapman Ln	7,200	—	7,200	53.7 mph (SB only)	3.1%	35 mph
037	Rt. 12 – 4.9 mi S of Military Hwy	11,500	5,800	5,700	—	2.1%	35 mph
032	Rt. 12 – 4.8 mi S of Hurlbutt Rd	14,500	7,000	7,500	—	2.3%	35 mph
095	Rt. 12 – 4.7 mi S of Christy Hill Rd	13,200	6,400	6,800	51.2 mph (combined)	2.3%	35 mph
076	Rt. 12 – 3.3 mi NE of Long Cove Rd	14,100	6,700	7,300	59.4 mph (NB), 48.2 SB	2.9%	45 mph
033	Rt. 12 – N of Route 214	13,500	6,800	6,600	53.3 mph (NB), 48.0 SB	2.0%	45 mph
004	Rt. 12 – S of Route 214	13,200	6,600	6,500	—	2.9%	45 mph
029	Rt. 214 – E of Route 12	3,600	1,700 (EB)	1,900 (WB)	41.5 mph (EB), 40 WB	3.8%	30 mph

Speeds & Safety Considerations

- Speeding is consistent and substantial at almost every station where speed was measured.
- The 85th percentile speed exceeds the posted limit by 6–14+ mph, especially at:
    - Station 076 NB (59.4 mph in a 45 zone)
    - Station 030 SB (53.7 mph in a 35 zone)
    - Station 033 NB (53.3 mph in a 45 zone)
- Southbound speeds tend to be lower than northbound, suggesting directional behavior differences.

Truck Traffic

- Truck percentages range from 1.9% to 3.8%, generally low but present throughout the corridor.
- Station 029 (Route 214) has the highest relative truck share (3.8%) despite low AADT, possibly due to localized deliveries or construction traffic.

Peak Hour Traffic

- PM peak volumes occur between 2:00 PM and 4:00 PM corridor-wide.
- K-Factors (peak hour/AADT ratios) consistently range between 8.8% and 10.9%, reflecting a typical arterial travel pattern.

Implications

- Speed management strategies (signage, signal timing, enforcement) may be warranted at high-speed locations, especially Stations 076, 033, 030.
- Locations with higher volumes and documented speeding trends should be prioritized for pedestrian improvements, traffic calming, or enhanced crossings.

Collision Data

To evaluate safety conditions along the Route 12 corridor, crash data from 2021-2024 was reviewed to identify trends in collision frequency, severity, and contributing factors. This analysis provides a foundation for understanding where and how crashes are occurring, highlighting potential areas for targeted improvements. By examining crash types, roadway conditions, and spatial distribution near key intersections, this data helps inform infrastructure, signal, and operational strategies aimed at reducing future crashes and enhancing safety for all roadway users, including drivers, pedestrians, and bicyclists.

Crash Severity by Intersection

Intersection	Fatal	Injury	Property Damage Only
Route 12 at Christy Hill Rd	0	13	26
Route 12 at Long Cove Rd	0	14	25
Route 12 at Stoddards Wharf Rd	1	5	9
Route 12 at Dow Chem. Drwy	1	2	6
Route 12 at Military Highway	1	2	5
Route 12 at Hurlbutt Road	0	2	2
Route 12 at Route 214	0	2	2

Crash Type by Intersection

Intersection	Angle	Rear-End	Sideswipe (Same)	Sideswipe (Opp.)	Head-On	Other	Not Applicable
Route 12 at Christy Hill Rd	14	14	4	0	0	2	5
Route 12 at Long Cove Rd	10	12	4	0	1	1	11
Route 12 at Stoddards Wharf Rd	3	6	0	1	0	1	4
Route 12 at Dow Chem. Drwy	2	5	0	1	1	0	0
Route 12 at Military Highway	0	5	1	1	1	0	0
Route 12 at Hurlbutt Road	0	2	1	0	0	0	1
Route 12 at Route 214	0	2	0	0	0	0	2

Key Takeaways

- Christy Hill Rd and Long Cove Rd account for the most injury crashes and have a high number of rear-end and angle collisions, typical of signalized intersections with turn conflicts.
- Sideswipe and rear-end crashes are prominent where traffic transitions or merge conditions are likely.
- "Not Applicable" and "Other" types suggest either single-vehicle events or incomplete reporting, often associated with off-peak or weather-affected conditions.
- One crash involving a cyclist at 1555 CT-12, Suspected Minor Injury, Angle collision when vehicle was reentering the roadway.
- No pedestrian-related crashes were identified in the available dataset.
- Fatal Crashes (All three occurred along mid-block segments rather than at high-volume intersections):
    - Stoddards Wharf Rd, Dow Chemical Drwy and Military Hwy each recorded 1 fatal crash, warranting closer safety evaluation.
    - Two of the fatal crashes involved sideswipe opposite-direction collisions, suggesting lane departure or overtaking conflicts.
    - The most recent crash in 2024 involved a vehicle hitting an embankment during wet conditions, possibly indicating loss of control.

Pedestrians, Bicycles, and Transit

Based on site visits and images:

Walking Challenges

- Lack of sidewalks throughout the majority of the corridor.
- Check pedestrian wait times and crossing intervals at the signalized intersections
- Lack of accessible pedestrian signals to assist people with assistive mobility devices, such as ADA-compliant curb ramps, audible signals, and countdown timers
- Lack of pedestrian-activated pushbuttons on many of the side streets at the signalized intersections
- Substantial gaps in the sidewalk network
- Sidewalk ramps that do not meet ADA or CTDOT standards
- Lack of adequate street lighting: The poor lighting on Route 12 poses safety and security concerns for people walking.

Biking Challenges

- Lack of bicycle facilities and safe accommodations for people biking
- High speeds of vehicles: Speed limits in the corridor vary from 35 mph to 45 mph and prevent people from biking due to safety concerns (even where there are bikeable shoulders).
- Moderate volumes of traffic: The 15,000 vehicles per day on Route 12 make people uncomfortable biking on the shoulders or sharing the road with vehicles.
- Issues with bikeable shoulders: Although bikeable shoulders are present on Route 12, they are not marked as bike lanes. Also, they are of inconsistent width and end at the signalized intersections.
- High-stress environment for people biking due to high vehicle speeds and volumes.
- Lack of connectivity for bike trips between Route 12 and crossing arterials.
- Lack of adequate streetlights: The poor lighting on the Route 12 corridor presents safety and security concerns for people biking.

Public Strava heatmap data was reviewed to estimate nonmotorized demand. While Strava Metro percentile data is not publicly available for Route 12, heatmap visualizations suggest low bicycle use in the corridor.

On Strava maps, a blue line typically represents your current activity route—the path you're actively recording during a run, ride, or walk. This line is visible in real-time as you move, helping you track your progress and navigate your route.

In the context of Strava's Global Heatmap, blue lines indicate less frequently used routes by the Strava community. The heatmap uses color intensity to show route popularity:

Blue lines signify areas with lower activity levels.

Red or orange lines denote highly frequented routes.

This visualization helps users discover popular or less-traveled paths based on aggregated public activity data.

Transit

Public transportation options in Ledyard are minimal. The only area currently served by public bus transit is the Route 12 corridor, where Southeastern Area Transit (SEAT) operates a limited number of routes. Outside of this corridor, the town lacks regular public bus service, leaving most neighborhoods without direct access to regional transit infrastructure.

Public Involvement Summary and Community Concerns

A public kick-off meeting was held in April 2025 to introduce the Route 12 Corridor Feasibility Study to local stakeholders, residents, and public officials. The meeting provided an overview of study objectives, timeline, and opportunities for public engagement. Community members were encouraged to share their experiences and concerns regarding current roadway conditions, traffic operations, accessibility, and multimodal safety.

Summary of Resident Concerns

Through the meeting and subsequent public feedback, several recurring themes and location-specific concerns emerged:

Roadway Safety & Traffic Operations

- Left-hand turns during shift changes are hazardous due to high traffic volumes and limited gaps.
- Speeding is prevalent, especially between McDonald's and Kartway, and near Henny Penny.
- Traffic laws are frequently ignored, and drivers race through sections of Route 12.
- Dangerous access conditions to and from side roads (e.g., Chapman Lane) due to poor sight lines.
- High number of access points/exits within a short section increases crash risk.

Pedestrian & Bicycle Safety

- Lack of continuous sidewalks and safe pedestrian routes.
- No dedicated bike lanes; residents and children are forced to walk or bike on the road.
- Walking and biking are currently unsafe and not viable for access to schools, parks, and community zones.
- Poor walkability, particularly in the Gales Ferry area.

Infrastructure Condition

- Pavement and asphalt are worn and in poor condition.
- Rocks and gravel from nearby quarries are strewn across the roadway.
- Existing sidewalks are inconsistent and fragmented.

Intersection & Geometric Design

- Several intersections need improvements in geometry and traffic control.
- Requests for a traffic circle at the Route 12 / Military Highway intersection to improve flow and safety.
- Dow Firehouse signal (northbound) lacks an advance warning light.
- Calls for an improved traffic light system, corridor-wide.

Environmental & Emergency Access

- Concerns about flood-prone areas and emergency access during natural disasters.
- Environmental constraints include drainage and ledge that complicate roadway and sidewalk improvements.

Historical & Special Interest Areas

- Historical and special interest zones require context-sensitive solutions and accessible design.

Quality of Life Issues

- Noise and disturbance from truck exhaust brake use.
- Lack of lighting and parking in some areas.
- These recommendations will be refined and evaluated further during the improvement's development phase of the feasibility study.

Needs Assessment

Based on the data collected, information from the community engagement efforts, and investigation of the existing conditions, the following weaknesses, strengths, and needs of the corridor were identified.

Corridor Weaknesses

- Concerns about flood-prone areas and emergency access during natural disasters.
- Lack of continuous sidewalks along most of Route 12, especially near commercial areas and residential side streets.
- Numerous signalized intersections lack marked crosswalks, pedestrian signal heads, and accessible curb ramps.
- Existing curb ramps at some intersections are not ADA-compliant, missing tactile warning surfaces or proper slopes.
- Pedestrian push buttons are often mounted on non-accessible span poles or signal cabinets, outside ADA reach ranges.
- Long crossing distances with no median refuge islands, especially at Military Highway and Christy Hill Road.
- Poor street lighting creates visibility and security concerns during early morning and evening hours.
- No designated or protected bike lanes along the corridor, despite relatively wide shoulders in some segments.

- Inconsistent shoulder width and obstructions (e.g., gravel, drainage structures) reduce safe biking conditions.
- High traffic volumes and vehicle speeds create a high-stress environment for people biking.
- Limited bike connectivity between Route 12 and residential neighborhoods or side roads.
- No bike markings, signage, or detection at signalized intersections.
- High 85th percentile speeds (6–14 mph above posted limits) recorded throughout the corridor.
- Several mid-block driveways and unsignalized access points contribute to conflict potential.
- Rear-end and angle crashes common at signalized intersections, indicating potential signal visibility or timing issues.
- Merge conditions (e.g., NB merge north of Military Highway) contribute to lane-change and sideswipe crashes.
- Lack of advance warning signage or signal backplates at key approaches reduces visibility.
- Pavement deterioration and debris from nearby industrial uses (e.g., quarries) present hazards.
- Poor drainage and flood-prone areas reported, complicating curb ramp and sidewalk installation.
- Limited use of green infrastructure to address runoff, heat, and aesthetics.
- SEAT bus service is limited to Route 12 only; few amenities like benches, shelters, or ADA waiting pads exist.
- Corridor feels auto-oriented and disconnected from adjacent neighborhoods, schools, and civic destinations.
- Excessive lane widths and high speeds give the area a highway-like feel, reducing livability.
- Fragmented land use access and inconsistent driveway design contribute to circulation issues.

Corridor Strengths

- Opportunities for multimodal transportation (walking, biking, driving, and using assistive mobility devices).
- Opportunities to improve access and connections to neighborhoods, workplaces, businesses, economic opportunities, and open space.
- Opportunities to transform a relatively wide right-of-way to serve current and future needs.
- Moderate commercial and business corridor—automobile-related businesses, office and research, manufacturing, hospitality, residential, and retail.
- Opportunities to improve livability and quality of life of surrounding neighborhoods.
- Vital link in the regional transportation system, including connections to Interstate 95, Interstate 395, Route 184, and the local street system (Routes 117 and 214).

Corridor Needs

- Transform the corridor to meet the needs of people walking, biking, using assistive mobility devices, riding the bus, and driving.
- Upgrade corridor infrastructure to improve safety and security for all users.
- Introduce new walking and biking accommodations, connections to neighborhoods, and businesses to improve mobility and access to jobs.
- Provide separation between walking and biking facilities and vehicles.
- Redesign roadways and intersections to calm traffic, reduce high-vehicle speeds, and create a friendly environment for people walking and biking.
- Introduce new safe crossing areas along the corridor for people walking or biking.
- Equip intersections with accessible pedestrian signals and ADA-compliant curb ramps to make a safe crossing experience.
- Retime and optimize traffic signal systems to reduce congestion, if any.
- Install signage to improve advanced notification and wayfinding.

Improvements

Short-Term Improvements

The time frame categorized as short-term is typically less than five years. The costs of short-term improvements are usually low and can be funded through maintenance budgets. Some of the short-term improvements could be included in CTDOT's projects that are currently under construction or in design, or through maintenance activities. These improvements include installing new signs, upgrading old signs, pavement stripping, painting high-visibility crosswalks, adding detectable warning plates to curb ramps, bike detection at signalized intersections, upgrading signal-head sections, and adding yellow retroreflective backplates to signal heads. Additional improvements include adding countdown timers, retiming and coordinating signals, and upgrading substandard sidewalks.

Long-Term Improvements

The time frame categorized as long-term is typically more than five years. Long-term improvements require design and engineering efforts and larger funding sources. The long-term improvements address safety and multimodal transportation needs, such as increased safety for people who walk, bicycle, or ride the bus, and support livable communities and economic vitality. They include safety improvements, such as major signal equipment and timing upgrades, the addition of separated bike facilities, construction of new sidewalks, upgrades to sidewalks and curb ramps, and intersection improvements.

Corridor Wide Improvements

- The following recommended improvements apply to the whole corridor:
- Evaluate and consider improving roadway lighting (i.e. Christy Condos) to reduce crashes during dark conditions.
- Evaluate and consider adjusting change (yellow) and clearance (all red) intervals to meet CTDOT standards and to reduce rear-end crashes at signalized intersections.
- Evaluate and consider installing advance-warning devices and notifications to reduce crashes at intersections, such as advance intersection lane control signs and advance traffic control signs.
- Supplement intersection pavement markings with appropriate advance intersection lane control signs to reduce crashes.
- Install a flashing "Stop Ahead" beacon before the Dow Firehouse signal.
- Consider adding backplates with yellow retroreflective borders to increase signal head visibility.
- Evaluate the feasibility of mini-roundabouts at key intersections for better safety and flow.
- Evaluate and consider improving curb ramps and wheelchair ramps at intersections and driveways to meet CTDOT and ADA standards and assist people using assistive mobility devices.

- Consider aligning the signal heads better with their respective lanes, especially at Route 12 and Military Highway.
- Consider constructing sidewalk-level separated bike lanes to increase safety and security for people biking.
- Consider measures to calm traffic and reduce speeding, such as setting uniform speed regulations and narrowing lanes (11-foot lanes) throughout the corridor. In particular, to high-risk segments (e.g., to 25 mph near McDonald's and Kartway).
- Consider providing pedestrian signal indications in place of the existing 8-inch indications.
- Consider retiming traffic signals and optimizing signal phasing and coordination to reduce congestion.
- Evaluate the feasibility of adding median refuge areas for crosswalks across Route 12 at Military Highway.
- Consider installing a new crossing across Route 12 between Old Quarry Road Connection and Clark Lane to facilitate safe crossing opportunities (Consider a Rectangular Rapid Flashing Beacon).
- Consider installing pedestrian signal heads and pushbuttons on the side streets to improve safety for people walking and biking.
- Consider No Turn on Red at intersections with poor sight distance
- Consolidate or redesign driveways to reduce conflict points.
- Improve sight lines and turning radii at key side streets.
- Upgrade intersections with enhanced geometry and clearer signage.
- Repave deteriorated sections of Route 12.
- Consider increasing green space and porous pavements in the corridor, such as trees, swales, rain gardens, bump-outs, and tree trenches to reduce pollution and stormwater runoff.

Walking and Biking Infrastructure Improvements

Separated bike lanes provide users with a higher comfort level compared to traditional on-road bike lanes. Studies show that by providing separation from vehicular traffic, these types of facilities attract a wider range and number of people on bikes due to improved safety for all road users. MassDOT's Separated Bike Lane Planning and Design Guide was referenced for the evaluation and consideration of safe and comfortable bike accommodation in the corridor.

Located within the Connecticut Active Transportation Plan Appendices, Fitzgerald & Halliday Inc (FHI) developed a recommended value criteria table, shown below. These values were referenced in the Guide for the Development of Bicycle Facilities published by AASHTO (2012), Small Town and Rural Multimodal Networks published by FHWA (2016), and Best Practices White Paper #3: Bicycling Solutions for Hilly Cities published for the City of Seattle (2013).

Based on the table, a 6-foot shoulder shall be the minimum for a corridor with an ADT of 12,000 – 14,000. Some areas along the corridor currently accommodate 8-foot shoulders where a proposed 6-foot bike lane and 2-foot buffer can be provided.

Separated bike lanes provide users with a higher comfort level compared to traditional on-road bike lanes. Studies show that by providing separation from vehicular traffic, these types of facilities attract a wider range and number of people on bikes due to improved safety for all road users. There are a few treatments that can be used along the corridor.

Intersection Improvements

- ***Stoddard's Wharf Road:*** Recommendations for this intersection include a set of pedestrian and signal improvements. High-visibility crosswalks should be installed on the Route 12 northbound approach and the Stoddard's Wharf Road westbound approach to facilitate safe crossings. ADA-compliant curb ramps with detectable warning surfaces are needed at the crossings to ensure accessibility. The existing pedestrian signal equipment should be upgraded to Accessible Pedestrian Signals (APS), incorporating audible and vibrotactile feedback. Sidewalk extensions can be an option to improve access to nearby destinations, including schools and community services. Shoulders should be widened where it is feasible to provide additional separation between vehicular traffic and pedestrians or bicyclists. Additional improvements include enhanced intersection lighting to increase nighttime visibility. A 9- to 10-foot buffered bike lanes can be accommodated within the road starting from the Ledyard Town line at the Poquetanuck Cove bridge crossing and can run all the way to Stoddard's Wharf Road where the southbound approach will need to incorporate an off-road facility for cyclist to cross along the southbound approach and may transition back to the buffered lane in the roadway south of Stoddard's Wharf Roads.
- ***Old Quarry Road Mid-Block Crossing:*** A mid-block pedestrian crossing is currently located just south of Old Quarry Road along Route 12. While a marked crosswalk is present across Route 12, the crossing lacks ADA-compliant curb ramps and is not connected to any sidewalks. To enhance pedestrian safety and accessibility, it is recommended that new sidewalks and ADA-compliant curb ramps be constructed on both sides of the crossing. Additionally, the existing pedestrian warning signage should be upgraded to improve driver awareness. Enhanced crossing treatments—such as a Rectangular Rapid Flashing Beacon (RRFB) or a Pedestrian Hybrid Beacon (PHB)—should be considered to increase visibility and provide safer opportunities for pedestrians to cross this high-speed corridor.

AVERAGE DAILY TRAFFIC	SPEED LIMIT 35 MILES PER HOUR OR LESS		SPEED LIMIT GREATER THAN 35 MILES PER HOUR
	High Demand[5]	Low Demand	
< 1,000	Okay[6]	Okay	Okay
1,001 - 2,500	Okay	Okay	Outside Travel Lane + Shoulder = 14'
2,501 - 7,500	5' Bike Lane[7]	5' Shoulder	4' Shoulder[8]
7,501 - 10,000	6' Bike Lane	6' Shoulder	6' Shoulder
10,001 - 15,000	6' Bike Lane	6' Shoulder	6' Shoulder
15,001 - 20,000	Premium[9]	Premium	8' Shoulder[10]
20,001 +	Premium	Premium	Premium

[5] High Demand is defined as having Stava ridership greater than or equal to the 90th percentile.

[6] Facilities with high bicycle usage and low vehicle traffic should be considered for implementation of sharrows or other shared facilities.

[7] Standard for slower facilities is higher than that of those over 35 MPH due to the likelihood that these facilities are frequently located in more turbulent contexts (driveways, turning traffic, and stopping traffic etc.) and frequently have curbing and drainage grates present.

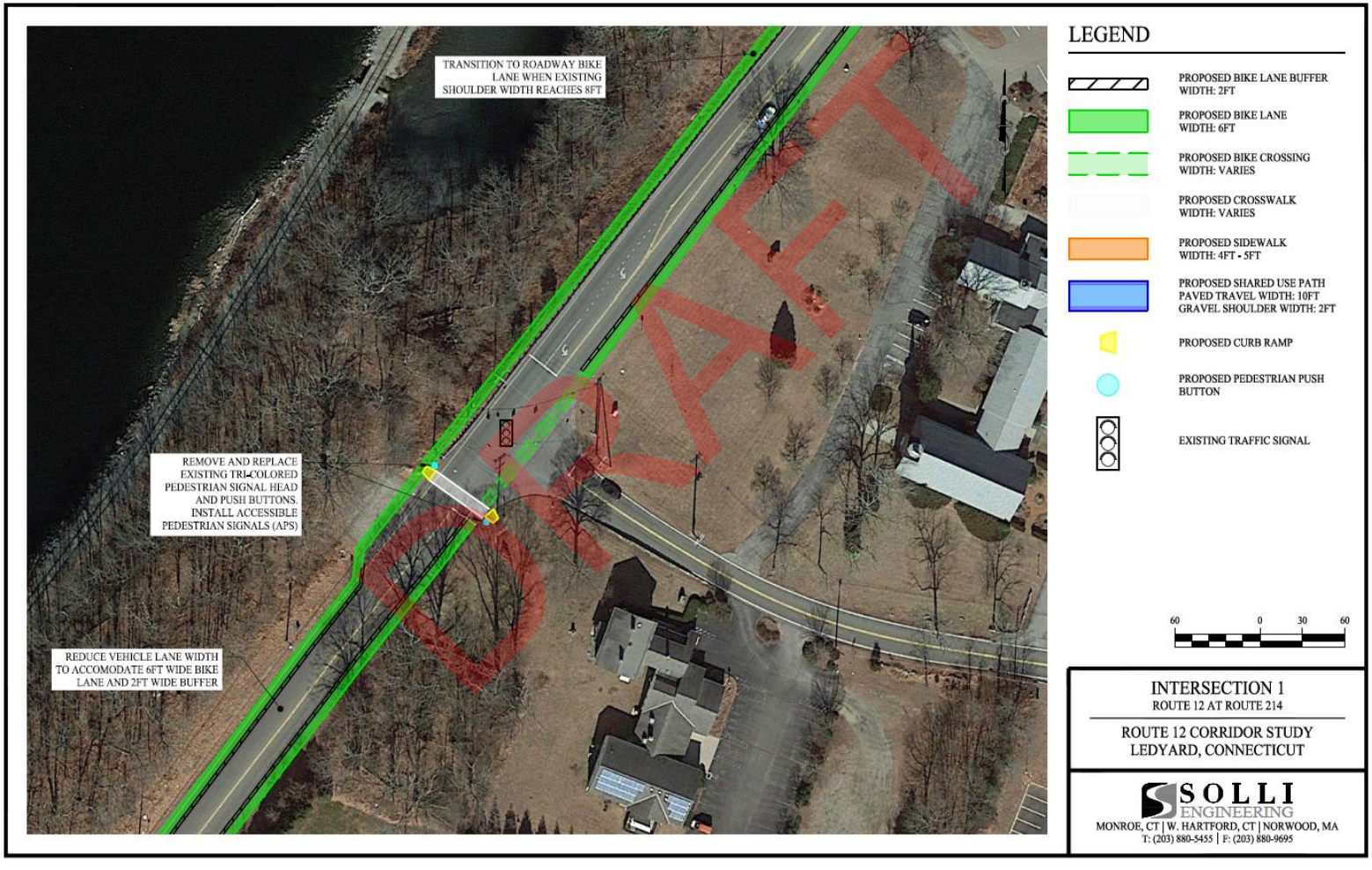
[8] 5' Shoulder minimum preferred if curb, drainage grates present or many driveways.

[9] Premium facilities will be further defined in the forthcoming bike design guide.

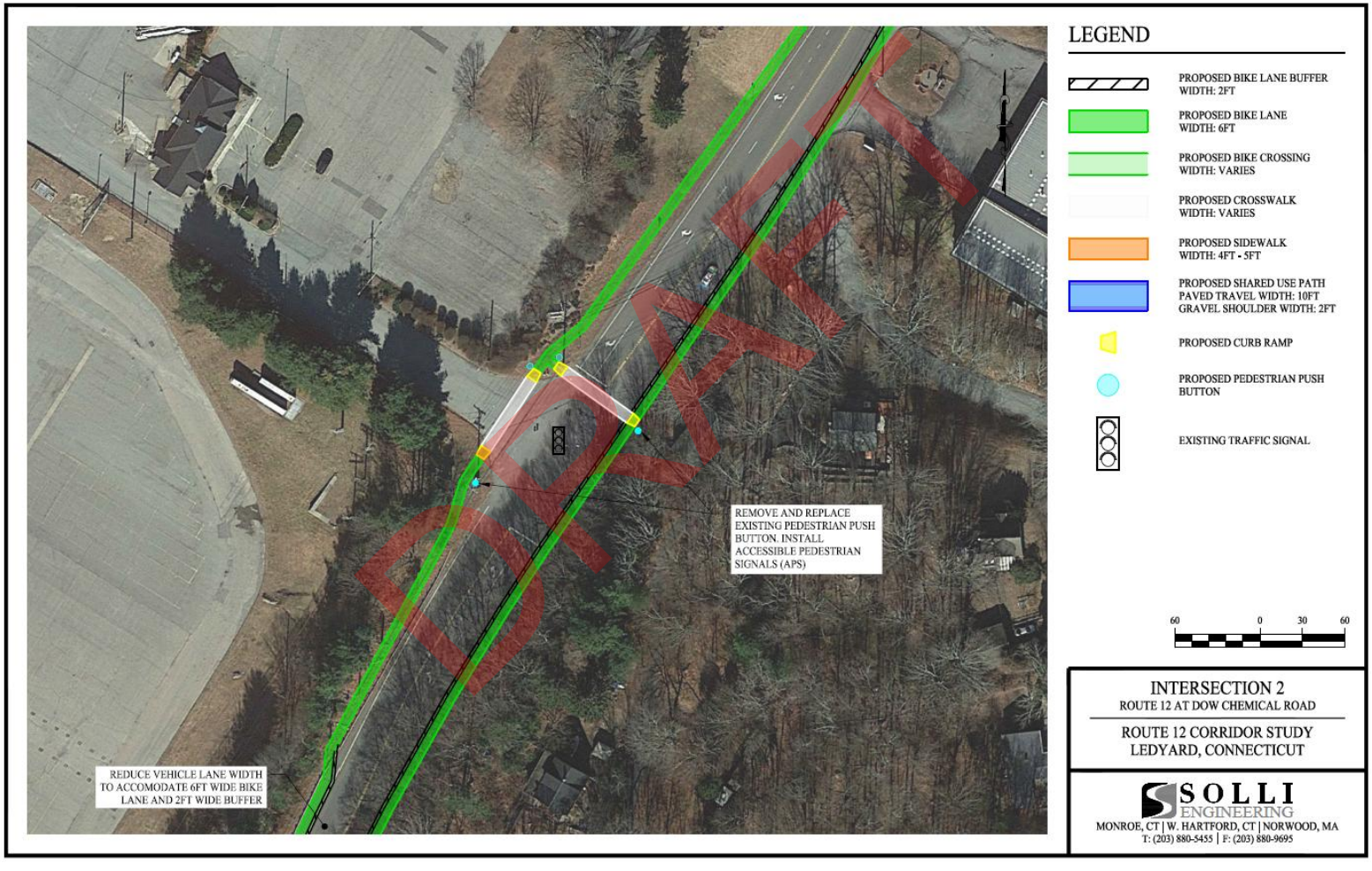
[10] This allows for a buffered bicycle lane. 6ft bicycle lane with 2ft buffer separating the bike lane from traffic.

Roadway and Accessibility

Study Area

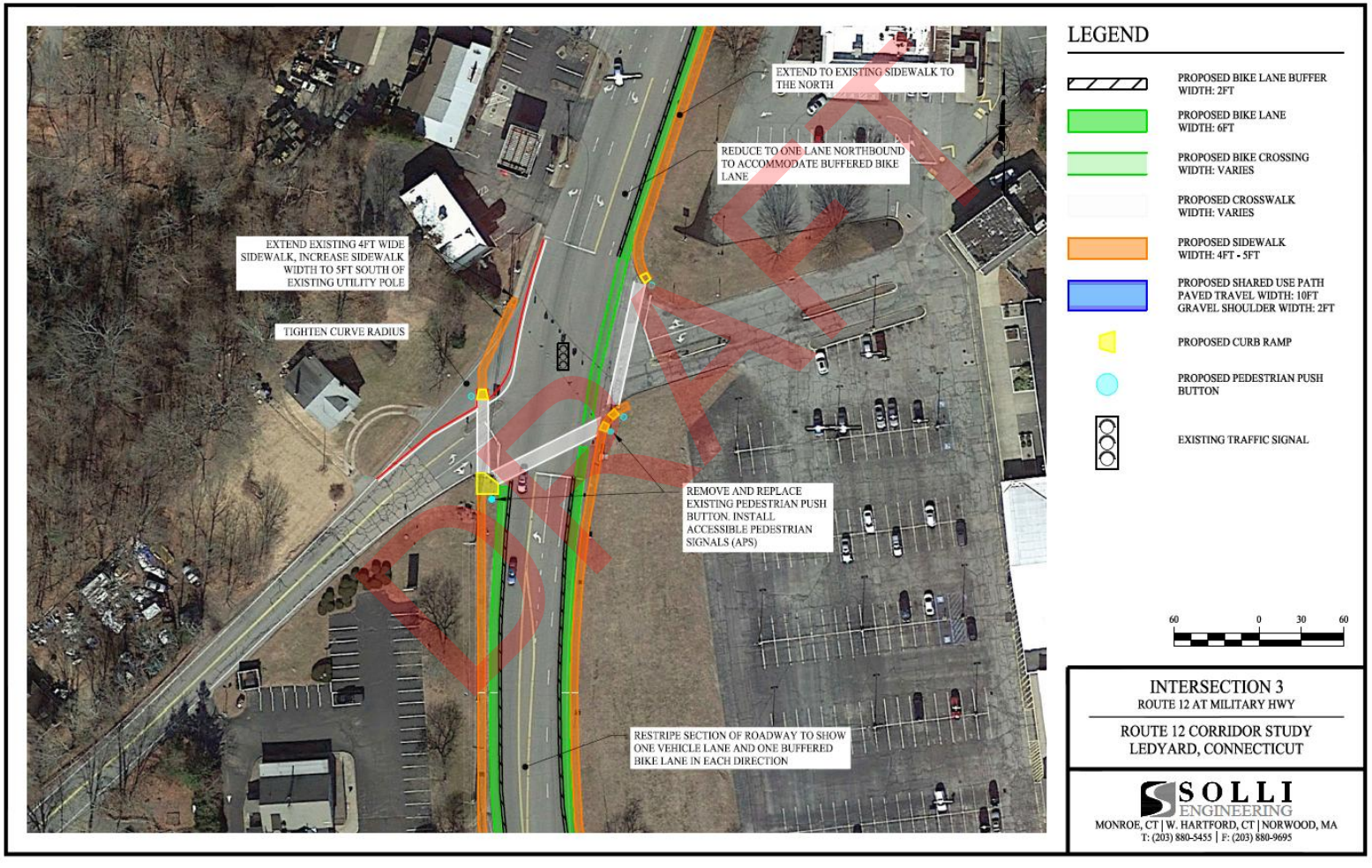


- ***Dow Chemical Driveway:*** To address current accessibility and safety deficiencies, this study recommends relocating existing pedestrian push buttons to ADA-compliant posts placed within accessible landing areas. Marked crosswalks should be installed across Route 12 and/or the driveway, depending on pedestrian demand and desire lines. ADA-compliant curb ramps must be constructed at all designated crossings. The signal system should be upgraded to include APS with pedestrian signal heads. Sidewalk extensions toward nearby industrial and employment areas are recommended to support multimodal access. Lighting should be enhanced to meet CTDOT standards, and existing warning signage, including flashing beacons, should be maintained or supplemented as appropriate. The 8-foot buffered bike lanes can be accommodated within the road approaching the Dow Chemical driveway; however, an off-road bike treatment may be necessary within the vicinity of the Dow Chemical Road, as additional room will be needed for cyclists to travel through this intersection without impeding vehicle movements. These improvements will require earthwork and possibly retaining walls due to the topography.
- ***Military Highway:*** To improve pedestrian, bicycle, and vehicle safety at the intersection of Military Highway and Route 12 in Ledyard, CT, several context-sensitive recommendations are proposed. Key improvements include installing a median refuge island on Route 12 to shorten pedestrian crossing distances and allow staged crossings. High-visibility crosswalks and ADA-compliant curb ramps with tactile warning panels are recommended across Military Highway and potentially across Route 12, pending coordination with CTDOT for a signalized crossing. Bicycle safety can be enhanced with dedicated or buffered bike lanes and improved signage and markings. Modifying intersection geometry—such as realigning Military Highway or restricting the wide right-turn slip lane—can reduce speeds and pedestrian exposure. Additional safety measures include curb extensions, improved signage, and enhanced lighting for nighttime visibility. A traffic study should evaluate the need for pedestrian-activated signals, stop controls, or a roundabout. Optional recommendations include reconfiguring site access near the Shell station to improve circulation and reduce conflicts. Next steps involve coordinating with CTDOT, collecting data, conducting a road safety audit, and engaging the public for input. Nighttime visibility should be enhanced through targeted lighting improvements, and existing traffic control devices reviewed to ensure compliance with visibility and signage standards. It was stated at the kickoff meeting that the number of traffic signals in the Gales Ferry area seems to be excessive, and if other means of traffic control can be applied such as a roundabout.
- ***Military Highway Roundabout Feasibility:*** The implementation of a single-lane roundabout at the intersection of Route 12 and Military Highway presents several operational and safety advantages. From a traffic operations perspective, a roundabout could reduce delays and improve traffic flow by allowing continuous movement, especially during off-peak periods when a traditional signal may impose unnecessary stops. The roundabout's geometry would reduce vehicle speeds to approximately 20–25 mph, enhancing safety and lowering the likelihood of severe crashes—particularly beneficial at this location, which has a documented history of angle and rear-end collisions.


LEGEND
PROPOSED BIKE LANE BUFFER WIDTH: 2FT
PROPOSED BIKE LANE WIDTH: 6FT
PROPOSED BIKE CROSSING WIDTH: VARIES
PROPOSED CROSSWALK WIDTH: VARIES
PROPOSED SIDEWALK WIDTH: 4FT - 5FT
PROPOSED SHARED USE PATH PAVED TRAVEL WIDTH: 10FT GRAVEL SHOULDER WIDTH: 2FT
PROPOSED CURB RAMP
PROPOSED PEDESTRIAN PUSH BUTTON
EXISTING TRAFFIC SIGNAL
REMOVE AND REPLACE EXISTING PEDESTRIAN PUSH BUTTON. INSTALL ACCESSIBLE PEDESTRIAN SIGNALS (APS)
REDUCE VEHICLE LANE WIDTH TO ACCOMODATE 6FT WIDE BIKE LANE AND 2FT WIDE BUFFER
60 0 30 60
INTERSECTION 2
ROUTE 12 AT DOW CHEMICAL ROAD
ROUTE 12 CORRIDOR STUDY
LEDYARD, CONNECTICUT
SOLLI ENGINEERING
MONROE, CT | W. HARTFORD, CT | NORWOOD, MA
T: (203) 880-5455 | F: (203) 880-9695
DRAFT

Roadway and Accessibility

Study Area

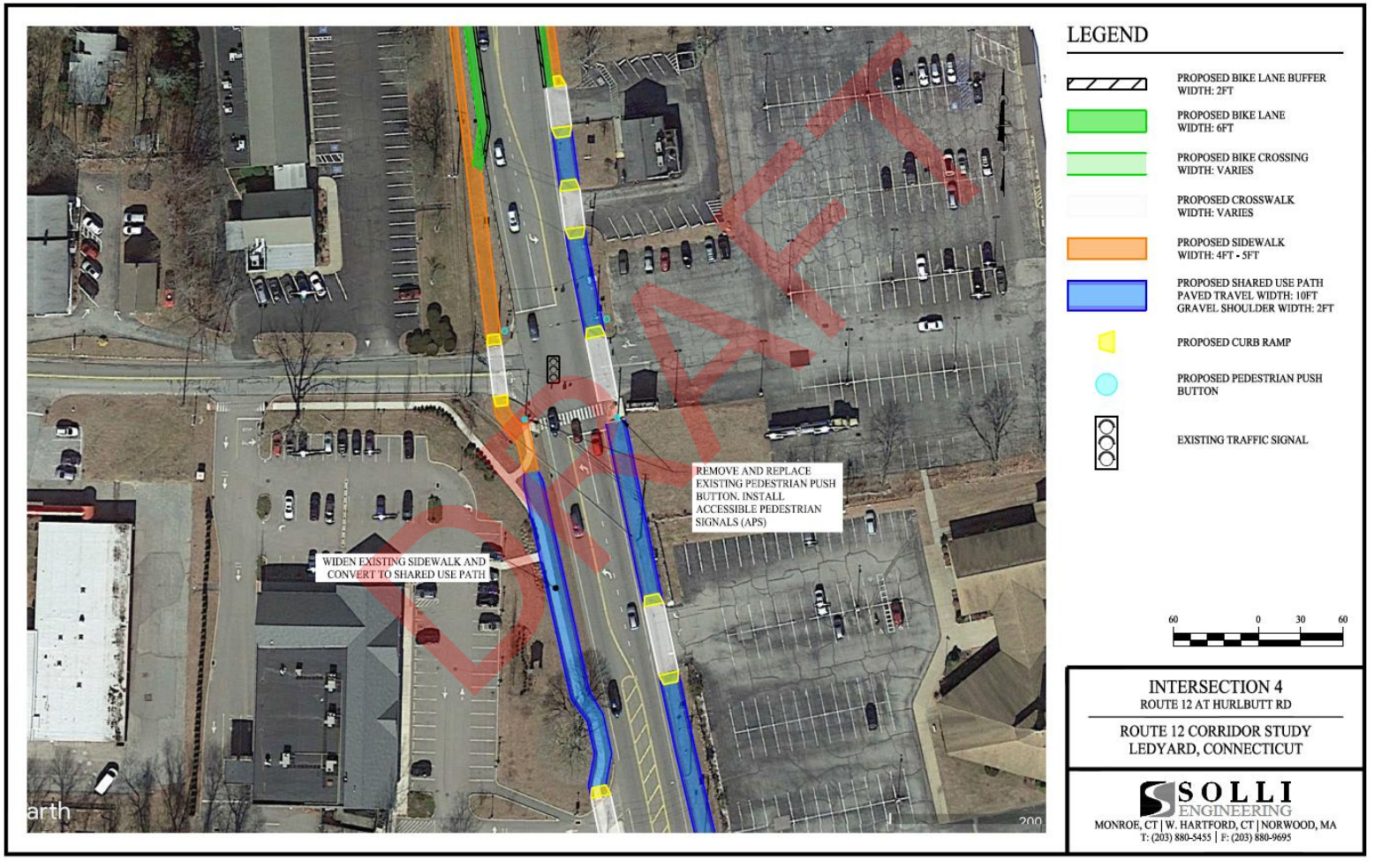


For pedestrians, a roundabout would shorten crossing distances and introduce refuge islands, enabling safer, staged crossings of Route 12 and Military Highway. Lower approach speeds also improve driver awareness and pedestrian visibility. Bicyclists would benefit from the slower-speed environment, with the flexibility to circulate with traffic or use perimeter crossings depending on their comfort level and design features provided. Additionally, the roundabout would reduce long-term maintenance and operational costs compared to a signalized intersection and could be designed to reflect the local character, serving as a visual gateway feature along the Route 12 corridor. While careful geometric design and coordination with CTDOT standards would be essential—particularly to accommodate truck movements and ensure appropriate deflection—the potential safety, mobility, and aesthetic benefits make a single-lane roundabout a viable alternative for this location.

- ***Military Highway Northbound Lane Reduction:*** A potential improvement at the intersection of Route 12 and Military Highway involves the removal of one northbound through lane. Eliminating this redundant lane would allow for the reallocation of roadway space to support enhanced pedestrian and bicycle accommodations, such as wider sidewalks, buffered bike lanes, or a shared-use path. This configuration would also eliminate the existing northbound merge area located just north of the intersection, which presents operational and safety concerns due to high-speed lane changes. Reducing the number of through lanes may also contribute to lower vehicle speeds and shorter pedestrian crossing distances, thereby improving overall multimodal safety at the intersection. This modification should be evaluated in conjunction with a capacity analysis to confirm that one northbound through lane can adequately serve projected traffic volumes under future conditions.
- ***Hurlbutt Road:*** While some pedestrian infrastructure exists at this location, improvements are necessary to meet current accessibility and safety standards. Pedestrian push buttons should be relocated to accessible signal posts and upgraded to APS with audible and vibrotactile features. Sidewalks should be extended along Route 12 and Hurlbutt Road to provide continuous access to nearby commercial and community destinations. New crosswalks should be evaluated across Hurlbutt Road and any unsignalized legs. All new crossings should be supported by ADA-compliant curb ramps. Signal timing should be reviewed for possible LPIs to reduce pedestrian–vehicle conflicts. Lighting at the intersection should also be assessed and upgraded as needed, and vehicle speeds monitored given the proximity to community facilities.

Roadway and Accessibility

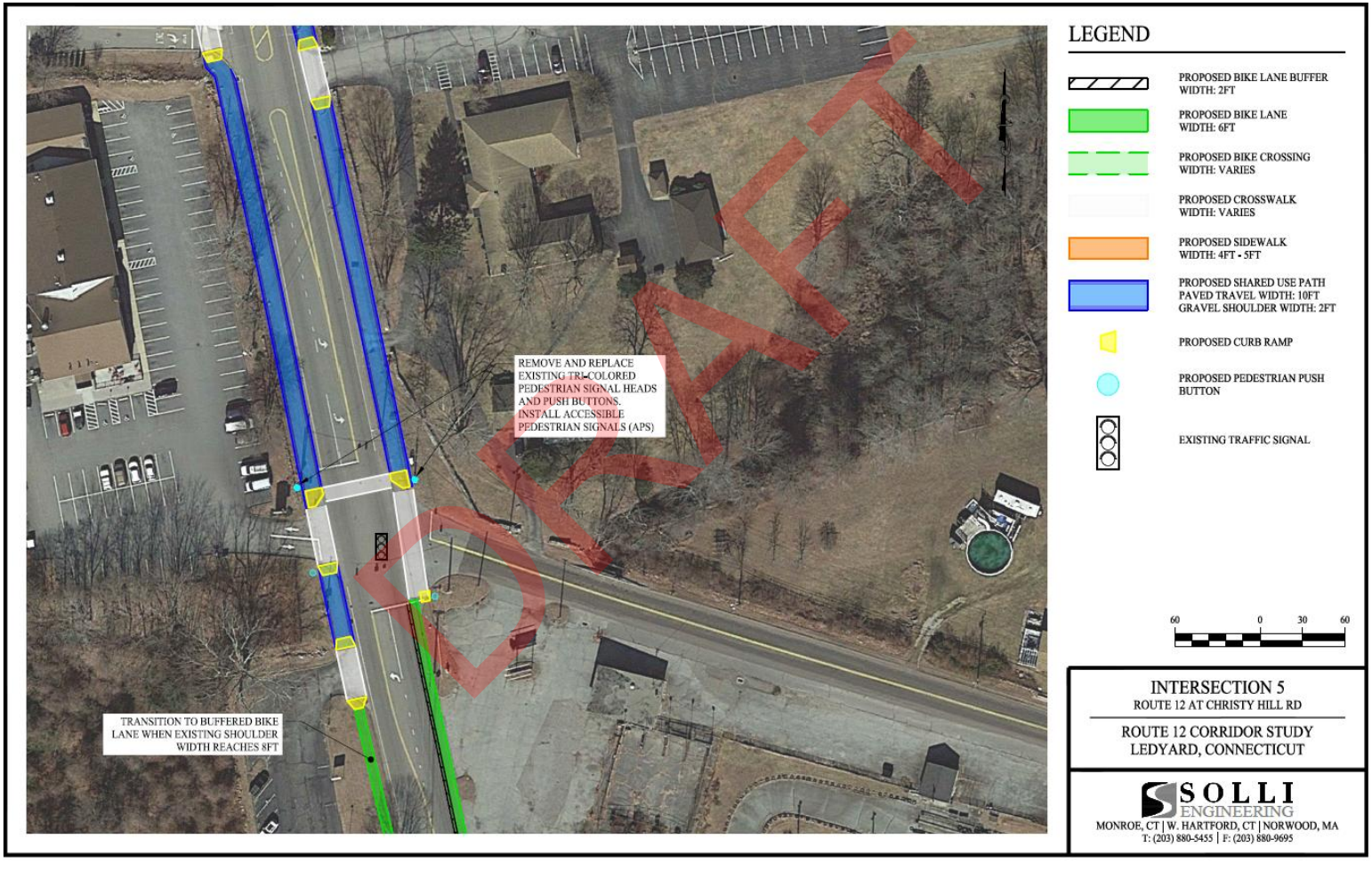
Study Area



- ***Christy Hill Road:*** This intersection is currently underserved from a pedestrian infrastructure standpoint. Crosswalks should be installed across Route 12 and any side driveways or intersections where pedestrian access is likely. Pedestrian signal heads must be installed and coordinated with the existing traffic signal system. Push buttons should be relocated to accessible posts within proper reach ranges and adjacent to curb ramps. Curb ramps should be constructed to meet current ADA standards. Sidewalk construction is needed to connect the intersection to the surrounding residential and commercial land uses. Signal timing should be adjusted to accommodate pedestrian walk and clearance intervals. Intersection lighting and signage should be improved to enhance visibility, particularly under low-light conditions. A shared-use path can possibly be accommodated on the east side of Route 12, starting with a transition from a buffered bike lane just south of Christy Hill Road to a proposed 10-foot shared-use path. This path can be maintained and terminate just north of the McDonald's, where it will transition back to a facility provided on the roadway with a buffer.
- ***Long Cove Road:*** To improve pedestrian safety and accessibility, this intersection requires multiple upgrades. Pedestrian signal heads should be installed at all appropriate approaches. High-visibility continental crosswalks should be marked across Route 12 and Long Cove Road. Existing curb ramps should be reconstructed to comply with ADA standards, including the addition of detectable warnings. Sidewalks should be constructed on at least one side of Long Cove Road and extended along Route 12. Push buttons should be upgraded to APS and relocated as needed to ensure compliance with MUTCD and ADA guidelines. Signal coordination with adjacent intersections should be evaluated to optimize traffic flow and safety. Signage and advance warning flashers should be reviewed for effectiveness and replaced or supplemented as necessary. Lighting should be evaluated and enhanced to ensure adequate nighttime visibility at all pedestrian crossing points. These upgrades will significantly improve safety and accessibility for pedestrians, particularly residents accessing nearby neighborhoods. All proposed improvements should be coordinated with CTDOT District 2 and local stakeholders during the planning and design phases.

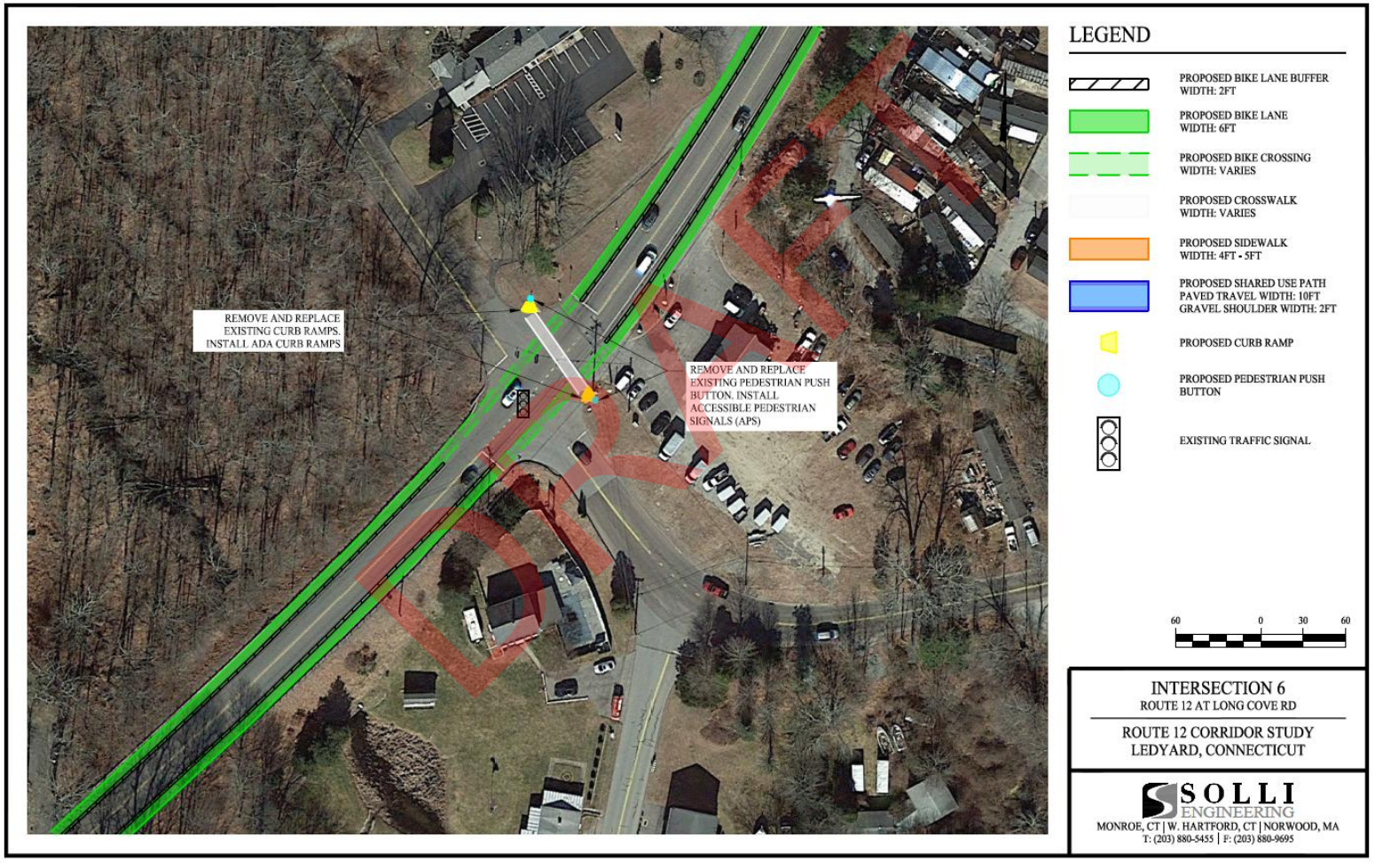
Roadway and Accessibility

Study Area



Roadway and Accessibility

Study Area



Preliminary Cost Evaluation

To assist with planning and funding prioritization, Solli Engineering developed preliminary cost estimates for each signalized intersection based on CTDOT unit pricing averages and planning-level assumptions. The following table summarizes expected cost ranges for pedestrian, bicycle, and traffic signal improvements at each location. These figures are intended for feasibility-level comparison and can be refined during subsequent design phases. Quantities should be confirmed during final design and coordinated with CTDOT District 2.

Route 12 at Stoddards Wharf Road

Intersection	Est. Cost Range
Stoddards Wharf Rd	$77,000–$82,000
Old Quarry Road Mid-Block Crossing	$59,400–$78,900
Dow Chemical Drwy	$56,000–$74,000
Military Highway	$67,400–$100,000
Hurlbutt Road	$61,000–$82,000
Christy Hill Road	$73,500–$78,500
Long Cove Road	$83,000–$95,000
Corridor-Wide Estimate*	**~$418,000-$511,500**

*** Excluding Roundabout/Shared-Use Path**

Route 12 at Stoddards Wharf Road

Improvement Category	Description	Est. Unit Cost	Est. Quantity	Est. Cost Range
High Visibility Crosswalks	Install on northbound and westbound approaches	$3,000 per leg	2	$6,000
ADA Curb Ramps	Construct ramps with tactile panels	$5,000 each	4	$20,000
APS System	Install accessible pedestrian signal equipment	$7,500 per crossing pair	1 pair	$7,500
Sidewalk Extensions	Connect nearby destinations (schools, services)	$90/linear foot	150 LF	$13,500
Shoulder Widening (spot)	For bike/ped buffer	$200/linear foot	100 LF	$20,000
Lighting Upgrade	Improve nighttime visibility	Allowance	Lump sum	$10,000–$15,000
		Total Estimated Range		**$77,000-$82,000**

Old Quarry Road Mid-Block Crossing

Improvement Category	Description	Est. Unit Cost	Est. Quantity	Est. Cost Range
ADA Curb Ramps	Construct ADA-compliant curb ramps with tactile warning panels	$5,000 each	2	$10,000
Sidewalk Construction	Connect ramps to nearby edge of pavement or existing facilities (5' width)	$90/linear foot	100–150 LF	$9,000–$13,500
High-Visibility Crosswalk	Re-stripe or upgrade to continental-style marking across Route 12	$3,000 per leg	1 leg	$3,000
Pedestrian Warning Signage	Replace or supplement static signage near crosswalk	$1,200 per sign	2 signs	$2,400
Flashing Beacon (RRFB)	Install solar-powered RRFB system with dual poles/signs (recommended for speed & visibility)	$25,000–$35,000	1 crossing pair	$25,000–$35,000
OR: Pedestrian Hybrid Beacon (PHB)	Overhead signal-style beacon for enhanced mid-block control	$90,000–$140,000	1 system	(optional, higher cost)
Lighting Enhancements	Provide pedestrian-scale lighting for nighttime visibility	Allowance	Lump sum	$10,000–$15,000
		Total Estimated Range:		**$59,400–$78,900 (RRFB)**
		Total Estimated Range:		**124,400–$186,900 (with PHB instead of RRFB)**

Notes:

- Use of an RRFB is more common for unsignalized mid-block crossings and is likely sufficient given the corridor context.
- The PHB is a higher-cost alternative but may be justified depending on traffic volumes, speed, crash history, and future development intensity.
- Quantities are planning-level assumptions and should be refined during design.

Route 12 at Dow Chemical Driveway

Improvement Category	Description	Est. Unit Cost	Est. Quantity	Est. Cost Range
Relocate Push Buttons	Mount on compliant posts	$6,000 each	2	$12,000
Marked Crosswalks	Across Route 12 and/or driveway	$3,000 per leg	1–2	$3,000–$6,000
ADA Curb Ramps	At all crossing points	$5,000 each	2–4	$10,000–$20,000
APS Upgrade	Dual-post system with push buttons	$7,500 per pair	1	$7,500
Sidewalk Extensions	Toward employment centers	$90/linear foot	150 LF	$13,500
Lighting Improvements	For safety and compliance	Allowance	Lump sum	$10,000–$15,000
Relocate Push Buttons	Mount on compliant posts	$6,000 each	2	$12,000
			Total Estimated Range:	**$56,000–$74,000**

Route 12 at Military Highway

Improvement Category	Description	Est. Unit Cost	Est. Quantity	Est. Cost Range
Pedestrian Crossings	Install high-visibility continental crosswalks across Military Hwy and possibly Route 12	$3,000 per leg	2–3 legs	$6,000–$9,000
ADA Curb Ramps	Construct new ADA-compliant curb ramps with detectable warning panels	$4,500–$6,000 each	4 ramps	$18,000–$24,000
Accessible Pedestrian Signals (APS)	Install APS push buttons with vibrotactile and audible cues, including posts	$6,000–$8,500 per crossing	2 crossing pairs	$12,000–$17,000
Sidewalk Extensions	Extend sidewalk network to connect with existing paths near Shell station	$90/linear foot	100–150 LF	$9,000–$13,500
Buffered Bike Lanes	Stripe 5’ lanes with 2–3’ buffer on both sides of Route 12	$4.00/linear foot	300 LF per side	$2,400
Intersection Lighting	Upgrade or supplement lighting for nighttime visibility	Allowance	Lump sum	$15,000–$25,000
Lane Reduction *(optional)*	Remove one NB through lane and reallocate space for bike/ped facilities	Striping, signage, and markings	Lump sum	$5,000–$10,000
Intersection Geometry Enhancements *(optional)*	Realign slip lanes or adjust curb radii for better pedestrian safety	Conceptual	TBD	To be determined
		Total Estimated Range:		**~$67,400 to $100,000+ (excluding optional major reconstruction)**

Notes:

- Optional items such as a roundabout conversion or intersection reconstruction are not included here but may range from $1M–$2.5M depending on final design and right-of-way needs.

Route 12 at Hurlbutt Road

Improvement Category	Description	Est. Unit Cost	Est. Quantity	Est. Cost Range
Relocate/Upgrade Push Buttons	To APS with accessible reach	$7,500 each	2	$15,000
Sidewalk Extensions	Fill gaps on Route 12/Hurlbutt	$90/linear foot	200 LF	$18,000
New Crosswalks	Across Hurlbutt or other legs	$3,000 per leg	1–2	$3,000–$6,000
ADA Ramps	For new crossings	$5,000 each	2–4	$10,000–$20,000
Signal Timing/LPIs	Phasing adjustments	Lump sum	1 intersection	$5,000–$8,000
Lighting	Enhanced pedestrian visibility	Allowance	Lump sum	$10,000–$15,000
			Total Estimated Range:	**$61,000–$82,000**

Route 12 at Christy Hill Road

Improvement Category	Description	Est. Unit Cost	Est. Quantity	Est. Cost Range
Marked Crosswalks	Across Route 12 and/or driveway	$3,000 per leg	2	$6,000
Pedestrian Signal Heads	With countdown or APS	$7,500 per pair	1	$7,500
Relocate Push Buttons	To ADA-compliant posts	$6,000 each	2	$12,000
ADA Ramps	New construction	$5,000 each	4	$20,000
Sidewalk Segments	Connect residential/commercial	$90/linear foot	200 LF	$18,000
Lighting & Signage	Safety and compliance	Allowance	Lump sum	$10,000–$15,000
			Total Estimated Range:	**$73,500–$78,500**

Route 12 at Long Cove Road

Improvement Category	Description	Est. Unit Cost	Est. Quantity	Est. Cost Range
Pedestrian Signal Heads	Install new APS heads	$7,500 per pair	1	$7,500
High-Visibility Crosswalks	Continental style	$3,000 per leg	2	$6,000
ADA Curb Ramp Upgrades	Reconstruct with tactile surfaces	$5,000 each	4	$20,000
Sidewalk Construction	One side of Long Cove and Route 12	$90/linear foot	250 LF	$22,500
Push Button Upgrades (APS)	With posts	$6,000 each	2	$12,000
Signal Coordination	With adjacent signals	Lump sum	1 intersection	$5,000–$7,000
Signage & Flashers	Maintain/upgrade advance warnings	Allowance	Lump sum	$10,000
			Total Estimated Range:	**$83,000–$95,000**

Conclusion

The Route 12 corridor serves as a vital arterial for both regional traffic and local access to residential, commercial, and community destinations in Ledyard. However, the current roadway configuration poses notable challenges related to safety, pedestrian and cyclist mobility, and multimodal accessibility. The absence of continuous sidewalks, limited bike infrastructure, frequent speeding, and outdated signal infrastructure contribute to operational inefficiencies and elevated crash risks at key intersections.

Crash data analysis from 2021 to 2024 revealed several high-crash locations—particularly at Christy Hill Road and Long Cove Road—driven primarily by rear-end and angle collisions. One bicyclist-involved crash and three mid-block fatal crashes further underscore the need for targeted safety enhancements. Volume data confirmed typical arterial usage patterns with AADT ranging from 11,500 to over 14,500 vehicles per day and significant speed compliance issues at multiple count stations.

Public input collected during the April 2025 outreach meeting reinforced these findings and emphasized the community's strong desire for improved walkability, safer intersections, better lighting, and access to schools, parks, and businesses. Residents also expressed interest in roundabout alternatives and concerns about excessive speeds, difficult left-turn movements, and environmental factors like stormwater and emergency access.

Based on the data and community feedback, Solli Engineering concludes that:

- Corridor-wide improvements are warranted to improve user safety, accessibility, and operational efficiency.
- Short-term upgrades, such as improved signage, pavement markings, and signal retiming, can address immediate concerns.
- Long-term investments in sidewalks, bike lanes, ADA ramps, pedestrian crossings, and intersection redesigns are essential to meet modern standards and community needs.
- Select intersections—such as Military Highway—may benefit from transformational design strategies, including roundabout conversion or lane reductions, to support multimodal safety and calm traffic.
- All improvements should be coordinated with CTDOT District 2 and local stakeholders and implemented through a phased approach supported by available funding mechanisms.

This study provides a data-driven foundation for future planning and project development efforts along the Route 12 corridor and should serve as a guiding document for prioritizing investments that support safety, accessibility, sustainability, and community vitality.

Appendix

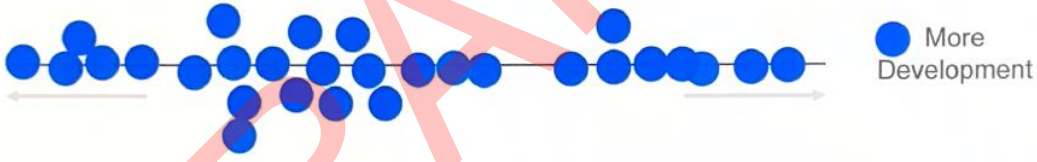
Community Engagement & Survey Results

Public Engagement Activities

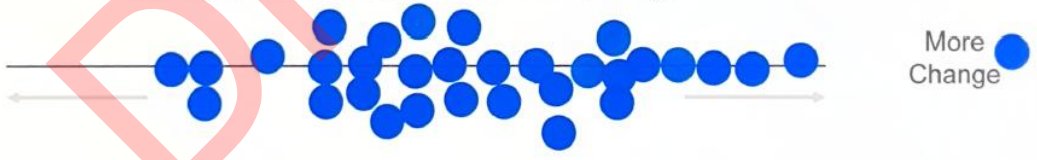
CONTINUUMS OF CHANGE

Instructions: Place your dot sticker on the continuum where your perspective falls. If your perspective is neutral, place your sticker in the middle.

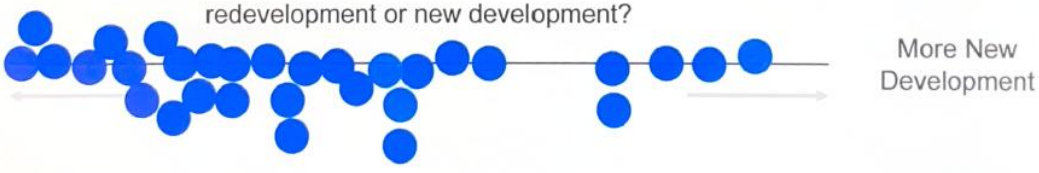
1. Do you want development in the Route 12 Corridor?



2. Do you want the Route 12 Corridor to change?



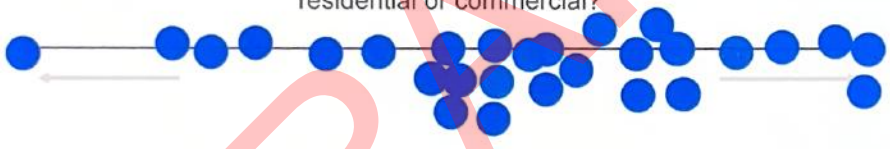
3. What does the Route 12 Corridor need more of – redevelopment or new development?



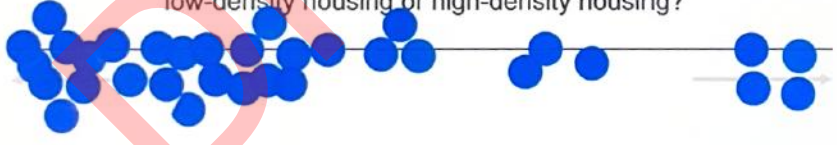
CONTINUUMS OF CHANGE

Instructions: Place your dot sticker on the continuum where your perspective falls. If your perspective is neutral, place your sticker in the middle.

4. What type of development do you want to see in the Route 12 Corridor–residential or commercial?



5. What type of housing do you want to see in the Route 12 Corridor–low-density housing or high-density housing?



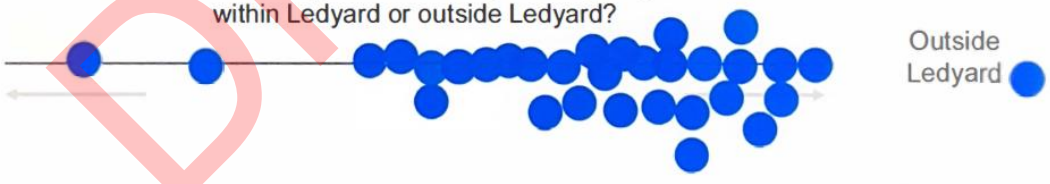
6. How important is increasing the affordable housing stock in Ledyard?

CONTINUUMS OF CHANGE

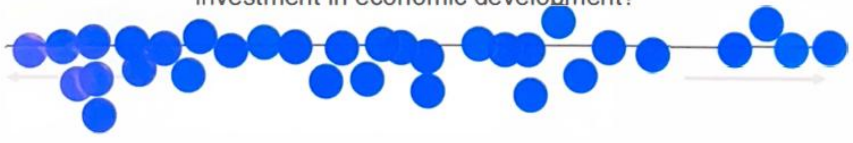
Instructions: Place your dot sticker on the continuum where your perspective falls. If your perspective is neutral, place your sticker in the middle.

7. What do you want to see in the Route 12 Corridor– restaurants or retail?

8. Where do you do most of your shopping– within Ledyard or outside Ledyard?



9. What is more important, preserving Ledyard's existing conditions or investment in economic development?



Prouds & Sorrys

Public Kick-Off Engagement Activities

Sorrys

Prouds

Existing Conditions

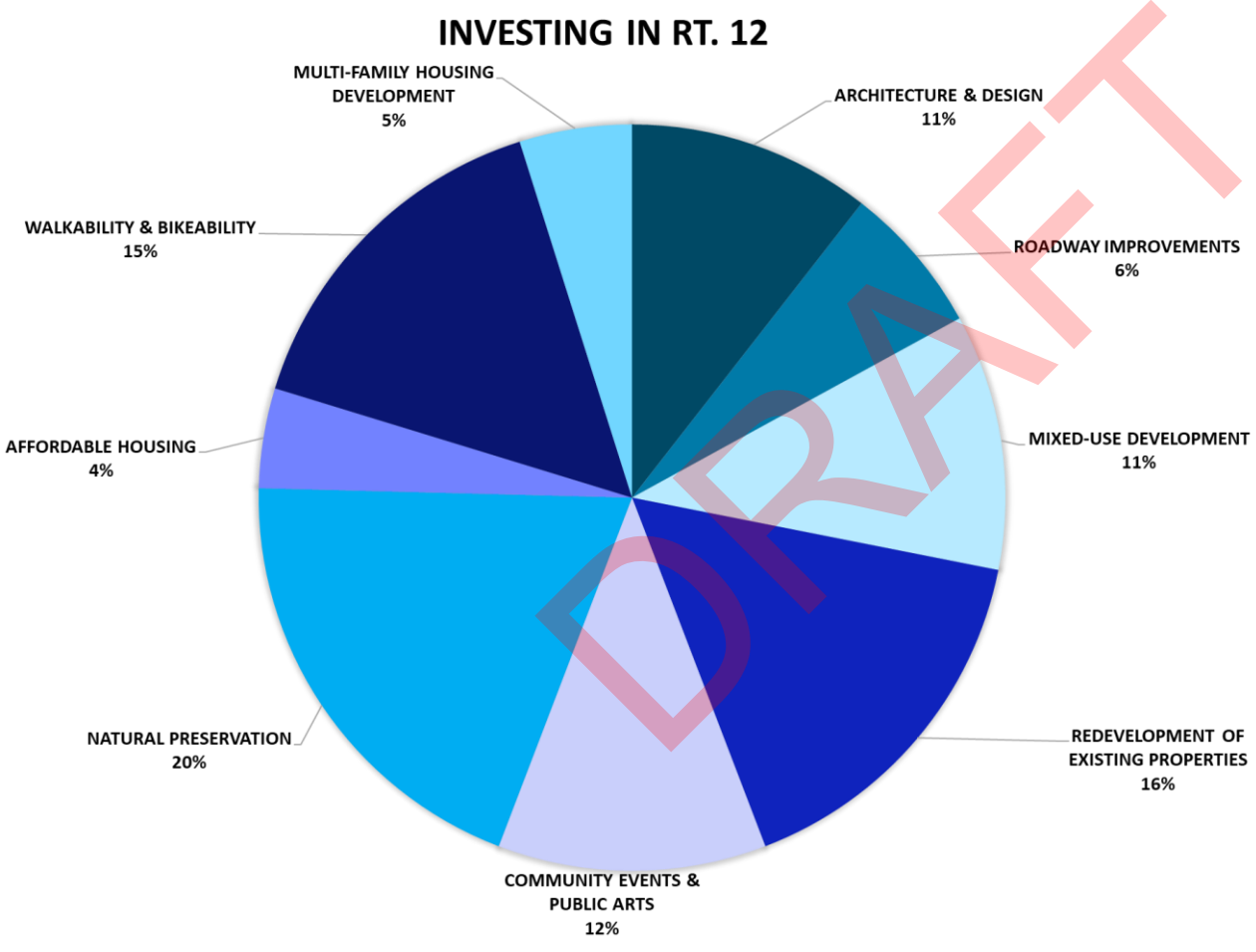
Future Outcomes

Roadway Design Accessibility, and Pedestrian Safety

Public Kick-Off Engagement Activities

Investing in Route 12

Public Kick-Off Engagement Activities



Investments	Total
Natural Preservation	$725
Redev Of Existing Properties	$595
Walkability & Bikeability	$570
Community Events & Public Arts	$430
Mixed-Use Development	$400
Architecture & Design	$385
Roadway Improvements	$240
Multi-Family Housing Dev	$180
Affordable Housing	$160

Key Notes

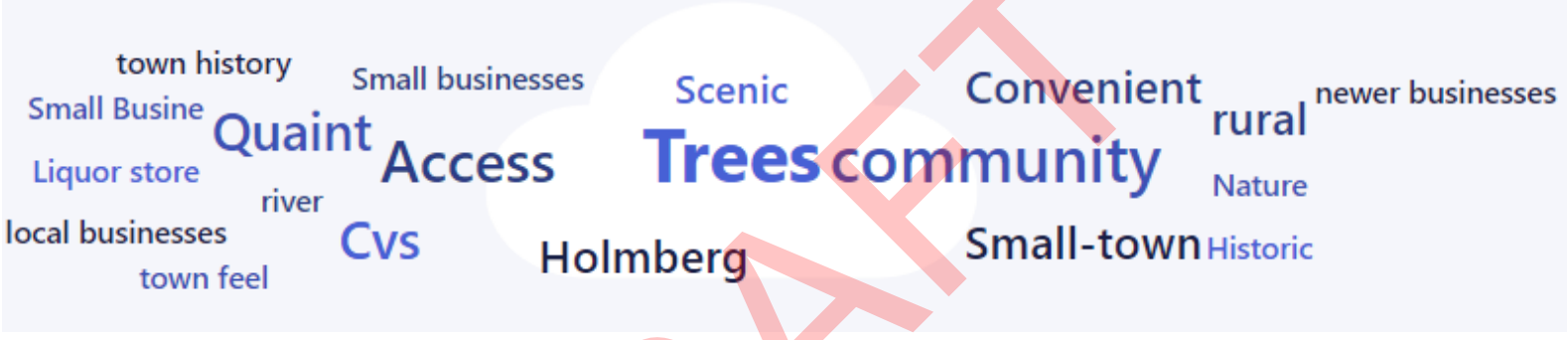
- Natural Preservation received the most **$20 & $50 bills** with **16** total, Mixed-Use Development was second with **10**.
- Redevelopment of Existing Properties received the most **$5 & $10 Bills** with **29** total.

Online Survey

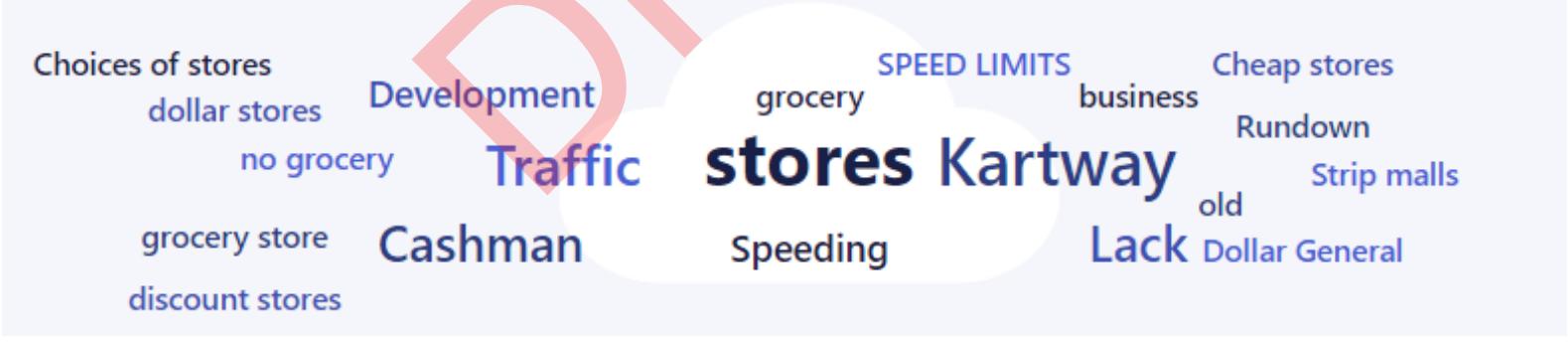
Prouds & Sorrys

Online Survey

Prouds



Sorrys

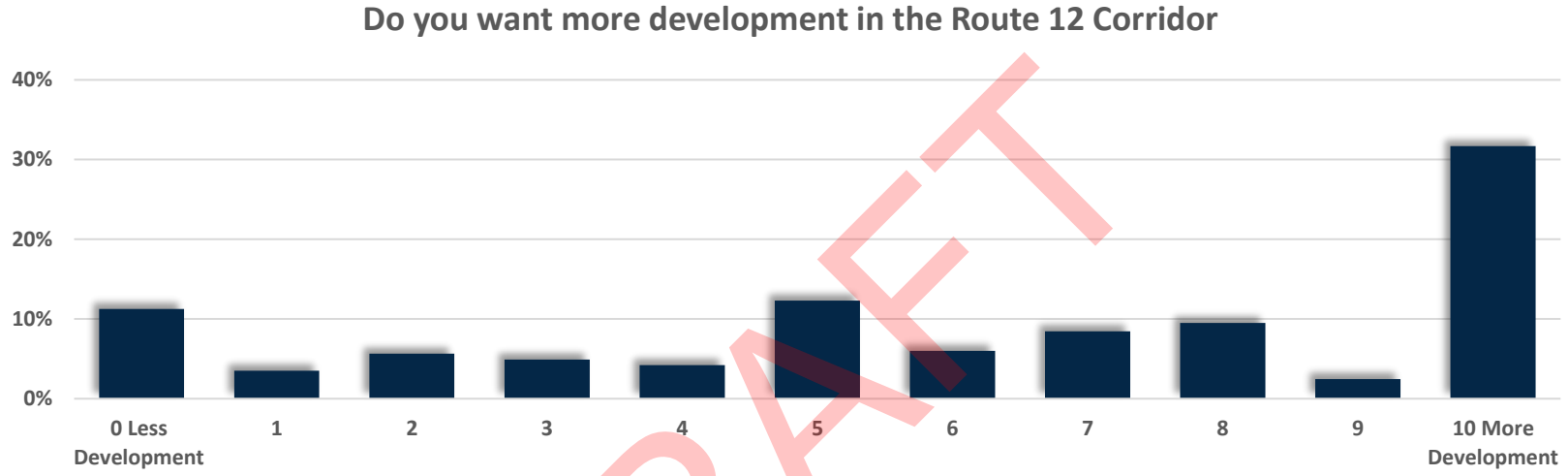


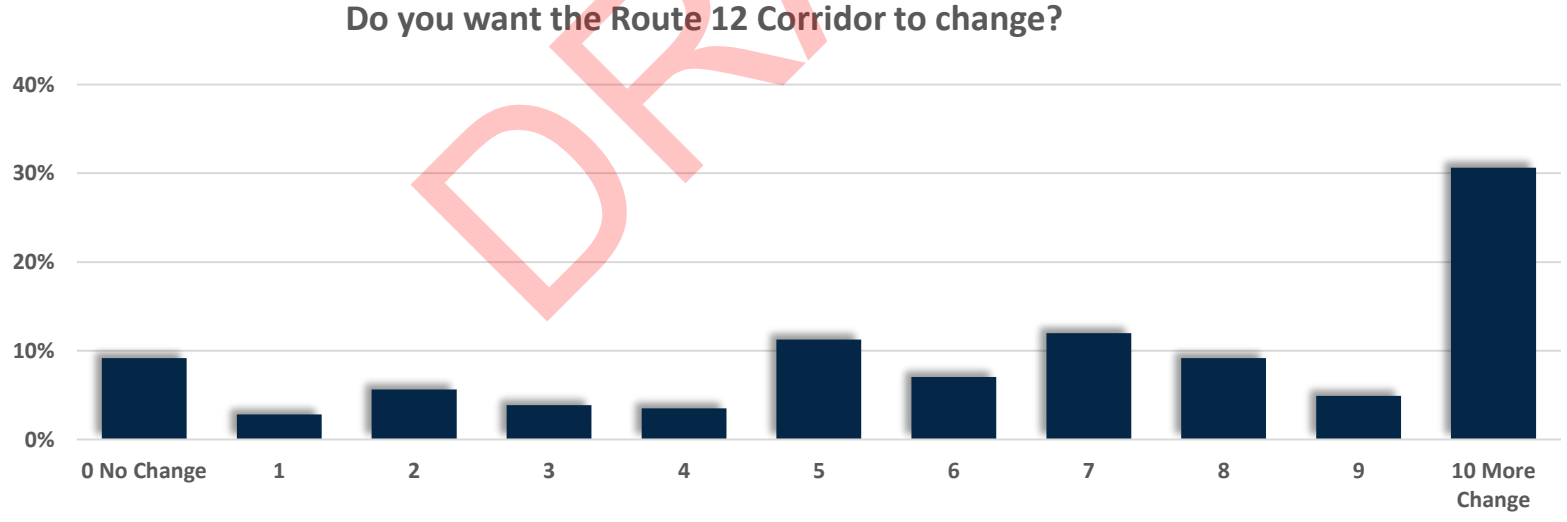
Existing Conditions

Future Outcomes

Continuums of Change

Online Survey

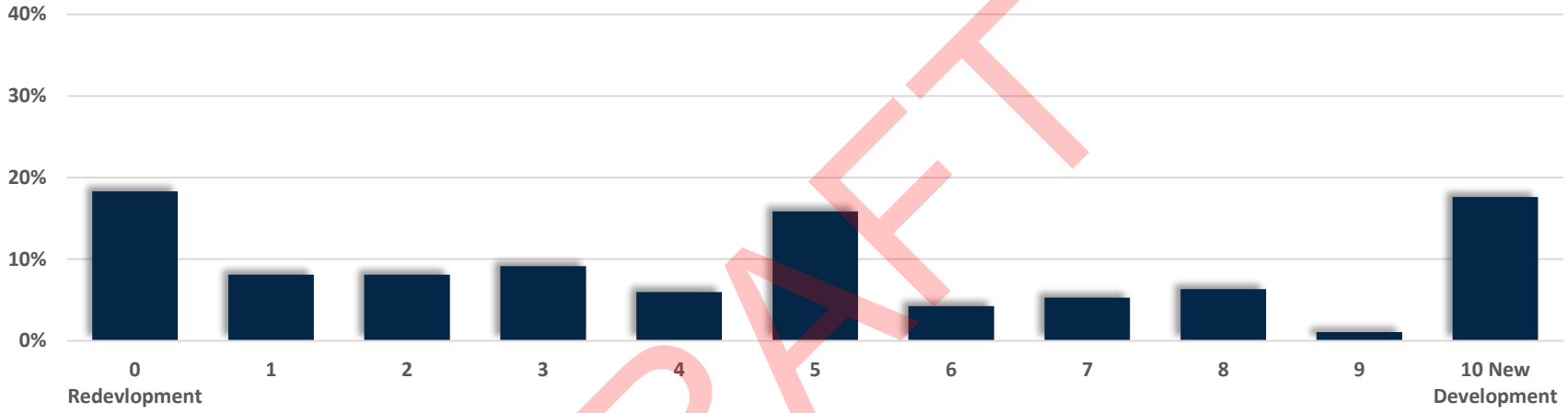




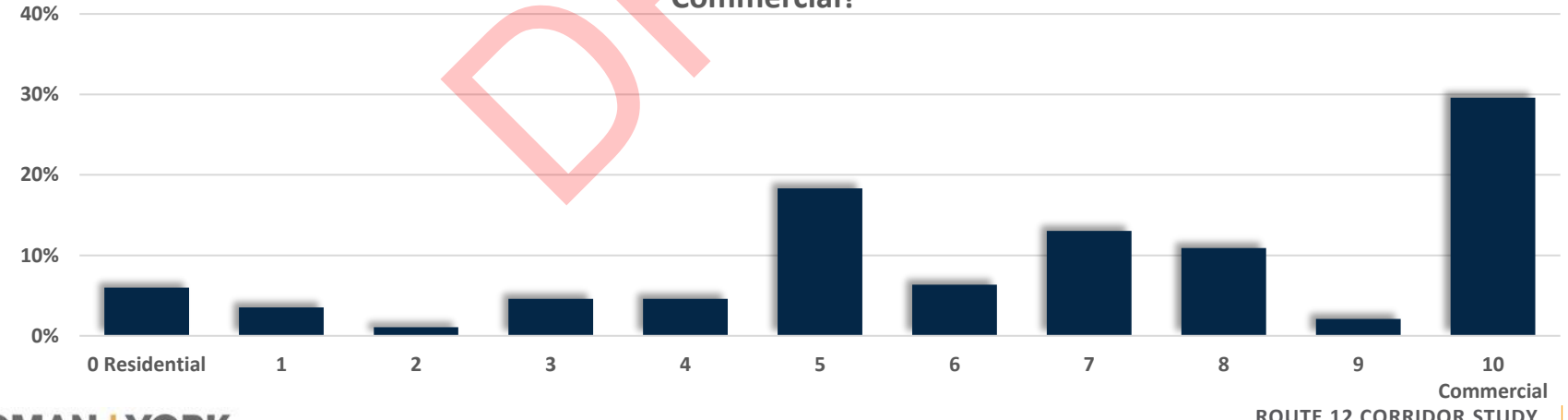
Continuums of Change

Online Survey

What does the Route 12 Corridor need more of: Redevelopment or New Development?

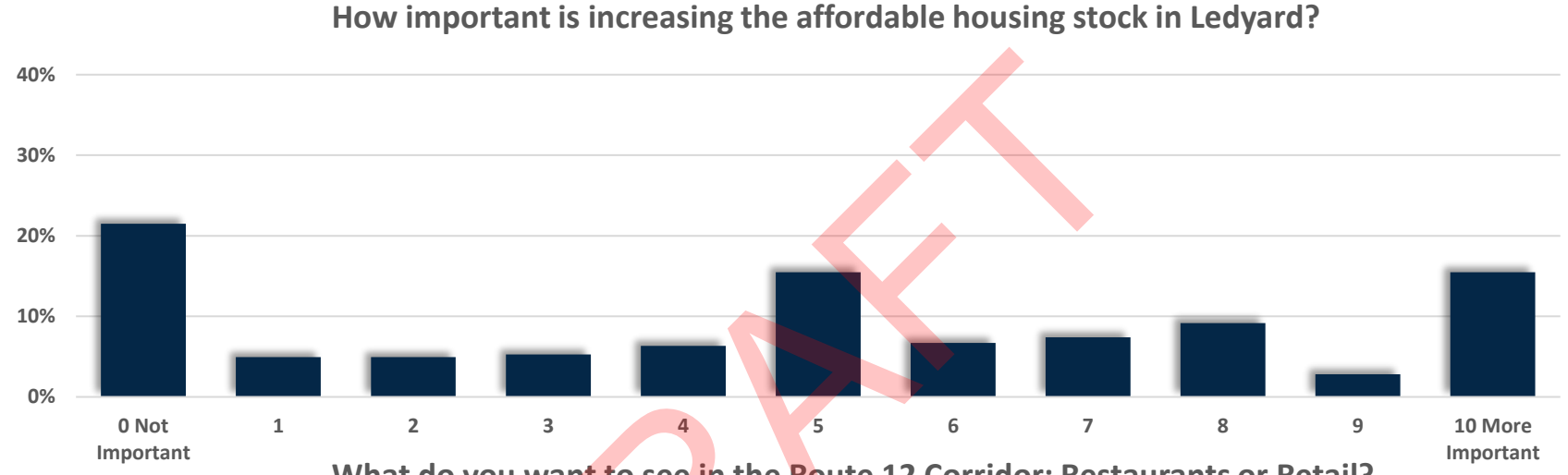


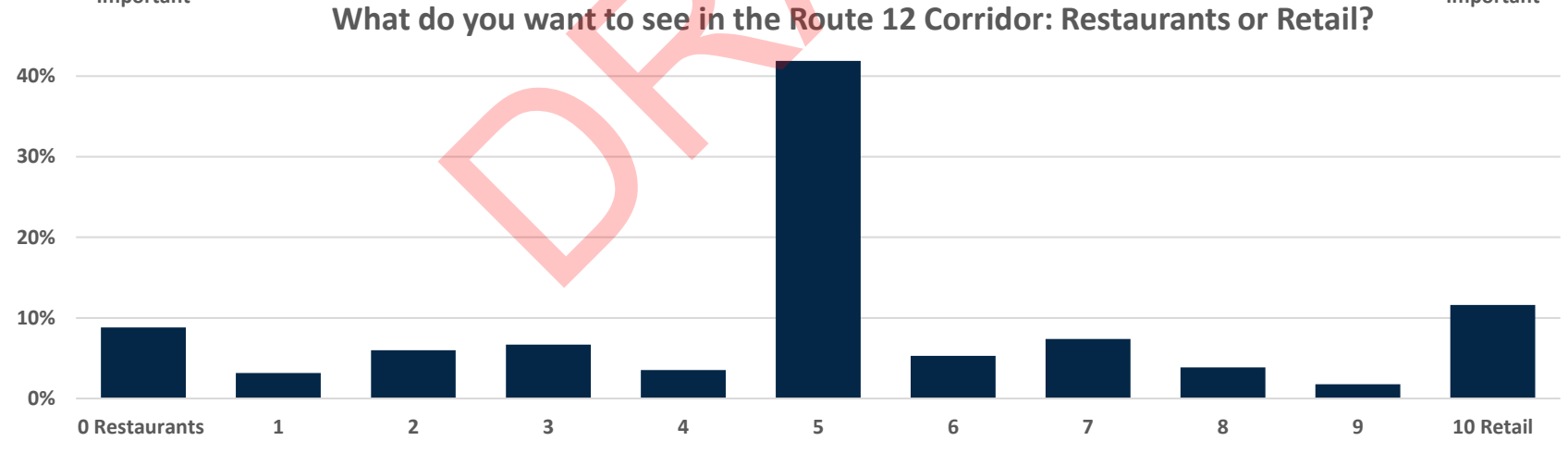
What type of development do you want to see in the Route 12 Corridor: Residential or Commercial?



Continuums of Change

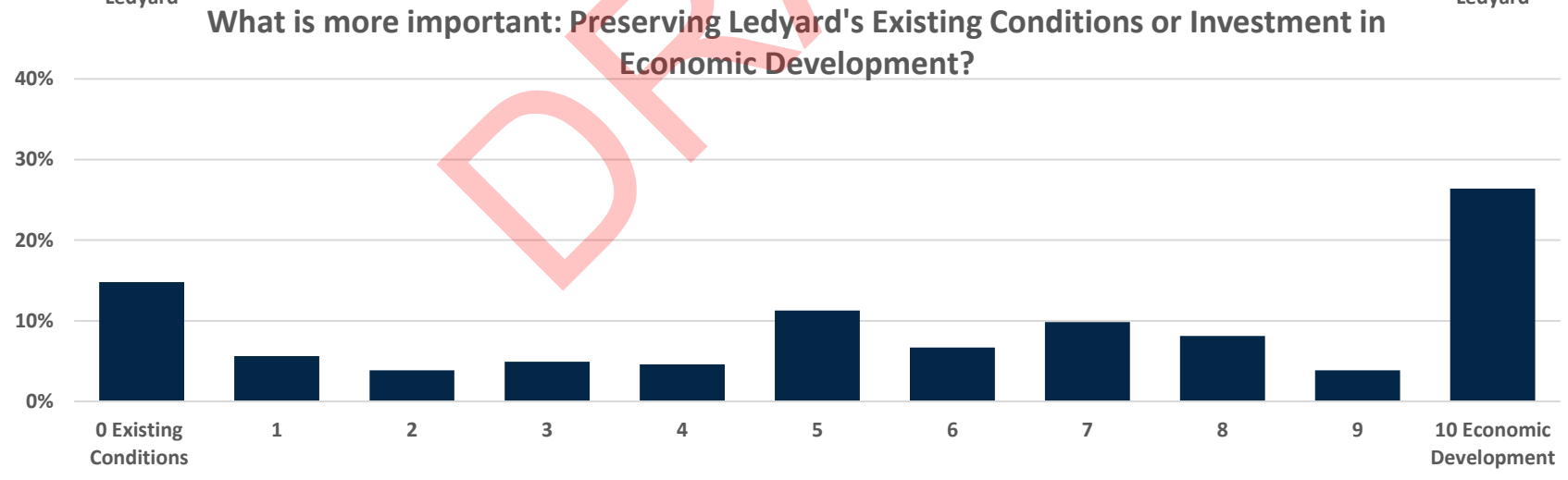
Online Survey





Continuums of Change

Online Survey



Investing in Route 12

Online Survey

- **Multifamily Housing Development** was the least preferred investment for the majority of respondents:
  - **61%** ranked it as their last choice.
- **Natural Preservation** stood out as the top priority for many:
  - 26% selected it as their #1 preference.
- **Redevelopment of Existing Properties** consistently ranked high overall:
  - Frequently appeared in the top 3 selections across respondents.
- **Walkability & Bikeability** also performed well:
  - Often rated among the top 3 priorities.
- **Affordable Housing** tended to be polarizing:
  - Some respondents ranked it near the top, but a large portion placed it in the bottom half.